12.4.2 Foul Drainage

The proposed development will require a new separate drainage network to collect and convey the effluent generated by the proposed development. The drainage network for the proposed development has been designed in accordance with:

- The Regional Code of Practice Drainage Works,
- The Greater Dublin Strategic Drainage Study,
- Irish Water Code of Practice for Wastewater Infrastructure.

The drainage network for the development will be in accordance with Part H of the Building Regulations and to the requirements and specifications set out in the Irish Water Code of Practice for Wastewater.

The proposed development's office element is predicted to have a total employee population of 1,570no. people. For the purposes of estimating foul wastewater generation, it is assumed that the proposed hotel shall accommodate a maximum of 476no. guests at any one time (an occupancy rate of 2 guests per bedroom).

Based on Irish Water guidelines, the total foul effluent generated will be:

- 2.286 l/sec Average Flow
- 10.288 l/sec Peak Flow

All foul effluent generated by the proposed development at upper ground (podium) level and above shall be collected in pipes 225mm in diameter and flow under gravity to the existing public foul sewer in St. John's Road West. Foul effluent generated at basement and lower ground floor levels shall drain to 2no. pumping chambers beneath basement level (to serve the development's office and hotel elements, respectively), each providing a volume of emergency storage. Effluent shall be pumped from these chambers via an 80mm rising main to a standoff manhole at street level, from which it shall also discharge by gravity to the existing public foul sewer in St. John's Road West. This existing foul sewer drains to the east and ultimately outfalls into the Regional Wastewater Treatment Plant at Ringsend. The proposed drainage infrastructure is shown in Figures 12.4.2.1 and 12.4.2.2 below.

Irish Water have issued a *Confirmation of Feasibility* response for the proposed development. They note that investigation works are required by the applicant of the downstream network to guarantee that foul and stormwater are not interconnected. Irish Water has not indicated any restrictions with the local infrastructure network, and a such the proposed development can be accommodated.

Figure 12.4.2.1 Extract of proposed drainage layout drawing (lower ground floor)

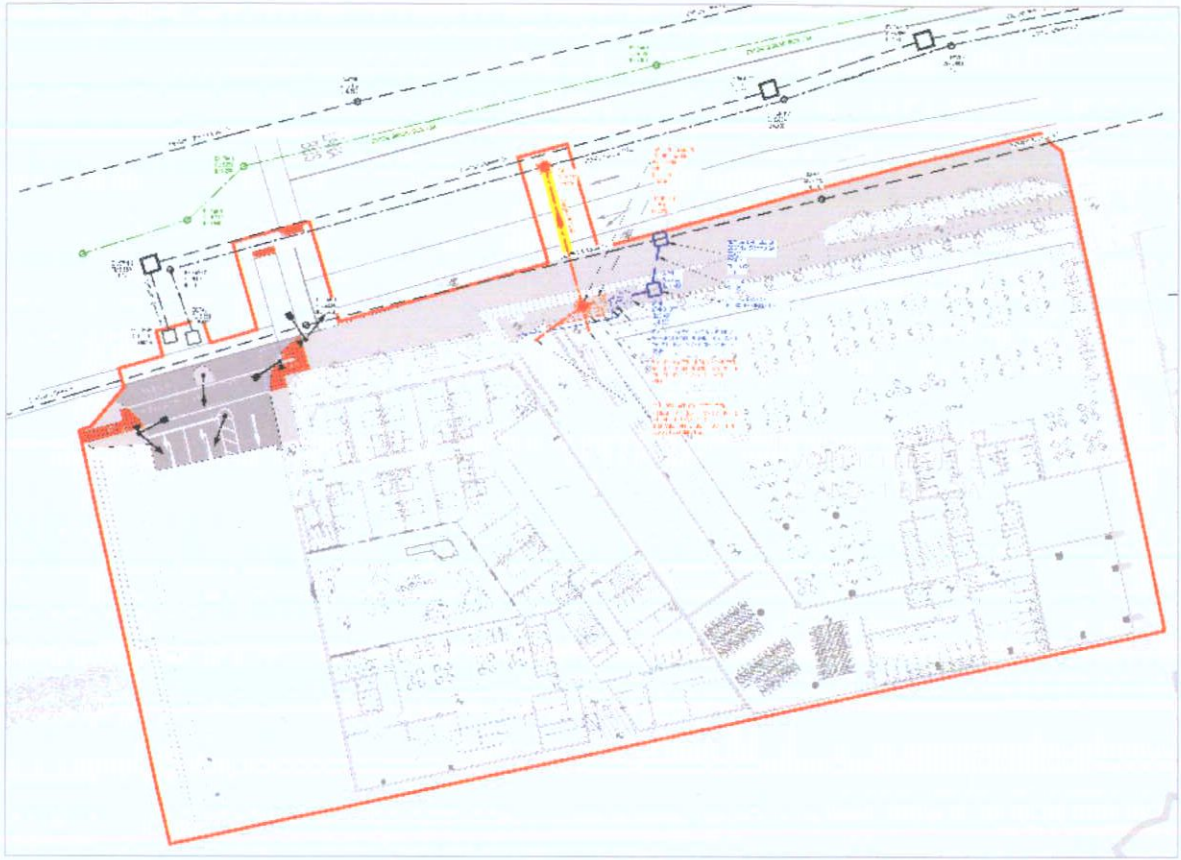
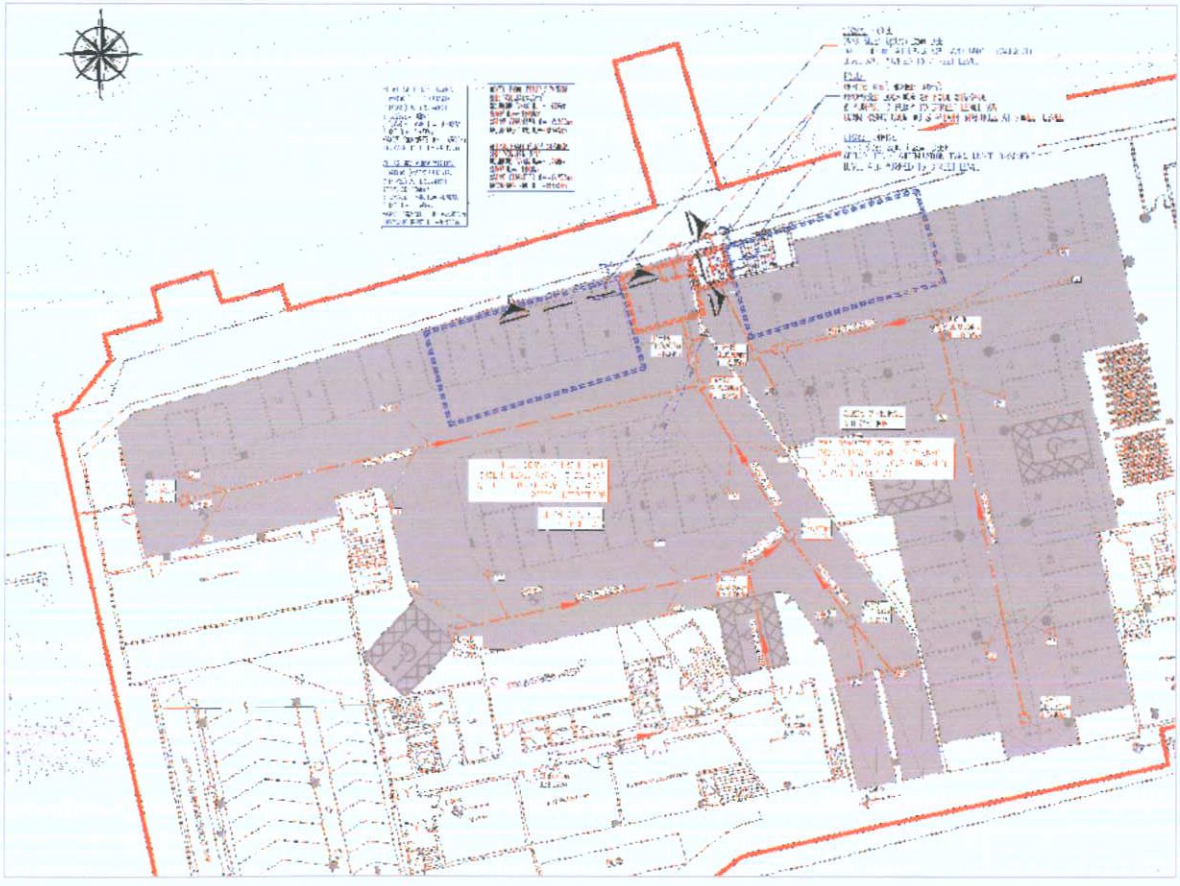


Figure 12.4.2.2 Extract of proposed drainage layout drawing (basement level)



12.4.3 Potable Water

The proposed development will require a new separate drainage network to collect and convey the effluent generated by the proposed development. The drainage network for the proposed development has been designed in accordance with:

- The Regional Code of Practice Drainage Works,
- The Greater Dublin Strategic Drainage Study,
- Irish Water Code of Practice for Water Infrastructure.

The drainage network for the development will be in accordance with Part H of the Building Regulations and to the requirements and specifications set out in the Irish Water Code of Practice for Water Infrastructure.

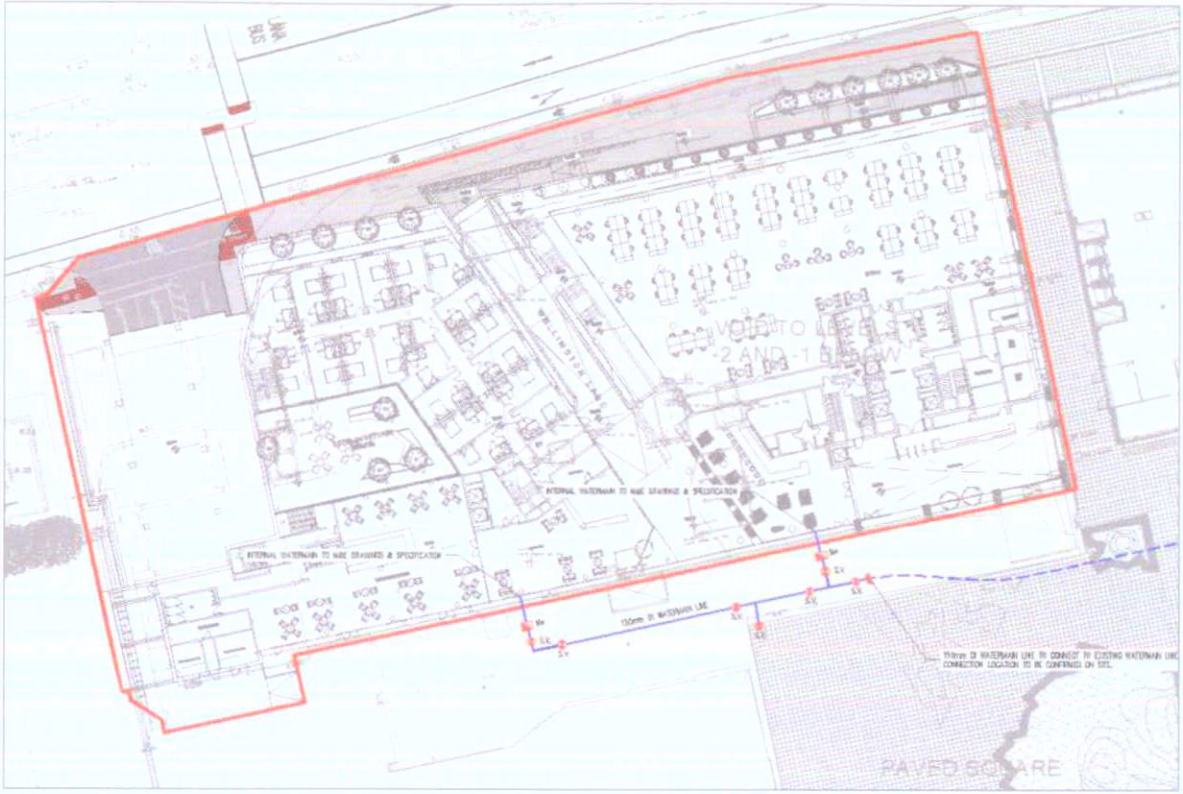
Based on Irish Water guidelines, the potable water demand will be:

- 2.286 l/sec Average Demand
- 11.430 l/sec Peak Demand

The proposed development will connect into the existing local potable water system, which is connected into the public network. The proposed potable water system will provide firefighting and potable water resources for the proposed development. Internal water storage shall be provided in accordance with Irish Water requirements. The proposed potable water infrastructure and routing plan is shown in Figure 12.4.3.1 below, which provides an extract from CS Consulting drawing no. HSQ-CSC-XX-XX-DR-C-0204.

Irish Water have issued a *Confirmation of Feasibility* letter pertaining to the scheme. They note that investigation works are required by the applicant of the downstream network to guarantee that foul and stormwater are not interconnected. Irish Water has not indicated any restrictions with the local infrastructure network, and a such the proposed development can be accommodated.

Figure 12.4.3.1 Extract of proposed potable water infrastructure drawing



12.4.1.3 Electrical Infrastructure

The proposed development will connect to the local ESB MV (Medium Voltage) electrical network. There will be 1 no Low Voltage (LV) substation and 2 no. Medium Voltage (MV) sub-stations provided throughout the development. The substations have been sized to supply the full load of the development and to meet the requirements of ESB Networks based on:

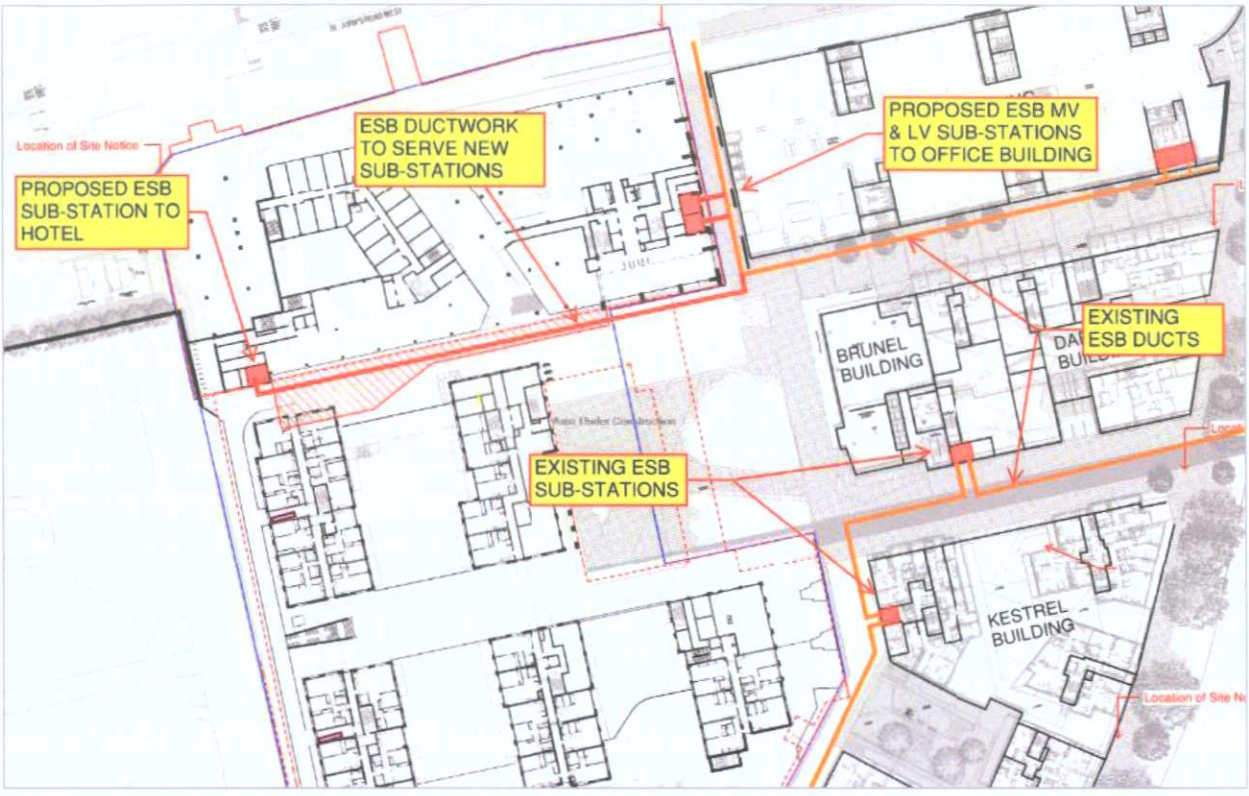
- 238 bed Hotel
- Office building comprising 15,474sq.m NIA
- Areas of public realm
- Landlord circulation and plant areas
- Carpark
- Site services

New LV & MV substations and associated metering switchrooms will be located at podium level of the Office Block. These sub-stations will serve Landlord and Tenant services associated with the Commercial Office development.

A new LV sub-station and associated metering switchroom will be located at podium level of the Hotel. This substation will be dedicated to the Hotel and will include an adjacent metering switchroom.

The electrical infrastructure strategy has been reviewed with the ESB and agreed in principle subject to detailed design by the ESB on receipt of the formal ESB application. The application may only be made once planning permission is granted and the hotel and office building is provided with a physical address by Dublin City Council.

Figure 12.4.1.3.1 Proposed electrical infrastructure design



12.4.1.4 Gas Infrastructure

The proposed development site will not include a new gas supply connection. The heating and hot water to the Office and Hotel will be provided by local Air Source Heat Pumps as a sustainable alternative to gas fired plant. .

The existing gas services infrastructure to the surrounding area will not be affected by the proposed development or the enabling works to facilitate the proposed site development. Measures to ensure any surrounding gas infrastructure is protected is detailed in further sections below.

12.4.1.5 Telecoms Infrastructure

Based on information received from Eir, the site is well serviced from a number of separate tie-in points and there are no supply issues in the area. The scheme allows for an extensive network of in-ground ducting and chambers throughout the site to allow future flexibility of supply.

Virgin Media were also consulted, and the design allows for supply of separate telecoms ducts to both the Hotel and Office blocks.

The proposed telecoms design allows for tenants to choose their preferred telecoms provider.

12.4.1.6 Telecoms Infrastructure - Major Telecommunication Masts

As part of the design process the impact on the development on major telecommunications links has been considered. There are Meteor and Vodafone Telecoms masts within the immediate vicinity of the proposed development and 3 no. Mobile and Vodafone infrastructure masts within the wider environs of the site approximately 200m from the proposed buildings.

It is unlikely that the taller elements of the proposed scheme will impact on local microwave links as they are not within a direct line of sight of the existing Telecoms masts. If this issue were to arise it is predicted that telecoms providers will be able to reconfigure their equipment to compensate for the proposed structures.

Space shall be available on the roof of the proposed Office block for the provision / erection of a microwave repeater to mitigate any potential impact. The full extent of the impact of the proposed development on local microwave links cannot be determined until the detailed design stage has been completed

Space allowances are also provided for microwave repeaters within the SHD design so that any mitigation required due to either this development or the SHD development may be provided.

At the detailed design stage, the developer will engage in consultation with the relevant telecoms providers to review the proposed mitigation measure and adjust if necessary. This will be addressed in detail with the service providers at the appropriate time.

12.5 Receiving/Baseline Environment

12.5.1 Foul Water

Irish Water records provided by Dublin City Council indicate a 300mm diameter dedicated foul public sewer along St. John's Road West, flowing west to east. There is an existing connection from the HSQ complex to this sewer.

Effluent generated in the greater Dublin area is drained via public drainage infrastructure to the Ringsend Regional Wastewater Treatment Plant (WwTP) for processing before final discharge to Dublin Bay. Ringsend WwTP, which is under the operational control of Irish Water, is currently undergoing an upgrade to increase the plant's capacity and to enhance the quality of the effluent to be discharged post treatment. A pre-connection enquiry submission has been made to Irish Water to ensure that the local physical infrastructure and the ultimate pre-disposal treatment have sufficient capacity for the proposed development.

12.5.2 Potable Water

Irish Water records provided by Dublin City Council indicate that a 450mm diameter HPPE public watermain is in place along the eastern boundary of the HSQ complex, adjacent to Military Road. This watermain has an existing connection into the HSQ complex.

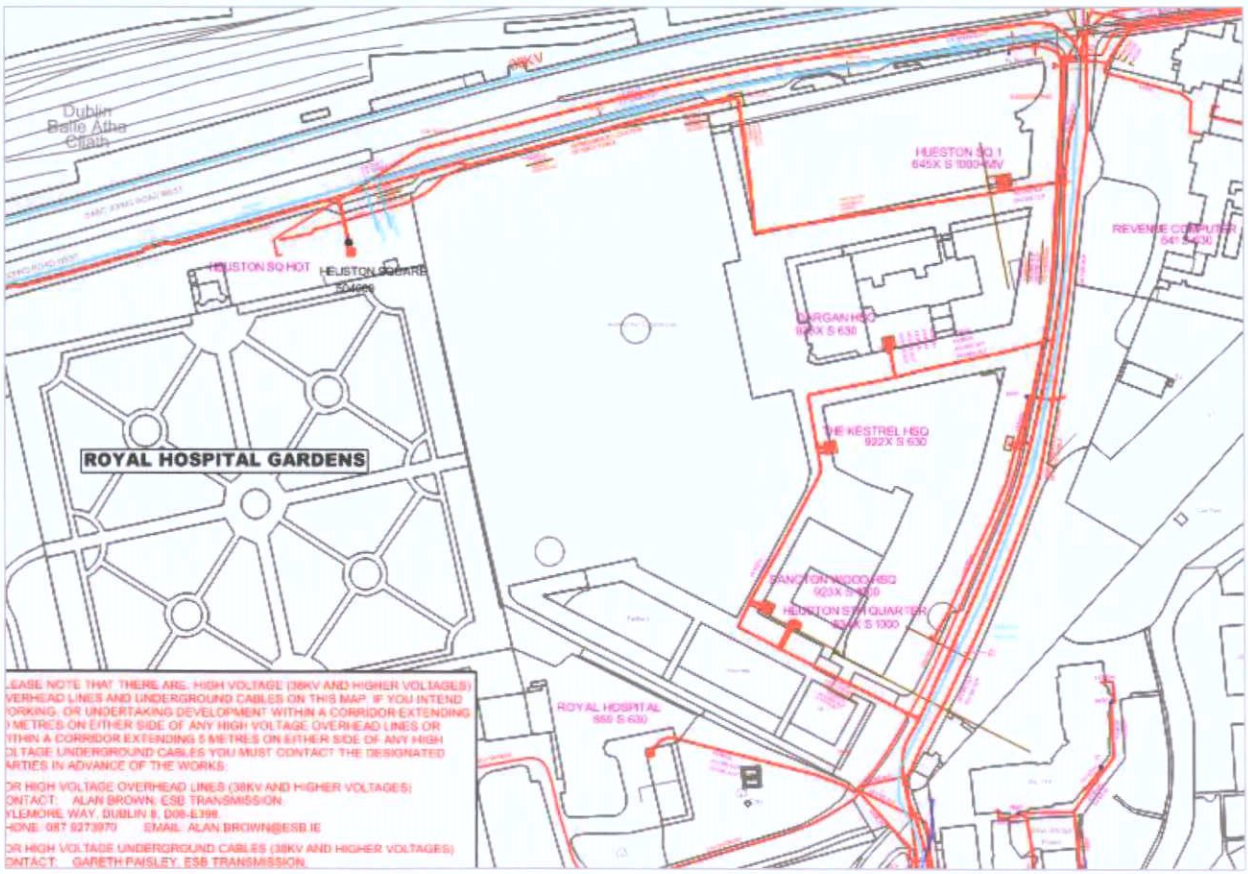
Dublin City is serviced by a public watermain supply under the operational control of Irish Water. All potable water services are drawn from storage and treatment facilities in south Dublin & Wicklow. Post treatment the water is stored and pumped through the public network. There are no groundwater sources or local surface water sources used to supply potable water for Dublin. As with foul water services, a pre-connection enquiry submission has been made to Irish Water to ensure that the local physical infrastructure has sufficient capacity for the proposed development.

12.5.3 Electricity Supply

When the first phase of the HSQ development was constructed over ten years ago additional ESB ducts were installed to allow for future expansion. These existing ducts will be used in the extension of the ESB infrastructure that is required to to serve both the proposed commercial development and the adjoining proposed residential development to the south of the application site.

The existing ESB ducts were site inspected by IN2 Engineering and the ESB on 28th August 2020. Ciaran Hanvey of the ESB and Max Yore of IN2 Engineering inspected the existing ducts and confirmed the ducts appeared suitable for extension and reuse. The ESB noted that written approval for the use of these existing ducts will be subjected to a formal ESB application. Such an application can only proceed when the proposed hotel and office building has been granted planning permission and given a physical address by Dublin City Council.

Figure 12.5.3.1 ESB record drawing of the HSQ site including the Hotel & Office Site

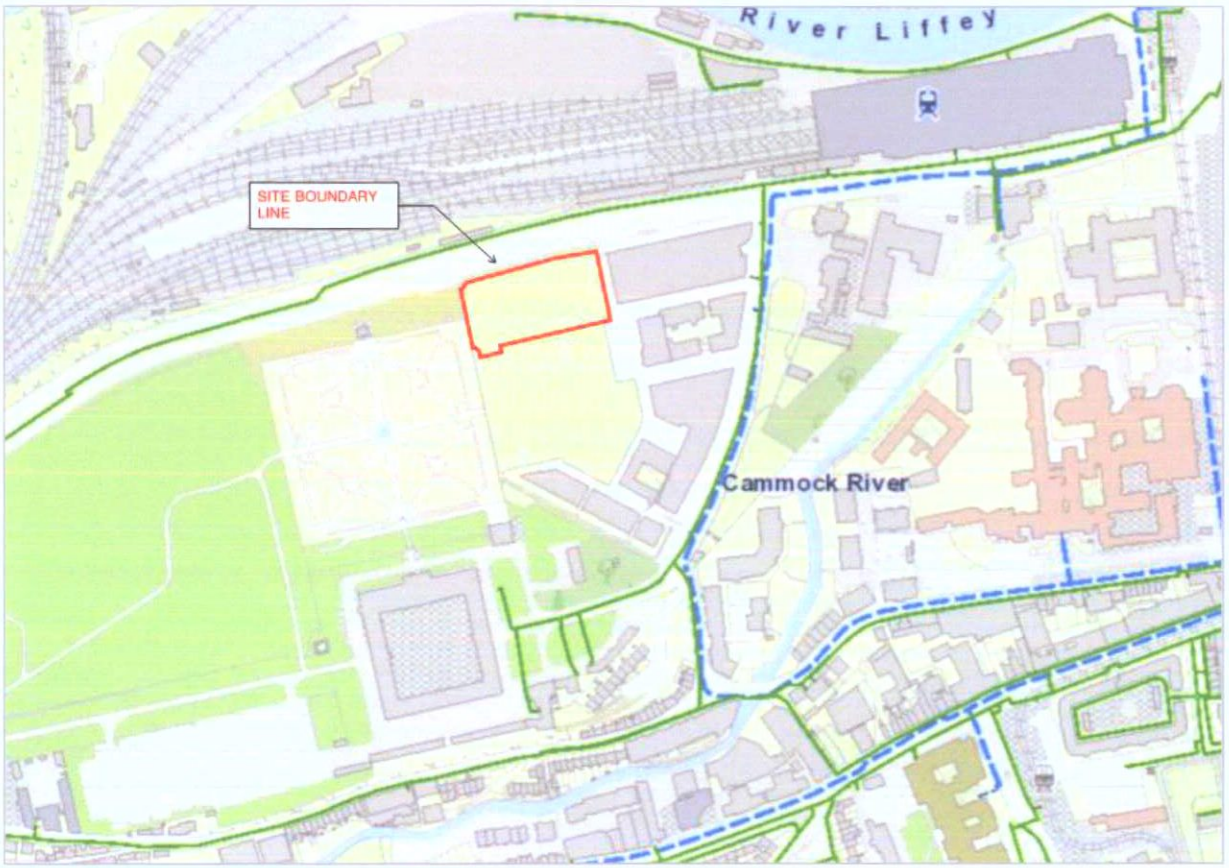


12.5.4 Gas Supply

There is no existing Gas Networks infrastructure located within the boundary of the proposed development site.

IN2 Engineering have reviewed the Gas Networks local utility maps and carried out a site survey on 18th August 2020 to verify the accuracy of the utility layouts. There is no gas utility supply required to the Office and Hotel development.

Figure 12.5.4.1 Gas Networks record drawing of the HSQ site including the Office & Hotel Site



12.5.5 Internet and Telecommunications

There are existing Eir and Virgin Media telecoms infrastructure adjacent to the development site serving the existing HSQ development. IN2 Engineering have reviewed the telecoms infrastructure maps and carried out a site survey on 18th August 2020 to verify the accuracy of the utility layouts.

The site survey identified the Virgin Media record drawings (as shown in Figure 12.5.5.2, below) are inaccurate by indicating telecoms infrastructure which has not been installed on the application site. Further investigation has confirmed the Virgin Media layouts indicate the infrastructure which was designed when the wider HSQ site was initially developed. There are no Virgin Media telecoms infrastructure within the boundary of the Proposed Development site.

Figure 12.5.5.1 Eir record drawing of the HSQ site including the Office & Hotel Site

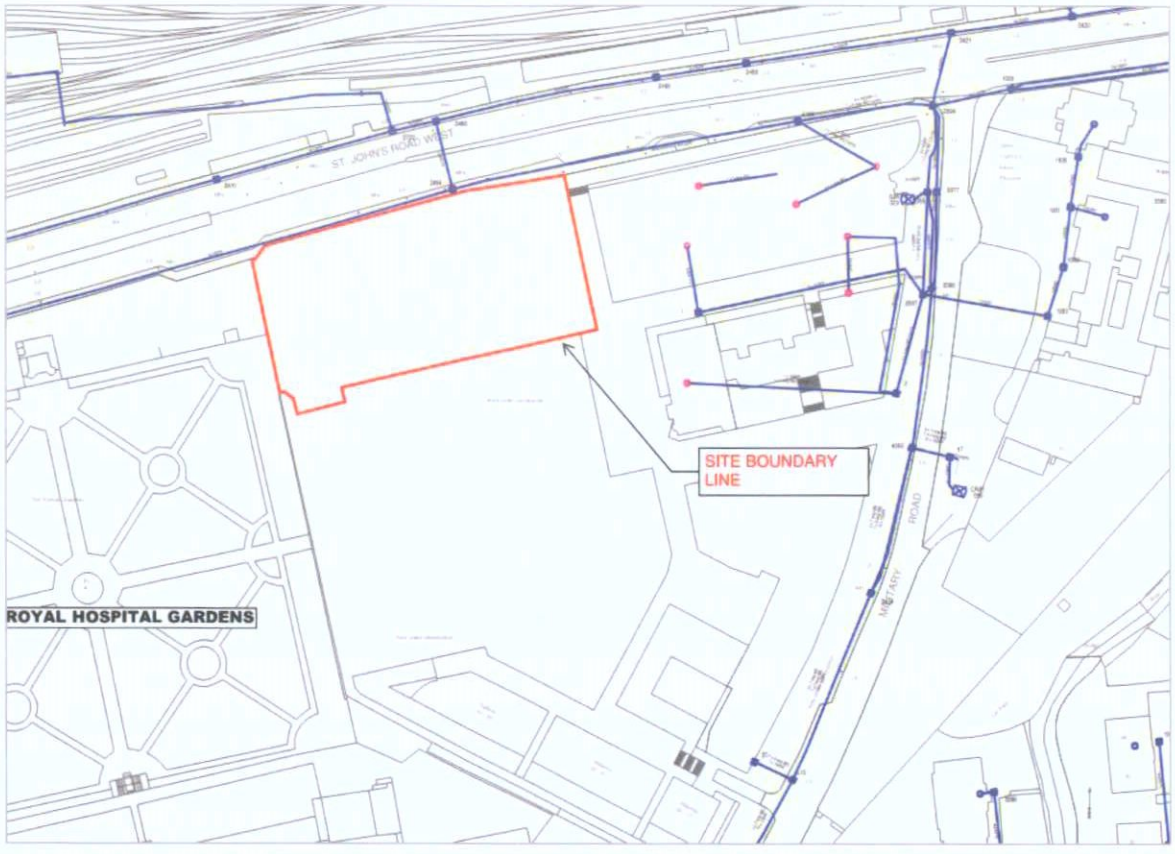
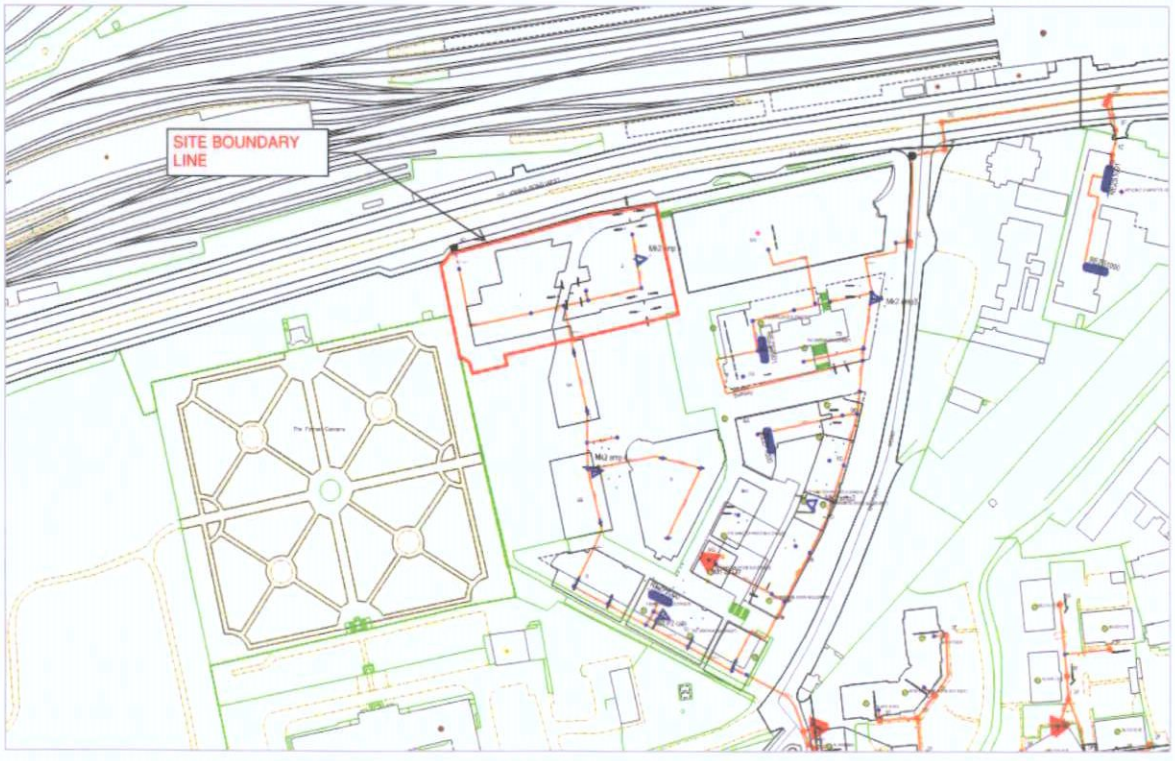


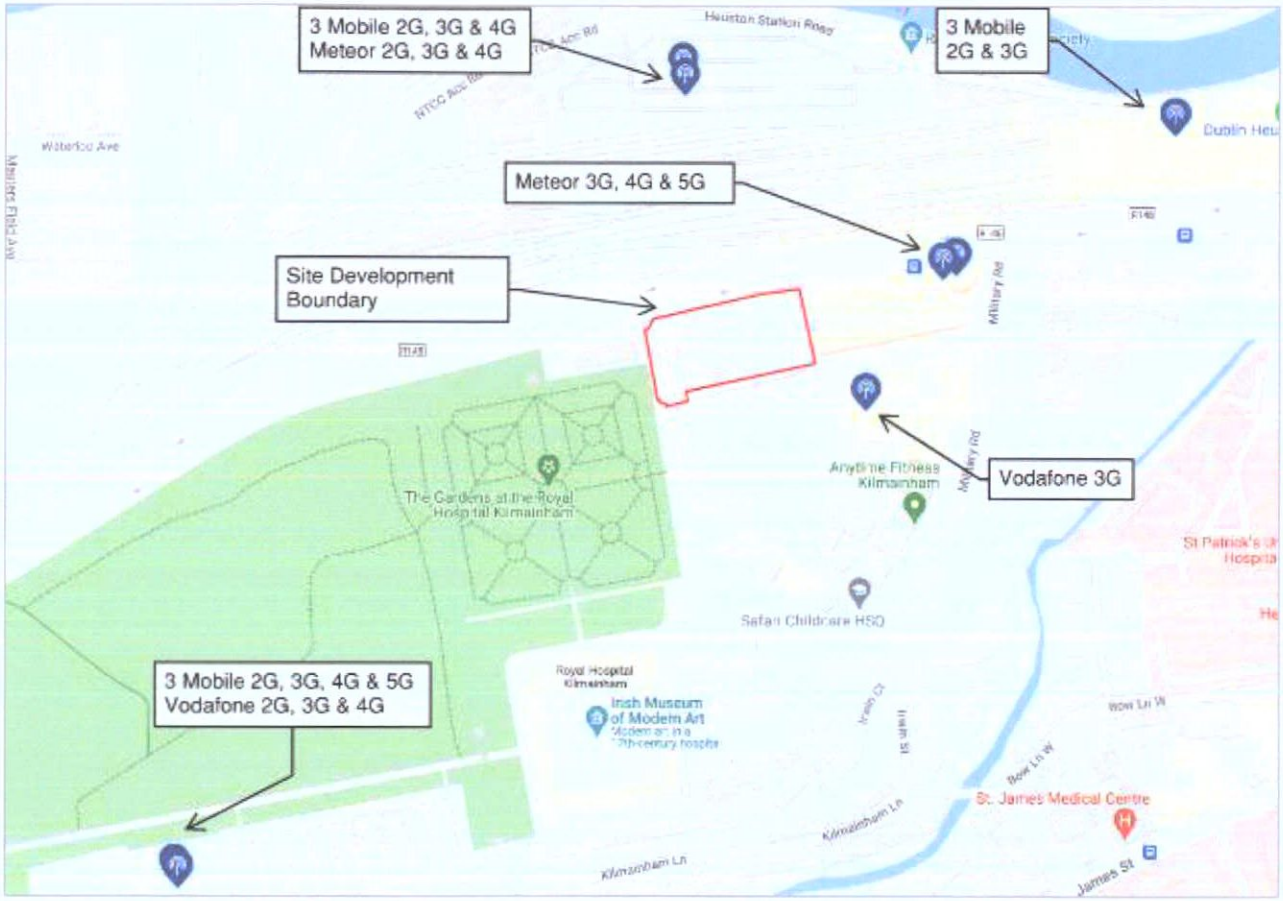
Figure 12.5.5.2 Virgin Media record drawing of the HSQ site including the Office & Hotel Site



12.5.6 Telecoms Infrastructure - Major Telecommunication Masts

As part of the design process the impact on the development on major telecommunications links has been considered. There are existing Meteor and Vodafone Telecoms masts within the immediate vicinity of the proposed development, and 3 Mobile and Vodafone infrastructure within the wider environs of the site, approximately 200m from the proposed buildings. The proposed development is not positioned within a direct line of sight between these existing masts. It is therefore unlikely that any microwave links between the telecoms providers masts will be affected by the development.

Figure 12.5.6.1 Nearby Existing Telecoms Masts



12.6 Assessment of Existing Utilities

In accordance with the requirements of Irish Water, who are the state agency for the provision of potable water and wastewater services, a *Pre-Connection Enquiry* was submitted. Irish Water reviewed the submission and confirmed in the appended *Confirmation of Feasibility* response that there are not any restrictions with the local infrastructure network, and a such the proposed development can be accommodated.

12.7 Identification of Likely Significant Impacts

This section addresses the implications of the proposed development on the existing environment and assesses the possible effects that the proposed development may have during the construction and

operational phases. Potential issues were identified and assessed. An assessment of the timeframe and magnitude of the potential impacts and mitigation measures has been undertaken. The methodology employed in compiling this Chapter of the EIAR incorporates the Guidelines on the Information to be contained in Environmental Impact assessment reports by the Environmental Protection Agency (EPA 2022). The approach followed to determine the significance of effects from receptor value and the magnitude of impacts is shown in Table 12.7.1. Where Table 12.7.1 includes two significance categories, reasoning is provided in the text if the lower of the two significance categories is selected. A description of the significance categories used is provided in Table 12.7.2.

Table 12.7.1 Significance Matrix

	Magnitude of Impact (Degree of Change)				
Environmental Value (Sensitivity)		**Negligible**	**Low**	**Medium**	**High**
	High	Slight	Slight or moderate	Moderate or Large	Profound
	Medium	Imperceptible or slight	Slight or moderate	Moderate or large	Profound
	Low	Imperceptible	Slight	Slight	Slight or moderate
	Negligible	Imperceptible	Imperceptible or slight	Imperceptible or slight	Slight

Table 12.7.2 Significance categories and typical description.

Significance Category	**Typical Description**
Profound	An effect which obliterates sensitive characteristics
Large	An effect which, by its character, magnitude, duration or intensity altered a significant proportion of a sensitive aspect of the environment.
Moderate	An effect that alters the characterises of the environment in a manner that is consistent with existing and emerging baseline trends.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Imperceptible	An effect capable of measurement but without significant consequences.

12.7.1 Construction Phase

12.7.1.1 Foul Water

The Contractor's operations will result in the generation of effluent and sanitary waste from facilities provided for the work force on site. The welfare services will generate only domestic wastewater (i.e. there will be no industrial effluent generated during the construction process). It is envisaged that the effluent generated by the site operatives will be stored on site and discharged directly into the public foul drainage system on St. John's Road West, and that the appropriate consent for such discharge will be obtained.

The requirement for the Contractor to establish a temporary connection to the existing public foul sewer network will mean that effluent generated on site will be discharged into the public system. The volume of effluent will vary over time as the number of workers on site can fluctuate as the works progress. But the volumes of effluent generated will be lower than the final effluent generated on site once the development is complete. As such the foul loading from the site during the construction period is expected to have a slight negative impact on the existing foul drainage network in the short term for the duration of construction work. As the proposed construction works will discharge the effluent generated on site into the public network, this will reduce, temporarily, the capacity of the existing sewer.

All works will follow best industry practice for the planning, supervision and construction of the works. The proposed works will adhere to the construction management plan for the development. The potential impacts have been identified by reviewing the current infrastructure in the environs of the proposed development along with the proposed temporary nature of the construction works. Cognisance was also given to Irish Water's acceptance of the effluent generated into the public network. Potential impacts have been assessed as short-term and slight.

12.7.1.2 Potable Water

The contractors will require a separate water supply connection for the works. The impact on the water supply network is likely to be slight, negative, and short term for the duration of the construction works.

It is envisaged that the contractor will apply to Irish Water for a temporary connection from the existing public network within the HSQ complex (which is fed by the public watermain on Military Road) to provide potable water for site construction purposes and for welfare facilities over the duration of the construction programme.

The proposed connection from the site to the public supply will be done with the agreement of Irish Water and on a temporary basis. The proposed temporary site connection will have little overall effect on the local supplies. The potential impacts have been identified / determined by reviewing the current infrastructure in the environs of the proposed development along with the proposed temporary nature of the construction works. Cognisance was also given to Irish Water's acceptance of the potable water requirements from the public network.

All works will follow best industry practice for the planning, supervision and construction of the works. The proposed works will adhere to the construction management plan for the development. Potential impacts have been assessed as short-term and slight.

12.7.1.3 Electricity Supply

The Contractors will provide the ducting and enabling works to facilitate the installation of the Electrical infrastructure by the ESB. All ducts and sub-stations will be installed and constructed to ESB technical guidance details and inspected and approved prior to installation.

Once the Electrical infrastructure is built and ready for the ESB to provide power the ESB will take ownership and responsibility for the sub-stations. They will be locked with access only by trained ESB personnel.

All works will follow best industry practice for the planning, supervision and construction of the works. The proposed works will adhere to the construction management plan for the development.

Potential impacts have been assessed as short-term and slight.

12.7.1.4 Gas Supply

There is no gas supply infrastructure proposed for the proposed development and accordingly there are no works proposed within the vicinity of the surrounding gas services infrastructure.

Potential impacts have been assessed as short-term and imperceptible.

12.7.1.5 Telecommunications

The Contractors will provide the ducting and enabling works to facilitate the installation of the Telecoms infrastructure by each of the Telecoms providers. All ducts and sub-stations will be installed and constructed to respective Telecoms providers technical guidance details and inspected and approved prior to installation.

Separate telecoms ducts and manholes will be provided for each provider. No shared ducts or manholes will be allowed.

All works will follow best industry practice for the planning, supervision and construction of the works. The proposed works will adhere to the construction management plan for the development.

Potential impacts have been assessed as short-term and slight.

12.7.2 Operational Phase

12.7.2.1 Foul Water

The proposed wastewater network has been designed to cater for the full quantum of development required. Irish Water's *Confirmation of Feasibility* has been received, indicating that the development can be accommodated. The requirement for Irish Water to vet all applications to ensure that the local and regional infrastructure has adequate capacity for the proposed development has been complied with. A reduction in the overall capacity at the Regional Wastewater Treatment Plant at Ringsend will be an outcome of any proposed development. The predicted effects of the proposed foul effluent generated from the site post construction has been established to be long-term and slight.

12.7.2.2 Potable Water

The proposed potable network has been designed to cater for the full quantum of the proposed development. Irish Water's *Confirmation of Feasibility* indicated that the development can be accommodated. As with the foul network, the impact of the proposed works post completion during the operational phase are deemed to be long-term and slight. As Irish Water has reviewed the volumes required as part of their assessment procedures, they have adjudicated that the requirements can be accommodated without any upgrade works being required. Potential impacts have been assessed as long term and slight.

12.8.2.3 Electricity Supply

The proposed development will require electricity supplies during the operational phase of the proposed development and these will be provided by the installation of new sub-stations in agreement with ESB Networks.

The ESB infrastructure has been designed to cater for the complete commercial development including all tennant fit-outs, landlord areas, current and future EV charging requirements.

As the new cable services will be located underground, this will result in a permanent but imperceptible effect. The proposed Hotel and Office buildings will be NZEB compliant and with the incorporation of renewable technology, the demand on the electrical supply should be further reduced. The likely impact from the operational phase on the electricity supply network is likely to be long term and moderate.

The indirect impact will allow ESB Networks to provide additional resilience in their network through the provision of new sub-stations (assuming agreement with ESB Networks) which in turn should impact positively on the wider area's electrical infrastructure.

A 'worst-case' scenario resulting from the operation of the development would be a breakage on the cable feeding the sub-stations possibly caused by a third party leading to downtime of power supplies in the local network.

With the proposed installation of new sub-stations this should allow ESB Networks to cater for any secondary projects that may arise within the vicinity.

The impact from the operational phase of the development on the electricity supply network is likely to be long term, positive and slight.

12.8.2.4 Gas Supply

There is no gas supply infrastructure proposed for the development. There are no works required to the existing gas supply infrastructure to the Heuston South Quarter site

The cumulative impact from the operational phase of the development on the gas supply network is likely to be long term and imperceptible.

12.8.2.5 Telecommunications

The proposed development will require telecommunication connections during the operational phase of the scheme and given the number of telecommunication providers with infrastructure available within the immediate area will provide the end users of the proposed buildings with a greater choice of service and will result in a positive effect for the users. As the new services will be located underground this will result in a permanent but imperceptible effect.

The telecoms infrastructure has been designed to cater for the proposed development. Allowance has been made for multiple telecoms providers with independent infrastructure ductworks and routes for each.

The additional demand on the telecoms network is not deemed to have any material impact on the surrounding area as there is sufficient capacity in the telecoms network system to manage the additional demand created by the development.

The predicted effects of the proposed telecoms supply to the site post construction is envisaged to be long-term and slight.

12.8.2.6 Telecoms Infrastructure - Major Telecommunication Masts

Any impacts on major telecommunications links will be determined at detailed design stage. Any additional microwave repeaters would reinforce the local telecommunications infrastructure impacting positively on the wider area network coverage.

The predicted effects of the proposed buildings on the surrounding telecoms infrastructure post construction is predicted to be long-term and slight.

Table 12.7.2: Summary of Potential Impacts on Water Infrastructure

	Potential Impact	Attribute Importance	Impact Duration	Impact Magnitude	Impact Significance	Stage
Environmental Management	Demolition & uncontrolled spillages, on/off site impacts	High	Short term	Moderate	Slight	Construction & demolition
Damage to Public water supply system	Excessive water usage due to poor connections/leaks	High	Short term	Moderate	Slight	Construction
Site management	On/off site impacts due to miss-connection of temporary site drainage systems into the storm network	High	Short term	Moderate	Slight	Construction
Reduction in Potable water availability	Low water availability may hinder future development	Medium	Long term	Moderate	Slight	Operational
Reduction in foul sewer capacity	Reduced capacity in public system may hinder future development	Medium	Long term	Moderate	Moderate	Operational
Reduction in capacity at Ringsend WwTP	Reduced capacity in public system may hinder future development	Medium	Long Term	Slight	Imperceptible	Operational

12.8 Cumulative Impacts

The proposed development was reviewed in consultation with existing & permitted developments in the area, a list of which is included in Appendix 1A of this submission. As has been noted, while the foul and potable water demands will reduce the available spare capacity in the local system, the needs for the site have been allocated by the competent authority (Irish Water) as part of the *Pre-Connection Enquiry* process; Irish Water has reviewed the scheme and issued a *Confirmation of Feasibility*. This indicates that the development's foul effluent loading and potable water demand can be accommodated by the existing Irish Water infrastructure in the area. In its assessment of the proposed development's predicted foul water generation and potable water demand, Irish Water has taken account of other permitted and proposed developments in the vicinity, including the adjacent SHD residential development application to the south.

The proposed development would add in the region of less than 0.1% to the current hydraulic loading to the Ringsend Wastewater Treatment Plant (WwTP). The permitted upgrade to this WwTP (Ref. ABP-301798-18) was for a planned population equivalent of 2.4 million persons. The upgrade works are currently underway, with the proposed first phase to include a 400,000 PE extension to the facility. The full upgrade works to cater for the 2.4 million PE are scheduled to be completed by 2025. In effect, the impact of the proposed planning permission with regard to capacity issues at Ringsend have been assessed as part of the granted planning permissions noted above.

The proposed development is not predicted to result in any significant impacts on the environment. Interactions of Material Assets: Water supply, Drainage & utilities and population and health has been considered in this study and it is anticipated that this will result in a slight impact to the current environs.

12.8.1 Foul Water

The foul effluent to be generated by the proposed development during its operational phase, in conjunction with other nearby developments, is envisaged to have a long-term slight negative impact on the surrounding wastewater drainage infrastructure. These calculated cumulative volumes have been deemed by Irish Water to be acceptable within the existing local and regional infrastructure without any upgrades.

12.8.2 Potable Water

The proposed potable water demand of the proposed development during its operational phase, in conjunction with other nearby developments, is envisaged to have a long-term slight negative impact on the surrounding potable water supply infrastructure. The calculated cumulative demand has been deemed by Irish Water to be acceptable within the existing local and regional infrastructure without any upgrades.

12.8.3 Electricity Supply

The proposed electrical requirements on site during the operational phase of the development is envisaged to be long-term and slight. The electrical consumption associated with the development is acceptable within the existing local and regional infrastructure without any up-grades. The cumulative impact from the operational phase on the ESB network is likely to be long term, positive and moderate.

12.8.4 Gas Supply

There is no new Gas infrastructure planned to the proposed development site. The cumulative impact of the operational phase is likely to be long term and imperceptible.

12.8.5 Telecommunications

The telecoms connections associated with the development are acceptable within the existing local and regional infrastructure without any up-grades.

The cumulative impact from the operational phase on the telecoms network is likely to be long term and not significant

12.8.6 Internet and Telecommunications - Major Telecommunication Masts

The cumulative impact from the operational phase on the local telecommunications networks is likely to be long term and not significant.

12.9 Do Nothing Scenario

Under a 'Do Nothing' scenario, there would be no change in the site's current use, the existing status would remain, and the impact would be neutral. In the scenario where the proposed development does not proceed as planned, the existing land use and material assets in the study area would remain as currently identified in the desktop study, site visit and site-specific investigations. This scenario would not have any likely significant impact on the material assets in the area.

12.10 Mitigation Measures

All works pertaining to the foul system and potable water system will be required to be inspected and authorised by Irish Water prior to final connection to the public system being permitted. This will ensure that the potable water and foul networks have been installed correctly and that no misconnections or leaks are overlooked in the commissioning process.

In respect of electricity and gas supply, the Contractor will be obliged to put measures in place to ensure that there are no interruptions to existing services and all services and utilities are maintained unless this has been agreed in advance with ESB Networks and Gas Networks Ireland.

Table 12.10.1 Table of Mitigation Measures

Character of potential impact	Mitigation measure
Construction Phase	
Environmental Management	Temporary discharge utilising the existing or permitted sewerage network will be by agreement with Dublin City Council and Irish Water. All necessary health and safety measures and best practice will be undertaken to ensure the safety and welfare of construction personnel, the public and road users during construction of the foul infrastructure.
Damage to Public System	The contractor will make all necessary arrangements for a temporary water supply in agreement with Irish Water and Dublin City Council. A water meter will be installed to monitor water consumption on the site and to enable early detection of any potential leaks. Inspection and acceptance of connections will be required prior to services being allowed.
Site Management	Good site governance to ensure storm generated on site is disposed into the storm system and foul into the temporary foul system so that no misconnections occur.
ESB	The contractor will engage with ESB to facilitate the installation of the required infrastructure. Site ductwork and sub-stations will be constructed to ESB technical standards and will remain locked and under full control of the ESB once power is provided to the site.
	Prior to excavation the Contractor will carry out additional site investigation,

	including camera survey of existing ducts, in order to determine the exact location of the electricity network in close proximity to the works area. All works in the vicinity of ESB Networks infrastructure will be carried out in ongoing consultation with ESB Networks and will be in compliance with any requirements or guidelines they may have including procedures to ensure safe working practices are implemented when working near live overhead/underground electrical lines Where new services are required, the Contractor will apply to ESB Networks for a connection permit where appropriate and will adhere to their requirements
Gas Network	Prior to any excavation adjacent to gas services the Contractor will carry out additional site investigation to determine the exact location of the gas network in close proximity to the works area. This will ensure that the underground gas network will not be damaged during the construction phase. All works in the vicinity of GNI infrastructure will be carried out in ongoing consultation with GNI and will be in compliance with any requirements or guidelines they may have including procedures to ensure safe working practices are implemented when working near live gas mains.
Operational Phase	
Foul	The development's proposed internal foul drainage network, when completed, will not be vested to Irish Water. As such, the development's facilities management company will have responsibility for its ongoing maintenance and operation. Any issues going forward will therefore be addressed and mitigated against.
Water Supply	The development's proposed internal potable water supply network, when completed, will not be vested to Irish Water. As such, the development's facilities management company will have responsibility for its ongoing maintenance and operation. Any issues going forward will therefore be addressed and mitigated against.
Reduction in Ringsend WwTP	Ringsend WwTP is currently the subject of upgrade works to ensure its fitness for purpose. The upgrade works will ensure that future capacity for the greater Dublin region is available.

12.11 Residual Impacts

The post construction residual impacts will consist of a reduction in the overall quantum of potable water available in the area and a reduction in the spare capacity in the foul sewer network. As with all developments, this is an expected effect. Any scheme of the proposed scale and nature will require resources to be used to allow for the development to be completed. Notwithstanding same, the subject lands have been designated within Dublin City's Development Plan for the type of development proposed

and following an assessment by Irish Water, the appropriate authority has deemed that the level of development applied for can be accommodated within its local and regional infrastructure. The residual impacts for the foul water and potable water have been deemed to be long term and imperceptible.

12.12 Human Health

The construction of the proposed development will temporarily impact on the existing residents of Heuston South Quarter, as would be expected in the case of any development adjacent to existing residential dwellings. Such impacts are likely to include increased noise levels, increased heavy vehicle traffic, and changes to existing traffic routing.

Should planning permission be granted, the construction of the proposed development will be regulated by means of appropriate planning conditions which will seek to minimise disturbance by regularising noise levels, working hours, and other aspects of construction activity with the potential to affect nearby residents. These conditions can be enforced by the Dublin City Council Planning Department to ensure that the potential for disturbance to the existing population is reduced to a minimum while the development is completed.

12.13 Interactions Arising

Outside of the interaction with Human Health, discussed above, no other potentially significant interactions with other aspects of the environment have been identified.

12.14 Unplanned Events, Major Accidents and Hazards

As with any proposed large scale construction project there is an intrinsic risk of unforeseen events which may have a detrimental effect on the project or its environs. This proposed development is no exception. While the impacts of unforeseen events may have significant implications should they occur, the likelihood is anticipated to be remote. While the proposed development is located near the River Liffey, even if the river were to flood (refer to Chapter 8, Water, for an assessment of the potential flood implications for the site), the site's elevation and the topographical features adjacent to the site would prevent the site from flooding. Similarly, should a major water main leak or the public foul or storm water system fail, the site's location and its elevated position would prevent the site from being affected. There is also a residual risk that during the physical construction of the development an accident may occur. To mitigate against the low likelihood of these events occurring, strict site protocols and procedures will be in place on site in accordance with national best practice and HSE guidelines for safe working on construction sites.

12.15 Monitoring

Ongoing monitoring of the foul and potable water systems to be constructed for the development will be carried out as part of the operational and maintenance set of procedures for the scheme post construction.

This will include inspections to ensure that the systems are operational and fit for purpose. Our assessment does not identify any specific monitoring which is required in order to minimise impacts on the environment.

12.16 References

In addition to the sources noted above, the documents listed below were also consulted.

- Dublin City Development Plan 2016–2022;
- Regional Code of Practice For development works, Version 6;
- Irish Waters Code of Practice for Water Infrastructure;
- Irish Waters Code of Practice for Wastewater Infrastructure;
- Greater Dublin Strategic Drainage Study;
- Local Authority/Irish Water Drainage Records.

13. CULTURAL HERITAGE: ARCHAEOLOGY

13.1 Introduction

This chapter describes the archaeological and historical implications of a development site at St John's Road/ Military Road, Kilmainham, Dublin 8., known as Heuston South Quarter. The report consists of both a desk- based archaeological evaluation and the results of archaeological excavation on the site. The excavation report is included as Appendix 13A. Results of excavations in the immediate vicinity are presented in Appendix 13B.

The report has been prepared by Claire Walsh, licensed archaeologist, who carried out the original test excavation and subsequent full excavation on the site prior to development. Claire Walsh is a partner in Archaeological Projects ltd and has worked for over 36 years primarily in development archaeology.

13.2 Characteristics of the Proposed Development

The proposed development will provide a mixed-use commercial development comprising of a hotel (238 no. bedrooms) and an office block providing a cumulative Gross Floor Area (GFA) of 32,602, inclusive of basement area. The proposed development consists of:

- Site clearance and localised demolitions to remove part of the podium and Basement Level -1 reinforced concrete slabs at the interface of the proposed hotel and office blocks, together with the incorporation of part of the existing basement level structure extending to approximately 4,228 sq.m (GFA).

- The proposed basement will be integrated within the existing basement levels serving the wider HSQ development and will be accessed from the existing vehicular ramped accesses/egresses onto/off St. John's Road West and Military Road to the north and east, respectively. The proposed basement area is split into two areas to provide a dedicated Hotel Basement area of approximately 2,132 sq.m (GFA) and an Office basement area of 2,096 sq.m (GFA).

- The construction of a 5-storey hotel (over lower ground and basement level). At basement level provision is made for 24 no. car parking spaces; 2 no. motorcycle spaces together with plant and storage rooms. A waste storage area with dedicated loading bay / staging area is provided along with dedicated set-down area for deliveries. A service bay for the dual purpose of waste storage collection and bus drop-off to serve the hotel is also provided at basement level with modifications to existing line markings to the basement parking area to accommodate the development. At Lower Ground floor level provision is made for 14 no. Bedrooms; Bar; Kitchen and Staff facilities and Changing Rooms / WCs plus ancillary Gym. This floor is arranged around an internal courtyard space. Provision is made at Podium level for 19 no. Bedrooms; Dining Area and Foyer with entrance at the South-Eastern corner of the building onto the new laneway separating the hotel and office building. Provision is made at the south-western corner at podium level for an ESB sub-station / switch room and 15 no Sheffield type bicycle stands are provided for the hotel and the retail / café unit, providing storage space for 30 no. bicycles. A total of 205 no. bedrooms are provided at the upper levels (above podium level). The top floor of the hotel

(4th floor) has a splayed setback to provide a west facing roof terrace. An ancillary hotel bar (118 sq.m) opens onto this roof terrace.

- The construction of a 12-storey (over lower ground and basement levels) office building to the east of the hotel building to provide 19,474 sq.m of office floorspace (GFA) from lower ground floor level and above. Provision is made at basement level for 30 no. car parking spaces; 2 motorcycle spaces and 120 no. bicycle storage spaces together with plant and storage rooms. Provision is made for a further 196 no. bicycle storage spaces at Lower Ground floor level plus changing rooms. At podium level 2 no. ESB sub-stations and switch rooms are proposed. The foyer and entrance are provided at the southern end of the building at Podium level along with a Retail/Café unit of 208 sq.m at the South-Western corner of the building. The building is setback at 4th floor level to provide a west facing roof terrace. Splayed setbacks to the southern and eastern elevations at the 11th floor level forms a roof terrace that wraps around the South-Eastern corner of the building. Plant is provided at rooftop level that is enclosed by curved louvred screens and PV panels.

- Works proposed along the St John's Road West frontage include the omission of the existing left-turn filter lane to the vehicular ramped access to the HSQ development and re-configuration of the pedestrian crossings at the existing junction together with the re-configuration of the existing pedestrian crossing over the westbound lanes of St. John's Road West leading to an existing pedestrian refuge island and re-alignment of the existing footpath along the site frontage onto St John's Road West to tie into the reconfigured junction arrangement.

- Drainage works proposed include the provision of 2 no. below basement surface water attenuation tanks with duty/stand-by arrangement pump sumps and associated valve chambers, and 2 no. below basement foul pump sumps with duty/stand-by arrangement and emergency storage and associated valve chambers. New foul drainage and stormwater drainage connections are proposed to existing foul and storm sewers in St. John's Road West with associated site works.

- Hard and soft landscaping works are proposed at lower ground level along St John's Road West and at podium level to provide for the extension and completion of the public plaza to the south of the proposed Office Block and the provision of two new pedestrian laneways connecting St John's Road West with the public plaza at podium level.

As the basement to the entire site has already been constructed, following full archaeological excavation of features where present on the site, there is no impact on archaeological heritage. This applies both to features preserved by record (in archaeological excavation) and to the boundary wall of the Royal Hospital Kilmainham garden DU018-020528. In the course of the works to the basement in 2004 it was evident that the original walls had been underpinned along the eastern side as part of the restoration works to the garden.

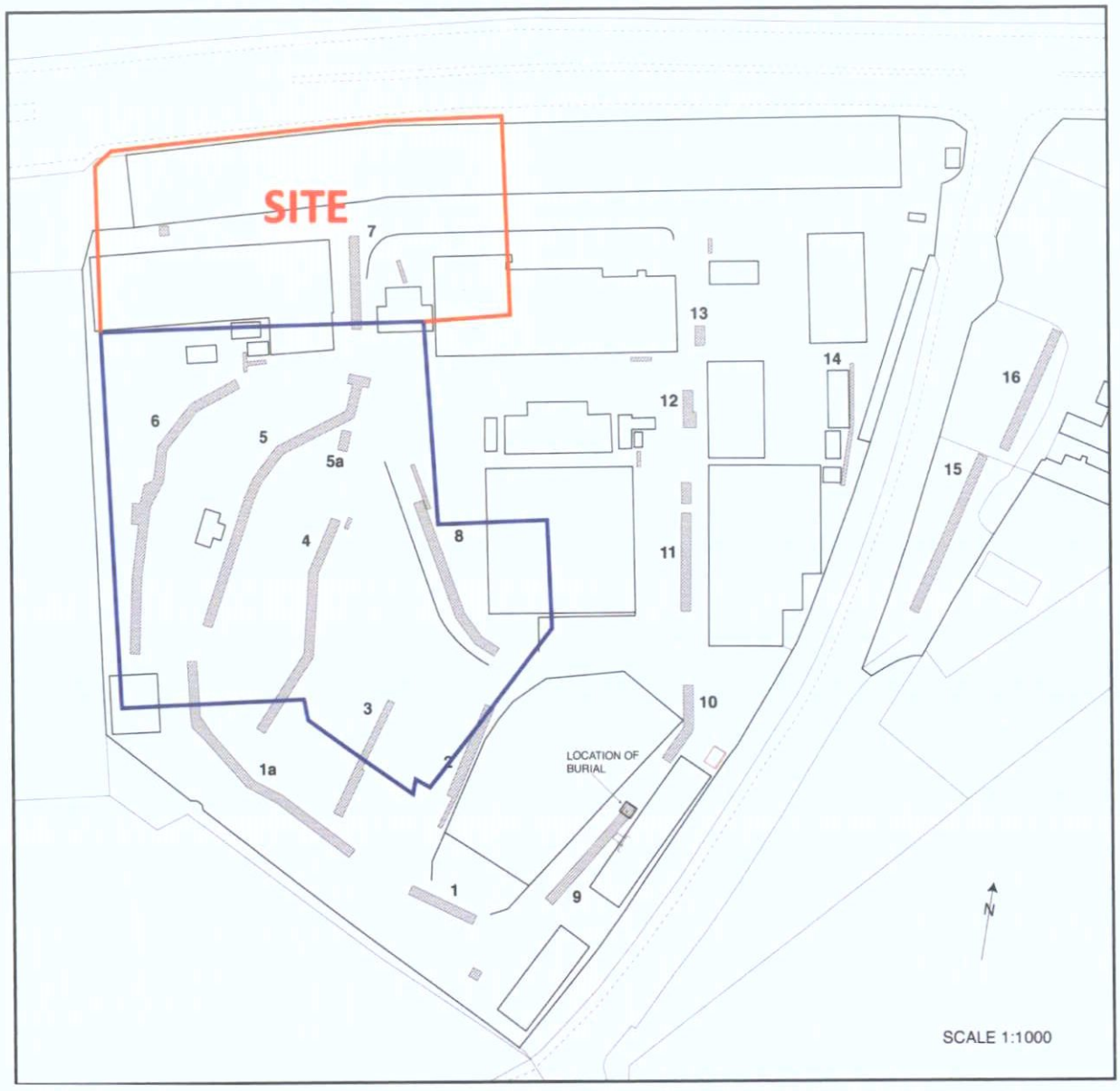
13.3 Assessment Methodology

This report is based on the following:

- files held in National Monuments (the Record of Monuments and Places listing for the various features on or close to the site is used in this report)
- cartographic sources
- written sources, including archaeological and historical material
- full excavation on site, carried out by the writer, under licence 02E0067 (extension) from National Monuments Service, Department of Culture, Heritage and the Gaeltacht.

The report progresses chronologically through the archaeological and historical accounts of the site and environs. The results of the excavation on this site are detailed in Appendix 13A. A summary list of all known archaeological work in the vicinity of the development site is given in Appendix 13B. A list of sites on the Record of Monuments and Places for Dublin city in the immediate vicinity is given in Table 13.1. It is considered that none of these sites will be impacted by the proposed development. No difficulties were encountered in compiling specified information.

Figure 13.3.1 Test Pits from Test Excavation (Licence 02E0067)



13.4 Receiving Environment

The receiving environment, or subject site, forms a section of a much larger site at Heuston Square South, Dublin 8. The larger site is bounded principally by St. John's Road to the north, and Military Road to the east. The formal gardens of the Royal Hospital Kilmainham form the western boundary of the site. The southern boundary is formed by the lands of the Royal Hospital.

The receiving site has frontage to St John's Road and is flanked by buildings of recent construction. The western part of the site is formed by the boundary wall with the Royal Hospital formal gardens.

The site is presently landscaped as an interim measure, but the entire area of the larger Heuston South Quarter was excavated from 2004 under planning grant ABP ref. PL29S.206528. Development of the previously permitted Blocks 1 and 2 had commenced and was not completed within the life of the relevant permission. Elements of the basement carparks had been constructed. Blocks 5a, 5b and 6 were not

commenced. An application to DCC and grant for temporary landscaping DCC 2724/13 was carried out. This comprises of temporary landscaping at basement, podium and ground levels over an area measuring approximately 1.47 ha.

The site is presently an infilled basement, with perimeter piling on the north and west sides. The eastern side is composed of the boundary with the completed developments of the 2004 Parent Permission. These have deep basements.

13.4.1 Archaeological and historical context

Prior to development from 2004 onwards, the larger land block was in use as an Eircom depot, and was occupied by modern concrete industrial buildings, and open fenced enclosures. The lands sloped quite sharply northwards and less so eastwards, reflecting the geological influences of the Liffey and Camac rivers. The entire site lies within the lands of the medieval ecclesiastic foundation of Kilmainham, to the west of the river Cammock (Camac) to the north of the high level plateau now occupied by the Royal Hospital. The original topography of the Kilmainham/ Islandbridge triangle, formed by the Liffey- Camac confluence, is a gravel ridge rising to a maximum height of c.23m OD. (O' Brien 1998, 204).

To the north-west of the site, the burial grounds at Kilmainham/ Islandbridge are the location for the richest collection of Norse graves uncovered to date in this country. The Royal Hospital, built between 1680 and 1684, is located close by, or on, the site of the priory of the Knights Hospitallers. This was established in the 12th century, on the site of the early monastery of Cell Maignenn.

Until recently, there have been no certain finds of prehistoric date from the immediate area of Kilmainham. Otherwise, the closest known monuments of prehistoric date were located at Drimnagh, Suffolk St, or at Chapelizod in the Phoenix Park (Stout and Stout 1992, 28; O' Riordain and Waddell 1993). The site at Suffolk St was a cist burial, which contained two flat copper axeheads. Cist and urn burials upriver at Chapelizod are documented by O' Riordain and Waddell (1993, 106). A tumulus which covered a central Neolithic megalithic grave had four small cists inserted into it- these contained pots with cremated bones. Three of the pots are extant.

The Drimnagh burial site was similar to that in Chapelizod, re- using a tumulus over a Neolithic grave. Four secondary burials were uncovered at Drimnagh, including two burials with vessels, one an urn, the other a bowl. The bowl was placed mouth upwards, on a pile of cremated bone (Kilbride -Jones 1939). The location of the Drimnagh tumulus was prominent, with good views over the surrounding countryside. The site at Drimnagh was excavated in 1938 by the OPW with the National Museum of Ireland, as it was threatened by gravel quarrying.

The large corpus of finds of Scandinavian origin, uncovered in the late 19th and early 20th centuries, includes sherds of crude pottery which may well represent disturbed burials of the prehistoric period (information from Dr Stephen Harrison).

The primary source for information on the distribution of these vessels has been O' Riordain and Waddell's corpus of funerary vases of the Irish Bronze age, published in 1993. However, the construction boom of the last 20 years has altered the distribution map of known sites, particularly skewed towards new infrastructural linear projects. The 1993 corpus is of necessity out of date as it does not include all the recent unpublished material.

13.4.2 Early medieval Kilmainham

The early seventh century monastic foundation of Cell Maignenn (Kilmainham) is attributed to St Magnenn (Gwynn and Hadcock 1988). Nothing remains of this foundation, and its precise location is speculative. Recently, a timber structure close to the south shore of the Liffey at Clancy Barracks was uncovered, and a dendrochronological analysis for a part of the structure gave a date of 595AD. This suggests that it may have been part of the settlement of Kylmehanok.

A granite cross shaft in Bully's Acre probably dates to this foundation, comparing with other 9th- 11th century crosses (Kenny 1995, 27). The monastery may have occupied the high level ground where the Royal Hospital is sited although the cross shaft and a well, St John's well, to the west of the hospital, also contend for the site of the earlier foundation. Harrison and O' Floinn (2014, 236, Ill 140) have outlined the potential monastic enclosure as aligning very closely with the topography and skirting the subject site to the south. No evidence for any embankment or ditch was uncovered on the subject site. Unfortunately, the escarpment suggested from Rocque's map for the eastern boundary by Harrison and O' Floinn (2014, 148) was formed largely by a late 17th or early 18th century stone revetment with steps, part of the later landscaping associated with the Royal Hospital.

Burials which are probably associated with this early foundation were uncovered by construction work in the 19th and early 20th centuries (O' Brien 1998, 35), while a second cemetery lay approx. 800m west of this, in the region of the War Memorial Park. These burials represent two distinct cemeteries, and significantly suggest the proximity of a 9th century Norse settlement in the vicinity. The location of this settlement is unknown and is the subject of some dispute (O' Floinn 1998). The supposed location of burials and other Norse finds is given in O'Brien's fig. 7.3, reproduced here, but many finds uncovered in the 19th and early 20th century cannot be precisely located. However, the confirmed locations appear to be in the vicinity of the War Memorial Gardens, some distance west of the development site.

13.4.3 Norse Kilmainham

The early medieval cemeteries were reused by pagan Vikings, and the triangular area of land between the Camac and the Liffey confluence is considered by some scholars to be the site of the Viking "longphort", recorded as established in Dubhlinn in 841A.D. Scholars hold this longphort to be the pre- urban Viking settlement of Dublin, which was abandoned in 902A.D. following the expulsion to England of the Viking ruling elite. Others (such as Clarke 1998, 348) strongly refute this suggestion, preferring a site at Usher's Island as a location for the ninth century longphort.

Following the former theory, the town proper was refounded at the Poddle/ Liffey confluence further down river (whose topography mirrors somewhat that of the Camac/ Liffey confluence), when the Viking rulers returned in 917. Recent excavations in Essex St West and elsewhere south of the medieval town of Dublin however have shown conclusively that the site of Dubhlinn was settled from at least the mid- ninth century onwards.

O'Brien (1998, 217) interprets the ninth century Norse burials at Kilmainham/ Islandbridge as those of a settled community of Vikings who were living in a defended longphort settlement close by, or at, the monastery of Kilmainham, and suggests that the original Ath Cliath may have been in this area.

The weapons recovered from the Viking graves reflect the presence of warriors, but other artefacts such

as sickles, shears, tongs, pincers, weighing scales, weights, spindle whorls and needle cases also indicate a range of activities from farming to trading to cloth and garment making.

The scattered distribution of Viking burials, with at least four Viking graveyards in the Dublin area as discussed by O'Floinn (1998,133) may reflect a dispersed ninth century settlement, with several nuclei along the Liffey estuary. It is apparent that such a settlement, or settlements, of uncertain form and location, existed at Kilmainham. An early settlement spanning the period of the Norse burials a short distance upriver at Chapelizod was excavated in 2002 by the writer under licence 00E0873 extension.

Limited archaeological excavations in 1999 along the rerouting of Con Colbert Road in Inchicore uncovered no further burials, but pits in the vicinity of the War Memorial Park which contained artefacts which date from the 9th- 10th centuries, are consistent with the Viking Age burials uncovered in the 19th-20th century (Healy 1990, 20). That excavation noted that extensive quarrying of the natural gravel ridge in the modern period had truncated the archaeological remains, which survived to a maximum depth of 0.80m below subsoil.

13.4.4 Medieval Kilmainham

The priory of St John the Baptist (RMP DU 018- 020 285/286) was founded for the Knights Hospitallers at Kilmainham in 1174 by Richard Fitz Gilbert (Strongbow) on the site of the church of St Maignenn (Gwynn and Hadcock 1988, 334). The priory became the chief house of the hospital of St John of Jeruselem in Ireland and received many grants and endowments. It was exempt from all ordinary jurisdiction and was also a hospital and almshouse for the sick. The priory occupied a strategic position on an elevated site to the west of the city.

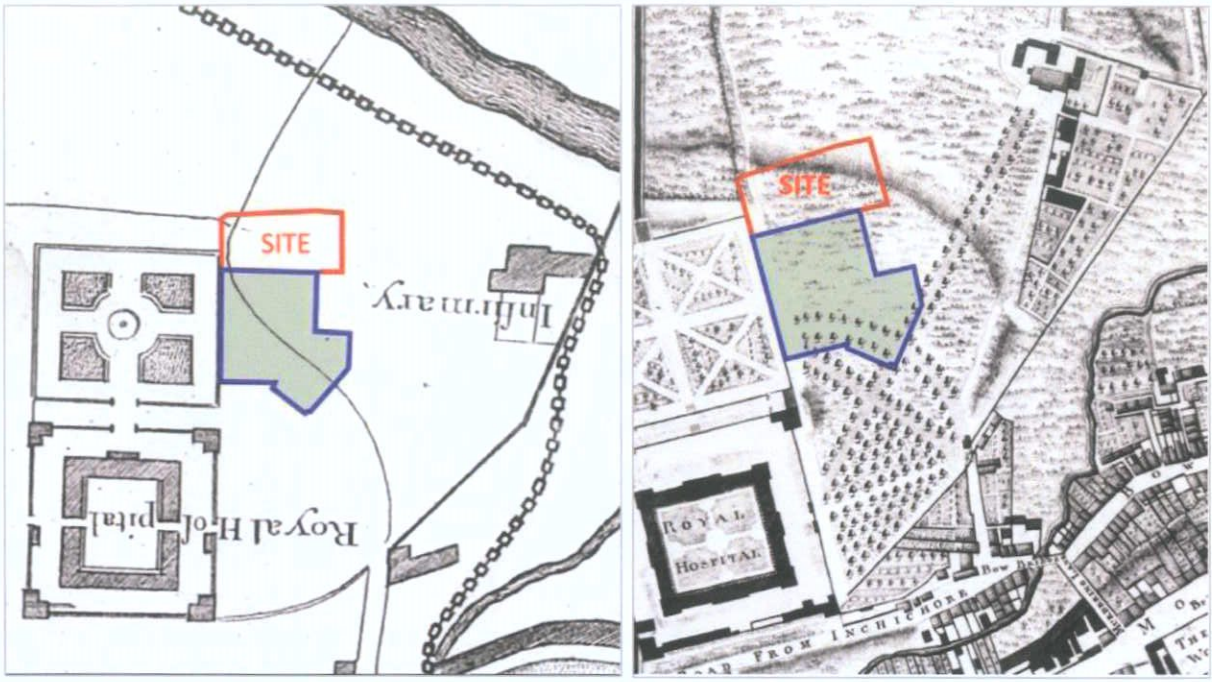
On dissolution, the buildings at Kilmainham were considered to be among the best in the kingdom. The house, mansion and buildings, church gardens and orchard, were surrounded by stone walls with four towers, and there was a fortified gatehouse with other buildings. The priory also held over 10,000 acres of land throughout the country, with manors, castles, mills and other possessions. The priory held many mills on the Liffey, including that on Mill Island, Kilmainham, Chapelizod, and several on the river Camac. The foundation and mill sites are indicated on Girdler's (1654) map of the Kilmainham area. Girdler depicts an almost square walled and gated enclosure, with a church marked in the north- east corner. A tall structure marked a "castle" is placed in the centre of the enclosure. The foundation was described as follows: an inner and outer enclosure. The inner one held a castle, which had a great hall, surrounded by a quadrangle with towers and an outer ditch. Detached buildings within the quadrangle were used as dormitories. The outer enclosure had gardens, with hay barns and granaries. The church of St John stood near the ancient cross in the cemetery to the west of the buildings described (Kenny 1995, 32-3). A well, known as St John's well, located to the north of Bully's Acre, was venerated throughout the 18th century (Kenny 1995, 45). The old graveyard at Bully's Acre was still in use in the mid- 17th century.

13.4.5 The Deer Park

Following the Restoration in 1660, the Duke of Ormonde, then Lord Lieutenant, initiated the Deere or Phoenix Park on the north side of the Liffey. The park originally included most of the former lands of the Knights Hospitallers, and the enclosing wall of the park, south of the Liffey, is depicted on Thomas Taylor's (1671) map of the park. The wall is depicted on Brooking's map of 1728, and on Rocque's (1756) map of the Royal Hospital. Part of what is probably this late 17th century wall still stands on the east side of Military

Rd (RMP DU018- 020409).

Figure 13.4.5.1 Excerpt from Brooking's Map (Left) and Rocque's Map (right)



13.4.6 The Royal Hospital

In 1670-80, Charles II consented to the erection of a retirement home for old soldiers of the Irish forces, to be modelled on the Hotel des Invalides in Paris. The Royal Hospital is probably the finest and best sited building of that period in the city.

In 1679, the site of Kilmainham priory, by then unused and in decay, was chosen as the location for the new hospital. At the time, these lands were part of the Phoenix Park. The new buildings, designed by William Robinson, do not visibly incorporate any of the buildings of the medieval foundation, although some stonework from the medieval foundation was exposed during recent restoration work of the complex (Kenny 1995, 43). The Royal Hospital appears to have been built on a site to the east of the older complex, and much of the stone from the medieval foundation was reused in the late 17th century building. By 1698, there were no visible remains of the medieval foundation. Indeed, the letters patent of Charles II in relation to the Royal Hospital declare that the medieval chapel was the source of stone for the chapel of the Royal Hospital. The Robinson work was completed in 1701, and the building was used as a hospital until 1927. In 1798, the hospital was converted to a temporary citadel for transacting government business, reflecting once again its strategic location on the western flank of the city.

13.4.7 Infirmary

Brookings (1728) map shows a building (annotated Infirmary) on the east side of Military Road. The Infirmary buildings are depicted in better detail on Rocques map of 1756 along with several other buildings and enclosures to its south. Most of these walls, yards and outbuildings appear to be still standing.

The building complex is mentioned in a description of 1698 (by John Dunton) and was the infirmary of the Royal Hospital. The Stewart of the hospital and his family a dwelt here. The Infirmary was extended in 1701. The original fabric of this structure is probably incorporated in the present complex of buildings on this site; certainly the outline of the buildings on the modern OS map mirror those on Rocque. The building complex is included in the Record of Monuments and Places (Du 018- 020- 292, 293; infirmary and dwelling). This site is presently undergoing redevelopment.

13.4.8 The Royal Hospital Garden (RMP 018-020528)

The Royal Hospital garden has been recently restored and approximates its early 18th century cartographic rendering. The formal garden was designed as an integral part of the Royal Hospital, and reflects the building in scale. The garden is depicted on Brooking (1728) and Rocque (1756). It is enclosed by limestone walls, with entrances/exits to Hospital lands at its east and west side. There are two original entrances into the subject site. The garden has is a limestone- built gatehouse with brick dressing, centrally placed on the north wall, which is probably late 17th century in date (RMP DU 018-020- 255) and is shown on Rocque. A vaulted passageway leads to the Hospital: a similar brick arched passage was uncovered in recent refurbishment works at the Deputy Master's house. There is a monument over the grave of a Victorian horse in the south- west wall.

The west side of Military Road is shown as open ground/ informal gardens on Rocque's map. This terrain was uncovered in the monitoring, part- excavation and recording carried out under licence 02E067 (extension), see Appendix 13A. Rocque's map shows several tree-lined avenues, which lead to the formal gardens, and to the Infirmary. The line of St John's Road extended only as far as the Infirmary, and is early 19th century in date. The main entrance to the Hospital was close to Bow Bridge.

13.4.9 The Camac River

The Camac flows through a steep sided valley below the site of the former Priory of St John (now the Royal Hospital) to join the Liffey upstream of Sean Heuston bridge. Prior to the construction of Heuston Station, the confluence of the two rivers was a broad expanse of water at high tide (de Courcy 1996, 63). In 1603, it was necessary for the mayor's party to "take boat to pass over the waters of Cammocke" while riding the franchises of the city. The lower reaches of the river are probably artificially coursed, and a mill race of uncertain antiquity led eastwards to form Usher's Island. The width of the original floodplain of the Liffey/ Camac confluence is uncertain.

There were two mills of medieval date at Kilmainham village. The waters of the Cammock were extensively utilised in the later period for industrial purposes. There are no significant industrial features known in the immediate vicinity of the site.

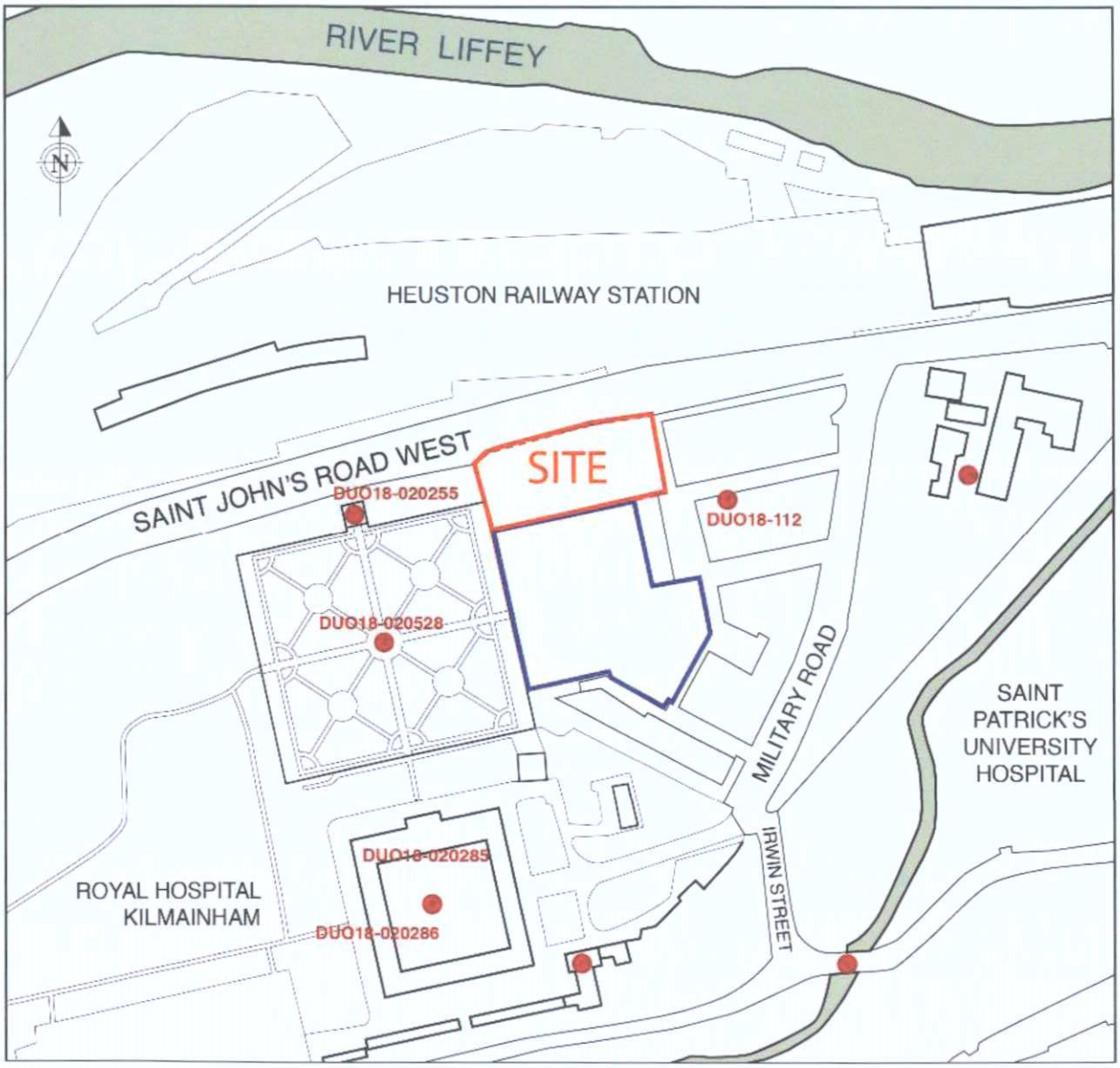
13.4.10 19th century Kilmainham

There are no buildings shown on the site on the 1837 OS map. A gravel pit is indicated towards the east side of the site. Evidence for this quarry was uncovered in the course of the test trenching and subsequent monitoring of groundworks.

13.4.10.11 Record of Monuments and Places

The site lies within the zone of notification of DU018-112 and DU018-020528, the garden of the Royal Hospital, see table 13.4.10.11 below. Sites which are entered on the Record of Monuments and Places are afforded protective status, by virtue of being included on the list and maps of these monuments. Most of the monuments below are scheduled for inclusion in the next revision of the Record of Monuments and Places. Where works are intended to be carried out at or within the zoned of notification of a Recorded or Registered Monument, they are required to give notice to the Minister two months before commencing that work.

Table 13.4.10.11 Sites and Monuments in immediate vicinity of the site



SMR	Classification	Distance from site	Statutory Protection	Excavation
DU018-	Pit-burial	On site	Scheduled for inclusion in next	02E067

112			**revision of RMP**	
DU018-020255	House, 18th-19th century	100m	Scheduled for inclusion in next revision of RMP	Yes
DU018-020528	Designed landscape	50m	Scheduled for inclusion in next revision of RMP	Yes
DU018-020528	**Hospital**	**100m**	**Scheduled for inclusion in next revision of RMP**	**Yes**
DU018-020286	Religious house-Knights Templars	100m	Scheduled for inclusion in next revision of RMP	Yes
DU018-020254	House, 18th-19th century	150m	Scheduled for inclusion in next revision of RMP	No
DU018-020287	Bridge	200m	Scheduled for inclusion in next revision of RMP	No
DU018-020292	Hospital	150m	Scheduled for inclusion in next revision of RMP	No
DU018-020477	Mill, unclassified	300m	Scheduled for inclusion in next revision of RMP	No
DU018-020341	Hospital	400m	Scheduled for inclusion in next revision of RMP	No

13.5 Identification of Likely Significant Impacts

As the area of the site has been reduced several metres below the archaeological/ subsoil level, and consists now of a basement, there can be no impact on archaeological material by completion of the development. Any features of archaeological significance were excavated under Licence 02E0067 in 2004 and the following year.

Redevelopment of the site over the existing basement will have no impact, significant or otherwise, on archaeological features.

There will be no impact on DU018-112, the pit-burials of late Neolithic date, as these have been preserved by record, having been excavated in advance of the development in 2004-5. There will be no impact on DU018-020528, as the basement wall has been inserted along the outside of the garden boundary wall in construction following archaeological excavation in 2004-2005.

13.5.1 Cumulative Impacts

There will be no impact on DU018-112, the pit-burials of late Neolithic date, as these have been preserved by record, having been excavated in advance of the development in 2004-5. There will be no impact on DU018-020528, as the basement wall has been inserted along the outside of the garden boundary wall in construction following archaeological excavation in 2004-2005. This applies also to any further development of the site and adjoining lands.

13.6 Do Nothing Scenario

There would be no impact on archaeological material if the proposed development were not to take place.

13.7 Hazards or Accidents

No risks to archaeological heritage have been identified arising from hazards or accidents at the site or caused by the proposed development.

13.8 Mitigation Measures

As a deep basement with perimeter piling has been already constructed on the site, there are no mitigation measures required in respect of further development over the footprint of the basements. All mitigation measures in respect of archaeology have been previously undertaken, in the form of test excavation, monitoring, recording and planning of archaeological features uncovered through this process. The results are presented in Appendix 13A.

The site lies within the zone of notification of DU018-112 and DU018-020528, the garden of the Royal Hospital. Where works are intended to be carried out at or within the zone of notification of a Recorded or Registered Monument, they are required to give notice to the Minister two months before commencing that work.

No mitigation measures are required during the operational phase.

Table 13.8.1 Table of Mitigation Measures

Character of potential impact	Mitigation measure
Construction Phase	
Recorded Monuments DU018-112 and DU018-020528.	Give notice to the Minister for Housing, Local Government and Heritage two months before commencing work at the site.

13.9 Residual Impacts

There are no anticipated residual impacts from the development.

13.10 Interactions Arising

Interactions are neutral, and imperceptible. There are no interactions with other aspects of the environment in terms of the archaeological heritage.

13.11 Monitoring

No monitoring is required in relation to archaeological heritage in respect of this proposed development.

13.12 References

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14. CULTURAL HERITAGE: ARCHITECTURAL HERITAGE

14.1 Introduction

The aim of this chapter of the EIAR is to assess the impact of the proposal on the built heritage of the surrounding area. This includes protected structures but also the historic landscapes and non-designated architectural heritage. Mitigation measures are also proposed to reduce the potential impacts which arise.

This chapter has been prepared by Rob Goodbody BA(mod), DipEnvPlanning, DipABRC, MA, MUBC, MIPI in conjunction with Brendan Money (BA (mod, MArch, MRIAI) of Robin Mandal Architects, an architectural conservation practice.

The subject site is part of a larger development known as Heuston South Quarter (HSQ). Much of the larger HSQ site has already been developed with mixed-use buildings which include retail, offices and apartments as the most prominent uses. The site of the application fronts St John's Road West to the north and comprises a partly completed but abandoned building site (the foundations and elements of the basement structure of a previous unbuilt scheme remain). The proposal is for a 5-storey (over lower ground and basement level) hotel and 12-storey (over lower ground and basement level) office development with the former occupying the western part of the site adjacent to the Royal Hospital Kilmainham (RHK) Gardens to the west. Apart from the RHK complex which is of international importance, there are a number of important protected structures in the vicinity and a significant view from the gardens north to the Phoenix Park. This view is described as a 'Cone of Vision' (COV) in the development plan extending from the west corner of the north range of the Royal Hospital Kilmainham and the north-east corner of the Deputy Master's House to the western side of the Magazine Fort and east edge of the main elevation of the Irish Army Headquarters (former Royal Military Infirmary) respectively.

14.2 Characteristics of the Proposed Development

The proposed mixed use commercial development comprises a hotel (238 no. bedrooms) and an office block providing a cumulative Gross Floor Area (GFA) of 32,602 sqm, inclusive of basement area. The proposed development consists of:

1. The construction of a 5-storey (over lower ground floor and basement) hotel with car parking, plant, waste storage and delivery area in the basement

2. The construction of a 12-storey office (over lower ground floor and basement) with provision for parking, plant and storage in the basement

3. Hard and soft landscaping works are proposed at the lower ground level along St John's Road and at podium level to complete the public plaza and the provision of a new laneway connecting St John's Road West with the plaza that is situated between the proposed hotel and office blocks.

Conceptually the development is a 4 – 5 storey podium with a curved glazed element on this podium to the west bringing the building to 12 storeys at this point.

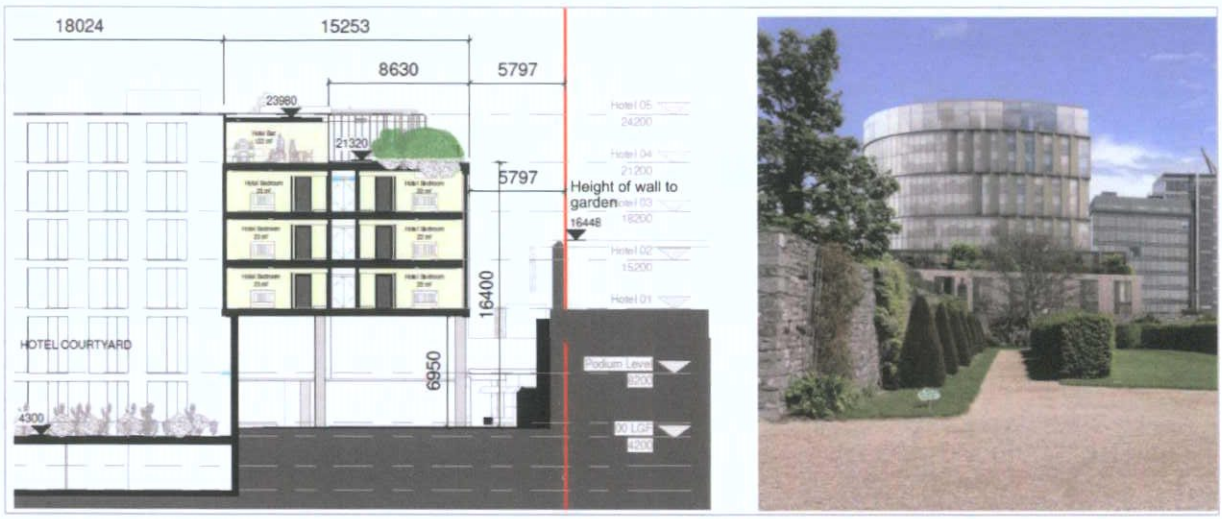
14.2.1 Critical Aspects of the Proposal

The key operational aspects of the proposal in relation to architectural heritage are its response to its immediate setting of the RHK and in particular the adjacent garden, its response to the wider setting of the Phoenix Park and its build heritage and the settings of other historic buildings in the vicinity.

The massing, materials, architectural language, and height are all critical in terms of the impact the proposal has on the setting of the RHK garden and on the COV from the RHK to the north. Part of the western boundary, some 15 metres, is formed by the perimeter wall of the RHK garden. The hotel steps down towards the garden perimeter wall and planting on the west-facing terrace softens the impact of the building and creates a connection to the garden.

The figure below illustrates the relationship between the proposed hotel and the RHK boundary wall and gardens beyond.

Figure 14.2.1.1 Relationship between hotel and RHK garden (extracts from RAU)



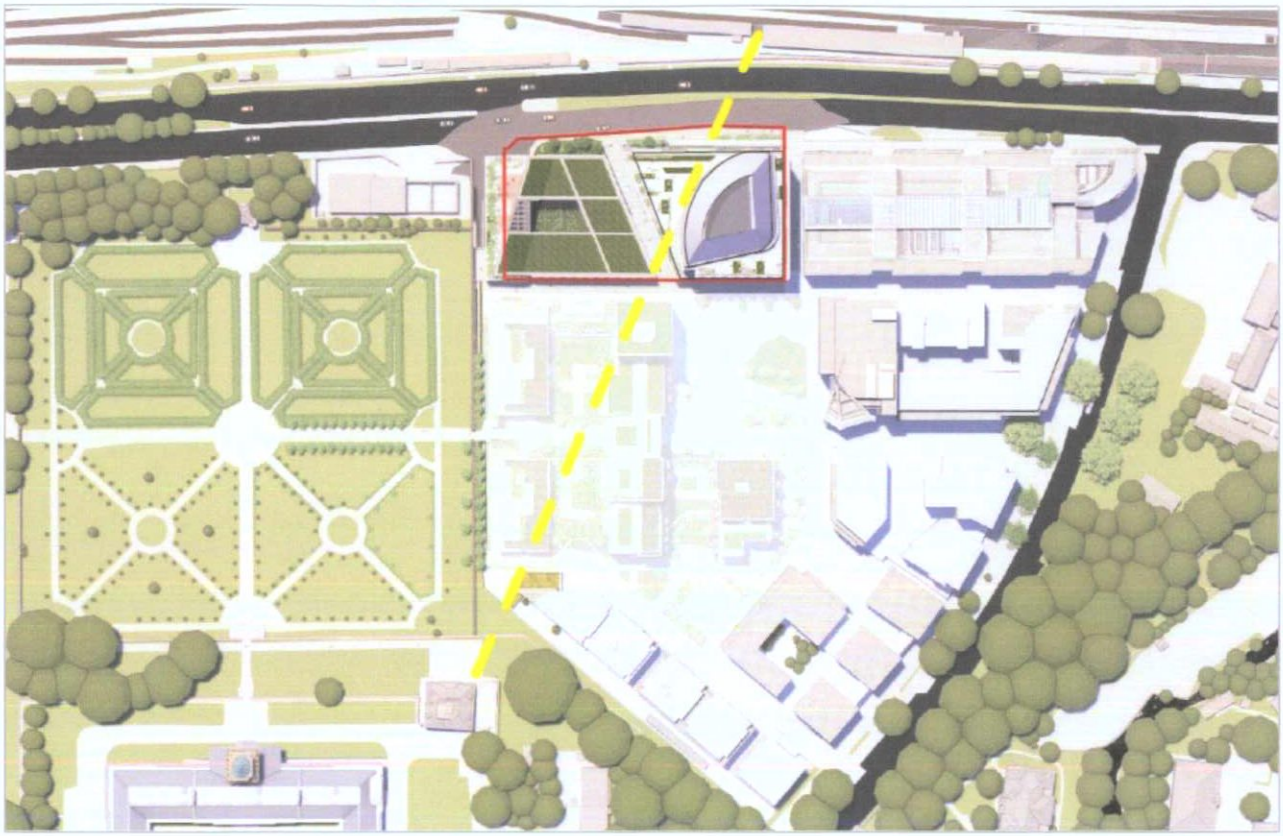
The formal architectural language and the rhythm of the facade have been conceived to complement the formal nature of the garden. The palette of materials is neutral in tone and respond to their setting which work to reduce the impact.

The 12-storey (over lower ground and basement levels) office building marks the eastern edge of the COV, as described above. The proposed office curves from its southwest corner to its north-eastern corner onto St John's Road West. The offset panels are designed to mitigate the impact of this mass and the curved glazed facade reflects the light in varying ways and create a soft edge to the cone of vision. The height of this element is comparable to the existing Brunel building and it also screens the generic end facade of the Eir building.

In assessing the visual impact of the proposed development, the above critical aspects of the design are considered in detail.

The critical aspects of the construction phase relate to protection of the protected structures in the vicinity (in particular the perimeter garden wall), monitoring vibration levels during the works and the short-term visual impact created by cranage and temporary works.

Figure 14.2.1.1.2 Proposed Development and edge of 'Cone of Vision' (edited extract from RAU architectural statement)



14.3 Assessment Methodology

14.3.1 Desktop Study

The study was composed of three parts:

- Legislative and guidance documents: Dublin City Development Plan (2016-2022), the Record of Protected Structures, the National Inventory of Architectural Heritage, The Planning and Development Act 2000 (as amended), The Architectural Heritage Protection Guidelines for Planning Authorities 2011), Guidelines on the Information to be contained in Environmental Impact Assessment Reports (2017).
- Primary Source Material: Historic Maps, see bibliography in section 14.12
- Secondary Source Material: see bibliography in 14.12

The protected structures and conservation areas included are those to which there is either a potential impact on their setting from the proposed development or where they form part of the view from the RHK. Also taken into consideration are structures which may be affected by the construction phase.

14.3.2 Site Visits

Site visits were undertaken in February and April 2022 and the locations of the Visual Verified Views were

visited as well as the protected structures, buildings and landscapes of architectural heritage in the vicinity.

14.3.3 Description of Impacts

Significant impacts arising from the proposed development have been described using the methodology in the Environmental Protection Agency's 'Guidelines on The Information to Be Contained in Environmental Impact Assessment Reports' May 2022. Cumulative impacts have been assessed in respect of existing and planned development in the area, as listed in Appendix 1A, in particular the future development on the site to the immediate south of the subject site that was granted planning permission by An Bord Pleanala (ABP) Under ABP Ref. TA29S.311591.

The quality of a change as a result of an impact is described as follows in this assessment:

The quality of a change as a result of an impact is described as follows in this assessment:	
Positive Effect	A change which improves the quality of the environment
Neutral Effect[1]	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error
Negative/Adverse Effect	A change which reduces the quality of the environment
The significance of these effects can be qualified as follow:	
Imperceptible	An effect capable of measurement but without significant consequences
Not significant	An effect which causes noticeable or changes in the character of the environment but without significant consequences
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
Significant Effects	Effects: An effect which, by its character,

[1] For the purposes of this assessment, where an impact is not considered to be negative or positive it has been described as neutral.

	magnitude, duration or intensity alters a sensitive aspect of the environment
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment
Profound Effects	An effect which obliterates sensitive characteristics
The duration is also noted, and here the relevant durations are:	
short-term	(1-7 years)
long-term	(50-60 years).

14.3.4 Identification of Impacts

The impacts of the proposed development on the built heritage are visual along with the potential for physical impact during the construction stage. The visual impact has two components; the impact of the proposal on the COV - the panoramic view from the RHK towards the Phoenix Park and secondly the impact on the visual setting of adjacent protected structures and their curtilage.

Visually Verified Views have been created by Modelworks from 24 locations, with some views from some of the locations generated for both summer and winter contexts. The critical views are those from the RHK garden itself (Views 4-13) and views are taken from various vantage points towards the Phoenix Park, and from within the RHK garden. Views 14-16 are within the parkland environs of the RHK, views 21-24 are from the north of the Liffey and views 1-3 of historic buildings in the vicinity with the proposed development in the background.

The cumulative impact accounts for the listed projects in Appendix 1A and most pertinently, the permitted SHD scheme Ref. ABP-311591-21 with 359 residential units immediately to the south of the subject site. It consists of a number of residential blocks, Block D and E are parallel to the RHK garden. Condition no 3 of the permitted development requested these two residential blocks immediately adjacent to the wall of RHK are reduced in height to a uniform 3-storey height. As the RHK garden is elevated relative to the ground level of HSQ, these blocks appear just above the top of the garden wall. Behind, to the east, of these 2 blocks; Block A and C form the east-west axis towards the RHK garden and aligns with the main east-west axis of the RHK garden. Block A is the most prominent block and it rises to 18 storeys. The taller blocks are set back at the edge of the COV.

The proposed commercial scheme shares a similar formal architectural language to that of the permitted SHD and screen the irregular nature of the current HSQ. Condition no 3 of the permitted development requested the two residential blocks immediately adjacent to the wall of RHK are reduced in height to a uniform 3-storey height and the is the most relevant with the implications that Blocks D and E are reduced in height to a uniform 3-storey height and the arch between Block A and C is removed. The permitted SHD scheme, reflecting the above changes resulting from Condition no 3, are shown in the cumulative views.

It is planned that the permitted SHD scheme and the subject development it will be constructed as a single construction project and will ensure the build-out / completion of the undeveloped part of the larger HSQ site.

14.4 Receiving Environment

14.4.1 History of the Site

Currently the site is effectively an abandoned building site, work having ceased at the basement level at the time of the financial crisis in 2008. Concrete cores and columns have been clad in synthetic turf as part of a permitted temporary landscaping scheme under DCC Planning Ref. 2724/13 in order to improve the aesthetics of the site pending its re-development. A large concrete retaining wall has been constructed adjacent the perimeter garden wall of the RHK. There are no protected structures on the site.

To the north is St John's Road West and the east is the end facade of the Eir building. The proposed development would obscure this facade when viewed from the RHK garden. To the south and southwest is the public Plaza of HSQ and a lowered landscaped area which is the site of the permitted SHD planning application To the west are the historic gardens of the RHK and its associated historic buildings. Together with Heuston station and the main arterial road to the west, the HSQ development marks the western approach / gateway into the city and serves as a marker for Heuston Station given its proximity to the subject site. This transition is emphasised by the gardens and open parkland of the RHK. Together with the historic landscape of the Phoenix Park and the historic buildings to the east of the site such as Dr Steevens Hospital, a rich urban fabric is formed with diverse amenities and infrastructure.

Figure 14.4.1.1 View from the subject site looking North

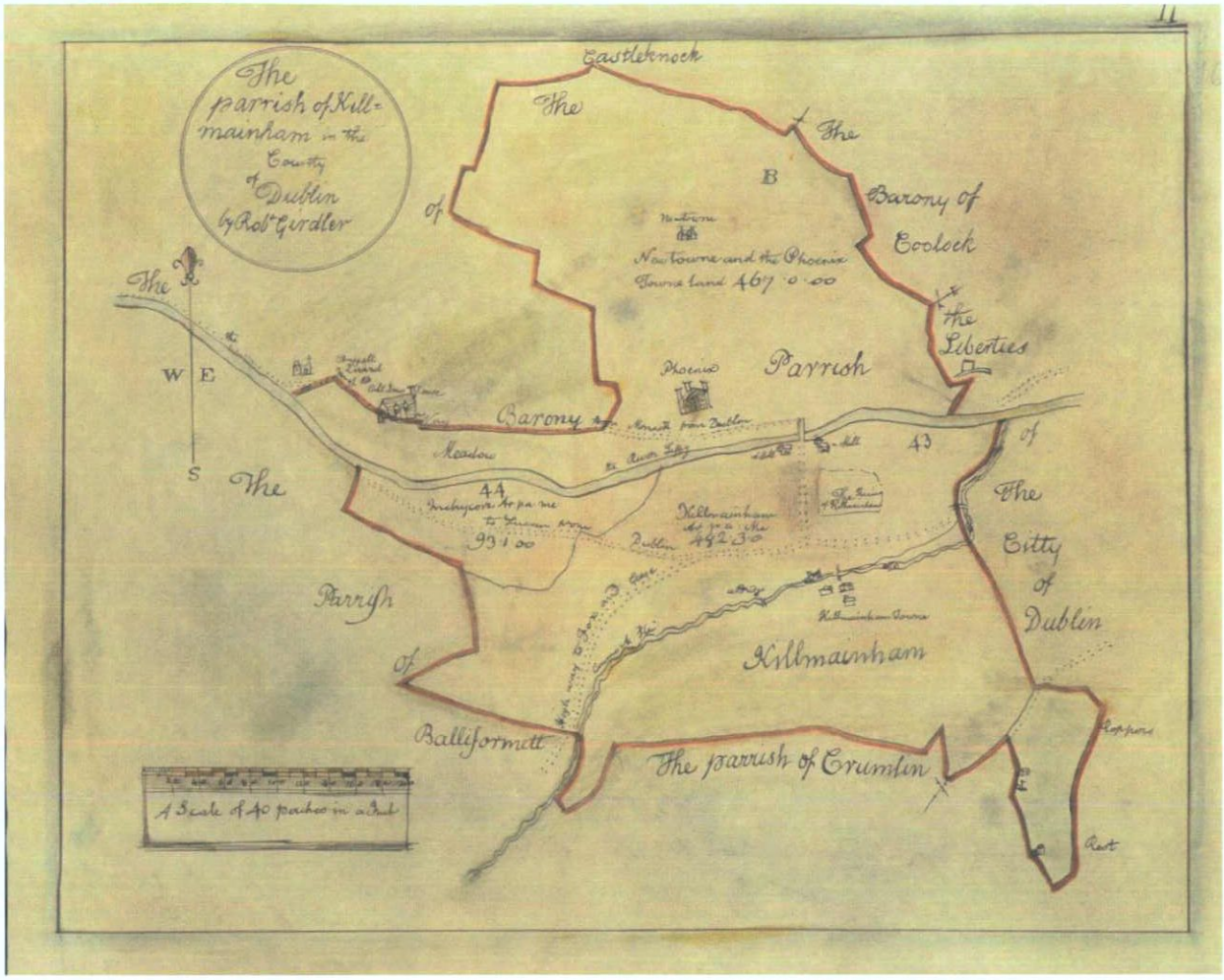
Figure 14.4.1.2 View from the subject site of the Eastern boundary wall of the RHK gardens

14.4.1.2 History of the Lands of Kilmainham

The site is located on the lands of Kilmainham, a parish that included what is now Phoenix Park north of the River Liffey. Richard Strongbow, Earl of Pembroke, a few years after his arrival in Ireland, granted these lands to the Knights Templars who founded a priory which is associated with a previous early Christian monastery. In the 14th century the lands became the property of the Knights Hospitaller of St John of Jerusalem before being confiscated in under Henry VIII when it may have been destroyed. The priory was in ruins by the time of the construction of the Royal Hospital in the 1680s.

The tradition of a hospice on these lands was revived when James Butler, Duke of Ormonde and Viceroy of Ireland, founded the Royal Hospital Kilmainham as a home for retired and disabled soldiers in 1684. The Hospital was sited to the east of the former priory on this elevated site. Some years previous to this, starting in the 1660s, the formation of a deer park in what is now known as the Phoenix Park, was underway, and the original park wall took in what would become the site of the Royal Hospital; the hospital grounds were formed from a large part of the park south of the River Liffey. The coming of the railway would forever sever the grounds of Kilmainham from what we now regard as Phoenix Park, but with its elevated aspect and that of the park above the River Liffey, the visual connection remains.

Figure 14.4.1.2.1 The Parish of Kilmainham in the County of Dublin, Down Survey map, 1655 – The Walled Priory can be made out which was West of the RHK



14.4.1.3 The Royal Hospital

Construction began in 1680 and with its scale, prominent siting and new classical ideals, brought a grandeur hitherto unseen in Dublin until then. Four ranges some 90 metres in length enclose an arcaded courtyard. Three of the ranges, those for residences, have 32 bays to the outside and two storeys with attic accommodation with dormers. The north wing contains the chapel, hall and governor's offices. Designed by Sir William Robinson, the tower was added in 1705 by Thomas Burgh. This military hospital was design for retired veterans and modelled on Les Invalides in Paris completed not long before in 1676. The building and grounds were originally enclosed by a perimeter wall which can be made out in Rocque's map.

View of Dublin from the Phoenix Park, c. 1695, attributed to the painter Thomas Bates and reproduced from An Illustrated History of the Phoenix Park, captures the recently completed building in its elevated parkland setting and the relationship with the park to the north of the river. The original reddish render can be discerned and the limestone detailing as well as the perimeter wall to the hospital and garden.

The original site stretched to the north to the Liffey, east to Victoria Quay and the west to the remains of priory. These grounds have seen continual change since and its development is outlined in the sections

below.

Figure 14.4.1.3.1 View of Dublin from the Phoenix Park, attributed to Thomas Bates c.1695

14.4.1.4 The RHK Garden

The garden formed an integral part of the Royal Hospital from its inception and not only appears in maps of that time but the minute books of the hospital document its development. In 1702 there is reference to the four quarters been levelled and later engravings in the 18th century show the terraces and two gateways. The garden evolved and changed with time. The Roque map Figure 14.4.1.4.1 shows the two main axes that exist today, but with ungeometrical planting arrangements. Similarly, the OS map Figure 14.4.1.4.2 shows the four quarters but diverse arrangements within them.

The restored garden is a reconstruction not of a particular period of the garden but rather creates aspects of formal gardens from the 17th and 18th centuries. The garden is divided into two sections with the 'Parterre' with ornamental patterns, box and clipped hedges closer to the Hospital and the 'wilderness' with enclosed walkways of taller clipped trees and hornbeam hedges making up the two rear quarters. The main axes of the garden are lined with pleached lime trees.

Figure 14.4.1.4.1 Extract of John Roque's Map 1760 – the Subject Site is just North of the Escarpment on the Eastern Side of the Garden

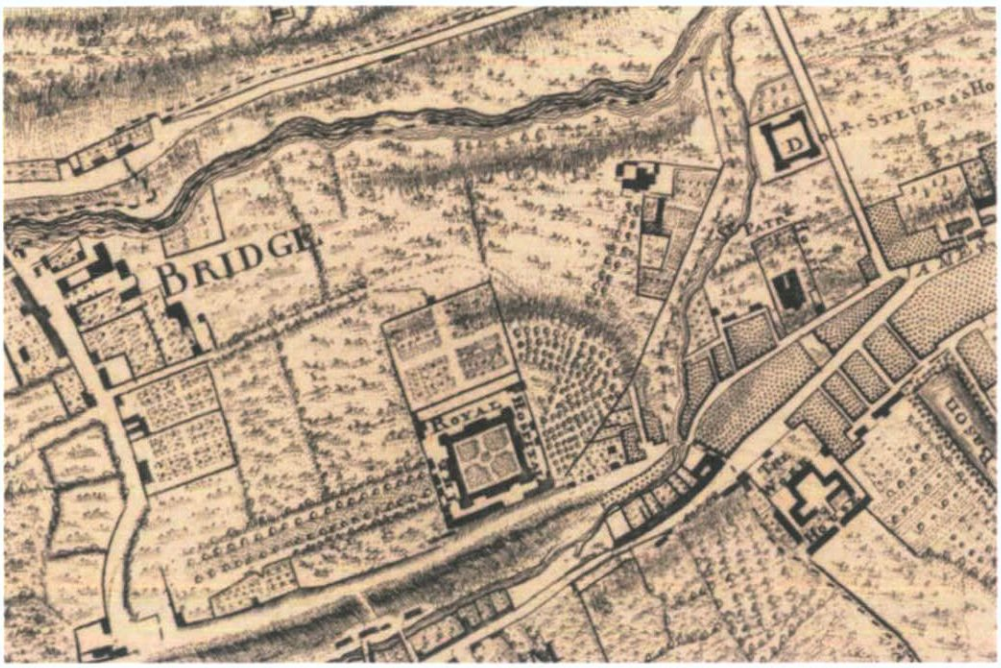
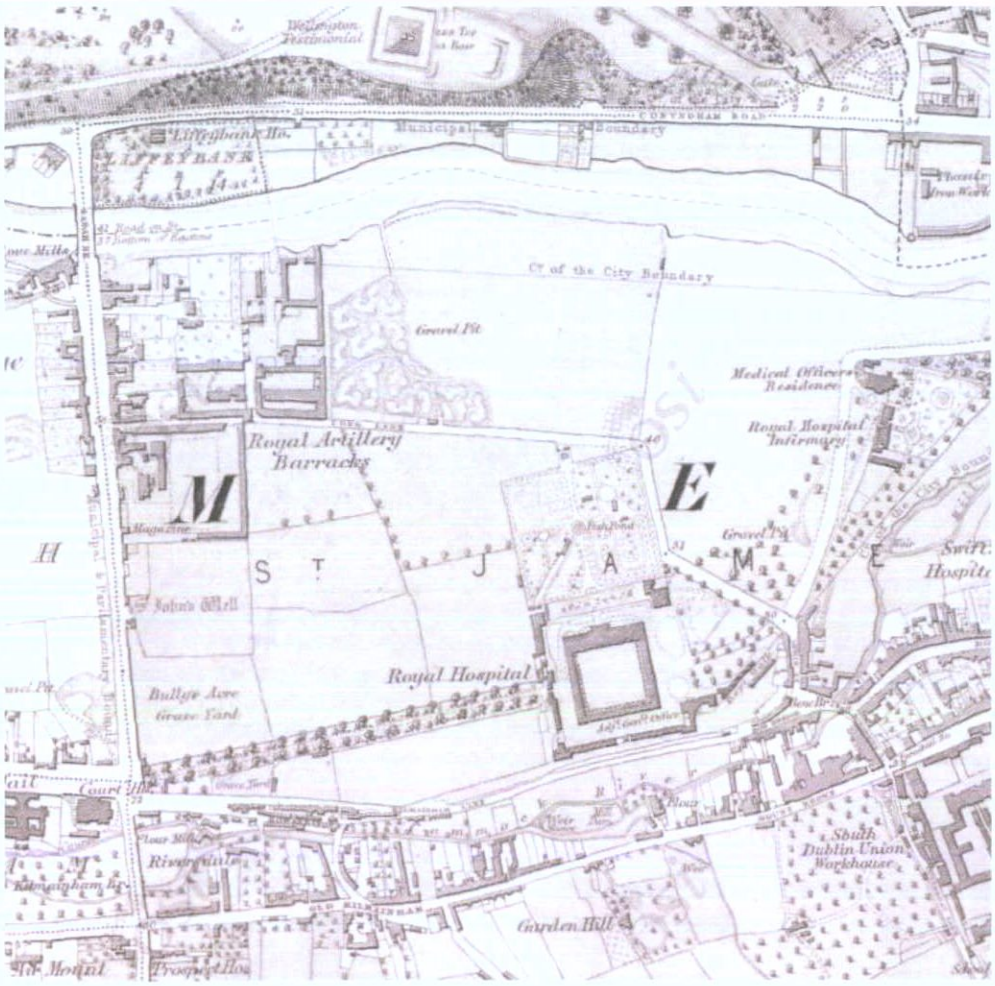


Figure 14.4.1.4.2 First Edition 6 inch OS Map c. 1843



14.4.1.5 A Changing Setting

By the 1730s, as can be seen in Figure 14.4.1.5.1, the city of Dublin has spread west and new water infrastructure appears. Dr Steevens hospital was opened about this time. By the time of Rocque's map above, an avenue of trees is shown towards the Infirmary and the formal approach from the West is laid out. The Garden Pavilion, attributed to Lovett Pearce, at the end of the central axis of the Garden has appeared. Island bridge is largely undeveloped as the Barracks would not be built until the end of the century.

The nature of the Phoenix Park also changed during this period with military use dominating its landscape with fortifications and institutions as well as military reviews, encampments and artillery practices being held. The giant Star Fort was begun but never completed northeast of the Magazine Fort.

Figure 14.4.1.5.1Extract of Map from the British Library's Kings Topographical Collection -1730

John Cooke's Map of 1822 indicates the grounds where the subject site is located still belong to the Royal Hospital. The Deputy Master's house is present and the wall which once surrounded the hospital and grounds is not indicated. Civic and institutional buildings such The Artillery Barracks and the extended Royal Barracks a well as the Royal Infirmary to the north of the Liffey can be seen. An avenue to the east of the Royal Hospital has been laid out. The Wellington Testimonial (Monument), which had just begun construction, is indicated on this map, aligning itself with the Royal Hospital but also positioning itself in the centre of surrounding military institutions and infrastructure such as the Royal Infirmary and the Magazine Fort.

The parkland setting with its strong visual connection to the adjacent institutions remained into the 19th century until the creation of the railways. While this change did not wholly alter the views to the Phoenix Park, owing to the elevated siting of the RHK, the pastoral setting to the river and park beyond was forever severed. The OS maps below illustrate this rapid development as well as the changing layout of the garden.

The 20th Century saw the rail infrastructure increase and St John's Road West parallel to it was created. The Avenue to the RHK and parkland to the West remained unchanged but development to the east continued as the city expanded. The War Memorial Garden designed by Sir Edwin Lutyens was built between the wars on land across the River Liffey from the Magazine Fort continuing the military associations with the area. Residential Developments along Conyngham Road were developed in the later 20th century followed by more intense development in the former Clancy Barracks.

Figure 14.4.1.5.2 Cooke's Royal Map of Dublin – John Cooke 1822

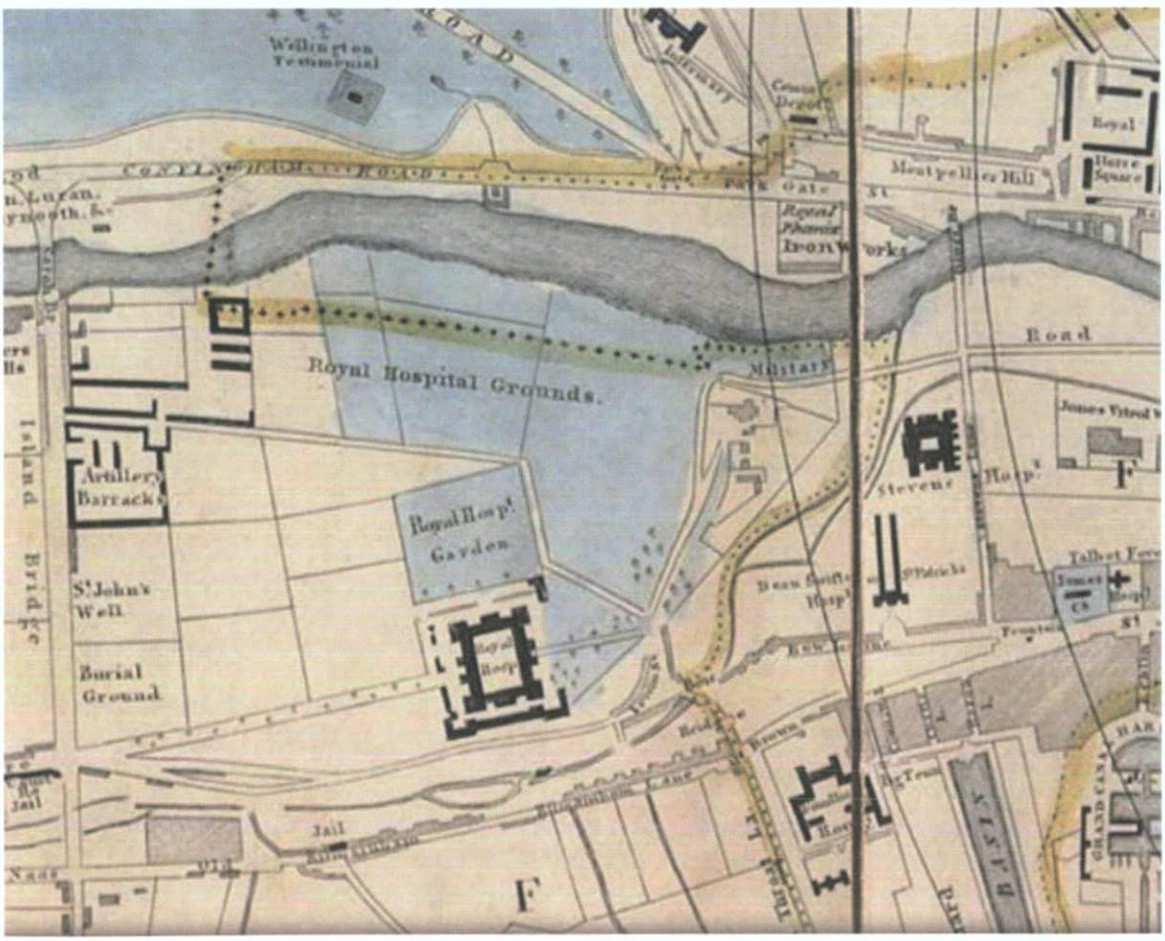
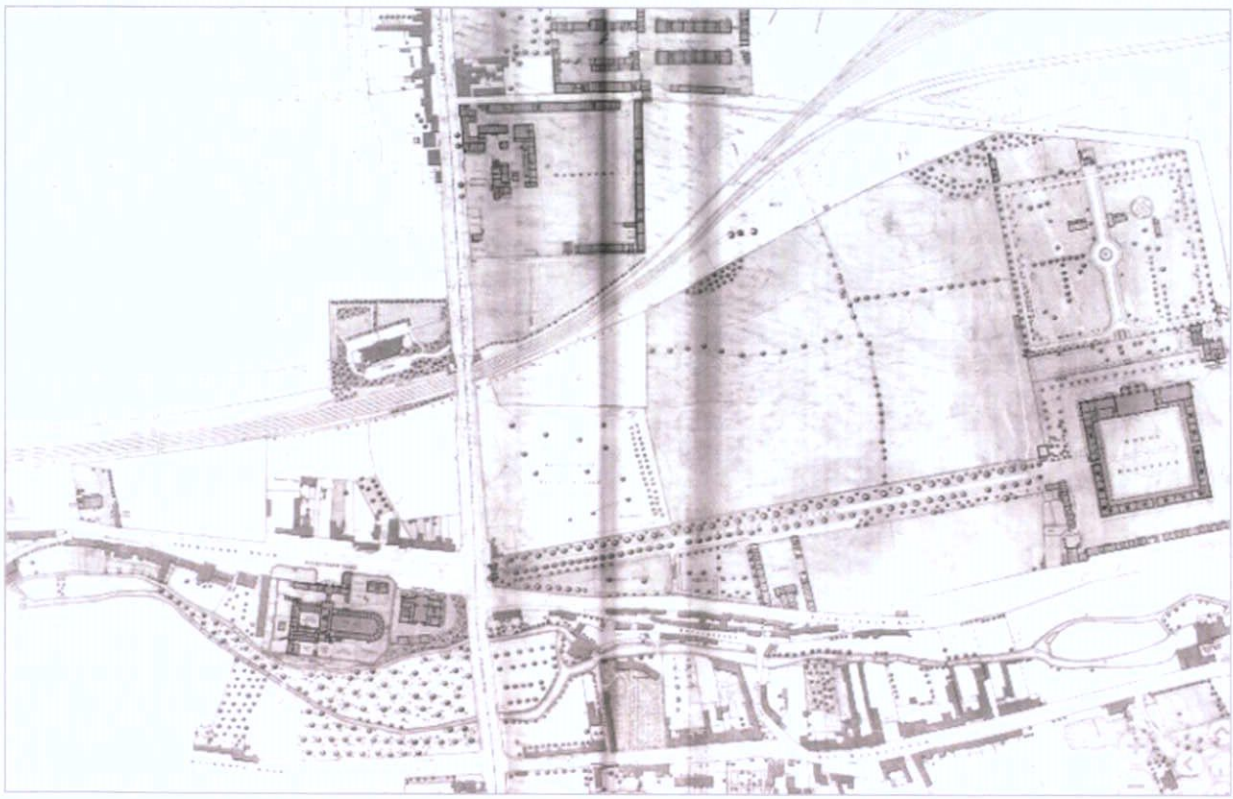


Figure 14.4.1.5.3 OS Map 1847 - Sheet 18

Figure 14.4.1.5.34 OS Map 1864 - Sheet 18



14.4.2 Surrounding Environment – Protected Structures and National Inventory of Architectural Heritage (NIAH)

The following protected structures in the vicinity will have their settings potentially impacted by the proposed development or are relevant as they visible from the RHK and form part of its historic setting. They are listed in order of their importance.

14.4.2.1 NIAH - International Importance

This section lists those structures that are of International Importance comprising the following.

- 1680-1705: Royal Hospital Kilmainham (RPS No.5244, NIAH Reg No. 50080072)
- Royal Hospital Kilmainham Formal Gardens (NIAH Reg No. 50080067)
- 9th -11th Century: Bully's Acre & (NIAH Reg No. 50080054, 50080051 & 50080052)
- 1684: Doctor's House (NIAH Reg No. 50080081)
- 1730: Former Infirmary (NIAH Reg No. 50080082)
- Mid 1700s: Garden Pavillion (NIAH Reg No. 50080068)
- 1762-1763: Deputy Master's House (NIAH Reg No. 50080074)
- 1805: Adjutant-General's Office (NIAH Reg No. 50080073)
- 1820-1846: Richmond Gate (NIAH Reg No. 50080056)
- 1866: Stable Court (Garda Station) (NIAH Reg No. 50080066)

1680-1705: Royal Hospital Kilmainham (RPS No.5244, NIAH Reg No. 50080072)

Figure 14.4.2.1.1 RHK – View of the Northern Wing with the Tower from the Courtyard

Noted for being the earliest large-scale classical building in Dublin, the RHK is described in the NIAH as follows:

> *'Detached former hospital, comprising four equal-length ranges enclosing central square cloistered courtyard, built c.1680. Thirteen-bay double-height single-storey front (north) elevation with central pedimented breakfront forming three-bay entrance porch, with clock tower above. Former chapel to north-east corner, having five-bay nave elevation, and chancel to east end. Thirty-bay east elevation to east range, thirty-three-bay (south) elevation to south range, and thirty-two-bay west elevation to west range, each two-storey over basement with dormer attic, and having central pedimented breakfront and central integral carriage arch, and terminating breakfronts.'*

It has International status under the NIAH as it is recognised for its Archaeological, Architectural, Artistic, Historical, Social, Technical significance. Originally built as a military hospital, the building has undergone restorations in 1805, 1979-85 and most recently in 1990 it was adapted to serve its current function as the home of the Irish Museum of Modern Art (IMMA). The grounds contain a number of protected structures and features that are of Regional importance in their own right.

Royal Hospital Kilmainham Formal Gardens (NIAH Reg No. 50080067)

Figure 14.4.2.1.2 RHK Gardens – View North towards the Phoenix Park

Figure 14.4.2.1.3 RHK Gardens – View East towards HSQ

The northern facade of the RHK addresses the walled formal gardens, set at a lower level to the building and courtyard. The NIAH describes them as:

'Square-plan garden to front (north) of Royal Hospital Kilmainham, laid out c.1700, restored c.1980. Rubble limestone boundary walls with carved urns atop limestone coping to south, render and red brick coping to other walls... Entrance to west elevation comprising pair of square-profile rusticated limestone piers with rusticated limestone capping, flanking double-leaf timber panelled doors. Corresponding entrance to east elevation blocked. Geometric layout of garden with perimeter walks and cross walks, central circular pond having carved granite surround and later sculpture...'

The gardens are set at a lower level to the RHK, with symmetrical flights of steps up to the south leading to a perron at the building's primary elevation. As there are few surviving formal gardens from this period, they are of Architectural, Artistic, and Social interest.

9th -11th Century: Bully's Acre & (NIAH Reg No. 50080054, 50080051 & 50080052)

Figure 14.4.2.1.4 Bully's Acre Cemetery

Encompassing 1.5 hectares at the western side of the grounds of RHK, the NIAH describes it as a:

'Graveyard with c.70 headstones dating from 1764 to 1832, some having 'IHS' motif. Incorporating earlier burials, from c.1200 onwards. Granite shaft of high cross set on granite plinth, with carvings to each elevation. Remains of brick lean-to structure to south-west of site. Rubble limestone boundary walls enclosing graveyard, render coping to east, granite coping to west...'

One of Dublin's oldest cemeteries, it is of Archaeological, Artistic, Historical, Social interest as it has historical associations with St. Maigneann's monastery founded in 606AD, Brian Boru and Saint John's Priory.

At the northern end of Bully's Acre are two military cemeteries containing a number of graves of former occupants of the Royal Hospital Kilmainham.

1684: Doctor's House (NIAH Reg No. 50080081)

Figure 14.4.2.1.5 Former Doctor's House to the RHK

According to the NIAH, the former residence of the medical officer of the Royal Hospital Infirmary is a:

> *'Detached three-storey former medical officer's house, built 1684, comprising five-bay block with advanced three-bay entrance front, adjoining nineteenth-century L-plan two-storey block to east and rear (north) elevation. Flat-roofed porches to front (south) and west elevations, full-height breakfront to east elevation.'*

Now disused, the house which is located at the junction of Military Road and St John's Road West, and thought to have been designed by William Robinson, has been isolated from the greater RHK context by the phase 1 development of Heuston Station Quarter.

1730: Former Infirmary (NIAH Reg No. 50080082)

Figure 14.4.2.1.6 Former Infirmary to the RHK (NIAH Reg No. 50080082)

Like the nearby Dr. Steevens Hospital, the infirmary was designed by Thomas Burgh and is described in the NIAH as follows:

'Attached two-storey infirmary, built c.1730, comprising five-bay block, attached by lower single-bay block to six-bay recessed block to south, two-bay gable-fronted addition to front (west) elevation of block to south, single-storey three-bay range set perpendicular to main ranges. Breakfront to front of main block. Multiple later extensions to rear (east) elevation.'

The buildings have been cement-rendered and altered internally and externally, but much of the original fabric still survives. At the time of writing, the site is currently being used to temporarily facilitate the **operations of the adjacent data centre.**

Mid 1700s: Garden Pavillion (NIAH Reg No. 50080068)

Figure 14.4.2.1.7 RHK Garden Pavillion

Situated on the north-south axis of the formal gardens, facing the RHK is the Dining Pavilion, thought to have been designed by Edward Lovett Pearce. The NIAH describes the pavilion as a:

'Detached three-bay two-storey over basement garden pavilion, built c.1740, having full-height circular-plan corner towers to front (south) elevation.'

The Garden House was restored as part of the1980's work to the gardens carried out by the OPW. During the late 19th Century, it was the home of the RHK's head gardener Jack Rawlins, and it is of Architectural, Historical, and Social importance.

1762-1763: Deputy Master's House (NIAH Reg No. 50080074)

Standing to the northeast of the RHK, the grounds of which were originally enclosed by a perimeter wall and four free-standing corner flankers. The former Deputy Master's House is located on the site of the northeast flanker and the NIAH describes it as a:

'Detached four-bay two-storey over part-raised basement former deputy master's house with dormer attic, built 1762-3, extended 1797...'

Now in use as an art gallery, the building was originally L-shaped in plan, and was remodelled c.2000 by