Government Property Agency

AtkinsRéalis



MANCHESTER DIGITAL CAMPUS

Environmental Statement

Volume 2 - Chapter 6: Construction Phasing and Methodology

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6. Construction phasing and methodology

6.1. Introduction

6.1.1. This chapter of the Environmental Statement (ES) describes the proposed construction phasing, methodology and impacts of the Proposed Development.

6.1.2. This chapter is supported by the following documents:

- ES (Volume 4) Appendix 6.1 – Outline Construction and Environmental Management Plan (OCEMP),
- ES (Volume 4) Appendix 18.3 – Construction Traffic Management Plan (CTMP).
- ES (Volume 4) Appendix 21.1 – Major Accidents and Disasters Long List
- ES (Volume 4) Appendix 15.1 – Site Waste Management Plan (SWMP)
- ES (Volume 4) Appendix 2.1 – Planning drawing pack.

6.2. Construction programme

6.2.1. The overall duration of the Proposed Development is currently anticipated to be circa 48 months, as outlined in Table 6-1. It is anticipated that enabling works will commence soon after planning approval is granted, subject to any pre-commencement planning conditions being met.

Table 6-1 - Key construction phases for Proposed Development

Construction phase	Stage of works	Duration
Enabling works	Enabling works, including creating the new Site levels for The Park	6 months
Main build	Main construction phases: ▪ Sub-structure/ ground works ▪ Superstructure ▪ Façade and roof ▪ Category A and B fit out including Furniture, Fixings & Equipment (FF&E)	42 months
Landscaping and public realm	Soft & hard landscaping	

6.3. Construction methodology

6.3.1. The following section provides a brief overview of the methodology for construction of the Proposed Development.

Enabling works (Construction Phase 01)

6.3.2. Enabling works will comprise of the following:

- Contractor site setup including securing the site with a hoarding including pedestrian and vehicle gates. Establishing haul roads, lay-down areas, and temporary site cabin compounds, ES (Volume 4) Appendix 2.1: MDCX-ATR-XX-XX-DR-A-021004 Phasing Plans.
- Construction of the permanent boundary to the Co-op Academy New Islington during school holidays to mitigate against the construction impacts.
- Removal / replacement / movement of existing utilities across the site, which will include site excavations.
- Site strip of existing hard and soft landscape including breaking out of existing concrete slabs and substructure, brick paving, brick planter walls, and scrub vegetation.
- Elements of reusable concrete, masonry, and stone materials will be site crushed and stored for appropriate reuse within the new construction.
- Reduced level grid – site excavations to establish the new lower floor levels and substructure datums across the development. Archaeological investigations to take place.
- It is intended that some of this excavated material will be used to form the new raised levels of the park area
- Some of the excavated material is expected to be unsuitable to recycle and utilise as part of the park levels works or surplus to requirements, so safe disposal off site of these arisings may be necessary.
- A temporary electrical substation will be established on the site for the purposes of providing power to the construction site.

Main Construction Phases (Construction Phase 02)

Sub-structure/ ground works

6.3.3. Sub-structure/ ground works will comprise of the following:

- A piling mat will be formed using suitable granular material (potentially from screened recycled aggregate from previous concrete slabs on site) to create a working platform for piling rigs to construct concrete piles and form concrete pile caps.
- Retaining walls will be formed using in-situ reinforced concrete walls or contiguous piles. These will also have the appropriate waterproofing and groundwater drainage constructed as per latest approved construction drawings.
- New utilities provision including drainage (including rainwater attenuation tanks) and ducts will be laid with associated manholes / draw pits around the site, and connections to existing utilities off site.

Superstructure

6.3.4. Superstructure works will comprise of the following:

- It is anticipated at this stage that four cranes will be assembled and erected on site in suitable locations for lifting operations to be carried out throughout the main construction period. The main contractor will decide on whether there are tower or luffing jib cranes or a combination.
- The primary superstructure for the buildings will utilise concrete columns. These are likely to be in-situ reinforced concrete however precast concrete columns are an alternative methodology that will be explored later within the design process.

- The floors will be primarily formed using in-situ reinforced concrete; these will predominantly be of flat slab type but with upstands and down stands where necessary.
- The main cores of the buildings will be formed with in-situ reinforced concrete; these are likely to be formed using a slip form methodology.
- Reinforcement cages will either be formed on site or delivered prefabricated to site ready for craning into position.
- There are upper-level superstructure elements that will be formed utilising a steel frame with a steel floor / open mesh flooring fixed on top.
- The main staircases within the core will also be concrete and it is likely that these will be of precast concrete.

Façade and roof

6.3.5. Façade and roof works will comprise of the following:

- It is likely that the building facades will be formed with a hybrid approach of precast elements and traditionally onsite erected elements.
- The precast elements are likely to be mostly concrete panels with insulation bonded to the rear that will be craned into place and fixed back to the concrete floors.
- The other elements of the façade will be formed utilising a curtain walling system with glass, metal, and concrete fins installed within them.
- Additional metal fins, trims, capping and other details will be installed to finish the façade.
- Upper-level solid concrete floors will form the basis of the roof construction, these will be finished as inverted roofs with a liquid applied waterproof layer beneath insultation. The finish of these solid roofs will either be paving slabs, gravel ballast or a green roof system.
- Other roof elements include curtain walling infilled with glazing panels at the top of atriums provided throughout the buildings.
- There will also be photovoltaic panels installed on the highest roof elements of the buildings.
- Forming plant enclosure to roof top plant.

Category A & B fit out (inc. Furniture, Fixtures and Equipment

6.3.6. The Category A fit out (providing a finished empty office space) and Category B fit out (combining office design elements to create a functional workplace) including Furniture, Fixtures and Equipment (FF&E) will comprise of the following:

- Internal floor area will mostly consist of office space that will utilise a raised access floor system; these pedestals and floor panels enable an underfloor zone to be used for the distribution of building services including electrical trunking as well as controlled air ventilation.
- Meeting rooms and other cellular rooms are likely to be formed with a traditional metal stud with plasterboard partition walls. Prefabricated timber door sets with metal ironmongery will be installed into these walls.
- There will be screens and doors that will be constructed of glazed curtain walling, other more robust or decorative walling using alternative materials will be used in some instances. Most of the space will be open plan office accommodation filled with office furniture and fittings.
- Timber framed water closet (WC) and kitchen fixtures will be provided, with consideration on whether these could be prefabricated to take place in later stages of the design.
- Carpet floor finished will be predominantly used throughout the office floor spaces. Other floor finished such as ceramic tiles, timber and paint will be utilised appropriately to suit the different functions of the building.
- The retail units will be constructed to a ‘warm’ shell with capped off services to centralised heating, cooling and ventilation plant, and the shopfronts provided.

Soft and hard landscaping (Construction Phase 03)

6.3.7. Soft and hard landscaping will comprise of the following:

- Existing trees will be retained where possible, although due to their quality and location this will be limited. New trees will be planned within the landscape across the Site with native species being utilised as much as possible.
- Low-level and raised planter beds will be created. These will be of a mixture of materials including concrete, metal and timber. These planters will be filled with biodiverse and native plant species where possible.
- Boundary walls will include artwork in defined locations.
- Natural stone paving will be provided to most of the hard standing areas within the external landscape for pedestrian walkways. In addition to this there will be paving setts and grasscrete paving for vehicle routes into and across the Site.
- Other landscape elements include vehicle bollards and barriers, gates, turnstiles, flagpoles, lighting, closed-circuit television (CCTV) cameras, signage, etc.
- Creation of final base levels to park area.

6.4. Site set-up and operations

Working hours

6.4.1. Working hours for construction works are regulated under the Control of Pollution Act 1974 and Section 3.7.1.4 of the MCC Planning and Noise Technical Guidance (October 2022). Typically, construction works are normally allowed during Monday to Friday from 7:30 to 18:00, and on Saturdays from 08:30 to 1:00.

6.4.2. No construction works will be carried out on Sundays or public/bank holidays without prior approval.

Plant and equipment

6.4.3. A complete plant and equipment schedule will be provided and included within the final Construction Environmental Management Plan (CEMP) which shall be prepared by the Principal Contractor, however it is anticipated that the non-exhaustive list of plant and equipment in Table 6-2 will be utilised during the key phases.

Table 6-2 – Proposed construction plant and equipment used during the key construction phases

Plant & Equipment	Enabling Works (inc. Ground clearance)	Groundworks (inc. drainage)	Building	Utilities	Fit Out
Excavators	✓	✓		✓	
Heavy Goods Vehicles (HGVs) (Exported fill / material delivery)	✓	✓	✓	✓	✓
HGVs (rebar deliveries)	✓	✓	✓	✓	
Dumpers	✓	✓		✓	
Compressors	✓	✓	✓	✓	✓
Piling Rigs		✓			
Mobile Cranes		✓	✓		✓
Mobile Access Platforms / Mobile Elevated Work Platforms (MEWPS)			✓		✓
Power / Hand Tools	✓	✓	✓	✓	✓
Material Hoists			✓		✓
Static Cranes			✓		✓

6.4.4. Currently it is assumed that four cranes of varying types would be required due to the scale and reach required across both building footprints. A crane lifting plan shall be provided by the Principal Contractor and included within the final CEMP.

Construction traffic

6.4.5. The main vehicle route to Site will be via the A665 Great Ancoats Street that fronts the Site (see route maps in ES (Volume 4) Appendix 6.1 Outline Construction Environmental Plan for further details). The three main arterial roads linking the Site to the M60 are Oldham Road (A62 to the north/west of the Site) to M60 Junction 22; A662 Pollard Street/Ashton New Road (east of the Site); and the A635 Ashton Old Road to the east of the Site to M60 Junction 23.

6.4.6. The primary access and egress to/from the Site will be via the existing Site entrance on Great Ancoats Street with a secondary entrance off Old Mill Street of which will be used by visitors and during works affecting the primary entrance.

Construction traffic access and management

6.4.7. All vehicles visiting the Site will need to apply with the stipulations stated in the ES (Volume 4) Appendix 18.3 - Construction Traffic Management Plan. It should be noted that all vehicles will be marshalled while in the project sites to mitigate the risk to the construction operatives, this includes but is not limited to:

- Speed limits
- Vehicle route
- Operation of gates
- Traffic management systems
- Traffic marshals

6.4.8. For access to the construction Site for pedestrians, a safe and appropriate access point to the works area, away from steel lifting zones and the traffic route shall be located within the final Site set up plan prepared by the Principal Contractor.

Site deliveries

6.4.9. Site deliveries will be managed by the Principal Contractor's Delivery Management System. The Manchester Digital Campus (MDC) logistics team will be working based on a no booking / no delivery policy, to ensure the Principal Contractor has controlled delivery systems on a constrained site. This will allow deliveries to only arrive at the approved booking timeslot, reducing congestion in the local area.

6.4.10. All vehicle deliveries will access the Site via the primary access on Great Ancoats Street. They will turn into the entrance and make use of the proposed one-way Site road options (to be confirmed by Principal Contractor via Traffic Management Plan), with gatemen present at the entrances and exits. The Principal Designer will liaise with existing MDC security regarding the vehicular controls to the road itself.

6.4.11. Within the Site road, all vehicles are expected to adhere to a five miles per hour (mph) speed limit, allowing traffic marshals to monitor the vehicle from the campus entrance through to the Site entrance. These traffic marshals will have the control of the vehicle, ensuring pedestrians always have right of way at access and egress points.

Housekeeping

6.4.12. The GPA will promote and encourage the Principal Contractor to ensure a correct level of cleanliness is maintained to:

- Reduce the risk of health and safety incidents due to poor levels of housekeeping
- Improve overall working conditions for operatives
- Reduce waste on Site
- Remove the risk of material inadvertently leaving the Site due to external conditions like weather

6.4.13. In maintaining the cleanliness of the Site, the GPA will promote and encourage the Principal Contractor (via contract documentation) to ensure:

- All workforce operatives behave correctly and in line with the onsite induction and site rules to reduce the potential impact of waste
- Waste is removed in a timely fashion and in regular intervals to prevent fire risk
- Segregation of waste materials where appropriate in line with the project environmental management plan.

6.4.14. In addition to the above housekeeping measures, the appointed Principal Contractor must ensure all obligations listed within the Health and Safety Executive (HSE) Construction and Design management Regulations 2015 are met.

Wheel wash facilities

6.4.15. The main access and Site access haul roads will require periodic maintenance and regular cleaning. Site haul roads will be set up to provide suitable access around the Site as necessary. It will be priority to provide an asphalt surface as early as possible to reduce dust and mud.

6.4.16. To manage the dirt created while onsite, wheels of vehicles leaving site will be washed with a jet wash to remove any larger debris at associated locations before entry onto the public highway.

Construction workers

6.4.17. The Site compound and facilities will be positioned as indicated in the phasing plans in ES (Volume 4) Appendix 6.1. It is anticipated that the Site offices and welfare units will comprise of 2-4 stories of modular cabins, configured to provide the best possible approach towards health and wellbeing for all users.

6.4.18. The upper floors will be mainly comprised of office space, for staff use. The lower floors will be made up of a combination of canteen, toilet and changing facilities catering for operatives, however this will be confirmed within the CEMP by the Main Contractor.

Construction waste

6.4.19. The ES (Volume 4) Appendix 15.1 SWMP has been provided as part of the Planning Application supporting documents, however this will be further developed by the Principal Contractor prior to commencing works on Site. The SWMP will include:

- The various waste streams generated by the Proposed Development
- Methods of waste segregation
- Estimated quantity of each waste type
- The waste management actions for designing out waste in the first case and, where not possible, implementing the waste hierarchy to ensure best disposal routes

Energy

6.4.20. An energy management Site review will be completed before the commencement of works on Site, which will identify significant energy uses on Site. Potential energy reduction actions will be recorded and monitored through the ES (Volume 4) Appendix 6.2 - Energy Action Plan (EAP).

6.4.21. The welfare area will make use of energy saving techniques where possible, including the use of push taps in toilet facilities. This will continue to be developed throughout the project, so that efficiency performance Key Performance Indicators (KPIs) can be set, energy reduction measures reviewed, and further actions taken.

6.4.22. Energy efficient plant and equipment will be specified wherever possible, such as Passive Infrared (PIR) lighting in Site accommodation.

6.5. Control measures

Health and Safety

6.5.1. The Proposed Development will be managed in accordance with the Principal Contractor's Safety Management System (SMS) which will comply with OHSAS:18001 and BSEN:14001.

6.5.2. The principal Site document will be the construction phase health, safety, and environmental plan, developed in advance of the commencements of works. This may include:

- Details of all significant parties involved in the project
- Existing records of the building
- Management structure and appointments
- Communication strategy
- Arrangements for monitoring Health and Safety (H&S) performance
- Selection and control of subcontractors
- First aid arrangements
- Accident and incident reporting arrangements
- Arrangement for controlling significant site risks
- The H&S file

Environmental Management

6.5.3. The purpose of the ES (Volume 4) Appendix 6.1 OCEMP, is to outline how the works will be controlled and managed throughout the entire construction phase. A CEMP must address how potentially adverse impacts associated with development and construction sites will be managed.

6.5.4. Appropriate environmental legislation will be identified to ensure construction works comply with the relevant legal requirements.

6.6. Glossary and acronyms

Table 6-3 - Glossary and acronyms

Term	Definition
ES	Environmental Statement
CCTV	Closed-circuit Television
CEMP	Construction Environmental Management Plan
EAP	Energy Action Plan
FCRA	Former Central Retail Park
FF&E	Furniture, Fixings and Equipment
GPA	Government Property Agency
H&S	Health and Safety
HSE	Health and Safety Executive
HGV	Heavy Goods Vehicle
KPI	Key Performance Indicator
MCC	Manchester City Council
MDC	Manchester Digital Campus
MEWP	Mobile Elevated Work Platform
mph	miles per hour
OCEMP	Outline Construction and Environmental Management Plan
PIR	Passive Infrared
SMS	Safety Management System
SWMP	Site Waste Management Plan
WC	Water Closet

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