

4 Proposed Project Description

4.1 Introduction

This chapter provides an overview of the existing area and environs covering the extent of the Proposed Project area, the neighbouring land uses and a description of the Proposed Project.

4.2 Site Area and Existing Environment

4.2.1 Introduction

The site area comprises College Green and parts of Dame Street, Trinity Street, St. Andrew's Street, Church Lane, and the very northern end of Grafton Street. The existing site area layout is illustrated in **Figure 4.1**.

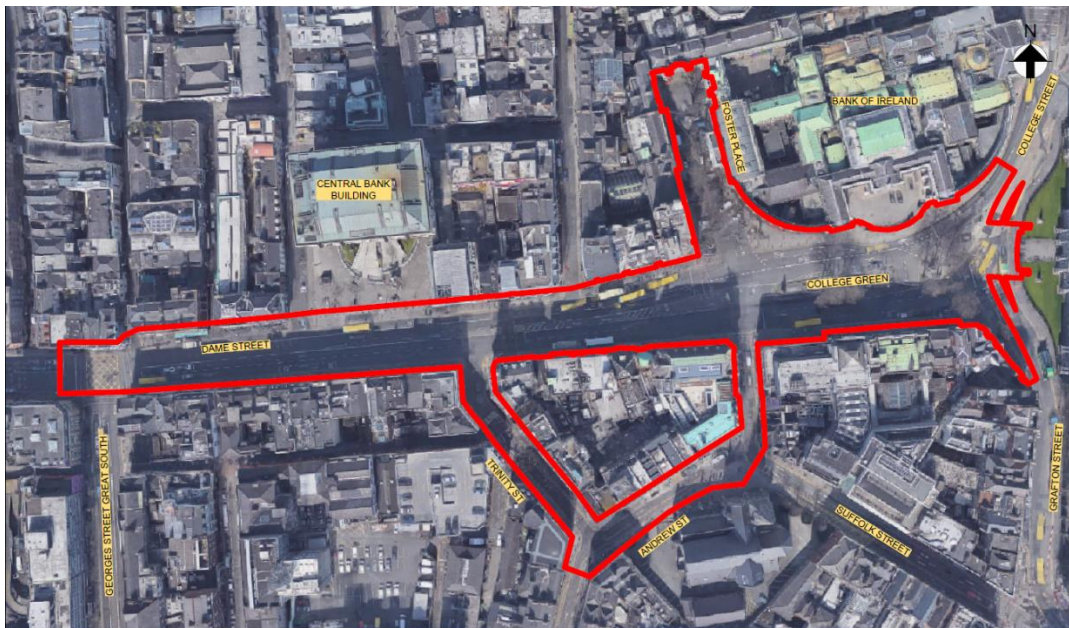


Figure 4.1 - Existing Site Area Layout

The site area is fully developed. It comprises a number of roads and streets as outlined above, that are paved or tarmacadamed with flanking footpaths. In some areas, these footpaths contain original granite paving stones but other surfaces are modern such as those present on St. Andrew's Street. The Proposed Project area largely comprises roadways, footpaths, commercial properties including banks and office as well as shops and restaurants typically situated along the lower level of buildings. For the most part, the buildings are historic dating from the 18th, 19th and early 20th centuries.

4.2.2 College Green

College Green has been the setting for the civic and social life of Dublin for over 500 years and is renowned as being Dublin's prime urban space. As an urban set-piece, College Green is of international quality- for the architecturally significant facades that define it, the history of the space and for its strategic location within the historic centre of Dublin.

However, from the late nineteenth century onwards the expansive space portrayed in historic illustrations has been replaced by a noisy, traffic-dominated streetscape contaminated over time by an accumulation of urban clutter.

College Green exists today as a large multi lane street measuring approximately 26m at its narrowest extent but expanding to circa 50m as it moves east towards Trinity College. A traffic island that contains number of trees, as well as cycle parking facilities providing for 29 cycle spaces is located in the centre of the urban space. The historic statue of Henry Grattan and the Thomas Davis memorial fountain are also located within the College Green area

The Henry Grattan statue stands at the eastern end of College Green, in the traffic island. The statue is of bronze, set on a high pedestal of limestone facing Trinity College. To the east of the statue, on either side of the plinth, there are two decorative lamps, each of which has intertwined sea horses on the pedestal. These lamps were part of the original setting of the Grattan monument.

In 1966, a statue of Thomas Davis was unveiled in College Green on the western end of the traffic island. This includes a fountain with bronze plaques on stone bases.

Currently, College Green is a public transport only area (i.e. buses and taxis) between the hours of 07:00-19:00 Monday to Friday. It carries two lanes of traffic travelling from College Street to Dame Street and Grafton Street, and two lanes of traffic from Dame Street to Westmoreland Street. There are currently two pedestrian crossings at College Green facilitating pedestrian movements from Grafton Street to College Street. The pedestrian crossings are separated by the existing traffic island.

The existing College Green taxi rank is located at the traffic island adjacent to the Thomas Davis Statue and Memorial Fountain is approximately 24 metres long and holds five taxi spaces.

Taxi parking which accommodates approximately 20 taxis is available at Foster Place (nine permanent spaces and 11 evening time spaces). Taxis park in this area while awaiting spaces at the College Green rank to become available.

4.2.3 Trinity Street

Trinity Street is a narrow, relatively short street which was laid out in the 17th Century. Traffic currently moves in a one way direction on Trinity Street, from College Green towards its junction with St. Andrew's Street. The Trinity Street multi-storey car park, with approximately 373 car parking spaces, is located on St. Andrew's Lane, just off Trinity Street.

Trinity Street is also adjoined by a narrow, pedestrianized thoroughfare, Dame Lane, which is a popular area for socialising and entertainment.

4.2.4 St. Andrew's Street

St. Andrew Street has its origins in the 17th century, and possibly dates to the time of the construction of the first St Andrew's Church in this location in 1670. St. Andrews Street joins Trinity Street and Church Lane. It is a narrow street with one way, west-east traffic movements.

The newly relocated Molly Malone statue is placed in the area to the north of St. Andrew's church.

4.2.5 Church Lane

Church Lane, like St Andrew's Street, was possibly laid out in 1670 when St Andrew's Church was built on the site opposite the southern end of the street. Traffic currently moves in a one-way direction on Church Lane, from its junction with St. Andrews Street and Suffolk Street, towards College Green.

4.2.6 Dame Street

Dame Street is a large, busy street running from College Green to Lord Edward Street. The street is a prime location in the city centre located only a five-minute walk from the shopping area of Grafton Street and ten minutes walk from O'Connell Street. The street holds significant historic importance, with a number of protected structures located in the area, as described in Chapter 10 '*Archaeological, Architectural and Cultural Heritage*'.

The street is the location for a number of banks such as AIB, Ulster Bank and the former Central Bank of Ireland, as well as a number of shops, restaurants, bars and service providers.

At present there is one traffic lane eastbound with bus stops, two lanes westbound with bus stops and no dedicated cycle or bus lanes. There is also a right turn lane to Trinity Street.

4.2.7 Grafton Street

Grafton Street was developed in the early eighteenth century and became part of the core urban area of the city. It is now one of the two principal shopping streets in Dublin city centre, the other being Henry Street.

It runs from St. Stephen's Green in the south (at the highest point of the street) to College Green in the north (to the lowest point).

The pedestrianisation of Grafton Street was first introduced in 1982. The northern end of the street, between Nassau Street and College Green is not pedestrianised.

A number of protected structures are located along Grafton Street, as described in Chapter 10 '*Archaeological, Architectural and Cultural Heritage*'.

4.3 Neighbouring Land Uses

The study area is surrounded by a broad range of land uses.

The east is dominated by Trinity College Dublin, a university campus and popular tourist destination.

To the north of College Green, the Bank of Ireland, former Houses of Parliament building, a range of commercial buildings, Foster Place and the Stock Exchange building. The street section from Bank of Ireland to Angelsea Street comprises office and institutional uses but includes few active street uses. The street section from Anglesea Street to Central Bank building comprises commercial uses at ground floor level. A hotel and nightclub is located to the rear of this block. Moving westwards along Dame Street beyond the central bank plaza, the land use notably changes again with a predominance of bars, restaurants and cafes.

The southern boundary of College Green from Grafton Street Lower to Church Lane includes large retailing units accommodated within typically former institutional/banking structures, along with a range of smaller units. The Ulster bank on the corner of Church Lane is a dominant presence.

The character of the street changes slightly with the commencement of Dame Street, with a wide range of units including office, bars, language institutes, hotel and services.

Luas Cross City is currently under construction along Lower Grafton Street. Upon completion, a station will be located at College Street for south-bound Luas services and a station at Westmoreland Street catering for north-bound services.

4.4 Description of the Proposed Project

4.4.1 Introduction

It is proposed to develop a civic plaza and implement a number of traffic management measures at College Green. The proposals will contribute to the achievement of the vision for College Green set out both in the Dublin City Development Plan 2016-2022 and the Heart of Dublin, City Centre Public Realm Masterplan (Dublin City Council, 2016).

The space created by the Proposed Project will have the potential to transform College Green and to redefine the area as a Civic Space of National importance in line with Dublin City Council's long standing objective for College Green –

“To prioritise the redevelopment of College Green as a pedestrian friendly civic space, including the pedestrianisation of Foster Place.” (Dublin City Council, 2016).

The Proposed Project provides for the development of a civic plaza and ancillary traffic management measures on an overall site of 13,960m², (of which the plaza component covers an area of circa 7,300 m²). The area currently comprises roadways and pathways on a site which includes the full area of College Green to the south of Bank of Ireland and immediately west of Trinity College, Foster Place, Church Lane, Trinity Street, St. Andrew's Street and the northern end of Grafton Street. The eastern edge of the Proposed Project is demarcated by the north-south alignment of the Luas light rail (currently under construction), and runs westwards as far as Anglesea Street (with a maximum east-west length of 148m).

A description of the Proposed Project is outlined in the following sections and shown on **Figure 4.2**.

4.4.2 Traffic Management Measures

Traffic measures

It is proposed to provide a civic plaza space at College Green which would be reserved for pedestrians and cyclists. The ability to realise such a valuable civic space is enabled by the Luas Cross City becoming operational, which requires which requires changes to be implemented to the current traffic configuration in order for Luas be able to function appropriately.

As part of the accompanying local traffic management measures, buses will run along the same route as the new Luas tracks, north and south in front of Trinity College, and can use this route to access Nassau Street heading south, and Westmoreland Street heading north. On a trial basis, taxis will also be allowed to use the tram line route in front of Trinity College.

Most buses currently using Dame Street to cross the city centre will be diverted onto other routes, while buses which continue to use Dame Street will turn around at College Green, in a new turning circle at the junction of Foster Place and Church Lane.

Between 7am and 7pm on weekdays, general traffic cannot currently use College Green to travel from Dame Street to Westmoreland Street or from College Street to Dame Street. The implementation of the Proposed Project would see this general traffic exclusion extended to operate on a continuous basis.

As outlined in **Section 4.4.2** in the paragraph '*Bus Rerouting*', Parliament Street will be used by public transport only from 7am to 7pm, Monday to Friday with buses continuing to travel southbound only. The road design details of the Proposed Project are provided on **Figures 4.4- 4.9**.

Minor Road Works

Works on Dame Street are required to tie in with the plaza at the eastern end of Dame Street and to provide additional bus stops, taxi and loading facilities, cycling and pedestrian facilities between the civic plaza and South Great George's street.

The proposed works on Dame Street will maintain one lane eastbound with an additional length of bus stop. As buses will no longer move through College Green the routes that are planned to use the turnaround will instead terminate and commence services on Dame Street. This bus stop will be 40m long (maximum of two buses) and located on the northern side of Dame Street. There will be no bus stops on the southern side of Dame Street between the plaza and South Great George's street with the unloading and loading of passengers all taking place on the northern side.

In the westbound direction, the two traffic lanes have been reduced to one and additional taxi ranks and loading bays are being provided on the southern side of

Dame Street. The reduction in lanes and realignment to tie in with the plaza have allowed for the opportunity to build out the footpaths in a number of locations. At the junction of Dame Street and South Great George's Street, the reduction from two traffic lanes to one allows for a build out on both sides, improving the public realm for the significant number of pedestrians at this location. There are also build outs at the Trinity Street junction and Anglesea Street junction.

Bus rerouting

By 2018, a number of bus routes which were previously traversing through College Green will be re-routed when the Proposed Project commences construction. These can generally be described as follows:

1. Routes previously travelling through College Green westbound are rerouted to travel along the South Quays and along Parliament Street southbound, to meet Dame Street. The number of buses permitted on Parliament Street at any time period will be limited on the basis of ensuring compliance with Air Quality Standards (refer to **Section 2.4.4**). In this regard bus movements in the future may vary following the introduction of cleaner, more efficient buses including electrical vehicles.
2. Routes previously travelling through College Green eastbound will be rerouted to travel along Winetavern Street northbound, across O'Donovan Rossa Bridge and along the North Quays.

Taxi parking and loading areas

It is proposed to introduce a 24 hour taxi rank for eight taxis on the westbound lane on Dame Street, east of South Great George's Street and west of Trinity Street. Adjoining this, 35 metres of loading bay is proposed which will provide a night time taxi rank (totalling seven spaces). The existing evening taxi rank on the inbound lane on Dame Street will be converted into a permanent taxi parking for three taxis.

A loading bay of approximately 32 metres long, which will act as a night time taxi rank, is also proposed for the eastern side of Trinity Street just prior to the junction of St. Andrew's Street. This will provide six evening spaces.

Similarly, loading bay of approximately 20 metres long, which will act as night time taxi rank, is proposed for the western side of Church Lane. This will provide four taxi spaces.

Following the trial operation of taxis along Lower Grafton Street, consideration will be given to facilitating a taxi rank at this stop location during nighttime hours, which would equate to enough space for four taxis.

The existing loading bay and evening taxi rank on Andrew's Street will be retained.

In addition, DCC proposes to provide a 10 space taxi rank on College Street. This provision is not part of the Proposed Project.

Cycle provision

Two one-way cycle lanes on either side of Dame Street will join at the central turnaround and run along the south side of the plaza as a two-way dedicated cycle route that joins with the College Street route at the north-east end of Grafton Street.

These proposals will allow for safe passage of cyclists through the physical separation of cyclists from Luas and bus movements on Westmoreland Street/Grafton Street Lower. Cyclists will not have to cross any Luas tracks in heavy moving traffic in this area, meaning this area will now be safe for all types of cyclists, as illustrated on **Figure 4.3**.

The cycling provision in the Dame Street to South Great George's Street area will likely change in the future with the completion of the Greater Dublin Area cycle network and in particular the Clonskeagh to City Centre cycle project.

Parking for 32 bicycles will be provided at the plaza.

Signage and access

Signage will be provided as necessary to redirect traffic away from the College Green area.

Vehicular access onto the College Green Civic Plaza will only be permitted by a small number of vehicles accessing the existing car park at the front of the Bank of Ireland, by emergency vehicles and maintenance vehicles. Vehicular access to the Bank of Ireland car park off Foster Place will be permitted by cash in transit vehicles. Permitted access routes are outlined in **Figure 4.10**. Signage will be provided to direct bus passengers to new stops and taxi customers to relocated ranks.

Disabled Parking

Two disabled car parking spaces are to be provided at Foster Place/College Green. One space is currently provided for at this location.

Luas Pedestrian Crossing

The pedestrian crossing being installed as part of the Luas Cross City Project to the south of the gates of Trinity College will be modified as part of the Proposed Project works. The pedestrian crossings will be changed to Toucan crossings to facilitate safe crossing of the Luas Tracks by cyclists. The alignment of the crossing will be changed slightly to better align with the proposed plaza. In addition, the existing crossing will be narrowed, with tactile paving and signal pole locations modified to suit. However, a second crossing will be installed at the northern side of the gates of Trinity College. This will run parallel to the modified southern crossing. Two new islands will be installed between the Luas lines to channelize traffic and to facilitate the installation of traffic signal poles.

Separate designated signals will be provided to regulate cycle movements through the pedestrian crossings.

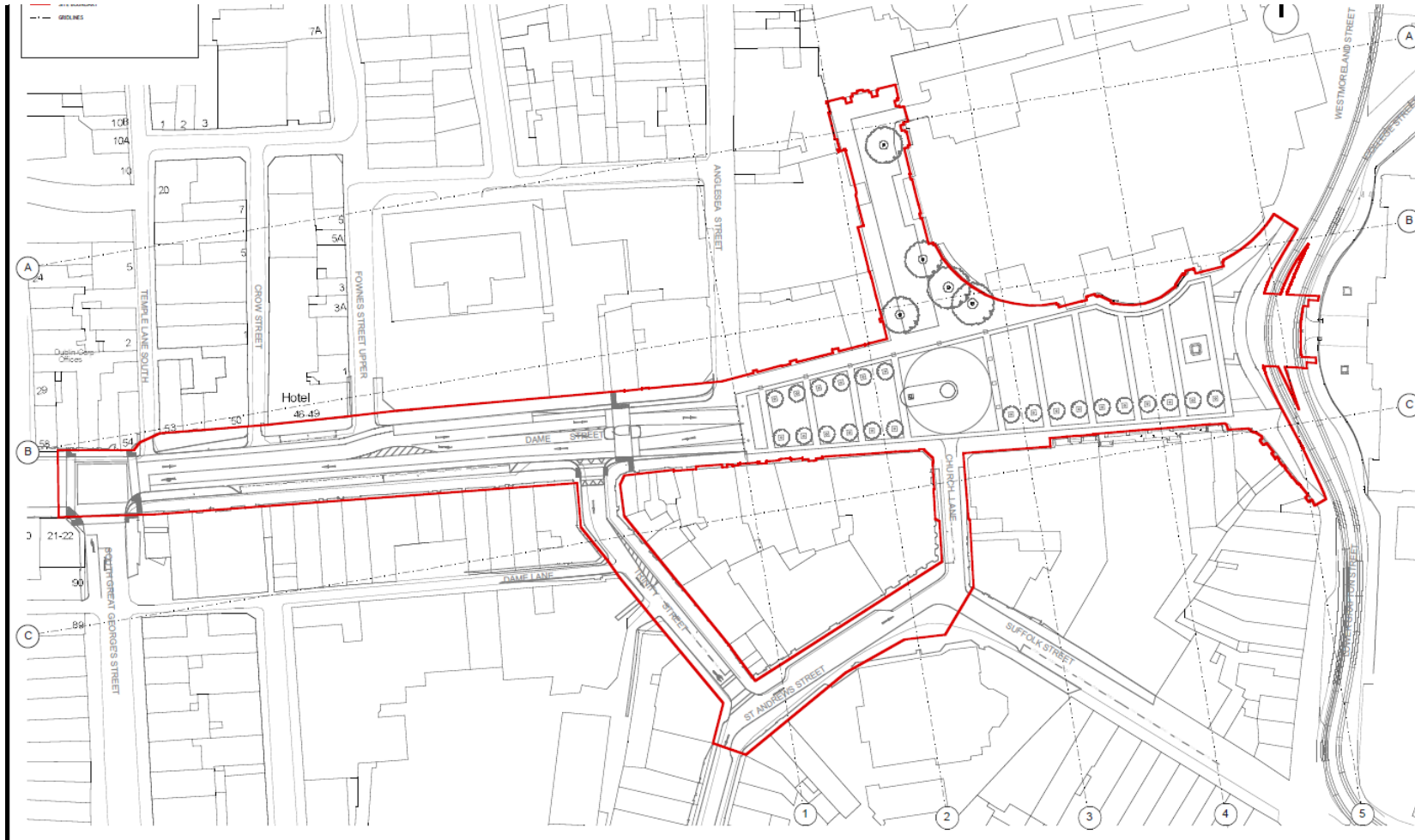


Figure 4.2 - The Proposed Project (Refer to **Figures 4.4 - 4.9** for details on road design. Refer to **Figure 4.11** for more detail on the plaza layout)

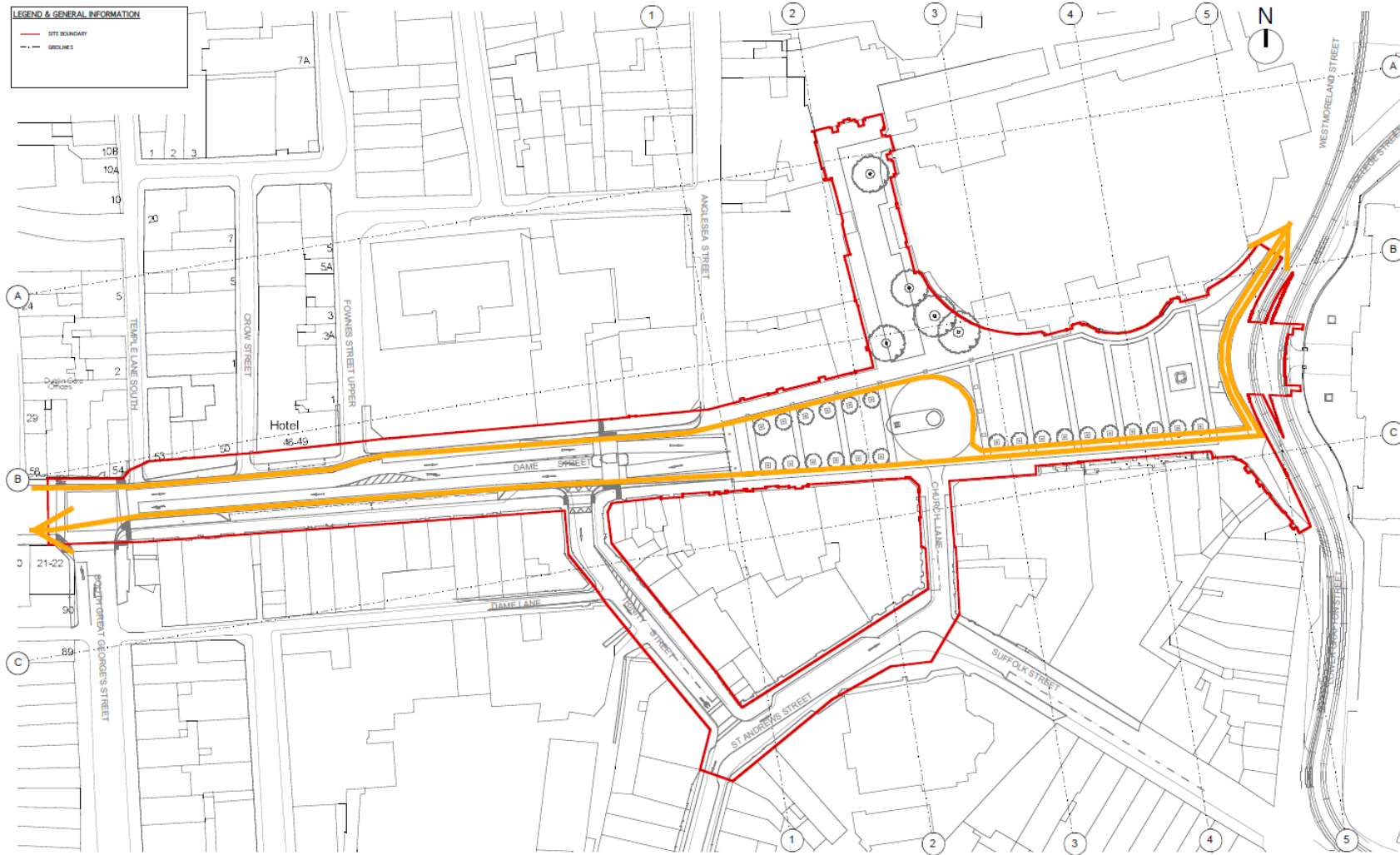


Figure 4.3- Proposed Cycle Route

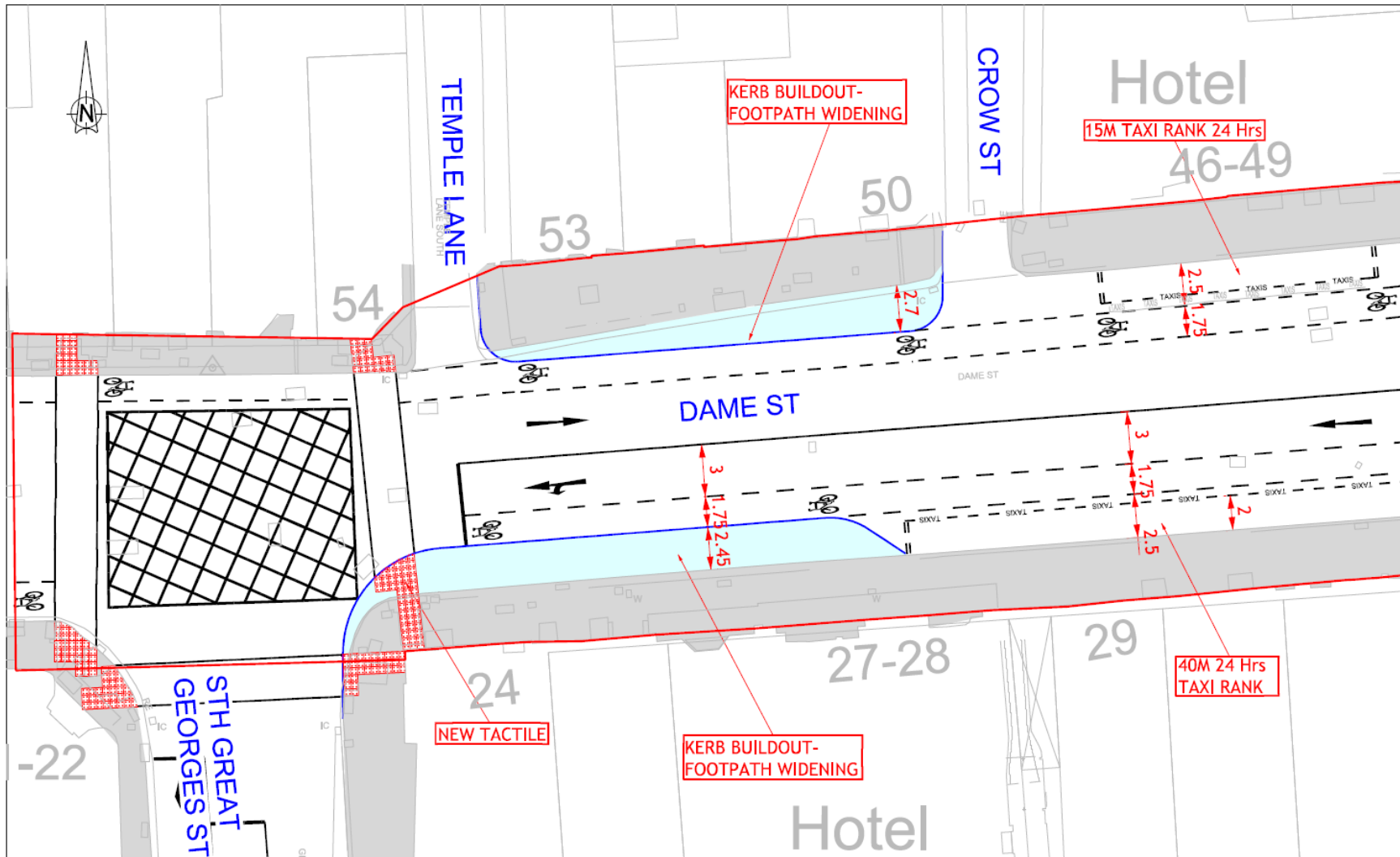


Figure 4.4 - Road design detail- Dame Street

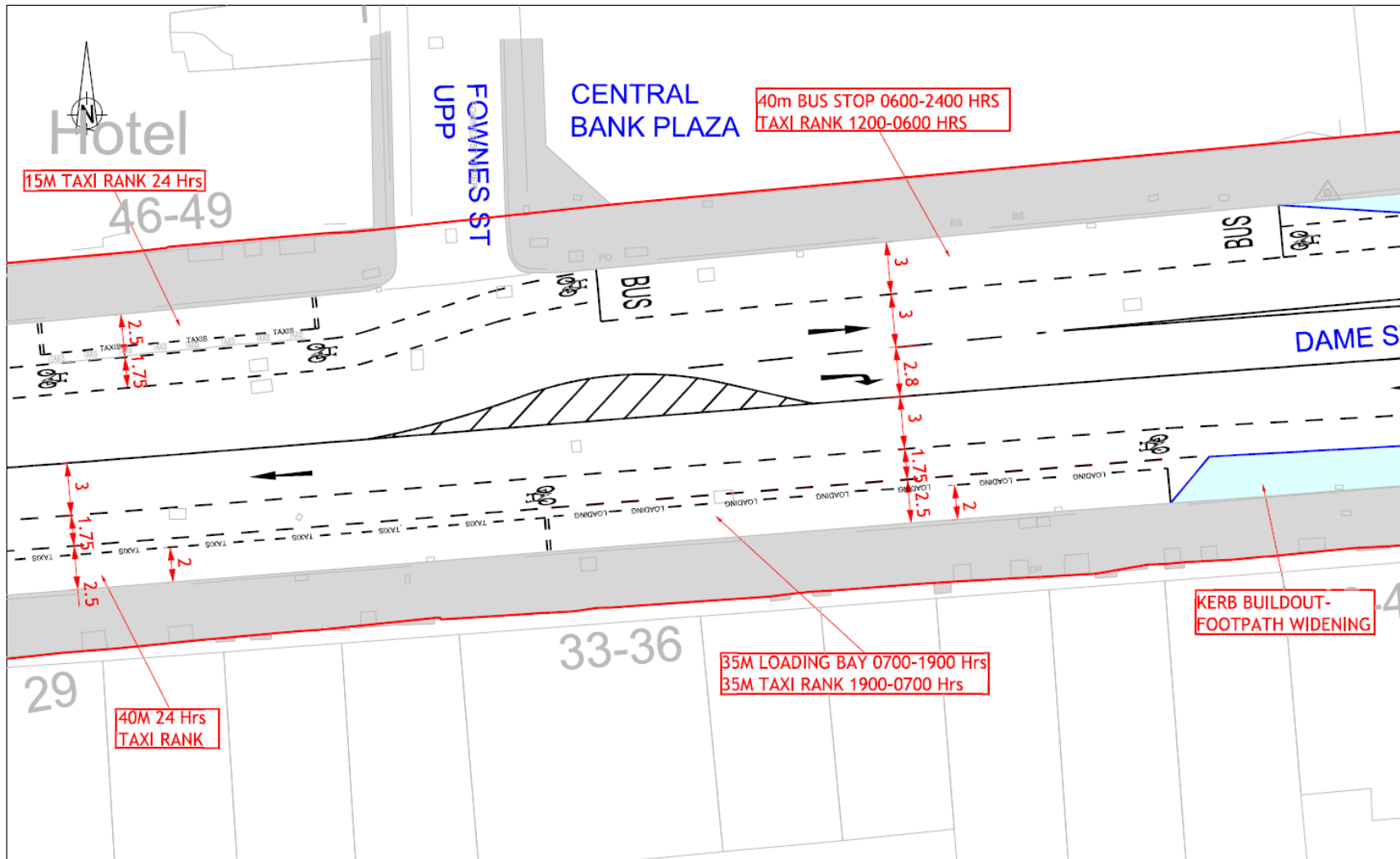


Figure 4.5- Road Design Detail- Dame Street

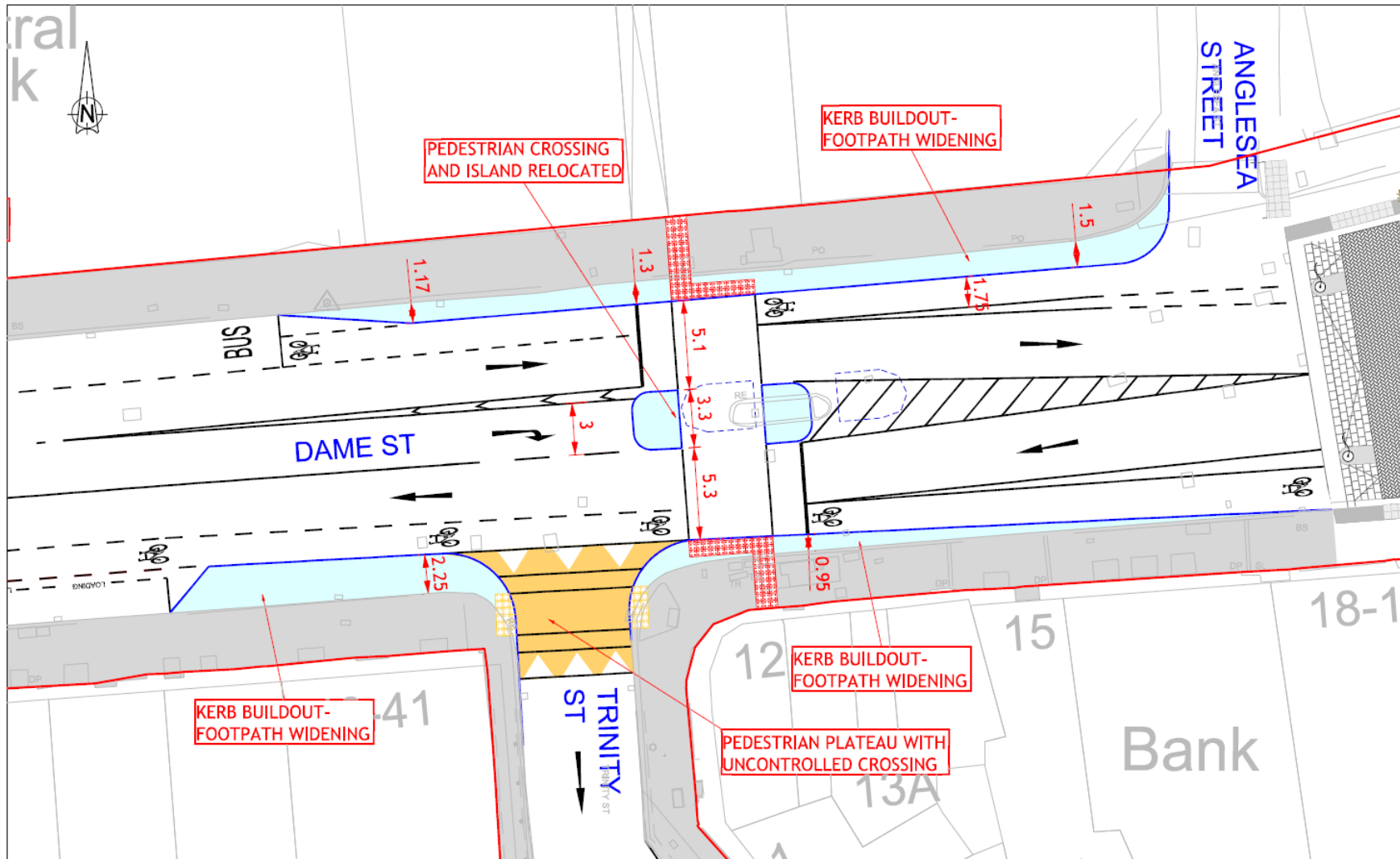


Figure 4.6 - Road Design Detail- Dame Street, Trinity Street

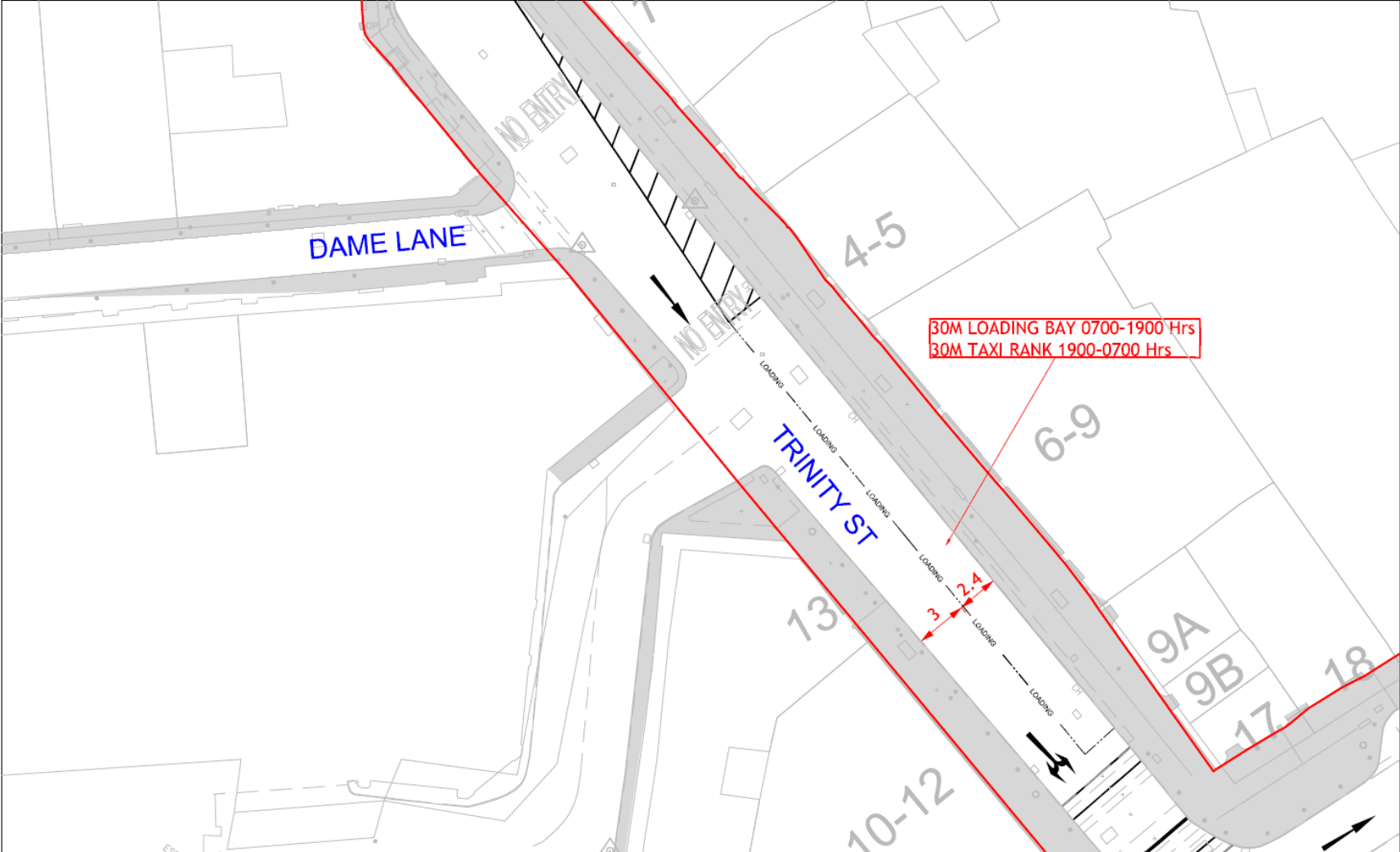


Figure 4.7 - Road Design Detail- Trinity Street

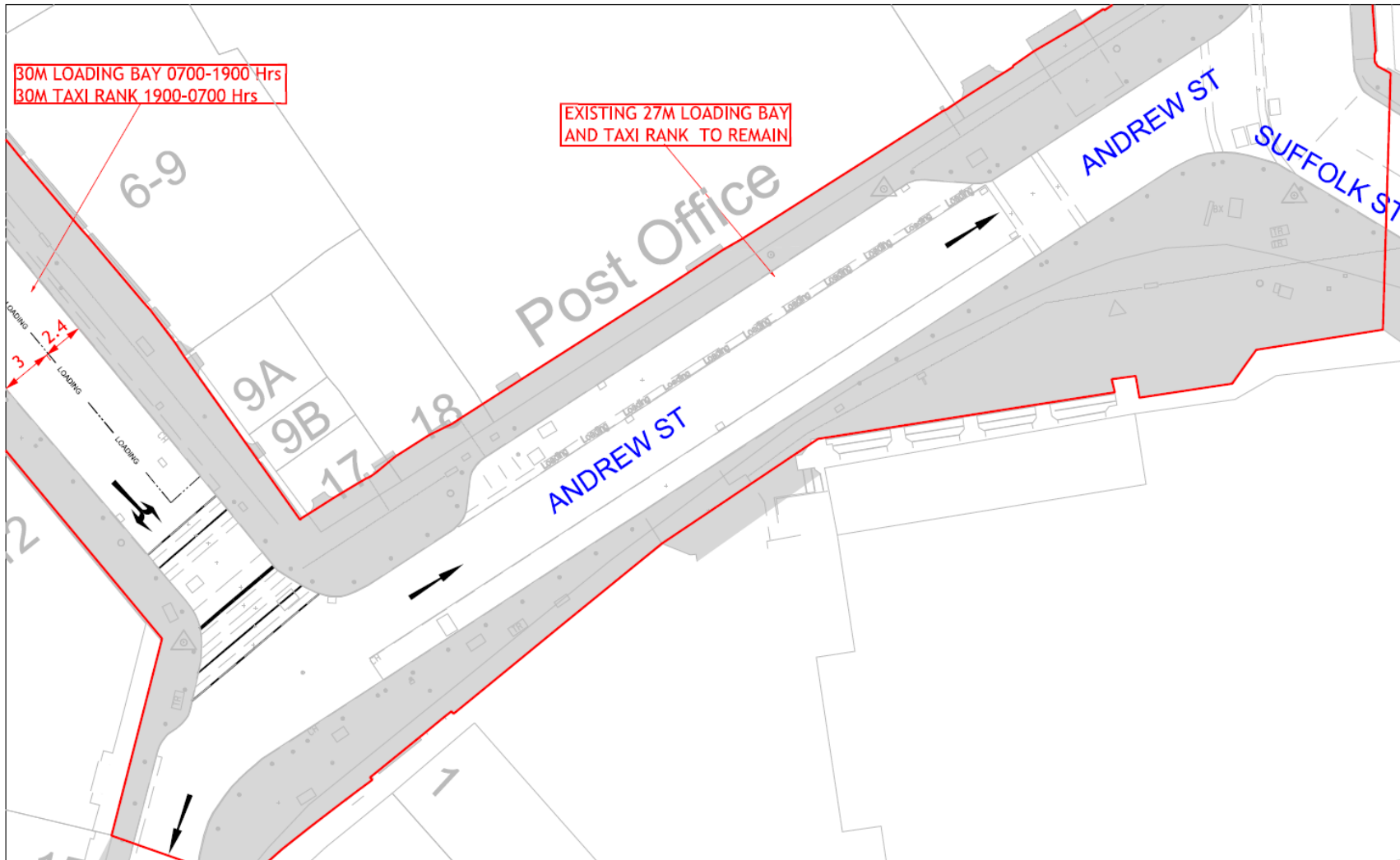


Figure 4.8 - Road Design Detail- St. Andrew's Street

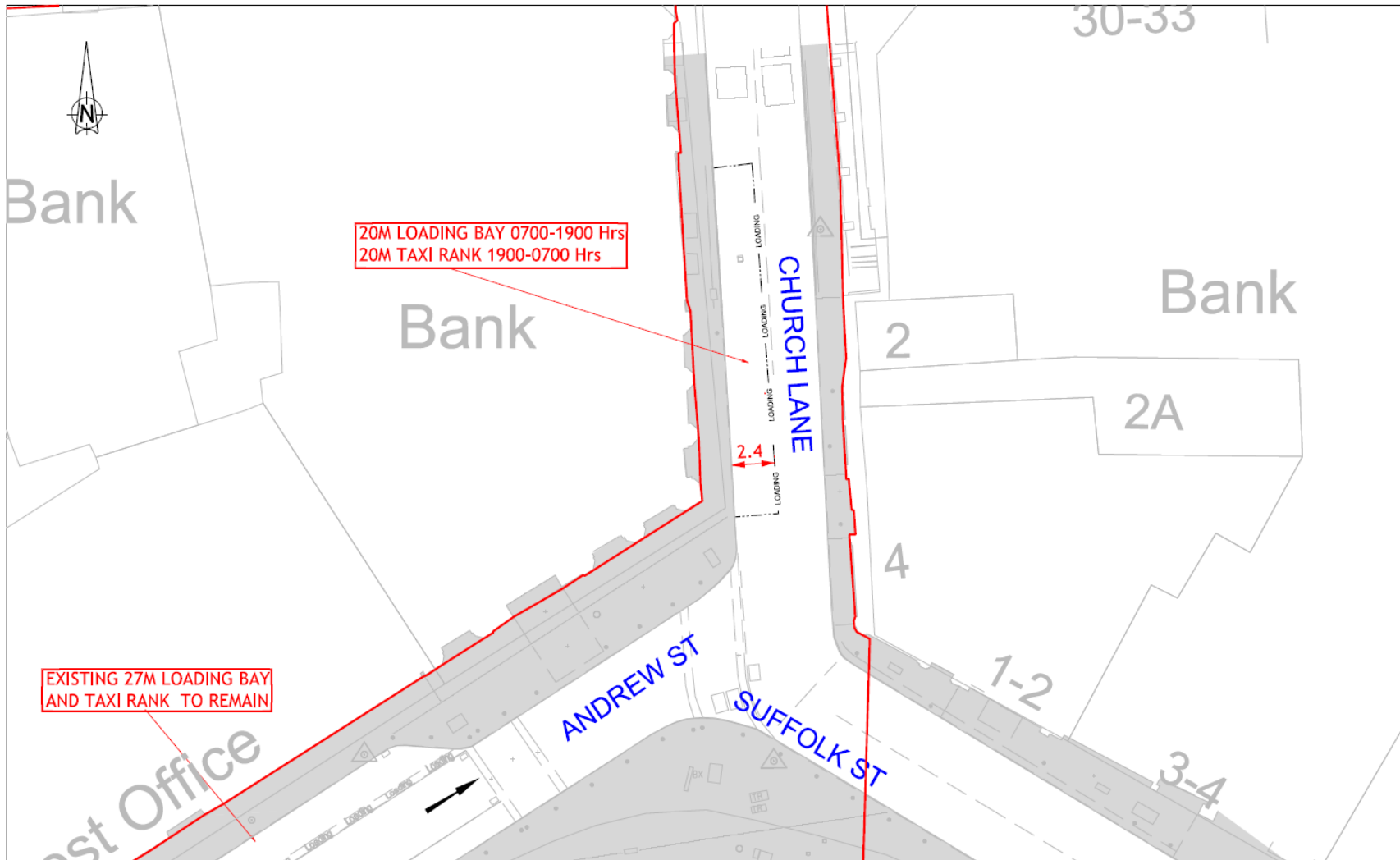


Figure 4.9 - Road Design Detail- St. Andrew's Street, Church Lane

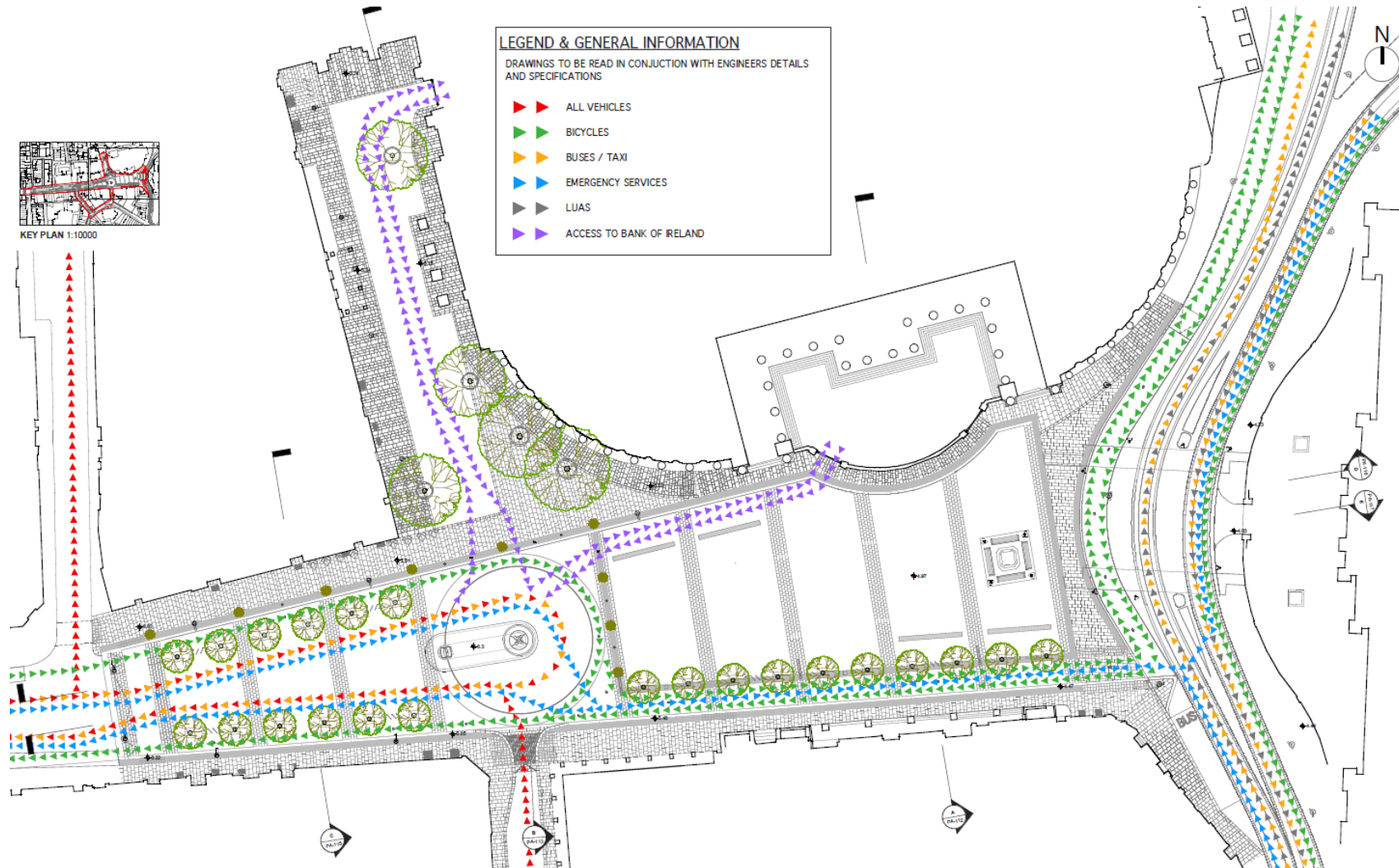


Figure 4.10 - Permitted Access Routes

4.4.3 Civic Plaza

Introduction

The description of the proposed civic plaza is set out in this section of the EIS.

Principally, the change in priority from motor vehicle oriented to a pedestrian oriented space will improve the environment of College Green, making it attractive and accessible to a greater diversity of users. The creation of a level (step-free) surface across the space will facilitate movement of wheelchairs, buggies, suitcases and people using mobility aids.

Civic plaza

The proposed civic plaza extends east-west from the junction with Anglesea Street to the front of Trinity College and north-south from the end of Grafton Street to College Street, as illustrated on **Figure 4.11**. The proposed civic plaza has a maximum length of 63m (east-west) and maximum width of 34m (north-south) and occupies a space of approximately 7,300m². College Green has the potential to be a memorable place once the traffic and clutter that currently exists is removed.

This design proposes that the entire space be treated as a grand civic set piece designed with its central axis aligned on the axis of the space from Dame Street and the gates of Trinity College. This will reinstate the historic footprint depicted in the historic maps of the city since College Green was first depicted as an urban space on De Gomme's map of 1673, as illustrated on **Figure 2.1**.

Following from this overarching concept, the space is divided into three distinct zones - from east west - each reflecting its place and its role within the overall Proposed Project. A 'circus' (diameter circa 24.5m) on the axis of Foster Place and Church Lane separates the pedestrian-priority area to the east from a more conventional 'street' arrangement to the west. This central 'circus' provides a turnaround for the limited traffic entering from Dame Street.

The east end is designated as a fully pedestrianised space framed by the splendid facades of the Bank of Ireland and Trinity College. Once cleared of its clutter and central trees, the space will be available for events and celebrations. The proposed central water fountain feature will ensure the space becomes a memorable experience and meeting place for residents and visitors alike.

Foster Place will be developed as a pedestrian-priority 'piazzetta' which has the potential to become an important urban room with south-facing café terrace under the canopy of mature Plane trees.

The west end of the plaza will be framed on both sides with lines of trees to separate the designated footpaths and cycleways from the central architecturally designed carriageway.

The plaza design also includes for the installation infrastructure and services installations to accommodate concerts, film and other such public events.

In summary, the civic plaza seeks to reconfigure College Green from the traffic and clutter dominated space it is today into Dublin's 'living room' – a place that is safe, adaptable and friendly for people of all ages – both for everyday social interaction and for major public events and celebrations.

Universal Design

The design sets out to be an exemplar of best practice in applying the principles of 'universal access' to ensure that the College Green plaza is usable by people of all ages and all abilities, including the visually impaired.

The pedestrian-priority central area is demarcated at its perimeter by bands of contrasting tactile paving, to ensure that the space is accessible and safe for people of all ages, irrespective of their age, race, gender or ability. Application of best practice will be applied during the detailed design stage to ensure that the plaza itself, and the routes in and out of it, are convenient, legible, well lit, safe and free of obstructions.

Distinctions have been made between pedestrian, cycle and vehicle-priority areas so that the risk of accidents is minimised and the particular needs of those with physical, sensory and / or intellectual disabilities is met.

The creation of a level (step-free) surface across the plaza will ease the movement of wheelchairs, buggies, suitcases and people using mobility aids. Foster Place will have no through pedestrian/ cycle traffic and is designed as a quiet, south facing space with mature trees which can accommodate tables and chairs from neighbouring cafes.

Water and Fountains

The proposed College Green plaza design incorporates two water features: the Four Angels fountain that is an integral part of the Thomas Davis memorial; and the installation of 32 water jets as a feature to the centre of the pedestrian-only area.

The plaza design proposes that the Thomas Davis Monument be moved west of its present position to the centre of the extended space, as described in the following section.

At the centre of the plaza there will be a new water feature consisting of 32 jets, one for each county, that will be controlled by a computer programme and can rise from 1m to 6m in height, in static or dance mode. At night, fibre optics concealed in the base plates illuminate the water thereby creating a different atmosphere and character to College Green. When not in operation, the plates are nearly invisible and events can take place above them. An underground control chamber will be constructed to the west of the fountains to accommodate the associated plant and services.

Monuments and Railings

The commemorative monuments that stand in College Green, Thomas Davis and Henry Grattan are of national importance. Both are important contributors to

College Green's 'sense of place' and their integration into the plaza has been a fundamental design consideration from the outset.

It is proposed that the Henry Grattan monument will remain unchanged, subject to a minor adjustment in its positioning to align with the axis of the plaza. The restoration of its original setting is proposed by reinstating the four lights and their dolphin bases - of which only two originals remain- that surround the statue. It is also proposed that the composition be reinstated as intended, with the statue and lamps sitting on a plinth flanked by benches on its four sides.

The plaza design proposes that the Thomas Davis Monument be moved west of its present position to the centre of the extended space. The proposed 'circus' provides a more appropriate location for the Thomas Davis memorial, as the place previously occupied by the demolished equestrian statue of King William. The Four Angels fountain which makes up part of the assemblage, will occupy the centre of the 'circus' with the statue at its edge, but retaining the spatial integrity of the original. The proposed turning 'circus' will be c.24.5m in diameter.

The Four Angels fountain, each representing one of Ireland's four provinces, will be restored to its original condition: the angels' arms will be returned to their upwards position, and the polycarbonate spandrel panels will be replaced. The statue will be positioned on a new base exactly following the 1966 design by Edward Delaney.

It is proposed that each monument will be removed for the duration of the construction works, for protection and to enable essential cleaning, repair and general conservation works to be carried out.

All railings located around the Bank of Ireland premises are to be retained.

Trees and Planting

Expanding the extent of planting within the city is a key recommendation of the Public Realm Masterplan (Dublin City Council, 2016). This was also a recurring theme in the City Council's public consultation process for the plaza. Increasing the number of trees in College Green has therefore been a core objective in developing the plaza plan.

It is proposed to remove eight trees from the area of the traffic island at the Grattan and Davis monuments. These will be replaced by an increased number of new trees in a more appropriate location along the south side of the plaza, forming an avenue at the approach to the space from Dame Street. A total of 22 new trees will be planted in place of the eight that currently exist- ten in a single line along the south side of the plaza, and a further twelve forming an avenue at the approach to the space from Dame Street.

The allée of new trees line along the south side of the plaza will free-up the space for events, provide a natural segregation between the cycleway and the plaza, improve the setting of the monuments and allow the façades of the Bank of Ireland and Trinity College to be visible from everywhere within the plaza.

It is proposed to retain the mature trees in Foster Place. They will be protected during the works and pruned on completion to expose their character and quality in the best light.

The species of trees to be planted at College Green will be London Planes (*Platanus Acerfolia*). This species has been planted in Dublin since the eighteenth century and might now be described as a native Dublin species.

Along with pleached Limes, Planes were planted in the remodelling of O'Connell Street. Their use in College Green will add continuity to the Civic Spine from Parnell Square to Dublin Castle.

In order to inhibit motor traffic entering the pedestrian priority area of College Green from the west, it is proposed to add metal planters punctuated with retractable bollards between them. The planters will be movable and made of Corten steel. They will be 1.25m by 1.25m by almost 1m in height, and will contain seasonable planting.

Street Furniture

Street furniture provision including seating, litter bins, bollards, cycle stands and planters will be consistent throughout and relate to the design of the space. The redesign of College Green provides the opportunity for the furniture, lighting and signage to be relocated in a more strategic and co-ordinated approach. The furniture will be robust, sustainable and demountable where necessary.

Infrastructure and Services

Preliminary ground penetrating radar surveys have been carried out by TST Engineering on behalf of DCC in order to identify the extent of underground services in the area.

Consultations with utilities providers at detailed design stage will establish the precise locations, status and condition of all known services. The renewal and / or relocation of services will be addressed comprehensively to ensure that there are no subsequent requirements for post-construction works to upgrade or install new infrastructure.

The proposed water feature will be controlled by a computer programmed from an underground controlled chamber, using recycled water harvested from rainfall, drained to a perimeter channel and into a storage reservoir, with excess rainwater being drained to the public system.

Public lighting will be installed in accordance with current EU standards to ensure the space is safe and attractive. The eastern pedestrian-priority area will have three custom-designed poles between the trees along its south side. In the west end and in Foster Place the existing heritage will be retained, albeit in new positions, to suit the plaza layout. Lighting and electricity infrastructure will also be provided as part of the development

The installation of new services infrastructure and the integration of existing systems will be integrated into the overall design by reducing above ground protrusions to the absolute minimum and ensuring that access chambers to below-ground services are fitted with recessed covers so that these are integrated into the design of the stone plaza surface.

Surfaces and Materials

It is proposed to re-establish the original extent of College Green by laying the extent of the space with a patterned paving in light and dark granite. The remaining areas will be paved at right angles to the building line.

Around the Bank of Ireland the existing paving finish also forms an important context for the buildings and has historic significance. The historic paving is limited to the area around the Bank of Ireland and Foster Place which is currently broken up with areas of new paving and drives. With the elevation of the road surface to the same level as the pavement the drives would no longer be required. It is proposed to salvage and re-lay the historic paving to form a consistent edge to the bank and retain the character of the original.

In Foster Place it is proposed to retain the existing flags and setts which would be re-laid to be level across the street.

The proposed 'circus' will be created in asphalt of the same tone as the dark granite, defined with light granite edging. This provides a durable surface for turning vehicles. The Department of Arts, Heritage and the Gaeltacht report '*Paving, The Conservation of Historic Ground Surfaces*' (DoAHG, DCC, 2015) will guide the retention, relocation and repair of historic paving within the site.

Lighting

The city's Public Realm Masterplan (DCC, 2016) highlights the importance of a strategic approach to the design of lighting and street furniture.

The public lighting design of the proposed civic plaza will have a big impact on how the space is used and College Green's success as an urban space with an attractive night-time environment. It will also ensure the space is sufficiently illuminated to be safe, secure and well-used at all times of day and at night.

The plaza design provides for a new public lighting installation, designed in accordance with current EU standards. The eastern pedestrian-priority area will have three custom-designed poles between the trees along its south side. In the west end and in Foster Place the existing heritage fittings will be retained, albeit in new positions, to suit the plaza layout. Lighting and electricity infrastructure will also be provided for events as part of the development.

The tall masts proposed between the trees on the south side of the space will have high-level downward-facing luminaires to light the main civic space. In addition, a lamp is positioned on the other side of the masts to provide low level lighting to the cycleway and footpath adjacent to the buildings.

The Bank of Ireland and Trinity College have existing architectural lighting to their facades. Although essential to the attractiveness of College Green, this is complementary to the public lighting and not considered as providing illumination to the space. High level lighting to the Luas lines between the plaza and College Green are likewise not considered as part of the public lighting installation.

Infrastructure will be installed to allow for the addition of 'fairy lights' in the trees, and for the potential installation of a Christmas tree or other temporary structures in the space. It is proposed to install water and power to make provision

for special events. The fountains will also have integral lighting within the floor fittings.

It is proposed to restore the four hippocampus lamp standards that originally surrounded the Grattan statue, only two of which remain. These are regarded as integral to the space, and reinstated as originally intended they will contribute to the general lighting levels at the widest point of the plaza and, more importantly, illuminate the statue itself.

Drainage

While the existing drainage regime at College Green is being retained, it is proposed to complement the existing system with the installation of a Sustainable Urban Drainage System (SuDS), where possible.

These SuDS features will consist of new attenuation/infiltration areas filled with crushed stone or soil. These will predominately be located beneath the proposed trees. New gullies will be arranged such that overflow from these attenuation/infiltration areas will discharge to the piped surface water drainage system. Some new gully connections will be required, and these will connect to the existing surface water infrastructure, either directly, or via small collector pipes to a single discharge point.

A drainage channel will be installed around the proposed fountain installation to harvest rainwater and to return water from the fountains to the water pumps in the proposed underground control chamber. This channel will consist of precast drainage units covered by a continuous steel grating. Small connector pipes (c. 150mm) will connect the low points in the drainage channel to the control chamber. The application of SuDS principles will reduce surface water run-off by incorporating water attenuation within the tree irrigation and drainage system.

The removal of vehicles from the space will also reduce the quantum of contaminants entering the public drainage system.

Maintenance and Security

A Management Plan will be prepared and maintained by DCC in respect of the management and maintenance of the civic space and An Garda Síochana will be consulted in relation to policing issues including the preparation of policing plans for any major public events.



Figure 4.11 - Proposed Civic Plaza

4.5 Construction Strategy

4.5.1 Introduction

This section provides an outline of the general activities associated with the construction of the Proposed Project. Ultimately, a Construction Management Plan (CMP) for the works will be prepared by the Contractor on appointment, in advance of any works commencing, incorporating all measures set out in this EIS and any additional measures which may be conditional as part of a planning permission granted for the Proposed Project. This will be updated at each stage of the Proposed Project as it progresses and will deal with health and safety, security, access to and within the site, entrance and fencing treatment and parking.

The Construction Management Plan will be subject to the restrictions imposed by the Employer's Works Requirements. These restrictions will include:

- 1) The need to maintain access to premises through the Works area;
- 2) The need to maintain servicing to premises through the Works area;
- 3) The need to maintain adequate width pedestrian / cycle routes through the Works area;
- 4) The need to maintain utilities and services; and
- 5) The need to maintain emergency access.

This section also includes an indicative outline of the construction programme, phasing and the typical construction activities required for the construction of the Proposed Project. Mitigation measures relating to minimising potential negative impacts arising from construction activities are described in relevant chapters, for example, Chapters 7 and Chapter 8, '*Air Quality and Climate Factors*' and '*Noise and Vibration*' respectively. Proposed construction management measures are also described with reference to the outline Construction and Environmental Management Plan (CEMP) prepared for the Proposed Project, as contained in **Appendix 4.1**.

The main construction works are associated with the development of the civic plaza area, as shown in **Figure 4.11**. The construction works associated with this phase of the development are described and assessed in this strategy. Other works that relate to road realignments and marking on Dame Street, Trinity Street, Andrew's Street, Church Lane and Grafton Street are considered minor and on that basis the measures outlined in this strategy do not apply. Standard Dublin City Council requirements, control procedures and permits will apply to those works.

4.5.2 Indicative Construction Programme

An indicative construction sequence is described in this section. It should be noted that this construction sequence set-out is intended to provide an overview of likely construction activities and potential impacts, and the actual construction sequence will be confirmed when a Contractor is appointed.

The construction phase of the Proposed Project is likely to take 12 – 18 months, and is expected to commence in early 2018. The main stages of construction will proceed in a general sequence as follows:

- Enabling works- including the set-up of site construction facilities, hoarding, signage etc.;
- Excavation and site clearance- including the excavation of roads and paved surfaces, and clearance of study area including careful removal of trees, street furniture, historic features etc.;
- Provision of services- including the implementation of Sustainable Urban Drainage System (SuDS), localised diversion to local power supplies, and localised diversion of telecommunication services. A new public lighting regime is proposed for College Green, and new ducting and mini pillars will be provided to cater for same. In addition, an underground control chamber will be provided for the fountains, along with associated water supply, power supply and drainage connections;
- Construction of the civic plaza including relaying the setts at Foster Place, laying granite setts in the civic plaza area, paving works to trafficked plaza area at western end, construction of turning circle, incorporation of water jets and works to existing footpaths; and
- Replacement of statues and fountain, and planting of trees. This stage of construction will also involve the placement of street furniture, bicycle parking, lighting, signage etc.

4.5.3 Main Stages of Construction

Enabling Works

Enabling works are generally undertaken in advance of the main works. Enabling works will be carried out to ensure that;

- Site construction facilities are established in advance of commencement of significant elements of work; and
- Adequate work areas and access for the permanent works and or construction is provided.

The timing of enabling works depends on the programmed start of the phase of main works that they are designed to enable. Some may start significantly in advance of the main construction activities.

The initial phase of enabling works will include the provision of construction facilities located within the works area. The initial works area is expected to include the northern side of the site, with pedestrian and cyclist access being retained along the southern side of the site.

Once this main section of plaza works is complete, the works area will move to the southern side of the site, with pedestrians and cyclist access to be provided on the northern side of the site. A works area will provide secure and safe refuge space for Contractor facilities and equipment.

Construction site hoardings are used to provide a secure site boundary to what can be a dangerous environment for people who have not received the proper training and are unfamiliar with construction operations. Site hoarding also performs an important function in relation to minimising some of the potential environmental impacts associated with construction, namely noise, visual impact, and dust deposition.

Hoarding will be established around the site construction area before any significant construction activity takes place. Hoarding will be established such that maximum pedestrian access will be maintained around the works area. Hoardings works will be of the same nature as that carried out for similar operations at most urban construction and building sites.

Construction lighting will be powered by mains supplies or diesel generators where an electrical supply is not available and will be positioned and angled downwards to minimise spillage of light from the site. Weather and vandal resistant fluorescent fitting will be installed on hoardings around the construction area to illuminate public walkways.

Construction vehicles will gain access to the site using designated routes and access points such as Dame Street. Further detail on construction traffic and access is provided in Chapter 6 '*Traffic and Transportation*.'

A construction traffic management plan will be developed as required by the Contractor so as to ensure that routes around the works are maintained for pedestrians and vehicles for the duration of the construction works. Refer to Chapter 6 '*Traffic and Transportation*'.

Site Clearance and Excavation

Following erection of hoarding, street furniture, such as cycle features, traffic lights, bins and public lighting columns will be cleared where required from the excavation area and safely stored for reinstatement following the works. The monuments of Henry Grattan and Thomas Davis with the Four Angels Fountain will also be safely stored offsite for reinstatement.

It is proposed to remove eight trees from the area of the traffic island at the Grattan and Davis Statues. It is proposed to retain the distinguished Plane trees in Foster Place. Measures will be put in place to protect all retained trees.

Detailed surveys of existing underground utilities have been carried out by TST Engineering on behalf of DCC to determine if underground services are present in the area of the proposed works. In addition, areas to be excavated for utility trenches and the underground control chamber for the fountains will be scanned using a CAT scanner or similar utility scanning techniques to identify the location of any live cables prior to any excavation works commencing. All service diversions will be carried out in consultation with the relevant utility companies. The Contractor will as appropriate submit diversion proposals to the relevant utility company for their consideration prior to works being carried out.

Footpath and road surfacing will be removed by either manual or mechanical means and disposed of appropriately or stored onsite for reuse. Trenches excavated for utility diversions will be supported to ensure that the sides of the excavation are secure. New utility ducts and pipes will be laid in an open cut trench with any existing utilities crossing the diversion trench protected and supported. Ducting, pipework, manholes, and chambers will be constructed to the utility owner specification and the trench then backfilled.

A significant proportion of the surplus excavation material from the Proposed Project will consist of soil and stones which may be accepted for recovery or recycling at waste licenced and permitted facilities.

Excavation will be typically carried out using excavators where cut and re-profiling works are carried out on site. Material to be taken off site will be transferred to trucks for onward transportation to the disposal recovery site as soon as possible following excavation in order to minimise the amount of excavated material being stored on-site. In addition, materials required for the works will be delivered on a 'just in time basis' so as to minimise storage of materials on site. Chapter 13, '*Resource and Waste Management*', contains more detailed information on Resource and Waste Management associated with the Proposed Project.

Archaeological monitoring of earthmoving works for site preparation will be undertaken to ensure that any features of an archaeological nature that may be revealed are identified, recorded and fully resolved. Hoardings, additional support and temporary weathering will be provided, if required for protected structures on site. Chapter 12, '*Soils, Geology, Hydrogeology and Hydrology*', provides detailed information on excavation material and mineralogy.

Provision of Services

Following on from completion of site clearance and excavation works, construction activities will focus on the installation/diversion of underground utilities to provide the infrastructure required for drainage, electricity and telecommunications.

Detailed surveys of existing underground utilities have been carried out by TST Engineering on behalf of DCC. This survey information, together with information provided by the individual utility providers will be used to highlight the scope of early enabling works where service isolation or diversions may be required.

Installation of underground services within the civic plaza will be carried out including a new public lighting regime, as well as new traffic communications and electricity ducting, and the provision of the underground control chamber for fountains. Localised diversion of services will also be required.

A specific works sequencing programme will be developed by the Contractor in advance of commencement of these works. This plan will ensure that particular consideration is given to the sequence of excavations, consultation with utility providers and the phased completion of works in each area to ensure a sequenced handover of the completed installation.

While the existing drainage regime at College Green is being retained, it is intended to complement the existing system with the installation of a Sustainable Urban Drainage System (SuDS), where possible. These SuDS features will consist of new attenuation/infiltration areas filled with crushed stone or soil. These will predominately be located beneath the proposed trees. New gullies will be arranged such that overflow from these attenuation/ infiltration areas will discharge to the piped surface water drainage system. Some new gully connections will be required, and these will connect to the existing surface water infrastructure, either directly, or via small collector pipes to a single discharge point.

A drainage channel will be installed around the proposed fountain installation to harvest rainwater and to return water from the fountains to the water pumps in the proposed underground control chamber. This channel will consist of precast drainage units covered by a continuous steel grating. Small connector pipes (c. 150mm) will connect the low points in the drainage channel to the control chamber.

Construction of Civic Plaza

Construction of the civic plaza will involve the construction of the hard landscape throughout the site. Light and dark granite setts will be laid in the central area. The original setts located at Foster Place will be removed, stored (on/off-site) and reinstated. The proposed turning circus will be constructed in asphalt.

The construction of the soft landscape will be carried out in tandem with completion works on elements of hard landscape.

Replacement of Street Furniture and Statues, and Replanting

The final phase of the construction works will involve the replacement /placement of street furniture including seating, litter bins, bollards, cycle stands, lighting planters and tree grilles.

The monuments of Henry Grattan and Thomas Davis will be repositioned to the locations described in **Section 4.4.3**.

The final phase of the construction works will also involve the planting of 22 new plane trees, as described in **Section 4.4.3**.

Water Management

Site drainage will be provided to collect surface runoff prior to discharge to the local drainage network – all in accordance with the necessary Dublin City Council approval.

Employment

The construction workforce numbers will vary depending on the construction stage of the Proposed Project. However, it is anticipated that at the peak of construction there will be an average construction workforce of approximately 50 people employed on site.

Hours of Working

Normal working hours during the construction phase will typically be as follows:

Start	Finish	
0700	1800	Monday to Friday
0800	1400	Saturday

However, it may be necessary to work outside of these hours at night and at weekends during certain activities and stages of the development.

Community Liaison During Construction

During the construction phase, site management measures including proactive communication with business and public regarding phasing, extent and duration of works will be required to be undertaken out by the Contractor, as set out in **Appendix 4.1**. Access to all properties will be maintained during the construction phase. Signage and hoarding will be provided as necessary.

4.5.4 Construction Health and Safety

Health and Safety

The Contractor will be required to ensure all Health & Safety requirements are agreed with Dublin City Council. This is to protect the public who will be accessing College Green during the construction phase of the works and will include all suitable temporary signage, barriers and hoarding as necessary.

All construction staff and operatives will be inducted into the security, health and safety and logistic requirements on site prior to commencing work.

All contractors will be required to progress their works with reasonable skill, care and diligence and to proactively manage the works in a manner most likely to ensure the safety, health and welfare of those carrying out construction works, all other persons accessing College Green and interacting stakeholders.

Contractors will also have to ensure that, as a minimum, all aspects of their works and project facilities comply with legislation, good industry practice and all necessary consents.

Particular cognisance will be taken by the contractor to managing the use of machinery in a public environment.

The requirements of the Safety, Health and Welfare at Work Act 2005, the Safety, Health and Welfare at Work (Construction) Regulations, 2006 and other relevant Irish and EU safety legislation will be complied with at all times.

As required by the Regulations, a Health and Safety Plan will be formulated which will address health and safety issues from the design stages through to completion of the construction and maintenance phases. This plan will be reviewed and updated as required, as the development progresses.

In accordance with the Regulations, a “Project Supervisor Construction Stage” will be appointed as appropriate. The Project Supervisor Construction Stage will assemble the Safety File as the project progresses.

Emergency Response Provision

The Contractor will maintain an emergency response action plan which will cover all foreseeable risks, i.e. fire, spill, flood, etc. Appropriate site personnel will be trained as first aiders and fire marshals. In addition, appropriate staff will be trained in environmental issues and spill response procedures.

Equipment and vehicles will be locked, have keys removed and be stored securely in the works area.

Site Management and Security

A construction management team will be established for the duration of the construction phase. The team will manage the construction of the Works including monitoring the Contractor’s performance to ensure that the proposed construction phase mitigation measures are implemented and that construction impacts and nuisance are minimised.

A Construction Management Plan for the works will be prepared and submitted to DCC in advance of any works commencing. This will be updated at each stage of the development as it progresses and will deal with health and safety, security, access to and within the site, entrance and fencing treatment and parking.

The primary function of site security will be to ensure that no unauthorised entry to site occurs. There will be hoarding around the construction sites to minimise the risk of vandalism and unauthorised access.

Environmental Management

Environmental impacts during construction will be mitigated or reduced where possible (refer to the individual chapters in this EIS for specific mitigation measures).

In this regard, the appointed Contractor will be required to produce a Construction and Environmental Management Plan (CEMP) for DCC approval prior to commencing any works on site. The Contractor’s CEMP will be a development of the outline CEMP contained in **Appendix 4.1**.

This plan will deal with issues such as noise and dust mitigation measures, hours of operation, traffic management, waste management, environmental management, demolition, protection of trees and monuments, etc.

Resource and Waste Management

Resource and waste generation during construction will be mitigated and managed where possible. In this regard, the appointed Contractor will be required to produce a Construction and Demolition Waste Management Plan (CDWMP) for DCC approval prior to commencing any works on site.

The CDWMP will address waste generation and arrangements made for prevention, reuse, recycling disposal and collection of recyclables and wastes.

The CDWMP will be prepared in line with the DoEHLG Best Practice Guidelines on the Preparation of Waste Management Plans for Construction and Demolition Projects (DoEHLG, 2006).

The following is an indicative list on the content of a CEWMP:

- Description of the Proposed Project;
- Wastes arising including proposals for minimisation/reuse/recycling;
- Procedures for prevention, reuse and recycling of wastes;
- Estimated cost of waste management;
- Roles including training and responsibilities for C&D Waste;
- Procedures for education of workforce and plan dissemination programme;
- Record keeping procedures;
- Waste collectors, recycling and disposal sites including copies of relevant permits or licences; and
- Waste auditing protocols.

Using the information identified, the Contractor will be required to develop, implement and maintain a CDWMP for the construction phase of the Proposed Project.

4.6 References

Dublin City Council (2016) *Dublin City Development Plan 2016-2022*. Dublin, Ireland.

Dublin City Council (2016) *The Heart of Dublin City Centre Public Realm Masterplan*. Dublin, Ireland.

The Design Manual for Urban Roads and Streets, Department of Transport, Tourism and Sport, 2013

Best Practice Guidelines on the Preparation of Waste Management Plans for Construction & Demolition Projects, DoEHLG, July 2006 Keohane, F (X) *College Green Conservation Assessment*, Dublin, Ireland.

Department of Arts Heritage and the Gaeltacht, Dublin City Council (2015) *Paving: The Conservation of Historic Ground Surfaces.* Dublin, Ireland

Dixon Jones Ltd., Paul Keogh Architects (2017) *College Green Design Report*, Dublin, Ireland.