

# **Watergate Urban Park,**

*Parliament Street,*

*Kilkenny,*

*Co. Kilkenny*

## **Design Statement**

14<sup>th</sup> September 2021

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## **1.0 BACKGROUND**

Kilkenny County Council has commissioned PLACE+U to develop the '**Watergate Urban Park**'. This project seeks to redefine Watergate Park, Parliament Street, Kilkenny with the provision of a set of flexible spaces that can be configured according to event users, or day to day users, using a combination of fixed and loose furniture to facilitate a change in use.

This development will see the Watergate Park redeveloped to provide an urban park. The project aims to provide a thoroughfare for pedestrians and cyclists, linking Abbey Street and Parliament Street with the adjacent Abbey Quarter Development.

## **2.0 SITE DESCRIPTION**

The site is located to the South of the Watergate Theatre, Parliament Street, Kilkenny. The site area measures approx. 1025m<sup>2</sup> (0.1 hectares). The site rises in an east – west direction from 45m AOD approx. at Horsebarrack Lane to 46.5m AOD at Parliament Street.

It is currently used as a parking facility with a small urban park space to Parliament Street. The area for the new carparking is currently a loading dock and grass surfaced area at the rear of the Watergate Theatre which contains a mobile phone infrastructure kiosk which is to be replaced with a smaller unit. The site is bounded to the East and West by Horse Barrack Lane and Parliament Street respectively, with entrances from both the East and West. The boundary on the East is a high wire fence, and on the West brick pillars with metal railings. The North and South boundary is a high rendered blockwork wall. The site is located in an urban area currently undergoing significant regeneration. To the North are the Watergate Theatre, and the Mayfair Library. To the East is the old Smithwick's Brewery. To the South and West are primarily ground floor retail with living quarters on the upper floors, or offices. The building typology in the area is a mix of three storey terraced buildings and the four and five storey Watergate theatre and Brewery.

## **3.0 PLANNING HISTORY**

The site at Parliament Street, Gardens, Kilkenny has no previous planning applications or planning history.

## **4.0 DESIGN BRIEF**

The Park is designed to be accessible by pedestrians and cyclists with a through route between Horse Barrack Lane and Parliament Street.

The provision for outdoor seating is an important aspect of the scheme. Permanent seating is to be provided that will not impact on the entertainment aspect of the venue, when in use. Consideration is to be given to suitable temporary seating when events are taking place.

With the use of this area is primarily as an outdoor seating space, sheltered areas - such as canopies or similar - are to be provided to cater for inclement weather conditions.

The use of the park as an outdoor entertainment area is likely to be sporadic throughout the year, coinciding with festivals and events. A raised stage area is required in order to facilitate outdoor performances. This shall be covered by a roof and have the structural integrity to accommodate temporary lighting and sound equipment. An outdoor power supply that can be used for all potential events in this area is to be provided.

Sufficient public lighting is to be provided to ensure the safe use of the park throughout the whole day. Consideration is to be given to the use of feature lighting and coloured lighting that may enhance the night-time aesthetics and amenity of the park.

The project sees the removal of most of the existing parking provision, but the retention of some parking is to be considered adjacent to Horse Barrack Lane. Future parking provisions should include two e-charging bays, a disabled bay and a small number of short-term spaces, to accommodate customers of the local businesses. The Watergate Theatre has a loading bay to the rear, but this is designed for larger vehicles. Smaller vehicles such as vans often load/unload from the fire exit that opens onto the car park. A loading bay near this fire exit to facilitate vans is to be considered.

The boundaries of the site will be finished in a manner that is in keeping with the design of the park. The drainage design for the park will be in regard to the aesthetic nature of the park and avoid cumbersome looking infrastructure, such as large gratings and uncamouflaged manhole covers.

## **5.0 GENERAL DESIGN STRATEGY**

The primary objective is to provide an Urban Park, creating a link between Abbey Street and Parliament Street with the adjacent Abbey Quarter Development, for cyclists and pedestrians. Watergate Urban Park also strives to provide outdoor seating for everyday use, as well as selective use for outdoor performances.

Kilkenny County Council is committed to the development of an aesthetic and multi-functional Urban Park, for civic engagement in this area, from people navigating through the site, to people spectating at an outdoor performance. It must have the ability to adapt to changes in use at different intervals, such as times of festivals and performances. It must be welcoming and secure. Visual aesthetic is important in this proposal, in all aspects from drainage to planting.

Consultations were held with various festival committees and organisers in Kilkenny, in addition to the management of the adjoining Watergate Theatre. A detailed brief analysis and site analysis process informed the general design strategy and identified the attitude to the site as a whole. This then led to a direct walking/ cycling route through the site, with a slight curve to soften the rigidity of the proposed route. The walking route will differ from the other hard pavement of the park in only the direction of the brick bonding. This sets it apart from the main seating area but only in a subtle way.

The seating area makes use of dynamic seating that can be pivoted around a fixed point, to allow the layout of the site to change, for example in the event of a performance. The seating is designed in such a manner that it cannot inhibit the space of the walking route, leaving the route clear for cyclists and pedestrians at all times. Some of the benches will be age friendly enabled through the addition of back rests and arm rests.

The entrance on the Parliament Street boundary is formed under a canopy that invites people into the site through a set of compression and release spaces, and also functions as a shelter for inclement weather. This canopy is composed of a steel frame structure clad in polycarbonate sheeting, to allow light to filter through. The entrance from Horse Barrack Lane is much more open, allowing for more space for free-flowing furniture in this area. The park will be open and fully accessible at normal times, but may be closed off for specific events.

The park can accommodate a variety of different performance requirements and capacities, both seating and standing e.g. proscenium stage (capacity 75/100) thrust stage (capacity 125/150) and other less formal performance arrangements (capacity 20 to 200).

The boundary treatments of the site on the North side adjoining the Watergate Theatre consists of a six-meter-high timber screen with vertical strip lighting incorporated. This screen aims to provide privacy for the Watergate performers as they make their way from the backstage area to the proposed outdoor performance area, whilst also screening some of the services that are attached to the Theatre itself that would take from the aesthetic of the site.

The outdoor performance space incorporates the boundary screen into the opening for the stage, meaning when there are no performances on site, the screen is fully closed, giving the affect that it is seamless. The proscenium arch is 6000 x 3700mm with accordion style folding doors, to allow the stage to become part of the park. There is a temporary roof for the thrust stage which protrudes 1500mm from the boundary screen when put in place.

Lighting is incorporated in both the boundary screen and along the South line of the pavement, which is the route through the site. Lighting will ensure the safety of the park users at all times of day. The lighting along the pavement will be of the wand type, in keeping with the contemporary aesthetic of the urban park.

On the South boundary, the timber screen incorporates a facility for temporary lighting, and sound equipment for future external events. This boundary treatment also functions as a screen to the rear of the hostel along this site boundary.

The planting and soft landscaping of the site are designed to become micro-habitats for insects and urban birds. The feature tree in the middle of the site functions as both an aesthetic piece and shelter under the canopy.

## **6.0 TRAFFIC & TRANSPORT**

### **6.1 Access**

There is no vehicular access planned as part of the development of the new Urban park, however as part of the works it is planned to provide new parking at the rear of the theatre to compensate for parking previously proposed within the urban park area as part of the Brewhouse refurbishment project.

Vehicular access to the park for emergency vehicles and servicing will be via Parliament Street & Horsebarrack Lane.

Currently the Watergate Theatre benefits from vehicular access to the rear and side for deliveries and servicing. There is a large concrete loading dock at the rear of the theatre which facilitates large scale HGV deliveries for touring companies that use the theatre. This loading dock is used only a few times per year with the HGV reversing (under supervision) from Parliament Street / Irish Town to the loading dock.

The theatre also benefits from an unloading area within the former carpark, for smaller daily / weekly deliveries by cars, vans and small trucks. As part of the works, it is proposed to maintain these facilities for the theatre as set out below.

## **6.2 Parking**

As part of the proposals, it is intended to provide a number of parking spaces on the underutilised grass area at the rear of the theatre. These spaces may for example include 1 no. accessible space, 2 no. EV charging spaces and 5 no. standard short term parking bays, as per the indicative layout on the drawings.

In order to facilitate these works the existing mobile phone kiosk will be replaced by a smaller unit by the operator and the concrete loading dock at the rear of the theatre, which is not suitable for the theatre's current needs, will be removed and replaced with a new hydraulically operated folding loading dock.

With these works carried out the new parking area can be developed; the new layout is shown on drawing 0005.

## **6.3 Servicing / Deliveries**

Servicing and delivery facilities will be maintained for the theatre. Firstly the loading area in the former carpark will be retained within the new urban park, the area will be directly accessible from Horsebarrack Lane, where the delivery vehicles will be able to reverse (under supervision) into the loading bay to gain access to the side gate of the theatre.

An Autotrack Swept Path assessment has been carried for this loading bay to demonstrate that the bay can be accessed safely, this is detailed on drawing 0004 attached.

For the large theatre set up deliveries, which will occur only a few times each year, the new hydraulically operated loading dock will be deployed, this will require that access to 2 no. of the proposed short term parking spaces will be restricted for a short period while the HGV accesses and parks at the loading dock.

An Autotrack Swept Path assessment has been carried for the HGV access to the loading dock, to demonstrate that the bay can be accessed safely, this is detailed on drawing 0005 attached.

It is anticipated that access to the accessible and EV parking spaces and some of the short-term parking bays can be maintained while the HGV is unloading, this can be seen on drawing 0005.

## **7.0 STORM WATER MANAGEMENT SYSTEM**

### **7.1 Existing Drainage**

There are currently no formal storm water drainage facilities on the site itself, the current park drains via overland flow to Horsebarrack Lane and similarly the load dock at the rear of the theatre has no formal drainage.

Surrounding the site as part of the Abbey Quarter development in Kilkenny City there are a number of projects currently on site or planned for the near future including the Brewhouse refurbishment and Horsebarrack Lane improvement scheme as well as the future extension and refurbishment of the Mayfair.

As part of these projects new stormwater drainage infrastructure is planned as shown on the attached drawing 0005, this new infrastructure will include a new 150mm dia. pvc pipe at 1:100 laid across Horsebarrack Lane to the rear of the theatre.

Also included as part of these new works are new ACO M100D and M150D channel drains as shown on the attached drawings.

The new storm water drainage facilities will connect to the existing storm water sewers within the Abbey Quarter site (formerly Smithwick's Brewery) which discharge via an existing interceptor to the adjacent River Breagagh.

## **7.2 Proposed Storm Water Management**

As part of the new park development, it is proposed to implement a Storm water management system that incorporates as much as possible sustainable urban drainage system (SuDS) features.

As part of the storm water management design an assessment of various suds features was carried out, with the following outcomes.

The site due to its urban location, constrained size and extent of existing and proposed structures was not deemed suitable for large scale infiltration via soakaways or infiltration blankets.

The use of rain gardens, filter strips, swales and bio retention areas were also investigated and due to the restrictions imposed on the site, in terms of regarding the site levels for drainage by shallow ESB duct infrastructure (cover to ducts is as low as 100 – 400mm) means that these elements were also excluded.

The remaining suds features that are available and will be incorporated in the park development include permeable paving and storm water attenuation with interception storage.

## **7.3 Gravity System**

There is no pipe network included in the park design, again due to site constraints a system of channel drains has been identified as the most appropriate solution for the gravity drainage system within the park.

These channel drains have been selected based on manufacturers published data and designed to have sufficient capacity for rainfall events in accordance with the Modified Rational Method, utilising rainfall data for Kilkenny from Met Eireann.

The storm frequency proposed is 1 in 5 year, thereby ensuring an appropriate level of service for the storm drainage system. The time of entry proposed is 4 minutes in accordance with Recommendations for Site Development Works.

The channel drains to be adopted are M100D & M150D ACO (or equivalent) channel drains with slotted inlets. The channel drains will be a combination of constant invert drains laid to falls with the site and also sloping invert drains laid along the boundary with Horsebarrack lane where gradients are shallow.

The channel drain systems will be provided with silt boxes for cleaning and maintenance in accordance with the manufacturers recommendations.

## 7.4 Attenuation Design

As the site is not deemed suitable for infiltration drainage systems and given that the park area is being upgraded in terms of paving and formal drainage and includes the conversion of a grassed area at the rear of the theatre, it has been deemed appropriate to include a small scale attenuation system with the drainage designs.

This attenuation system will also help mitigate impacts from the upgraded park drainage on the existing 150mm storm water sewers in the area and prevent overloading of these sewers.

The storm water flow from the attenuation systems will be controlled by means of *hydro brake* flow control devices which will have a maximum outflow equivalent to the green field run off.

The level of outfall from the site has been set at 5l/s which is much less than the existing urban run-off from the site which is estimated at approx. 14 l/s based on rainfall intensity of 50mm/hr.

The storm water attenuation systems will consist of proprietary underground geo-cellular tank systems fully engineered for silt control, cleaning and maintenance and designed to cater for the volumes associated with the 30-year and 100-year events. Typical details are shown in drawing 0015/0016.

The tank will have a capacity of 11m<sup>3</sup> for the 100 year event as shown in the design sheet included with this note.

As part of the stormwater management system and in order to comply with the GDSDS (Greater Dublin Strategic Drainage Study), it is intended to prevent the first 5mm of rainfall, generated from the park from reaching the public sewers, by providing interception storage.

The attenuation systems will include an isolator row for the interception, storage and infiltration of the first flush from the park as recommended. It is proposed to provide this storage / infiltration capacity in a stone layer provided as part of the attenuation system.

## 7.5 Permeable Paving

It is proposed that the new parking bays will be provided with a permeable paving system which will be unlined to allow infiltration to ground. A total of 116m<sup>2</sup> of permeable paving is to be provided.

It has been found that the quality of water discharged from permeable paving is comparable to that discharged from a modern day wastewater treatment plant. The stone layers and geotextile at the base act as a trickle filter which catches organic matter, silt and loam. Hydrocarbons are digested within the sub-base by a population of naturally occurring microbes.

It has been determined by specialist suppliers that approximately 30% of water entering the permeable paving system is lost through evaporation and will never leave the system in the form of exit water. Furthermore, it is estimated here that an additional 30 - 40% of water entering the permeable paving system shall be lost through soil absorption together with evapotranspiration.

*Kenneth Hennessy,*

Kenneth Hennessy FRIAI,  
Architecture Department

**PLACE+U**

## 8.0 APPENDIX A – ATTENUATION DESIGN

<b>PLACE+U</b>	<b>Project:</b> Watergate Urban Park  <b>Project No:</b> 003  <b>Drawing ref.:</b> NA	<b>Calc. Sheet No.</b> 1 Page 1 of 2  <b>Calculations by</b> MJP  <b>Checked by</b> MJP  <b>Date</b> 30.07.21	<b>PLACE+URBANISM</b> Anglesea House Anglesea Street Clonmel Co. Tipperary T: + 353 62 6128966 E: engineering@place-u.ie W: www.place-u.ie
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**ATTENUATION DESIGN -**

**Design Data:**

Station Name: **Kilkenny**  
 Annual Rainfall: **826** mm

**Allowable Outflow:**

Outflow (O) = **5.0** Litres / sec  
*Refer to Enclosed Obar Calculations*  
*Discharge rate is in accordance with GSDSDS Criterion 2.1 River Regime Protection*

**Catchment Details:**

Total Area =	<b>1024</b>	(m <sup>2</sup> )	@	
Roof Area =	<b>54</b>	(m <sup>2</sup> )	@	95%
Road/Hardstanding =	<b>650</b>	(m <sup>2</sup> )	@	80%
Permeable Paving =	<b>116</b>	(m <sup>2</sup> )	@	20%
Open Area =	<b>204</b>	(m <sup>2</sup> )	@	5%

  

Effective Area of Catchment (A)	605	m <sup>2</sup>
	0.0605	ha

**Rainfall Data:**

Return Period (Yrs)	<b>100 year</b>
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Storm Duration (D) (min)	Rainfall (R) (mm)
15	23.0
30	29.0
60	36.0
120	43.0
240	51.0
360	58.0
720	70.0
1440	82.0
2880	96.0

**Inflow Volume Equation:**

Storm Duration (D) (min)	Rainfall (R) (m <sup>3</sup> /ha)	Intensity (mm/hr)	Inflow (I) (m <sup>3</sup> )	Outflow (O) (m <sup>3</sup> )	Storage Req'd (S) (m <sup>3</sup> )
15	253	101.20	15	5	11
30	319	63.80	19	9	10
60	396	39.60	24	18	6
120	473	23.65	29	36	-7
240	561	14.03	34	72	-38
360	638	10.63	39	108	-69
720	770	6.42	47	216	-169
1440	902	3.76	55	432	-377
2880	1056	2.20	64	864	-800

*Rainfall (R) includes a 10% provision for climate change as per GSDSDS*  
*GSDSDS; Site critical duration storm to be used to assess attenuation storage volume, which satisfies*  
*Criterion 2.1 for River Regime Protection*

<b>Attenuation Volume Required</b>	<b>11</b>	<b>m<sup>3</sup></b>
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