"HACKNEY BRIDGE", EAST BAY LANE, LONDON E15

LICENSING SUB-COMMITTEE SUPPLEMENTARY PACK

- 1. Overview Document
- 2. Feasibility Study
- 3. Noise Assessment
- 4. Dispersal Policy
- 5. Letter of Support
- 6. Site Boundary Plan
- 7. Dispersal Map

The Purpose of the scheme

The aim of the Hackney Bridge project is to transform and regenerate an underused urban space to unlock new opportunities for local people and independent businesses. Hackney Bridge will support local employment and offer lasting opportunities to small businesses, creative workers and the wider community. It will transform an empty 6110 sqm development site to offer space for small manufacturing businesses, studios for designers and artists, event venues to host cultural activity, and retail units for independent food and drink businesses. With regard to Licensing, the site will consist of three separate licensed blocks which will be curated by the Landlord "Hackney Bridge". The Blocks will be licensed separately and will have staggered closing times in line with current guidance to assist with dispersal. The licensed areas will consist of the following as 3 separate applications:

Application 1- Block A-

1. Public House and two restaurants

Application 2 - Block B-

2. Food Hall

Application 3 – Block C-

3. Event space and cocktail Bar

As mentioned above the aim of the scheme is to provide Business opportunities, employment and regeneration to the local area. Our planning and our Lease provisions ensure we must allocate 70% of the space within the project to local businesses and ensure that everyone involved is paid the London Living Wage or higher. The event space will be free for community use 25% of the time (as it is with our other projects <u>www.peckhamlevels.org/</u> and <u>www.popbrixton.org/</u>) where they currently run everything from free karate classes for kids, to free IT support for seniors)

Change of trading name

The feasibility study, noise report and letter of support came whilst working under the name Clarnico Quay. This project will be trading under the name Hackney Bridge.

We thank you for considering our applications and if you have any questions or require any further information please contact us on the details below. Regards Roanna and Nathan

Roanna Fawcett Roanna@makeshift.org 07751285114

Nathan Gee Nathan@makeshift.org 07957550957



CLARNICO QUAY, A LOCALLY INFORMED MASTERPLAN

FEASIBILITY REPORT // 27.06.2017

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with

Carl Turner Architects







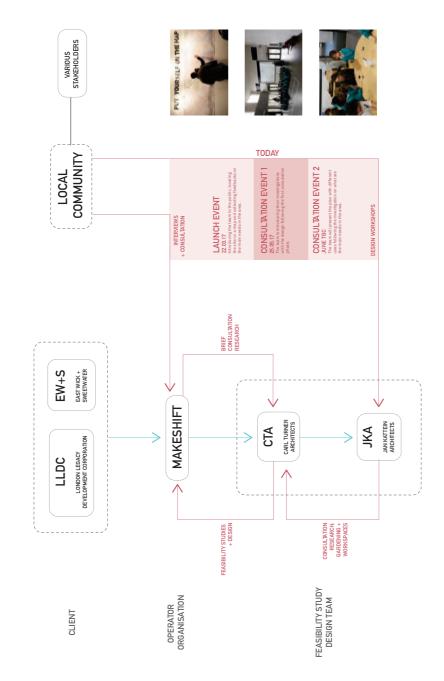












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to support MakeShift carrying out a feasibility study, investigating the potential for a temporary 5+ years development at Clarnico Quay. The site is CTA have been appointed as design consultants known as Phase 4 of the East Wick development, and dwellings are planned to be built there in 2023 as part of the aforementioned development.

community feedback through a series of targeted aims to assess the needs of locals people and This feasibility study was commissioned by LLDC (London Legacy Development Corporation) and EWS (East Wick and Sweetwater) to conduct community engagement and a design proposal. The final design was influenced by the local consultationeventsatrelevantstagesofthestudy. Interviews, workshops, focus groups were led by Jan Kattein, appointed as consultation research team employed by CTA. This consultation process ascertain how these can be answered through place-making and the provision of temporary spaces for local entrepreneurs, creatives and community groups.

identified site specific constraints, defining surrounding, the main access points and the In parallel with the consultation process, CTA the physical and virtual barriers of the direct existing services. CTA's thinking was constantly fed with comments and an updated brief throughout the process, which helped refine the proposed design towards a more local and appropriate answer.

* Introduction

- Feasibility design timline

1.0 Definition

- Site constraints
- The brief
- · Refinement of the brief

2.0 Consultation

- Launch event
- Speed Dating Event
- Mossbourne Academy Workshop
 - Mobile garden Workshop

3.0 Evolution

- Site testing
 Evolution of the plan
- Evolution of the plan from a bird's eye view
 - Five shells
- Zoomed-in layout study
- Views evolving throughout the process - Footfall study
- * Conclusion
- ** Appendix

Carl Turner Architects

Clarnico Quay Design Timeline

7.04.17

Rev A

Stage 2

Week 3/04 Week 10/04 Week 17/04 Week 24/04 Week 01/05 Week 08/05 Week 15/05 Week 22/05 Week 29/05 Week 05/06 Week 12/06

Stage 2 Design Commences Explore up to 3 atternative masterplan options Design Charrette with invited practices Preferred Stage 2 Option developed Interim Makeshift Draft Report

Stage 3

Stage 3 Design Commences Stage 3 Design Commences Final site Masterplan Layouts, scale & massing Exemplar Buildings detailed design Visualisation / models Final Design / Report & Business Plan Adjustments / final comments / input Scheme Announced

Consultation (CTA and others) Design/ agree consultation process

Design/ agree consultation pro Stage 2 consultation

Stage 3 consultation

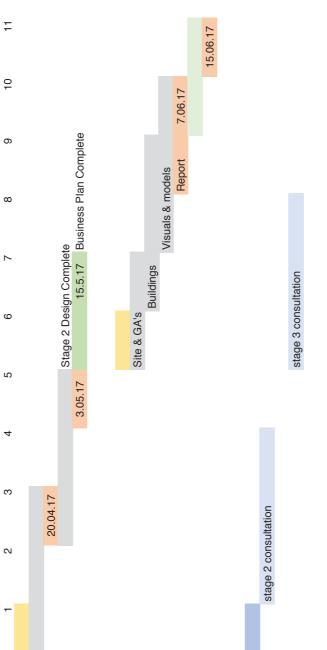
CTA/MS design progress meetings 6.04.17 20.04.17

13.06.17

1.06.17

16.05.17

2.05.17



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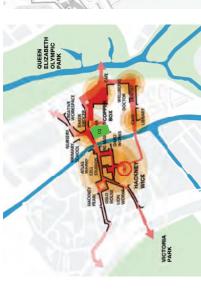
1.0 DEFINITION

1.0 DEFINITION

Definition of site constraints

constraints, from the physical site qualities planned future housing and retail areas on and around the site. This includes an understanding daylight and sunlight, access and people flows and several other physical considerations. The areas. Key considerations are the relationship future physical site to the socio-economic aspect focused around of orientation, noise onto and from the site, team have also been made aware of the planning constraints such as proximity to conservation with neighbours such as businesses along the Hackney Wick side of the canal, Mossbourne The design team have researched the historic, Riverside Academy and Here East. present and likely

is the final phase. Considerations here are to complement not compete with existing and future businesses and organisations, and to be We are also mindful of the phased development of the East Wick sites of which Clarnico Quay be delivered in phase I, and which will be in close mindful of the residential development that will proximity to Clarnico Quay.



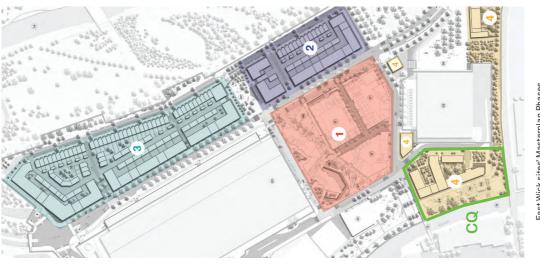
The clusters of Hackney Wick, <u>from East Wick zonal Master-</u> plan principles





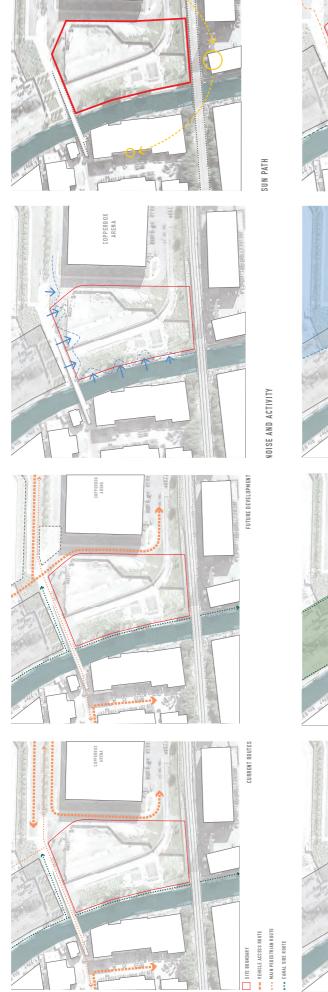


Winter) helps understand the different atmospheres of the site throughout the season The Daylight Study (Summer &



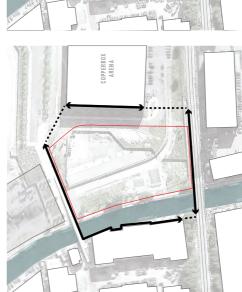
East Wick sites' Masterplan Phases





C O P P E R B O X A R E N A

and in succession.

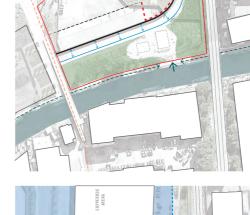


ENCLOSURE

CTA have been through differents interpretations of the site, defining its physical and virtual limits

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THE PUBLIC GREEN SPACE CONNECTED FROM THE NORTH SIDE OF THE SITE TO THE CLARNICO QUAY SITE



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UPPER LEVEL ©xtenos up to +2m inside the site Boundary

1.0 DEFINITION

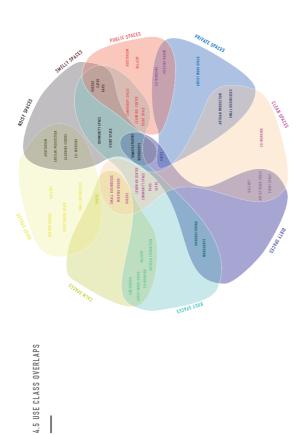
Definition of a brief

Consultation is ongoing and has been happening in parallel with the top down process. Feedback from initial stakeholder and open public consultation has allowed the design team to question types of provision suitable for the potential members (or tenants) of Clarnico Quay. For instance, when we discuss 'maker space' or 'artist studios' we collected feedback on what size of space is generally required, if it is heated, noisy or messy space. The team produced a diagram to visualise these more subjective descriptions of space. The design team receive Make Shift and LLDC feedback (in addition to feedback through the consultation process) and this is a process of design evolution. Make Shift is working with cost consultants and project managers who are checking and advising on cost and deliverability issues, measuredagainstagivenbudgetandproject program. This involves a process of rationalisation and simplification to hit cost and time constraints, which are evolving with feedback from planning officers, and local communities into a complex matrix of pushes and pulls for the design team. This process is ongoing, working towards a fixed proposal, and then forwards into planning.

So far conversations with Make Shift resulted in decreasing first floor area and increasing outdoor market space provision. Changes have also been made to the landscaping of the scheme, allowing wider terraces in the food and beverage area or more pavement space by shifting some of the buildings. Plans and proposed location of the Mobile Garden have additionally been affected by the feedback from LLDC and layouts of some of the buildings have developed into a more modular and suitable for letting after conversations with the cost consultant.

The initial brief set by Make Shift was a high level evaluation of a quantum of space requirements based on specific use categories allied to an initial evaluation of income, running and delivery costs to scope out the feasibility of this interim use. These are evidently very generic categorisations such as work space, retail space, food and drink space, maker space, events and community space. This initial brief contains the DNA of components Make Shift typically include within their projects. An approximate split of these types of space was given to the design team as a starting point to be tested by the master plan process. The design team were also tasked with limiting the use of recycled shipping containers to no more than 30% of the space provision.

CLARNICO QUAY - FEASIBILITY REPORT $_$ 26.06.2017 11



located next to another space or on a site. These diagrams give an indications of how we can iagram of uses and spatial qualities

USE	MANUFACT URING	WORKSHOPS	WANNESCHARGE WORKSHOPS AFTEAM PRODUCTION JAKES (KIOKS) CAFES JAKEL BUSINESSES CO-WORKING METHIG ROOMS AFTIST WORK SALE (COMMUNIT SALE) (LEMANIG CENTE AUDITORIUM ETENT SALE	SHEDS	KIOSKS	CAFES	BARS 5	SMALL BUSINESSES	CO-WORKING	MEETING ROOMS	ARTIST WORK SPACE	COMMUNITY SPACE	GALLERY	LEARNING CENTRE	AUDITORIUM	EVENT SPACE
QUIET				•	•			•		•	•		•			
NOISY	•	•				•	•					•				•
CLEAN			•		•	•	•	•	•	•		•		•	•	
DIRTY	•	•		۰												
CALM				•				•		•						
BUSY	•	•				0	0					•		•		•
SMELLY	•		•		•	•										
PRIVATE			•	•				•			•					
PUBLIC					0	0	0					•	0	•	•	•

	ARTI KIOS CAFE	JATISAN PE MANUFACTU ARTISAN PE KIOSKS CAFES	JITICLU MANUFACTURIN ARTISAN PRODU KIOSKS CAFES	JAFELLI MANUFACTURING ARTISAN PRODUCT KIOSKS CAFES	AMAUFACTURING MAMUFACTURING ARTISAN PRODUCTION KIOSKS CAFES	AMERICIURING MANUFACTURING ARTISAR PRODUCTION (KIOSAS CAFES	LT I CLURING	N PRODUCTION	омесси милиястване делза Редовства Алтиал Редовства Алтиал Редовства акеза сигаз Змись возмосто Алтиал Редовства акеза змись возмосто Алтиал Редовства Алтиал Редовств
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KIOSKS	KIDSKS CAFES BARS	KIOSKS CAFES BARS SMALL BUSINESSES	KIOSKS CAFES BARS SMALL BUSINESSES CO WORKING	KIOSKS CAFES Bars Small Businesses Co Working Meeting Rooms	KIOSKS CAFES Bars Small Businesses Co working Meeting Rodm S	KIOSKS Cafes Bars Bars Bars Barle Dusinesees Comorning Rooms Meeting Rooms Community Space	KIOSKS CAFES Bars Bars Small Businesees Small Businesees Meeting Room S Meeting Room S	KIOSKS KIOSKS KIOSKS SARS BARS SHALL BUSIKESES CO WORKING RETING ROOMS COMMUNITY SPACE COMMUNITY SPACE	KIGSKS Lafes Aars Aars Aarling Meeting Rooms Community Space Community Space Community Space Learning Compa
						INITY SPACE	MITY SPACE	UNITY SPACE	HITY SPACE
CAFES	CAFES BARS	CAFES BARS	EARS BARS	CAFES BARS	C.MFES B.A.RS	C.R.E.S B.A.R.S B.A.R.S C.OMMU MITY SPACE	CLAFES BARS COMMUNITY SPACE	BARS BARS COMMUNITY SPACE	LAFES BARS COMMUNITY SPACE
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WORKSHOPS				CAFES	BARS					COMMUNITY SPACE		LEARNING CENTRE		
		SHEDS				SMALL BUSINESSES		MEETING ROOMS						
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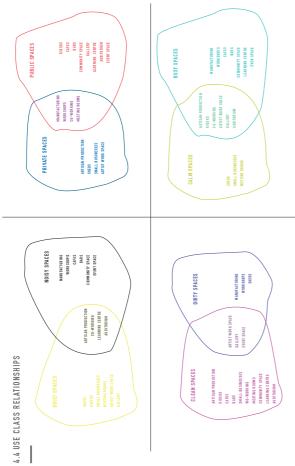


5 % | 162.5 M² KIDSKS

COMMUNITY SPACE (SUPPORTED 20 %) 5 % | 162.5 M²

LEARNING SPACE (SUPPORTED 5 %) 5 % | 162.5 M²

> (SUPPORTED SPACES) 3250 M²



cated next to another space or on a site. we can get familiarised with the type These diagrams give an

4.1 USE CLASS SUB-GROUPS

As an aid to start arranging the various types of spaces we wish in tructure onto site, we have beguin to explore different approaches. These notation various diagrammatic methods, which might start to form an idea of how we will organise the site. The main spaces we have listed from the sub-division of the use classes are: MANUFACTURING WORKSHOPS WORKSHOPS SHEGN RYIGSN KUSKS KUSKS MALLE BUSINESSES BARS MALLE BUSINESSES CO-WORKING CO-WORKING ARLIEV METING ROMS AALLEV LEARNIN SPACE COMMUNT SPACE

20% 650 M²

CAFES BARS

MANUFACTURING Workshops Artisan production Sheds

25% | 800 M²

PUBLIC

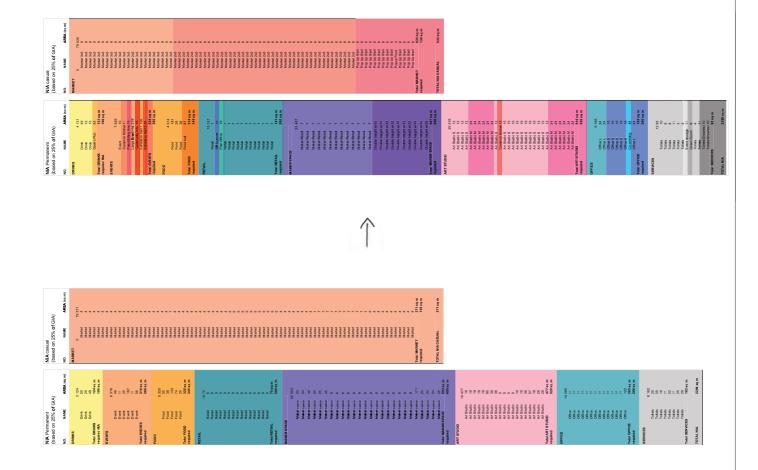
GALLERY AUDITORIUM EVENT SPACE 10 % 325 M²

SMALL BUSINESSES Co-working Meeting Rooms Offices

ARTISTS WORK SPACE

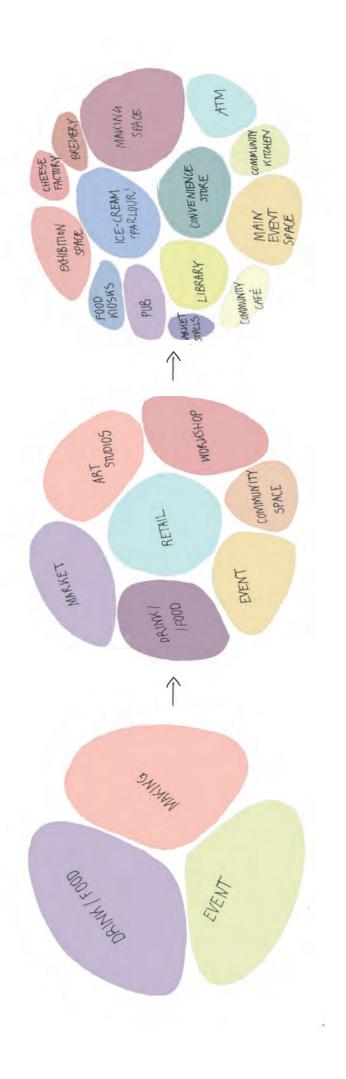
20 % 650 M²

10% 325 M²



Spread sheets of the spaces showing how the consultation feedbacks made the brief evolve through the consultation process and will continue to make it evolve. 12 CLARNICO QUAY - FEASIBILITY REPORT $_$ 26.06.2017

CLARNICO QUAY - FEASIBILITY REPORT $_$ 26.06.2017 13



With a constent feed of information, the initial brief. shown as three big cells, has evolved into specific uses. like large cells split into smaller cells.



2.0 CONSULTATION



Community informing Brief informing Design informing Community

The design team and client organisations are taking an innovative approach to traditional masterplanning by combining a simultaneous top down and bottom up approach.

Primary research and consultation is fed into the masterplan in real time, and carried out in a coordinated way by teams working together. Importantly, the architect teams are involved in the consultation process (rather than this being carried out independently) and so directly hear the concerns and ambitions of local people and communities. We call this a locally informed master plan.

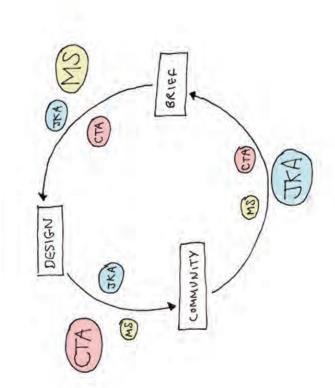
Top Down Approach

Unlike most traditional developers, we would see this process as a continuous one, not stopping at the end of the design process but one which runs through the life of the project. We hope that many of those who engage through the consultation process will become proactively involved with the project at some stage in its' evolution. This process has several components, including the brief, site constraints, site testing and refinement of brief categories and design.

Bottom Up Approach

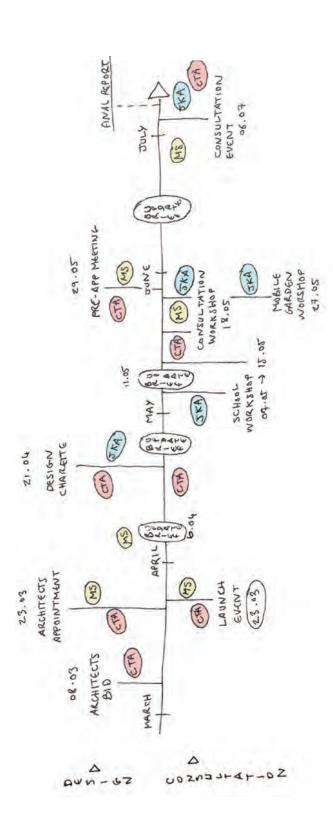
Make Shift as an organisation are trying to create a stronger link between local communities and the way space is developed by taking an active approach to listening and implementing as many suggestions as possible. Their business model is built around providing space for local people - for entrepreneurs, organisation and members of the public. To an extent, it can be argued that space is generic, but Makes Shift's locally targeted space provision means they need to get out into communities and find out what's required to help inform the brief of the project and the provision

built. This is not a scientific approach, but rather the opening of channels of communication where we start building mutually beneficial relationships, find out what's happening on the ground and look for 'nuggets' of information or chance encounters that can truly ground the project in its'local human context and make it special.



We look at the consultation process as an endless series of mutual feedbacks. Each part of the design team leads on a specific part of the agreach, but the three of us are always involved.





2.0 Consultation

Over the last few months Make Shift have been organising meetings with local community groups, residents and potential stakeholders in order to hear what is needed at the site. Contacts collected through that process formed the mailing list during the main consultation events, which aimed to communicate both community members' and design team's ideas in the wider public gatherings.

planned, with the first two completed and the Shift and design teams to the local attendees and an opportunity to ask the first questions about types of spaces needed. All comments do you want more of?' 'What do you want less informed the design team about existing groups of potential users, the location of their homes following consultation and design stages. Make Three public consultation events have been third due on 6th July 2017. The Launch Event on 23rd March 2017, was an introduction of Make collected from the public have been noted down on colourful pieces of card and attached to the walls underneath three key guestions: 'What of?' and 'What is missing?'. The Launch Event and workspaces, everyday routes as well as use requirements, which were very useful on the whereas the answers given on the cards gave uses into more specific spaces, answering the requirements raised during the event. Make Shift of reports and meetings with the design team enriching the proposed plans further with new spaces' types, for example cheese factory, coffee Shift team was able to reach a wider community group, having collected the data and contacts, direction to further design process, allowing the division of initial proposed categories of team led further consultation meetings with wider group of interviewees identified during the Launch Event which resulted in a number roastery or library.





to an external audience. Importantly, many of the proposed 'uses' had been identified at the post office). 'Speed-dating' allowed attendees which informed design development. A lot of more detail, with the event's attendees expressing what types of services would be necessary there we revealed early design proposals for the site Launch Event (such as cheese factory, ATM, to address their comments to the CTA and JKA team members at four tables, each focused on a space, the external public space and the public with lots of enthusiasm and further comments which this time responded to specific areas of the scheme provided the design team with feedback nterest has been raised about the proposed main event space and ideas have been shared about qualities it should represent. This feedback led to the decision of the events space's size ncreasement. Design team also decided that this space must be as flexible as possible, due to the demand to use it for many different activities (music events, theatre, lectures, presentations, display shows, etc). Previously proposed spaces such as the library have been discussed at much (power, Internet) and what could be avoided (for At the second public event (18th of May 2017) different proposed use - the workspace, the event facilities. The presented scheme has been met how it could be used and therefore what spatial example kitchenette area with water supply).





Jan Kattein Architects team worked on consultation research focused on gardening, schools and workspaces which resulted in the two public workshops.

The 'Bug Hotel' workshop with Mossbourne Riverside Academy's kids could be considered as the first step for the future relationship/ partnership with Clarnico Quay project.

Over three afternoons (7th - 15th May 2017) the kids made, painted and installed 'bug hotel' structures onto one of the site's trees. The workshop responded to the school's curriculum and gave the pupils time to get involved and passionate about the project. It was also based on collaboration with the head teacher, school staff and parents, giving them the chance to gain information about the planned scheme. Each of the pupils were given a short booklet at the end of the workshop as a keepsake and record for the school. Clear project's description was included at the end of the booklet which would additionally inform the parents. The general feedback after the 'Bug Hotel' workshophasbeenverypositive, with the school's receptionist claiming that kids were still sharing their experiences during their 'sharing groups' day.

The proximity of the school to the site creates an easy access and connection opportunity with Clarnico Quay. Moreover, ecological topics which are widely represented within the school's curriculum, bring an opportunity to include such workshops and activities within the future Mobile Garden operator as well as future businesses working on site.





On 27th May Jan Kattein team ran an additional workshop focused on urban gardening at the existing Mobile Garden site. Modelmaking with the use of plants served as medium to start the conversation about ways to integrate gardening with architecture. Apart from the group modelmaking, the workshop included a short presentation prepared by Jan Kattein Architects, which combined architectural precedents, gardening techniques and plant species. Group discussions helped to develop the model further and present possible approaches to the proposed scheme's landscape design. Community workshops provided feasible set of guidelines to inform Clarnico Quay design as well as establishing relationship with the first users and stakeholders. The school workshop enabled communication with the local residents (kids and their parents) and school staff - possible frequent visitors of ClarnicoQuay of fered food and beverage or play areas. Workshop with Mobile Garden served as a way of creating relationship with one of the possible future stakeholder and allowed to highlight the opportunities that incorporating of Mobile Garden within the Clarnico Quay scheme bring - such as gardening sustaining some of the food and beverage food supply or becoming elements of the proposed landscaping.





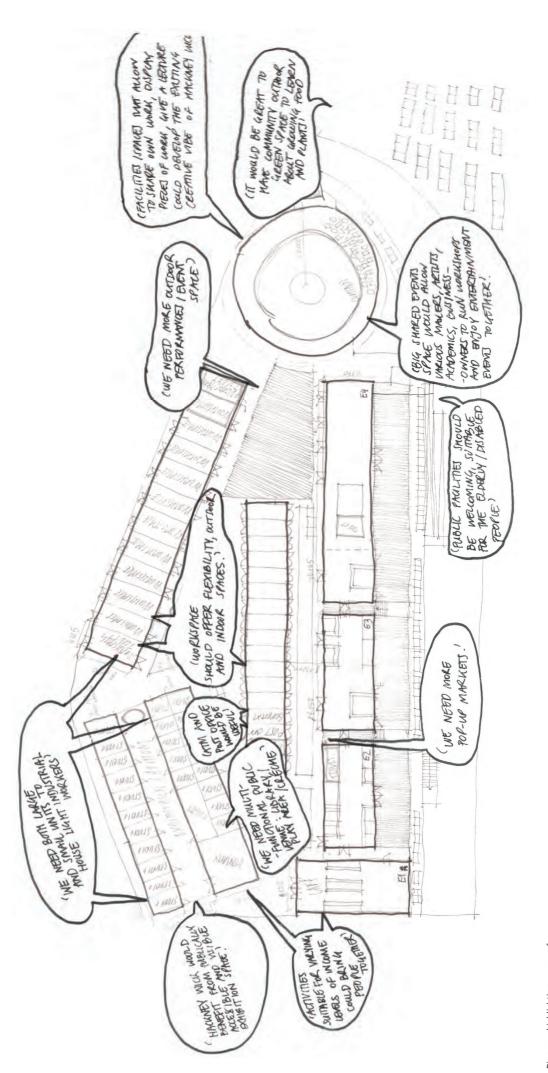


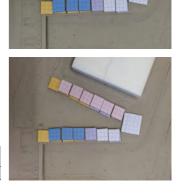
Diagram highlighting some of the layout decisions resulted by the consultation events' comments

3.0 EVOLUTION

The design team have progressed through a series oftraditional master plan testing exercises looking at three different approaches to the layout of space on the proposed site. These were: The Street – a linear route with secondary streets or mews

The Grid – streets and squares Blocks–asmallnumberoflargebuildingsarranged irregularly on the site (inward looking). The team also tested the quantum of space required for the site (as set in the high level briefing document) and concluded that a mix of single and double storey spaces could provide the quantum of space with a sufficient amount of the site remaining for open space. A low lying development was seen as a requirement in order to have minimal impact / requirement for foundations etc. given the short term nature of the proposals. A design charrette was held with CTA and JKA Architects (the design team) using blocks based on a 4 x 4m grid structure. A series of layouts were tested based on the three approaches (grid, street and block). Using a site model, the preferred layout emerged having some of the qualities of all three typologies. Fewer buildings were proposed than originally envisaged (so an element of the block model), with a main central 'street' combined and juxtaposed with outer buildings creating a series of 'squares' or outside rooms as proposed in the grid option. The team have then set out to initially place different functions within specific buildings and site these with respect to site context, so that the more industrial 'maker' type space is at the 'rear' of the site were deliveries are easier with the adjacency of the service road, and the more public facing functions such as food and drink space is overlooking the canal towpath for obvious

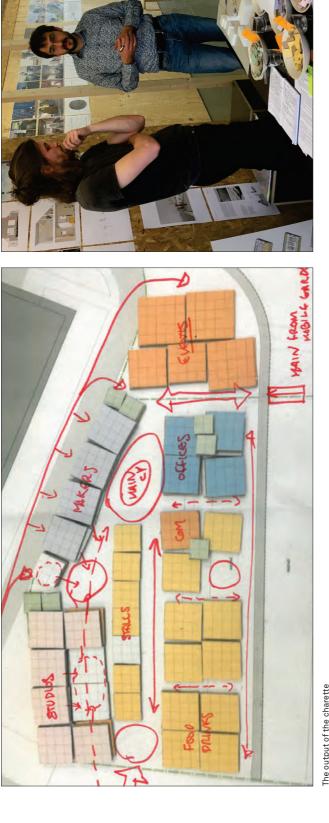
reasons. The main event space is also placed at the furthest point away from future housing. These are pragmatic decisions based on an understanding of site context and constraints. After defining what were the main constraints of the site and the brief, testing spatial intents and evolving towards a sketched version of the final proposal



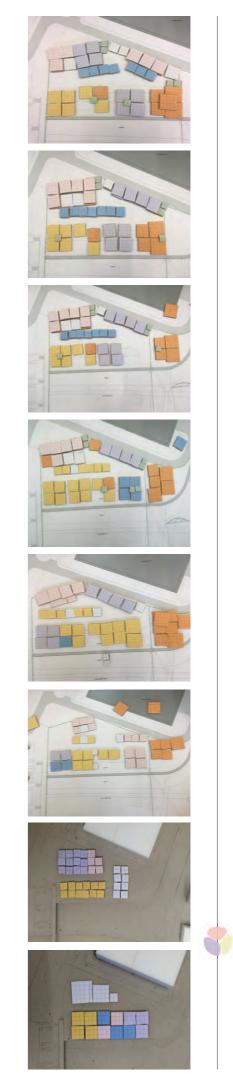








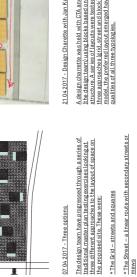
The output of the charette was the definition of external spaces and the break down of the program on the site





* Blocks – a small number of large buildings arranged irregularly on the site (inward looking).

* The Grid – streets and squares



07 04 2017 - Three options

22 09 2016 - Pitch intent







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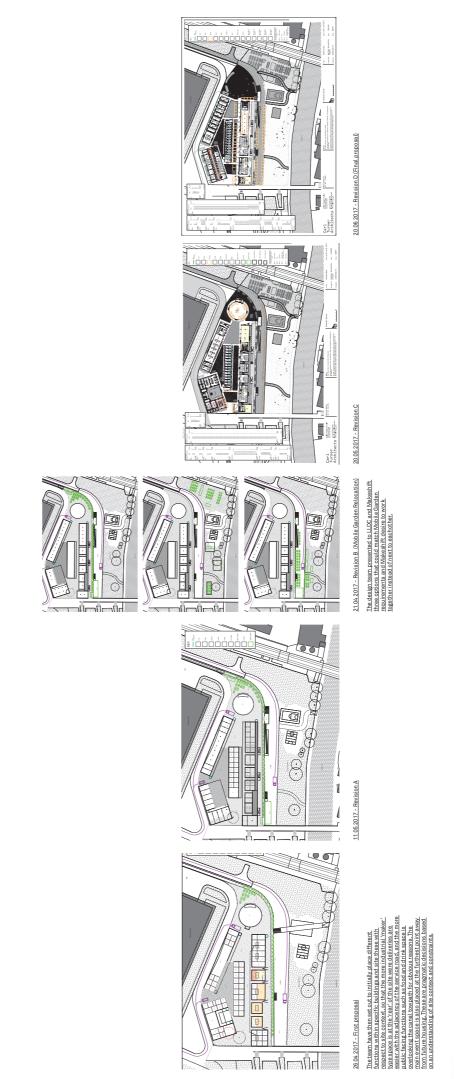


21 04 2017 - Redefinition of the boundaries

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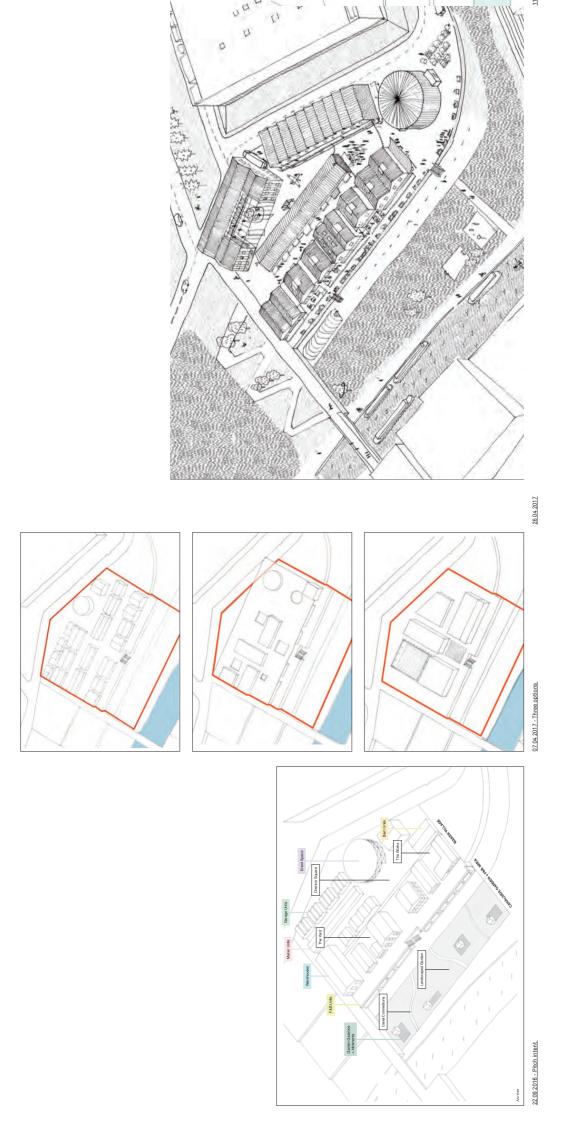
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The introduction of a dialogue with the mobilite garden team questionmed their current topsition on the site. Two options questioned at one within the first boundary, the other as an extended boundary with Mobile garden relocated.

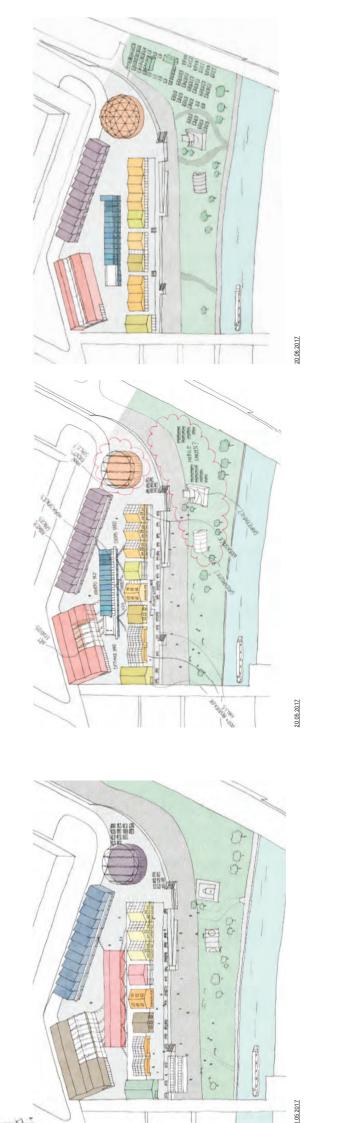




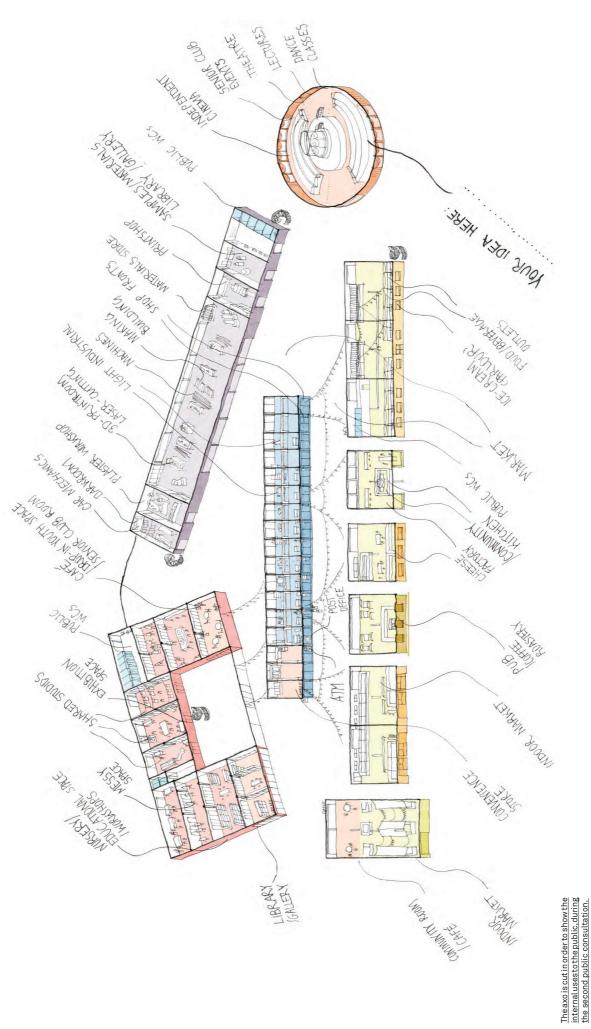




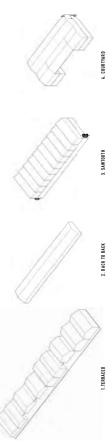
30 CLARNICO QUAY - FEASIBILITY REPORT $_{-}$ 26.06.2017





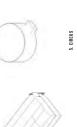


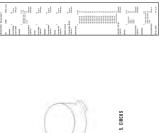
Five shells 3.0 Evolution



The brief was spread into five blocks, with different flexibility and spatial qualities. It will later result into a series of 5 different construction methodes.







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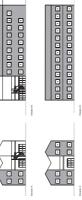
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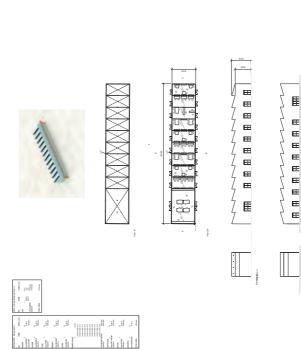


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Block A - The courtyard

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<u>Block B - The sawtooth</u>

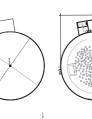
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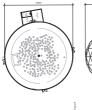
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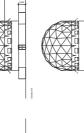
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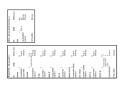


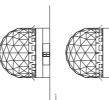














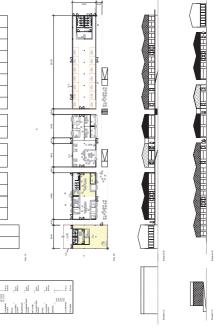
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Block C - Back-to-back

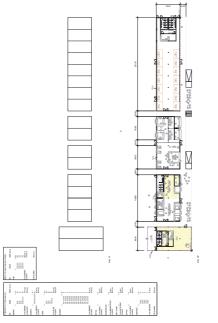


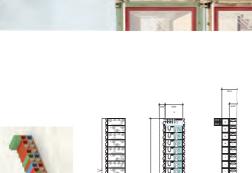


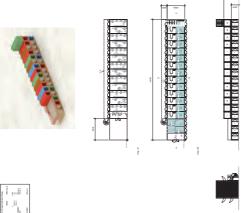


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Block E - The barns

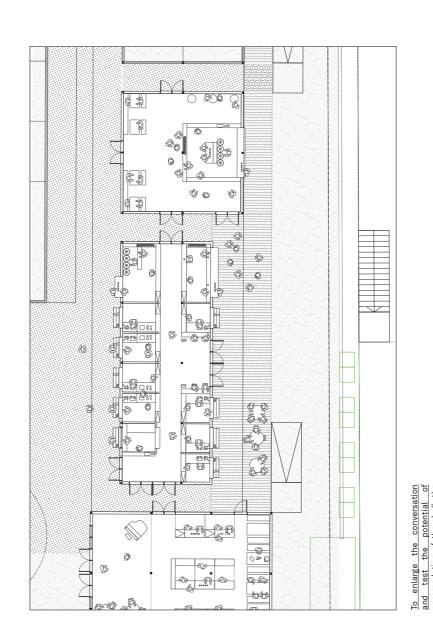






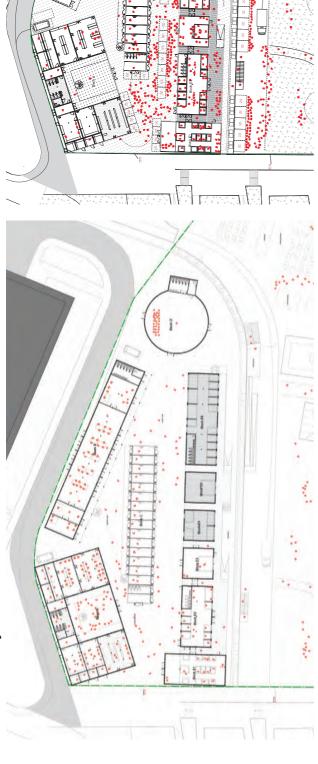
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3.0 Evolution Zoomed-in Layout studies



To enlarge the conversation and test the potential of accomodation of the shell, the layout was drawn with details of the layout, partitions and different potential situations.





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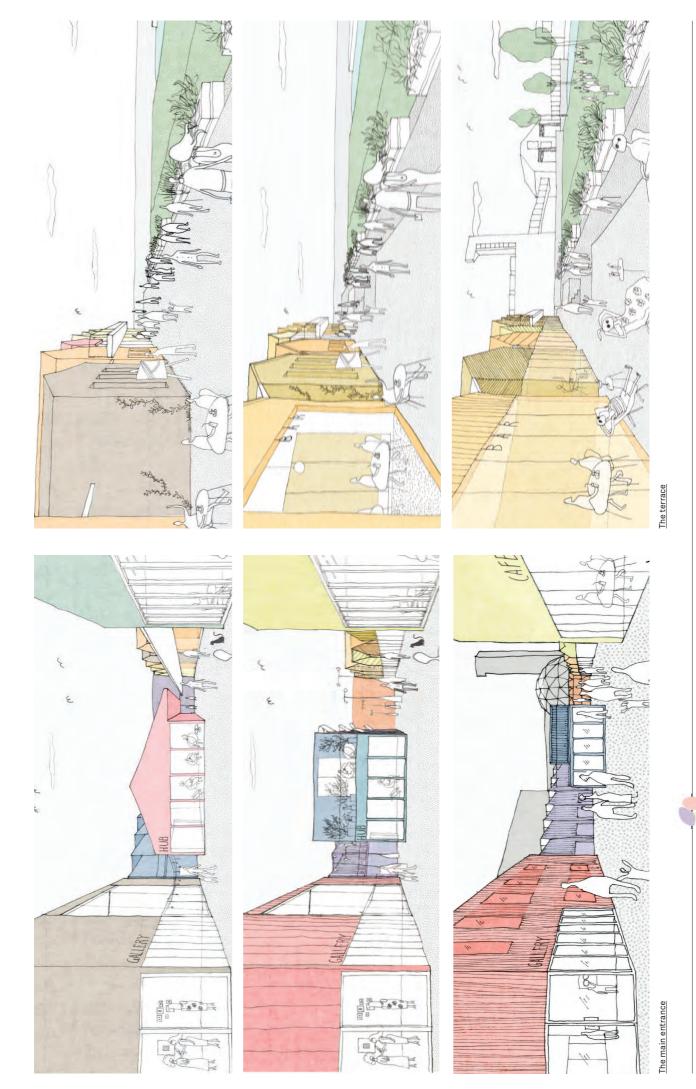
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<u>Footfall during a week day</u>

Footfall during a busy market day

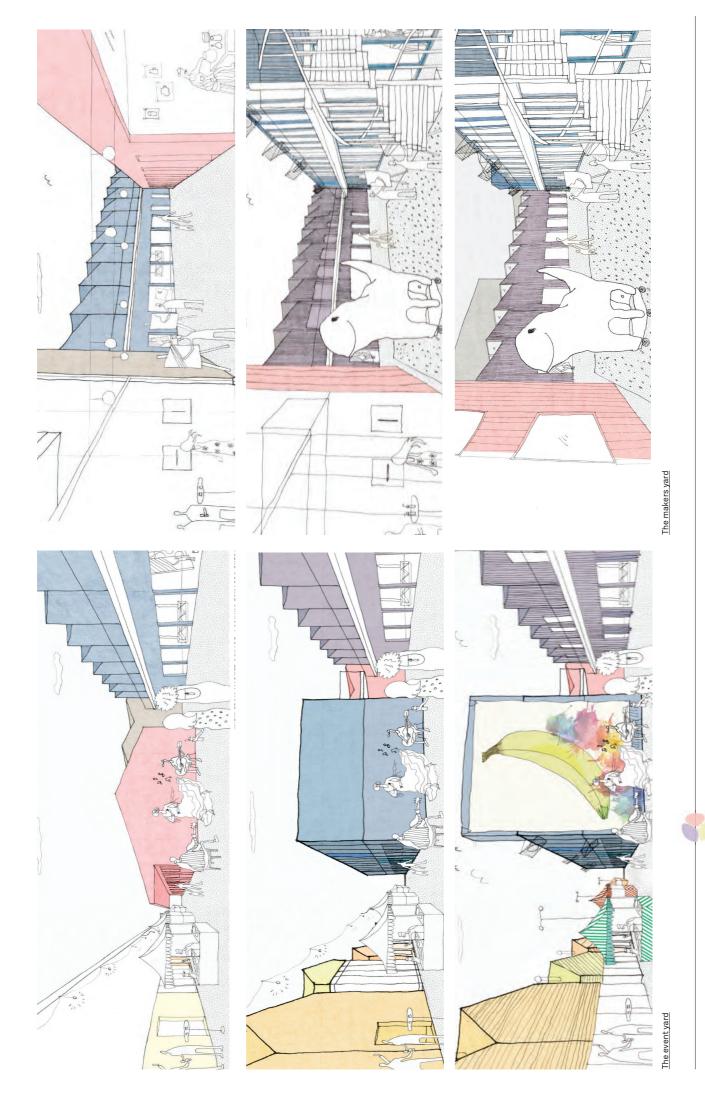


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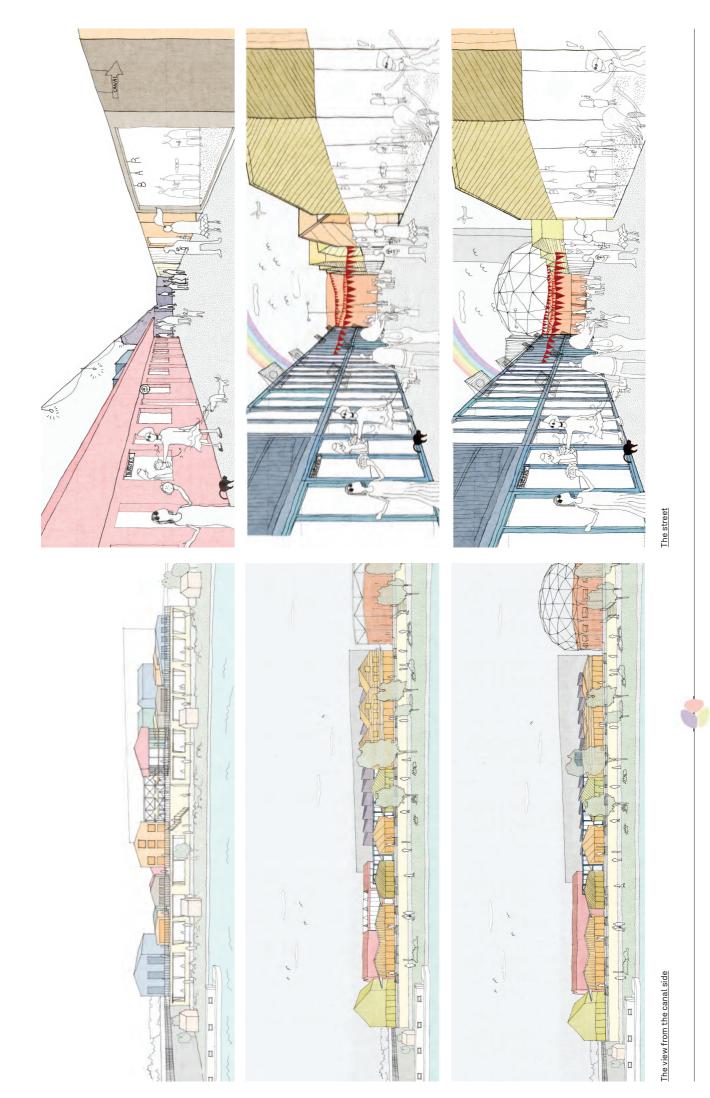


3.0 Evolution Views evolving throughout the process

38 CLARNICO QUAY - FEASIBILITY REPORT $_$ 26.06.2017



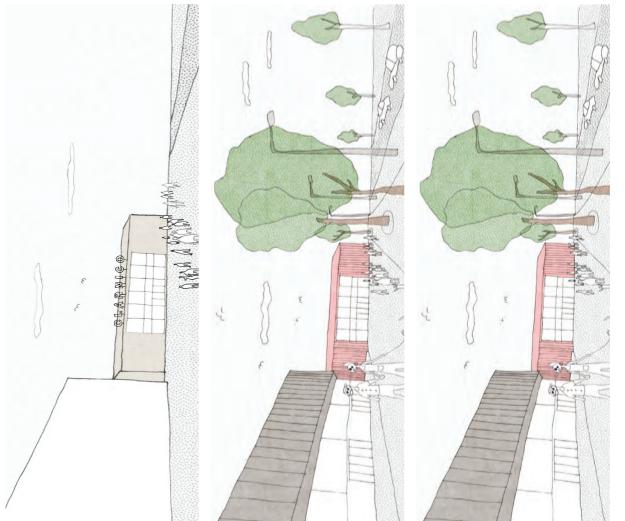
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3.0 Evolution Views evolving throughout the process

40 CLARNICO QUAY - FEASIBILITY REPORT $_$ 26.06.2017







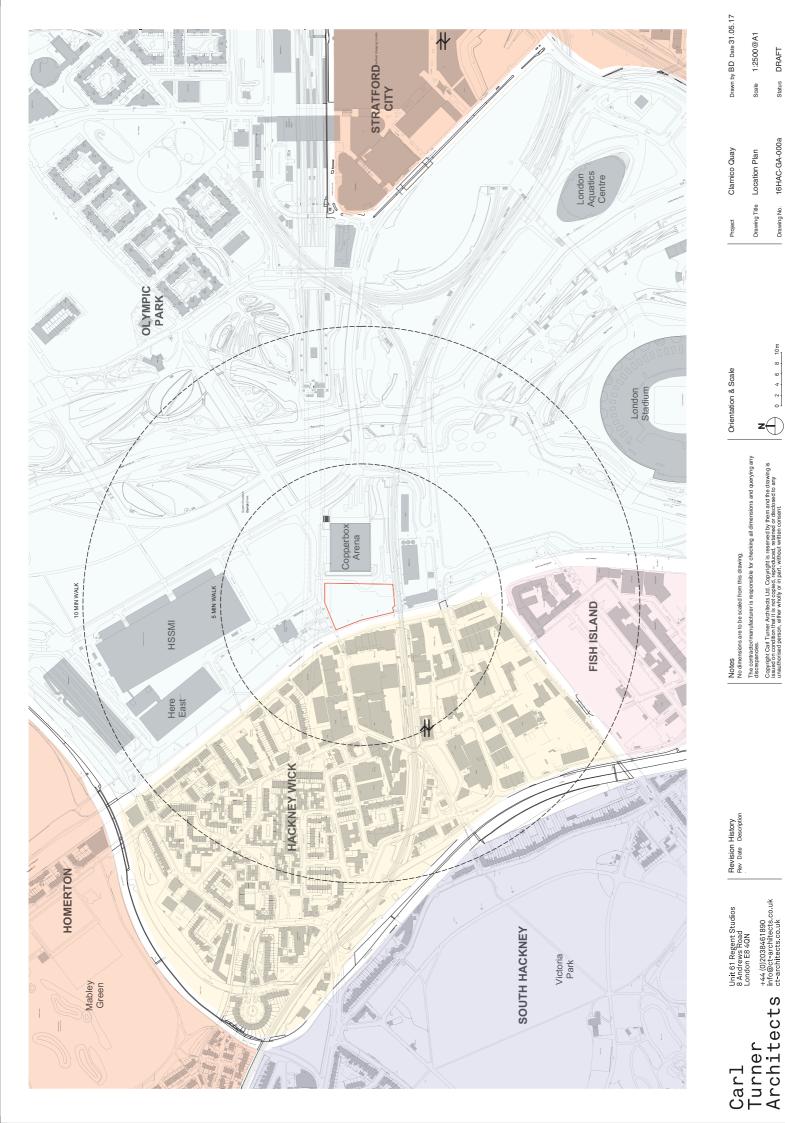
CTA confirms the initial intent to build on the upper part of the site only. It would leave the lower part empty to assert the Canal Park present and future development. The scheme will still be accessible from the canal walk by the introduction of light touch paths, two stairs and a ramp, it will also enhance pedestrian and cycle connections from the canal to the Queen Elizabeth Park and Hackney Wick. The physical breakdown of the brief on the site resulted into five distinct blocks and a series of public external spaces with different qualities of use. The five blocks aim to provide different levels of flexibility, to accommodate the various needs of the future stakeholders. Clarnico Quay aims to be a place of destination. However, through the feasibility study, CTA found that its urban integration is also a key element to its success. The nature of the public space created will impact on the potential of appropriation from local communities.

CTA recommends the site to remain open and not fenced and the buildings to be secured independently. It will reinforce the urban nature of the project that will be more easily appropriated by the local people. Retaining the dynamic of the consultation will certainly benefit the project at later stages. We recommend however to adopt an appropriate mode for detailed design, possibly by looking at makers to participate in the fabrication of the façades or other elements of the buildings, helped by local people through organised workshops. Five different modular construction systems were suggested at this stage. They are specific to each schematic design proposed by CTA and reflect the different flexibility, shape and use of each of the five blocks. We think that the five blocks together form a range of possibility offering

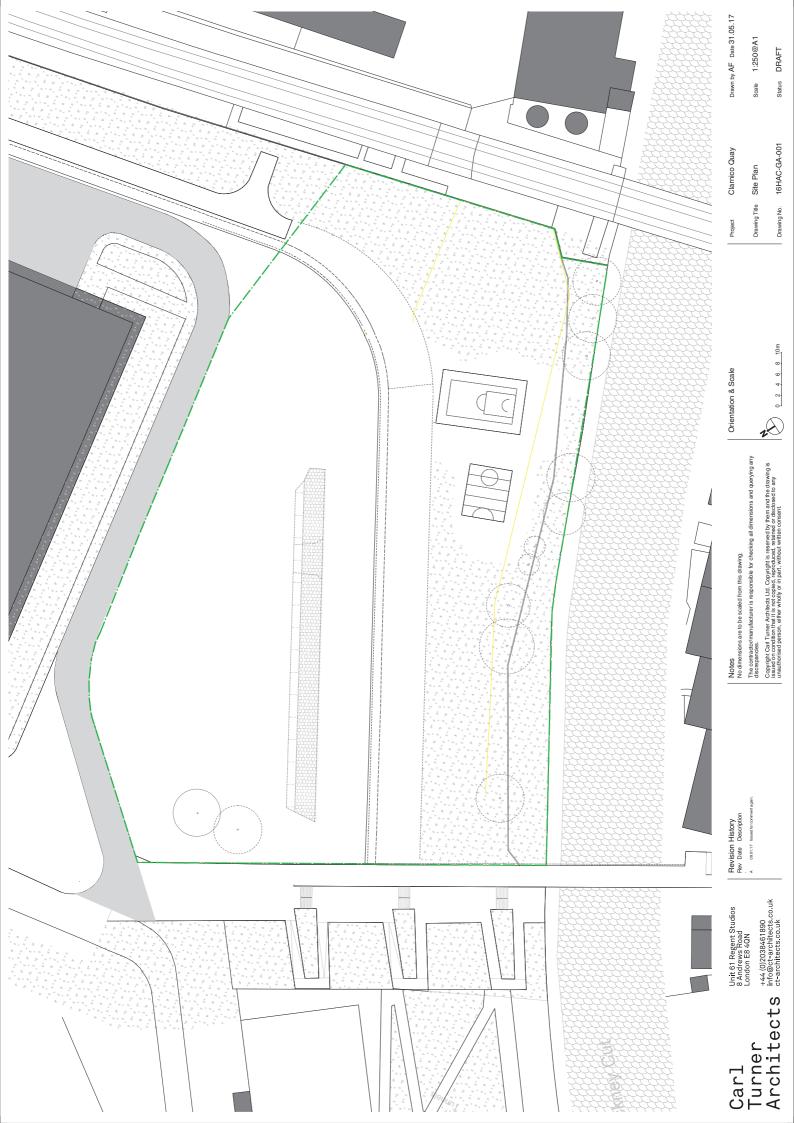
more flexibility to the site in term of the size and affectation of the units. We recommend to refine the material study with the appointment of a structural engineer, who will be able to advise and demonstrate the flexibility of each of the construction types. During the feasibility stage, CTA also explored an alternative way of integrating the Mobile Garden, a community garden supported by the LLDC. It was preferred and accepted that the Mobile Garden would be better located on the lower part of the site, on the canal park green belt. The location would provide some shadow and the Garden and bike workshop would be visible and accessible from the canal walk.

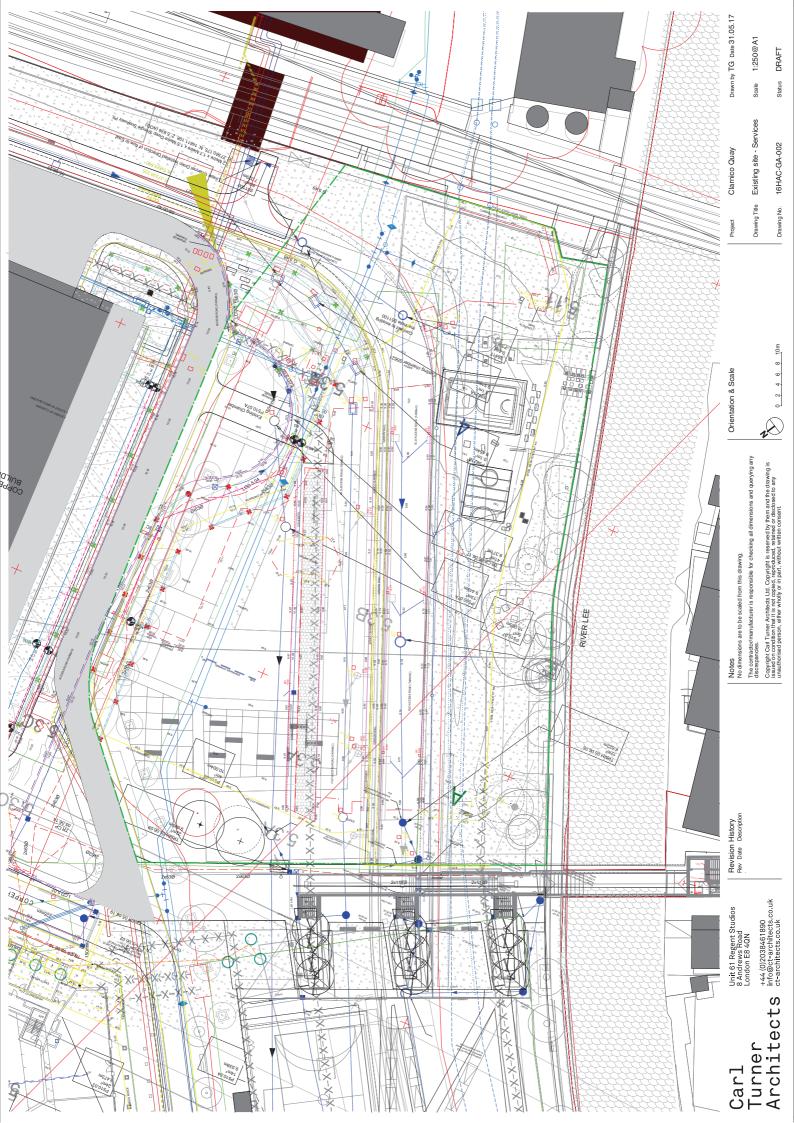
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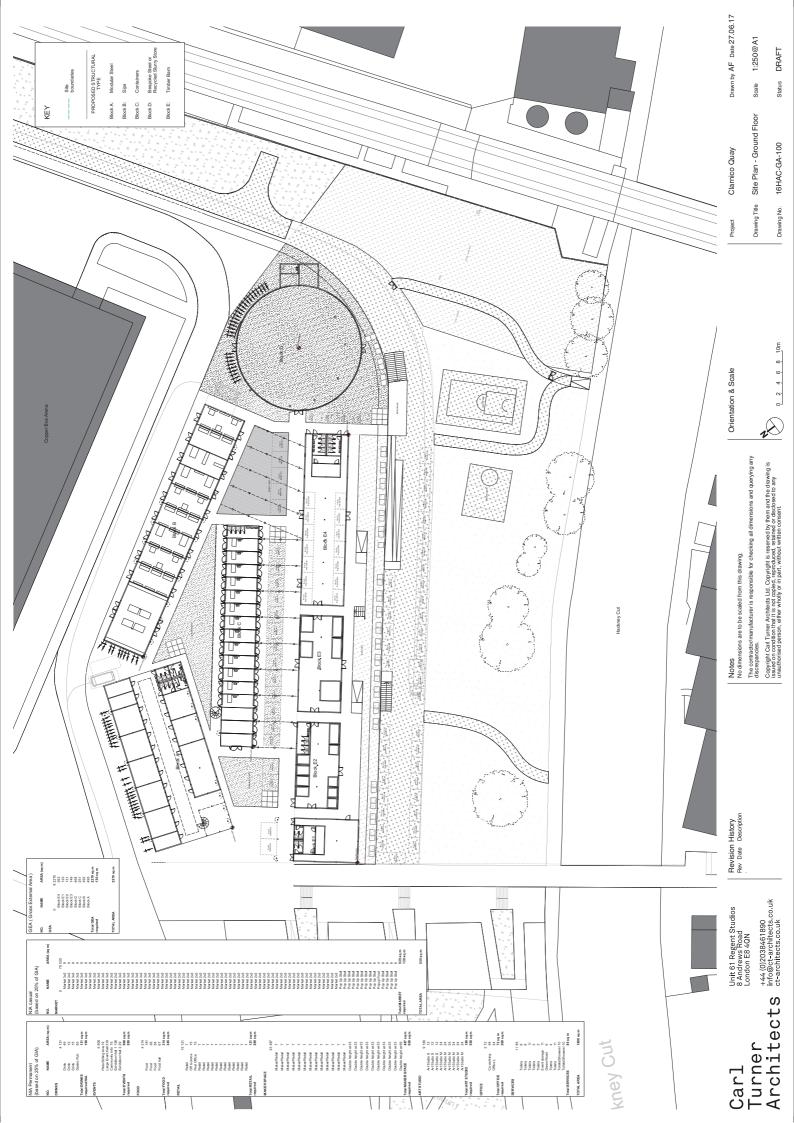
APPENDIX

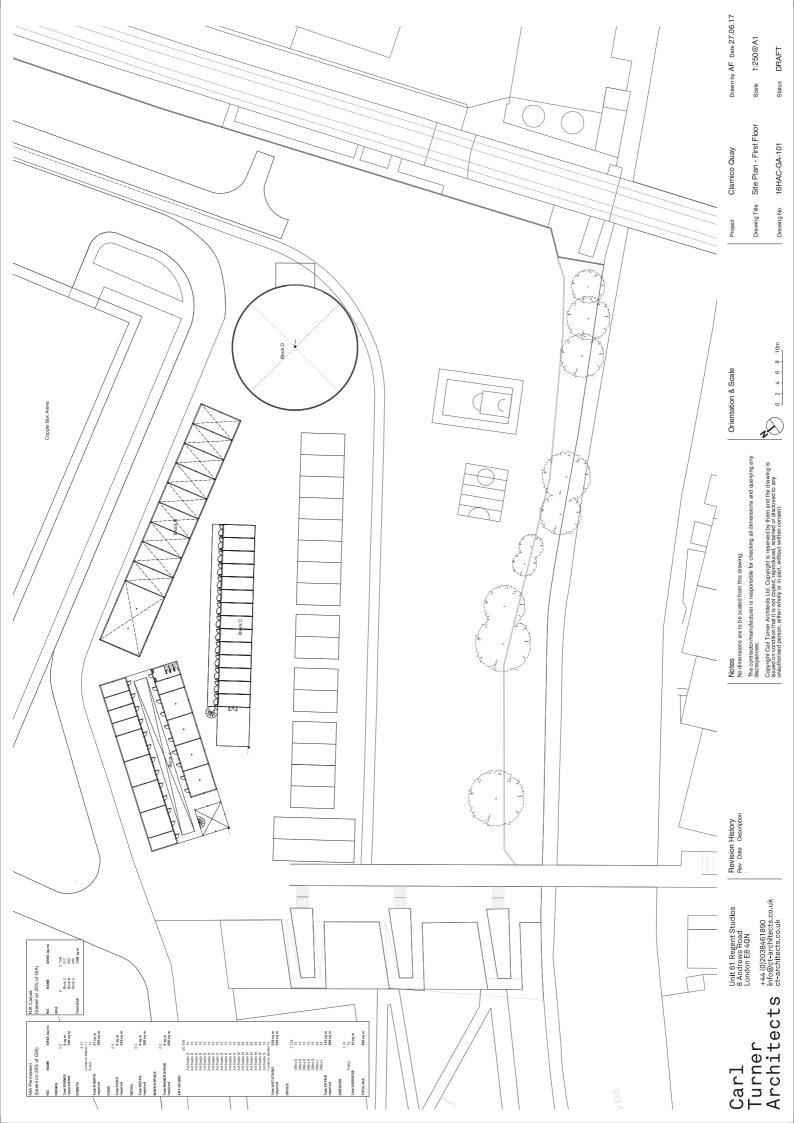


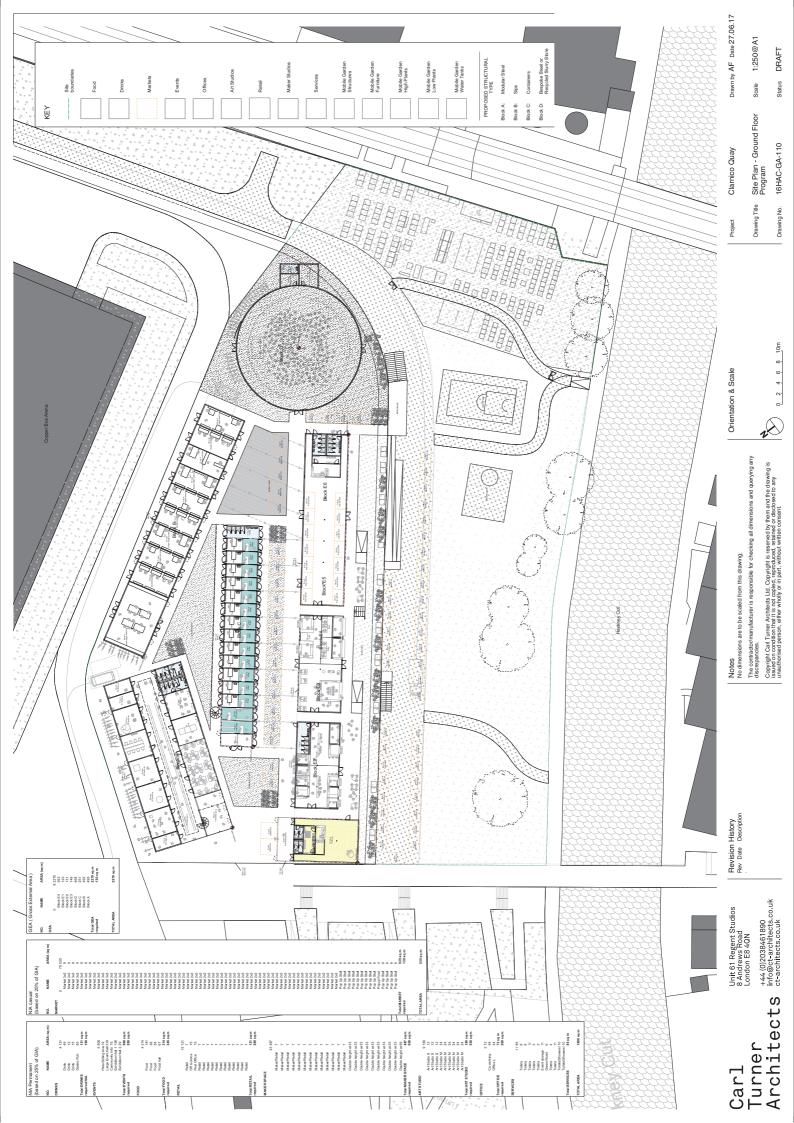


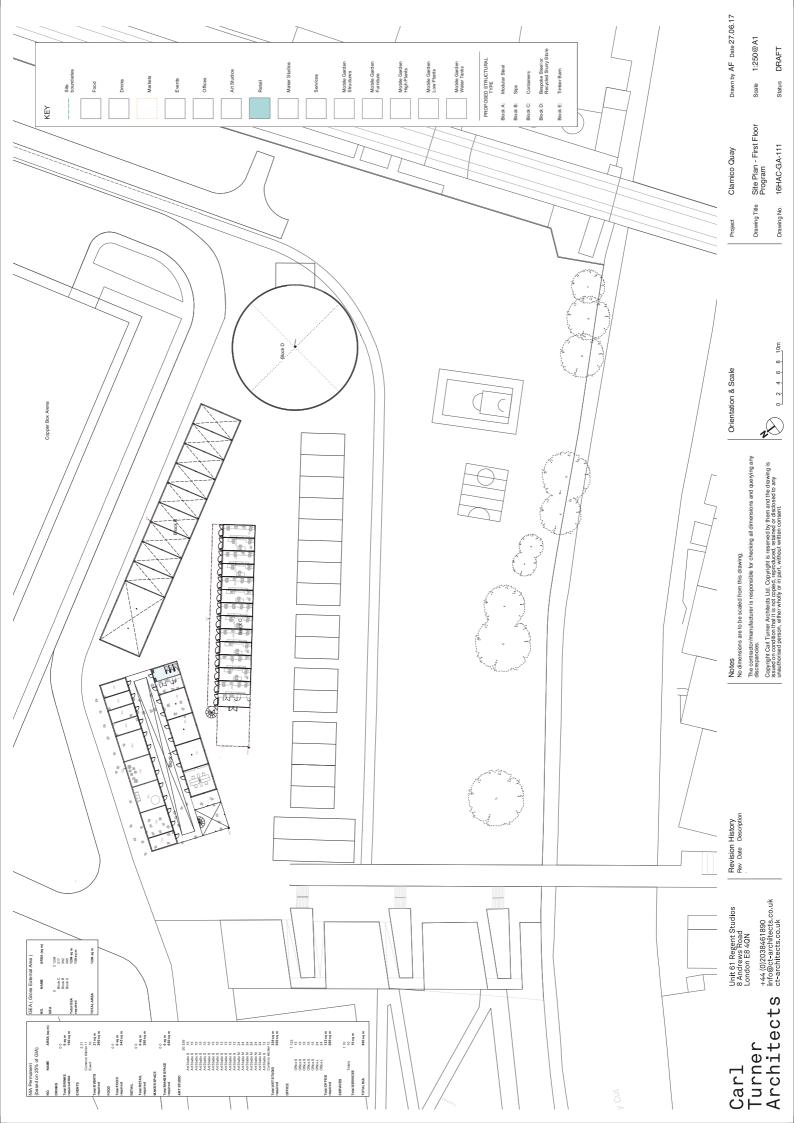




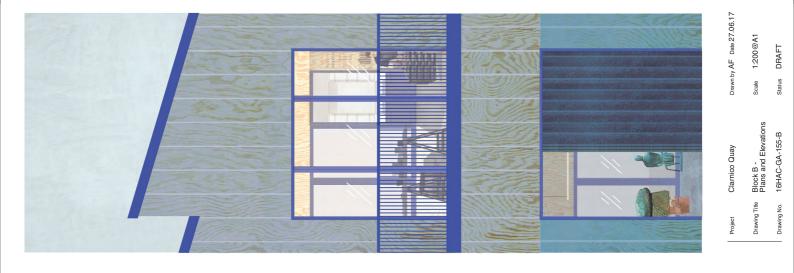








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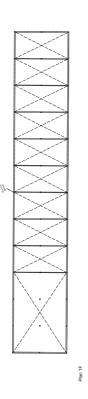
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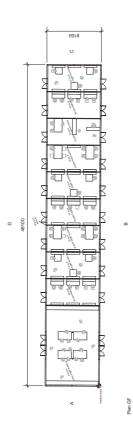
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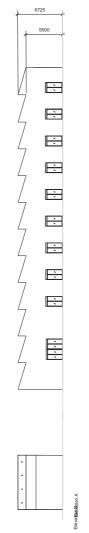


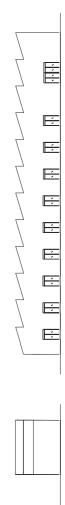
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Architects

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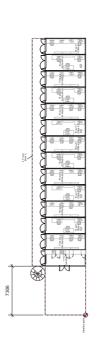
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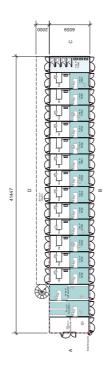
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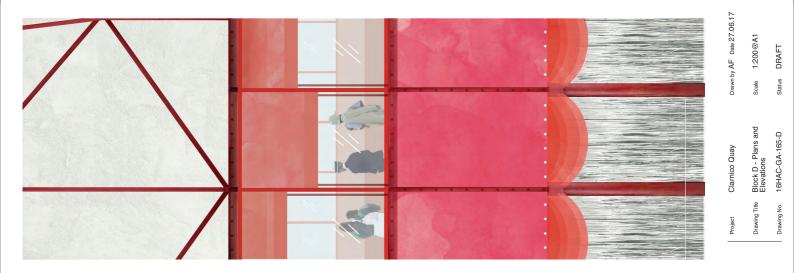
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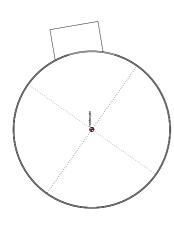
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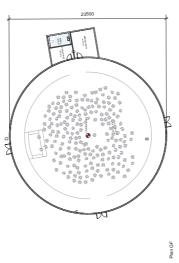
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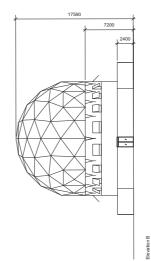
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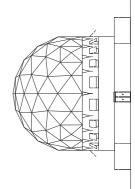




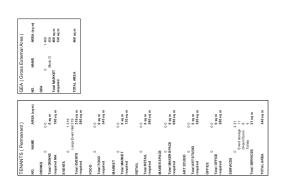




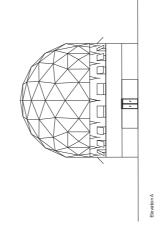


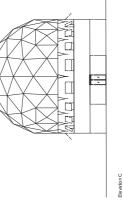






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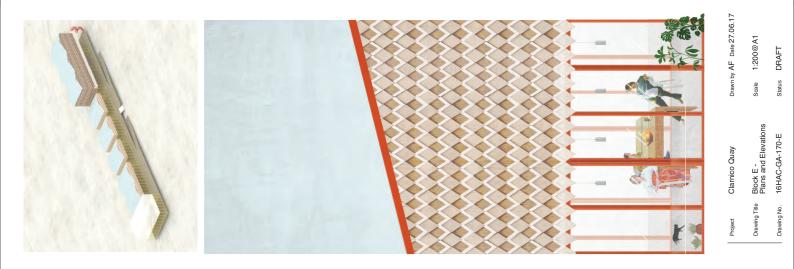


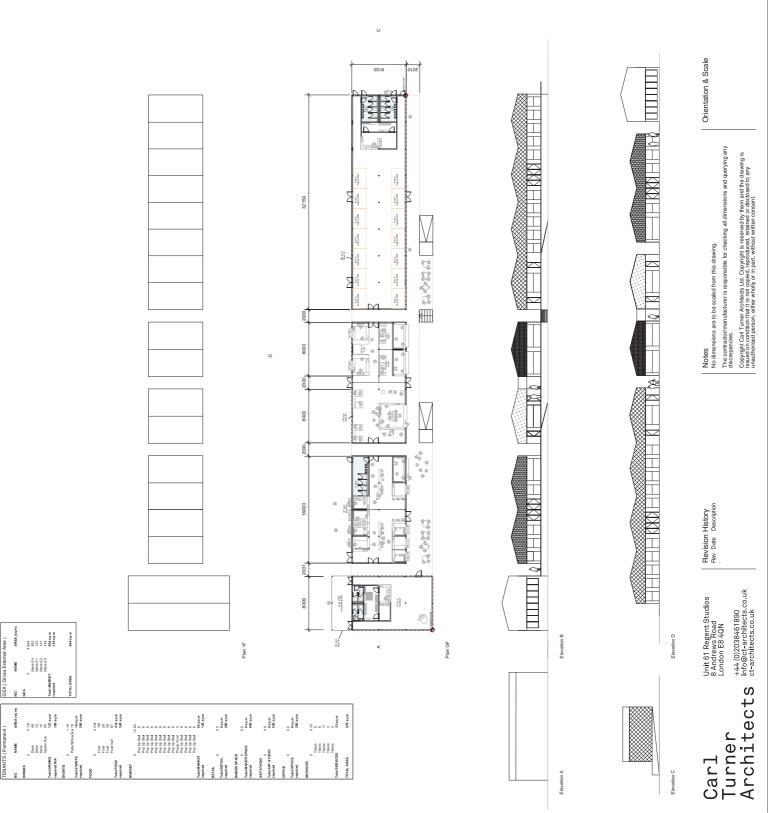


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clarke saunders | acoustics specialist consultants



CLARNICO QUAY, LONDON

NOISE ASSESSMENT

Prepared: 28 March 2018

Quod

Ingeni Building 17 Broadwick Street London W1F OAX











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List of Attachments

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1.0 INTRODUCTION

A time-limited planning permission is sought for a new mixed-use development consisting of popup shops, cafes, bars, food hall, workspace and event space. The description of development is as follows:

"Construction of five buildings between 2 and 3 storeys providing 776sqm GIA of workshops/studios (B1); 131sqm GIA of maker/retail space (B1/A1); 417sqm GIA of shops, cafes and bars (A1/A3/A4); 669sqm GIA of pop-up shops, food hall and market stalls (A1/A3/A4); 490sqm GIA event/community space (Sui Generis); 37sqm GIA of community meeting rooms (D1); and associated cycle parking, servicing, management, lighting and landscape, a mobile garden, including associated containers and structures, such as raised planters, storage containers, water tanks, flexible programming space, boundary treatment and associated infrastructure, the buildings, structures and uses shall cease on or before 30th September 2025 when the land shall be restored to its current state."

Clarke Saunders Associates has been commissioned by Quod on behalf of Make Shift to undertake a noise assessment in order to measure the prevailing noise climate at the site and, subsequently, to assess the impact of various noise sources associated with the development on nearby sensitive receptors. The scope and methodology set out in this report has been discussed and agreed with the London Legacy Development Corporation's Policy and Planning Decisions Team (PPDT).

2.0 ASSESSMENT: RELEVANT POLICY, GUIDANCE & CRITERIA

2.1 National Planning Policy Framework

On 27th March 2012 the Government published the National Planning Policy Framework (NPPF) which sets out the Government's planning policies for England and how these are expected to be applied. The NPPF is a material consideration in planning decisions (Paragraph 2). It also replaces almost all of the previous national guidance contained within Planning Policy Statements (PPS) and Planning Policy Guidance (PPG).

Paragraph 123 refers to noise impact:

123. Planning policies and decisions should aim to:

- avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;

• recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established;

and

• *identify and protect areas of tranquility which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason*

With regards to mitigation, reference is made to the Noise Policy Statement for England (DEFRA, 2010) [NPSE]. The Policy aims are defined as,

Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of government policy on sustainable development:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life.

Clarification of the terms adverse and significant adverse are given as follows,

There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:

NOEL – No Observed Effect Level

This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.

LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed adverse effect level.

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur.

It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations.

Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available.

In order to enable assessment of impacts in line with these requirements, reference should be made to other currently available guidance.

2.2 Building Bulletin 93 Acoustic Design of Schools: performance standards (2014)

Building Bulletin 93 Acoustic Design of Schools: performance standards [BB93] provides guidance on suitable indoor ambient noise levels [IANL] in a variety of teaching and ancillary spaces within school environments, in order to promote clear communication between students and teachers and to allow uninterrupted learning and study.

The IANL includes contributions from both external noise sources outside of the school premises and from building services, (where a mechanical ventilation strategy is utilised).

BB93 is clear that the previous guidance levels are appropriate in respect of a variety of external noise sources including noise from commercial premises.

Table 2.1 features a selected extraction from BB93, summarising the most onerous limiting noise criteria for various primary school rooms types, with respect to external noise source intrusion.

Type of Room	Upper limit for the indoor ambient noise level, L _{Aeq,30mins} , dB, in new build school buildings
Primary School: classroom, class base, general teaching area, small group room	35
Primary school music room	35
Teaching space intended specifically for students with special hearing and communication needs	30
SEN calming room	35
Drama studio, assembly hall, multi-purpose hall (drama, PE, audio/visual presentations, occasional music)	35
Table 2.1 – selected BB93 limiting IANI criteria for external no	nise intrusion [dB ref 20uPa]

Table 2.1 – selected BB93 limiting IANL criteria for external noise intrusion

[dB ref. 20µPa]

The guidance goes on to state:

In order to protect students from regular discrete noise events, e.g., aircraft or trains, indoor ambient noise levels should not exceed 60 dB L_{A1, 30mins}.

This is achieved by default for spaces with IANLs up to 40 dB L_{Aeq, 30min}, but requires assessment in spaces with higher IANL limits, eg, 45 and 50 dB.

2.3 Liaison with PPDT

Consultation with those advising the LPA indicates that the noise impact of various sources associated with Clarnico Quay should be considered at nearby receptors.

Noise sources to be assessed include:

- Plant noise emissions
- Patron and music/entertainment noise from internal and external spaces such as bars, venues and associated terraces

Identified nearby noise sensitive receptors include:

- Proposed Phase 1 residential development
- Mossbourne Riverside Primary Academy [MRPA]
- Adjacent riverboats moored on the River Lee Navigation (residential receptors)

Consultation indicates that noise impact at the MRPA should assessed in the context of the requirements of BB93.

Plant noise should be assessed following procedures discussed in BS4142:2014 *Methods for rating and assessing industrial and commercial sound.* Typical requirements for other nearby local authorities, such as London Borough of Hackney [LBH] and London Borough of Tower Hamlets [LBTH], indicate that plant noise emissions should target a level of around 10dB below the background sound level at the receptors.

Planning conditions typically used by these local authorities with regard to patron and entertainment noise indicate a general requirement that inaudibility should be targeted. Specific requirements are also provided, indicating that entertainment noise should not exceed absolute levels of $L_{eq,5min}$ NR25 (9am to 11pm) or $L_{eq,5min}$ NR20 (11pm to 9am) at 1 metre from a receptor facade, or within a habitable room of a receptor.

2.4 Proposed Entertainment Noise Guidance

With the exception of the MRPA receptor (where entertainment and patron noise will be separately assessed against criteria discussed Section 2.2), it is proposed to adopt guidance presented in *Code of Practice on Environmental Noise at Concerts*, published (in draft form) by The Noise Council, with regard to pre- and post-23:00 hours concert noise impact at noise sensitive receptors in the locality.

Although this guidance has never been formally published, it is, nonetheless, widely referenced in the context of concert noise.

The relevant sections state:

For indoor venues used for up to about 30 events per calendar year an MNL [Music Noise Level] not exceeding the background noise by more than 5dB(A) over a fifteen minute period is recommended for events finishing no later than 23:00 hours.

For events continuing or held between the hours 23:00 and 09:00 the music noise should not be audible within noise-sensitive premises with windows open in a typical manner for ventilation.

It is suggested that this guidance represents a good standard of protection for nearby noise sensitive receptors, without placing an unduly onerous burden on the development in the form of absolute noise limits in the pre-23:00 hours period.

The definition of 'inaudibility' is difficult to objectively define and is typically described in the context of the existing background noise climate.

An Institute of Acoustics working group undertook research into the subject which was collected in a Working Draft Annex to the *Good Practice Guide on the Control of Noise from Pubs and Clubs [IoA 2006]*. Although not formally adopted by the IoA, the guidance was published in Vol 28 No. 6 of its quarterly journal, Acoustics Bulletin.

In the article, 'virtual inaudibility' is defined as:

Criteria applicable for both external and internal assessments at noise-sensitive properties:

*The L*_{*Aeq} of the entertainment noise should not exceed the representative background noise level L*_{*A90*} (without entertainment noise), and</sub>

The L_{10} of the entertainment noise should not exceed the representative background noise level L_{90} (without entertainment noise) in any 1/3 octave band between 40Hz and 160Hz.

It should be noted that human hearing is less sensitive at the extremely low frequencies discussed. This subject is well researched and can be summarised by the threshold of hearing values presented in ISO 389-7: 2005 Acoustics – Reference zero for the calibration of audiometric equipment – Part 7: Reference threshold of hearing under free-field and diffuse-field listening conditions.

Therefore, when considering 'inaudibility' at any nearby noise sensitive receptor, where any onethird octave band threshold of hearing value between 40Hz and 160Hz is higher than the corresponding measured background L_{90} value, the threshold of hearing value should instead be used for the assessment. The values representing threshold of hearing in the frequency range of interest are reproduced in the following table. Please note, there is no difference in the values for free-field listening (T_{f} , frontal incidence) and diffuse-field listening (T'_{f}) in the frequency range under consideration.

Human threshold of hearing, L _P , dB							
40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	
51.1	44.0	37.5	31.5	26.5	22.1	17.9	
Table 2.2 ISO 290 7:2005, colorted threshold of bearing values							

Table 2.2 - ISO 389-7:2005, selected threshold of hearing values

[dB ref.20µPa]

The *'virtual inaudibility'* definition described above, combined with the guidance on threshold of hearing is proposed to define 'inaudibility' for 23:00 - 09:00 hours entertainment noise operation.

2.5 Proposed Patron Noise Guidance

The Working Draft Annex to the *Good Practice Guide on the Control of Noise from Pubs and Clubs,* also features guidance on patron noise. This again was published in Vol 28 No. 6 of the IoA Acoustics Bulletin. The guidance states the following in respect of 'rowdy behaviour':

If noise from rowdy behaviour regularly produces L_{Amax,F} levels in excess of 70dB 1 metre outside windows of a noise sensitive property between 2300 and 0700 hours, then this may be an indication that unacceptable disturbance could occur or is occurring.

It is acknowledged in the derivation of this figure that these guideline noise levels are based on the receptor window being closed at night.

It is the view of CSA that this may not always be comfortable or realistic for the occupant(s) and that a better standard of protection should be sought, where possible, by limiting patron noise to levels not exceeding L_{Amax,fast} 60dB. This would typically result in internal noise levels of around L_{Amax,fast} 45dB via a partially open window¹. For information, guidance presented in World Health Organisation *Guidelines for Community Noise* (1999), states:

For a good sleep, it is believed that indoor sound pressure levels should not exceed approximately 45dB L_{Amax} more than 10-15 times a night (Vallet & Vernet 1991)".

It should be noted that the scope of this guidance extends only to transportation sources, but nonetheless provides useful context into the effects of noise on sleep disturbance.

¹ Appendix G.2.1 of BS 8233: 2014 *Guidance on sound insulation and noise reduction for buildings* recommends that a loss of approximately 15dB is appropriate for external noise ingress through a partially open window

It is also the view of CSA that, wherever possible to avoid disturbance and adverse comment, average noise levels from patrons should be limited so that they do not exceed the existing background noise level at receptor locations.

3.0 ENVIRONMENTAL NOISE SURVEY

3.1 Survey Procedure and Equipment

An attended survey of the existing noise climate was undertaken at the position indicated in attached site plan AS9840/SP1. Measurements of consecutive 5-minute L_{Aeq} , L_{Amax} , L_{A10} and L_{A90} sound pressure levels were taken at 1.5m above local ground level between 21:25 hours on Friday 3rd November and 06:00 hours on Saturday 4th November 2017.

In order to characterise variation in noise levels across site and, specifically, in close proximity to the moored river boat receptors opposite nightspots 'Grow' and 'No. 90', additional, synchronous attended survey measurements were taken at the measurement positions indicated on the site plan.

Survey duration was limited, due to the security concerns regarding installed equipment and the corresponding necessity for survey attendance.

The following equipment was used during the course of the survey:

- Norsonic data logging sound level meter type 118;
- Rion sound level calibrator type NC-74.

The calibration of the sound level meter was verified before and after use. No significant calibration drift was detected.

The weather during the survey was dry with light winds, which made the conditions suitable for the measurement of environmental noise.

Measurements were made following procedures in BS4142:2014 *Methods for rating and assessing industrial and commercial sound* and ISO 1996-2:2007 *Acoustics - Description, measurement and assessment of environmental noise – Part 2: Determination of environmental noise levels.*

Please refer to Appendix A for details of the acoustic terminology used throughout this report.

3.2 Survey Results & Observations

Figure AS9840/TH1 shows the L_{Aeq} , L_{Amax} , L_{A10} and L_{A90} sound pressure levels as a time history at the measurement position.

Nightspots, 'Number 90' and 'Grow' are located on the opposite bank of the River Lee Navigation from the Clarnico Quay site. These feature outdoor seating areas on the bank-side, which were both observed as being busy with patrons from early evening until late. Music break-out from these bars and patron noise from the terrace areas were audible at the development side of the river bank until around 01:00 hours.

Air traffic and rail noise was also noted. The nearest station is Hackney Wick. Air traffic stopped in late evening, so did not affect the quietest peroids of the survey. Similarly, noise from passenger trains appeared to stop shortly after 23:00. Freight trains continued to run intermittently throughout the night, which were audible from site but were not particularly loud due to the slow speed at which they were travelling. Several train events were monitored and can be identified on the measured noise data.

Occasional pedestrian traffic was noted on the river path and crossing the bridge between Wallis Rd and Copper St. This was not a significant noise source until closing time at Number 90 and Grow, when larger numbers of people passed the site in groups, for a short period, generating more noise.

The last noise source identified was distant music (low frequency-dominated), possibly from a distant club or late-night stadium event. The premises could not be identified, but it appeared to come from south of Clarnico Quay, beyond the railway tracks. The music finished at approximately 03:00.

The quietest period of the night appeared to be between 02:50 and 05:20, when background noise levels dropped to around $L_{A90,5min}$ 42 to 45dB

Data analysis indicates that riverboats moored on the River Lee Navigation are currently subject to average noise levels of around $L_{Aeq,5min}$ 58dB during busy Friday (and probably also Saturday) evenings, when patrons are gathered on the terraces at the back of Number 90 and Grow. Typical maximum noise levels from patrons are currently in the range $L_{Amax,fast}$ 70 to 75dB.

4.0 CUMULATIVE PLANT NOISE EMISSIONS

LLDC liaison indicates that cumulative plant noise emissions associated with the new development should target around 10dB below the background sound level at sensitive receptors in the locality, during the proposed operational hours of the plant items.

No plant selections have yet been made for the development as it is understood that all plant will be supplied by tenants.

In order to ensure that there is no 'background creep' in the vicinity as new tenants install new plant schemes, it is proposed that the minimum L_{A90} measured during the survey should be used to set the limiting criterion.

On this basis, the measured minimum background noise level and corresponding limiting level which should not be exceeded at these most affected noise-sensitive receptors due to plant operation are shown in Table 4.1.

Minimum Measured Background Sound Level,	24 – hour Criterion for Cumulative Plant Noise Emissions		
L _{A90,5min} , dB	Emissions		
42dB			
(04:00 – 04:05, Sat 4 th Nov, 2017)	L _{Aeq,15min} 32dB		
Table 4.1 - Proposed limiting cumulative plant sound em	issions criteria [dB ref. 20µPa]		

Individual plant schemes added by tenants' fit out will be required to comply with this criterion and are not expected to increase the background sound climate or significantly contribute to overall average plant sound levels at the receptors and are likely to remain inaudible at receptor locations for much of the day and night.

As such, emissions from compliant plant schemes will be commensurate with the NOEL or LOAEL, as defined in the NPPF / NPSE.

5.0 MUSIC / ENTERTAINMENT NOISE IMPACT

5.1 Target Criteria

On the basis of the adopted guidance shown in Section 2.4, entertainment noise emissions at noise sensitive receptors for pre- and post-23:00 hours entertainment should target the limiting criteria shown in Table 5.1 and Table 5.2, respectively.

It should be noted that, due to survey duration limitations, it was not possible to measure the 07:00 - 23:00 hours background noise climate at site in the absence of noise from nightspots Grow, Number 90 and those further afield.

Therefore, the single figure criterion for 09:00 - 23:00 hours operation is based on background sound levels from the hour after all noise from these nightspots had ceased and patrons had dispersed: 01:00 - 02:00 hours, (L_{A90,1hr} 47dB). Although distant low frequency music from further afield was audible during this time, this does not greatly affect the overall dB(A) levels measured, which are consequently expected to be representative of the typical pre-23:00 hours background sound climate in the area on quieter nights of the week when Clarnico Quay events may still be occurring.

Assessment Period	Music / Entertainment Criterion at Receptor
09:00 - 23:00 hours	L _{Aeq,15mins} ≤ 52 dB

Table 5.1 – Proposed design criteria for 09:00 - 23:00 hours operation

[dB ref. 20µPa]

The post-23:00 hours criterion is based on background noise levels from 03:00 - 04:00 hours (L_{A90,1hr} 44dB), when it had been confirmed absolutely by survey attendees that no music from near or far was audible at site.

This represents the most robust approach possible and assumes that there are no other entertainment events occurring in the locality during the licenced hours of operation proposed for the site.

Assessment Period	Music	/ Entert	ainment	Music / Entertainment				
Assessment Periou	40Hz	50Hz	63Hz	z 80Hz 100Hz 125Hz 160Hz				Criterion at Receptor, dB LAeq
23:00 – 09:00 hours	≤ 51*	≤ 47	≤ 45	≤ 43	≤ 43	≤ 40	≤ 42	≤ 44
Table 5.2 – Proposed design criteria for 23:00 – 09:00 hours operation								[dB ref.20µPa]

* N.B, threshold of hearing value

It is unlikely that events featuring high volume music / entertainment noise at Clarnico Quay will be concurrent with school hours at the MRPA.

However, this eventuality has also been considered to ensure a thorough assessment. For this receptor, the IANL criteria shown in Table 2.1 and accompanying condition of \leq 60dB L_{A1, 30mins} should be the target.

5.2 Block A

Block A is a two-storey height building, located at the north of the site. It features a public house and village hall event room, which share roughly half of the unit space each. The pub is situated in the northern half of the building and features two separate restaurant areas at 1st floor level, whilst the event room is in the southern half of the building and is a double-height space.

The pub features a double doorset on the north facade, which will have a direct line of sight to the MRPA (at least 70m to the north) and the closest Phase 1 residential facades (at least 50m to the north-east). This doorset is not lobbied. The GF level of the northern facade is also partially glazed with circa 2.5m high sealed windows either side of this doorset. There is another double doorset on the east facade, which leads to a partitioned area on the east side of the pub where the toilets and first floor level restaurant areas are located. This area features a further internal double doorset which leads to the main bar area.

The west facade features a number of circa 2.5m high sealed glazing panels at GF level. The nearest moored riverboats to this facade are at least 37m further west.

Each of the first floor restaurant areas of the pub features two sealed windows on the west facade and there are four lightweight transparent rooflights proposed in the roof of each restaurant area.

The village hall has double doorsets in the east facade and in the south facade, the latter of which allows access to an external terrace area. There are six rooflights proposed in the roof above the space. The length of the west facade features circa 2.5m high sealed glazing at GF level.

It is assumed that noise levels within the first floor restaurant areas will be limited to patron voices and background music and overall noise levels will therefore not be high.

Noise levels in the GF pub and in the event room could conceivably be higher, however. Noise breakout via un-lobbied double doorsets and glazing will require the limitation of noise generated in these spaces to levels around those shown in Table 5.3 and Table 5.4:

Assessment Period	Demise	Limiting Entertainment Noise Level
09:00 - 23:00 hours	Block A Pub	$L_{Aeq,15mins} \leq 108 dB$
09.00 - 25.00 110015	Block A Event Room	$L_{Aeq,15mins} \leq 108 dB$

Table 5.3 – Block A Limiting noise level for 09:00 – 23:00 hours operation

[dB ref. 20µPa]

Assessment	l	Limiting							
Period	Demise	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	Level, dB L _{Aeq}
23:00 - 09:00	Block A Pub	≤ 75	≤ 71	≤ 74	≤ 77	≤ 82	≤ 85	≤ 87	≤ 101
hours	Block A Event Room	≤ 75	≤ 71	≤ 74	≤ 77	≤ 82	≤ 85	≤ 87	≤ 101

Table 5.4 – Block A Limiting noise level for 23:00 – 09:00 hours operation

[dB ref.20µPa]

Live, or high volume recorded, music in either the bar or event space is likely to result in an exceedance of the relevant criterion at one or more nearby receptors.

Where entertainment noise levels and activity are suitably restricted in Block A, such that compliance with the relevant design criterion is achieved at the most affected receptors in the locality, noise impact will be commensurate with the NOEL or LOAEL.

5.3 Block C

Block C is a double height building divided into a bar at the west end of the building, with a multipurpose event space forming the rest of the space. The bar will be separated from the event space demise by an independent double stud wall and ceiling construction and is accessed from the outside covered terrace area via its own double doorset on the north façade. The west façade of the bar features circa 2.5m high glazing at ground floor level, several panels of which can be opened at either end. The nearest receptors, being the moored boats on the River Lee Navigation, are at least 40m from this façade.

The event space is intended for general use and to host a variety of events from indoor markets to a place to eat, to night time live music acts and DJ sets. Licensing for operation is proposed up to 23:00 hours, Monday – Wednesday and up to 01:00 hours, Thursday – Sunday.

Given the need for inaudibility of music events after 23:00 hours, the building includes appropriate sound insulation measures and has been designed as a 'box-in-a-box', featuring a second, free standing lightweight auditorium construction inside the main building..

The nearest receptors to the venue are moored boats on the River Lee Navigation, at least 40m away. The MRPA is over 130m away. When construction of the East Wick Phase 1 residential development is complete, the nearest of these receptors will be over 88m away.

These receptors will be largely screened from both the event venue and bar by other intermediate Clarnico Quay buildings. Receptors at lower levels will not be able to see much of the roof of Block C, but a slightly greater profile will be visible to the top storeys of these receptors.

The Landlord is to provide only the framing and a lightweight timber lining for the internal, freestanding auditorium structure. The intention is then for any prospective future tenant to further line the exterior of the auditorium construction with material suitable for the required type of events anticipated. Doors into the auditorium would be constructed from standard materials of density commensurate with the supporting building fabric, but these should be well sealed at the perimeter and threshold.

With the exception of the glazed elements on the west facade, the external building fabric of Block C (both walls and roof) will be constructed from a steel cassette 'sandwich panel' construction, achieving weighted sound reduction index of the order 48dB (typically, minimum surface density in the range 35-40kg/m²). The sandwich panel will feature imperforate profiled steel outer and cavity formed by spacers, with a further imperforate metal sheet lining. The cavity will be circa 200mm to 250mm deep, filled, or partially filled with mineral wool insulation. The suitability of the critical low frequency sound insulation performance will be confirmed by a qualified acoustician before final selection.

A wide acoustic 'buffer' zone of approximately 2.5m is proposed between the auditorium construction and outer skin of the building, which will secure the necessary sound insulation performance for the building.

At ground level, this space is used to house multiple other rooms such as an entrance lobby and ticketing area, cloakroom, plantroom, toilets, green room and backstage area, and the bar at the west end of the building. At higher level and in the roof pitch, the space will simply be left as a void. In order to ensure the best possible sound insulation, it is important that the auditorium structure and outer structure are not mechanically coupled in any way.

For this reason, partitioning between the various perimeter spaces and any ceiling provided will be rigidly attached only to the outer structure and elsewhere will be supported by independent studwork/wind posts which do not touch the inner structure at any point.

For clarity on these concepts, refer to relevant architectural conceptual drawings accompanying the planning submission.

For the purposes of demonstrating feasibility at the planning stage, an auditorium lining of 2 no. layers high density plasterboard (combined minimum density 28kg/m²) has been assumed in the following analysis in the context of typical, high music volume performances such as rock bands and DJ sets.

It has been calculated that the inner and outer skins discussed are capable of providing the combined sound reduction indices (SRI) shown in Table 5.5, which are anticipated to be achievable with the elements described:

Frequency (Hz)	63	125	250	500	1k	2k	4k
Block C fixed building fabric SRI, dB	39	42	57	70	75	78	86

Table 5.5 Typical SRI for Block C fixed, non-glazed building fabric elements

There are several doors proposed in the external building fabric of the event space demise, including a large sliding door and smaller access door to the side on the north facade and a large sliding door with wicket door on the south facade.

Good quality, well-sealed units are proposed to ensure that sound insulation is not compromised. All doors will be constructed from metal and will be specified to a similar density to the surrounding fixed-building fabric. They will feature good quality perimeter and threshold seals to avoid creating significant weak paths.

There is also a large sliding stage delivery door on the east façade, which will be of a similar quality of construction as for the other door. It should be noted, however, that all receptors in the locality will be heavily screened from this door by other development buildings.

The proposed sound insulation measures for the events venue are expected to be sufficient to allow typical, high music volume concerts to proceed unhindered during pre-23:00 hours.

However, it is expected that, dependant on programme material, some control of music volume, particularly at low frequencies, may be required after 23:00 hours through utilisation of equalisation, dynamic signal processing, or similar.

Noise levels in the bar will need to be limited to ensure that breakout via the glazed façade and unlobbied double doorset does not exceed the pre- and post-23:00 hours design criterion at the moored river boats.

The anticipated limiting levels for the bar and event venue uses, during pre- and post-23:00 hours operation are shown in Table 5.6 and Table 5.7:

Assessment Period	Demise	Limiting Entertainment Noise Level
09:00 - 23:00 hours	Block C Bar	L _{Aeq,15mins} ≤ 107dB
09:00 - 23:00 hours	Block C Event Venue	L _{Aeq,15mins} ≤ 129dB

Table 5.6 – Block C Limiting noise level for 09:00 – 23:00 hours operation

Assessment			Limiting							
Period	Demise	40Hz	50Hz	63Hz	80Hz	100Hz	125Hz	160Hz	Level, dB L _{Aeq}	
23:00 - 09:00	Block C Bar	≤ 73	≤ 70	≤ 72	≤ 76	≤ 80	≤ 84	≤ 85	≤ 99	
23:00 - 09:00 hours	Block C Event Venue	≤ 101	≤ 108	≤ 104	≤ 102	≤ 106	≤ 102	≤ 115	≤ 121	

Table 5.7 – Block C Limiting noise level for 23:00 – 09:00 hours operation

[dB ref.20µPa]

[dB ref. 20µPa]

Where appropriate sound insulation measures will be installed and entertainment noise levels and activity would be suitably restricted, such that compliance with the relevant design criteria are achieved at the most affected receptors in the locality, noise impact from Block C will be commensurate with the NOEL or LOAEL.

5.4 Mossbourne Riverside Primary Academy Noise Impact

The entertainment noise levels from Clarnico Quay drinking establishments and venues would be properly controlled to ensure the levels indicated in Table 5.3 and Table 5.6 during school hours, breakout levels externally to the nearest facades of the MRPA would not exceed $L_{Aeq,30min}$ 30dB. This level is below the most onerous criterion listed in Table 2.1. Resultant internal noise levels are expected to be at least 10 to 15dB lower, and will therefore, by default, also be below 60dB $L_{A1,30mins}$.

This indicates an acceptable level of impact, commensurate with the LOAEL.

6.0 PATRON NOISE IMPACT

Clarnico Quay is to feature two external terrace areas on the west side of the development. These will be located between Block A and Block B and between Block B and Block C. The terrace areas are covered by a lightweight pitched roof which acts to link all buildings facing the river and will give the appearance of a single, unbroken roofline and building front.

These terraces are understood to primarily serve the Block B food hall during the daytime and the Block A village hall event space and Block C event space / bar during the evenings.

The east and west ends of each terrace are open and the west ends extend out from under the pitched roof area approximately five metres towards the River Lee Navigation.

Due to the orientation of the building parade and consequent screening afforded to the MRPA and Phase 1 site by the neighbouring buildings and covered pitched roofs, moored river boats are anticipated to the receptors most affected by external patron noise from the terrace areas.

The terraces are each approximately $95m^2$ in area. Assuming an average personal space of $1m^2$ per person, it is anticipated that up to 95 patrons could be on the terrace on very busy evenings. On this basis, it is anticipated that noise levels at the nearest moored boats could be as high as $L_{Aeq,T}$ 54 to 57dB on very busy nights of the week, (anticipated to be some Thursdays, Fridays and weekends, particularly in fair, dry weather during summer). Contextually, survey data indicates that Friday evening noise levels between 22:00 – 00:00 hours at moored boats are currently around $L_{Aeq,2hr}$ 56dB, as a result of patron noise from Number 90 and Grow with the background level of $L_{A90,2hr}$ 51dB

On less-busy weekday nights, or during wet or cold weather, when numbers on the terraces may be closer to 50 patrons, levels are more likely to be in the range of L_{Aeq,T} 44 to 46dB. Contextually, survey data after Number 90 and Grow closed (after 01:00 hours), indicates that quieter weekday evening noise levels at moored boats are likely, at their lowest, to be circa L_{A90} 47dB / L_{Aeq} 48dB, in the absence of any patron noise from Number 90 and Grow.

Average levels on some very busy evenings at Clarnico Quay bars and venues may, therefore, slightly exceed the background sound levels at the most affected receptors in the vicinity but are likely to be commensurate with the levels and character of noise already experienced at those receptors from patrons on terraces of the existing night spots opposite. More typically, patron noise levels are expected to be similar to, or lower than, the existing background sound climate.

Maximum noise events from patrons on the terraces are anticipated to be typically around $L_{Amax,fast}$ 52dB for individual shouts. Resultant L_{Amax} levels inside moored boats with their windows partially open are likely to be 10 to 15dB lower than this, which is well below the guidance levels discussed in Section 2.5.

Overall, typical patron noise impact at the most affected receptors is anticipated to commensurate with the LOAEL.

7.0 CONCLUSION

Clarnico Quay, an interim use located on Development Parcel 5.3 is located on land the immediate west of the Copper Box Arena, in the Queen Elizabeth Olympic Park.

CSA has undertaken environmental survey work and following analysis to characterise and quantify the noise impact of the proposals at nearby noise sensitive receptors.

The local authority has been consulted with regard to appropriate assessment methodology and appropriate criteria have been adopted for the assessment based on this consultation and other relevant guidance, including the overarching aims of the NPPF and NPSE.

Mitigation, including outline sound insulation schemes and limiting entertainment noise level specifications have been proposed as necessary.

Where these measures are properly adopted, it is anticipated that noise impact from the various noise sources associated with the development will be commensurate with the NOEL or LOAEL, as defined within the NPPF and NPSE.

Ben Alexander MIOA CLARKE SAUNDERS ASSOCIATES

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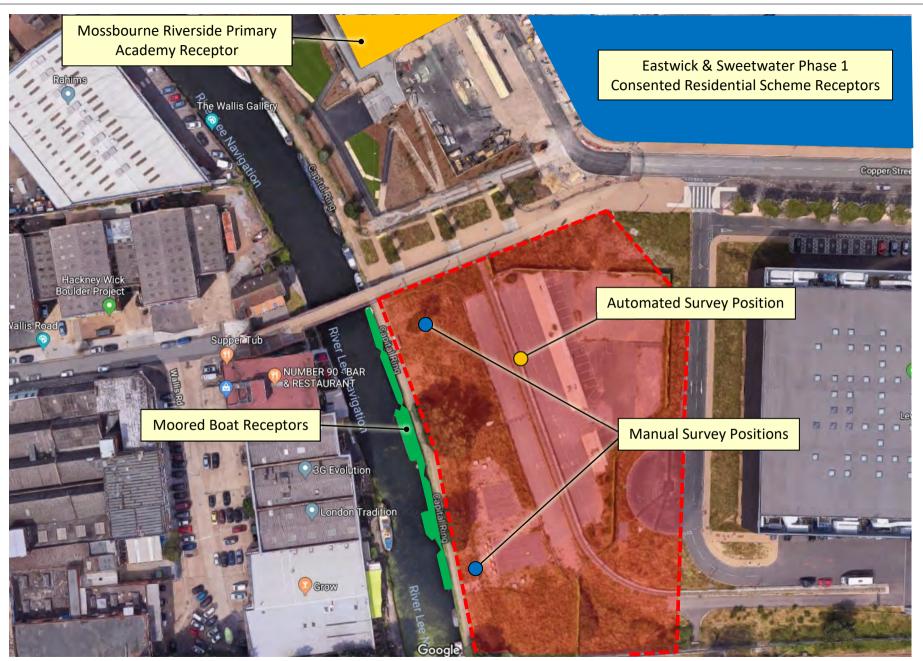
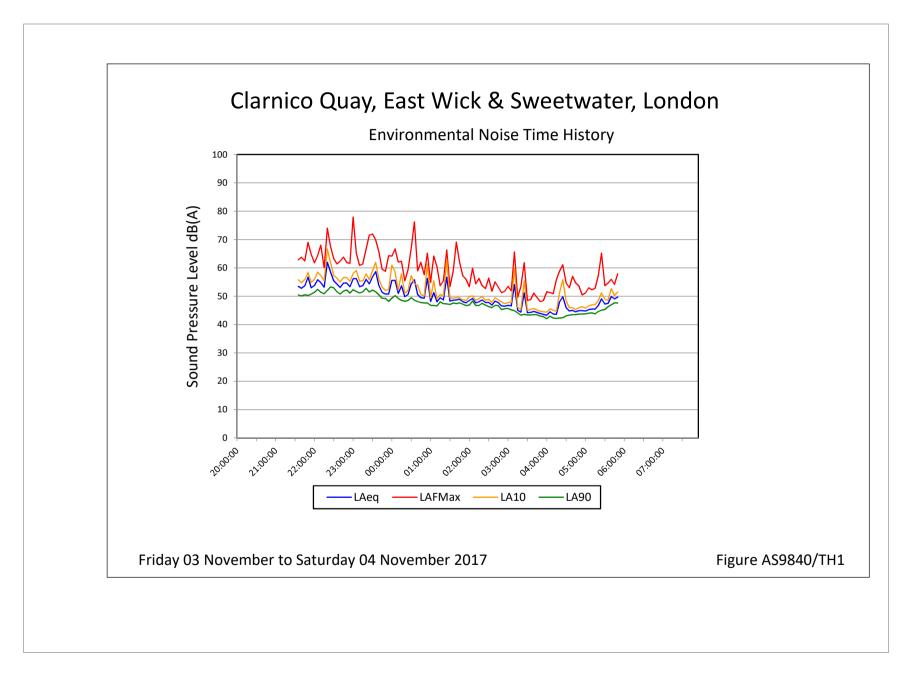


Figure AS9840/SP1

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APPENDIX A

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ACOUSTIC TERMINOLOGY & HUMAN RESPONSE TO BROADBAND SOUND

- **Frequency** The rate per second of vibration constituting a wave, measured in Hertz (Hz), where 1Hz = 1 vibration cycle per second. The human hearing can generally detect sound having frequencies in the range 20Hz to 20kHz. Frequency corresponds to the perception of 'pitch', with low frequencies producing low 'notes' and higher frequencies producing high 'notes'.
 - **dB(A):** Human hearing is more susceptible to mid-frequency sounds than those at high and low frequencies. To take account of this in measurements and predictions, the 'A' weighting scale is used so that the level of sound corresponds roughly to the level as it is typically discerned by humans. The measured or calculated 'A' weighted sound level is designated as dB(A) or L_A.
 - Leq: A notional steady sound level which, over a stated period of time, would contain the same amount of acoustical energy as the actual, fluctuating sound measured over that period (e.g. 8 hour, 1 hour, etc). The concept of Leq (equivalent continuous sound level) has primarily been used in assessing noise from industry, although its use is becoming more widespread in defining many other types of sounds, such as from amplified music and environmental sources such as aircraft and construction.
 Because Leq is effectively a summation of a number of events, it does not in itself limit the magnitude of any individual event, and this is frequently used in conjunction with an absolute sound limit.
- L₁₀ & L₉₀: Statistical L_n indices are used to describe the level and the degree of fluctuation of non-steady sound. The term refers to the level exceeded for n% of the time. Hence, L₁₀ is the level exceeded for 10% of the time and as such can be regarded as a typical maximum level. Similarly, L₉₀ is the typical minimum level and is often used to describe background noise.

It is common practice to use the L_{10} index to describe noise from traffic as, being a high average, it takes into account the increased annoyance that results from the non-steady nature of traffic flow.

- L_{max}: The maximum sound pressure level recorded over a given period. L_{max} is sometimes used in assessing environmental noise, where occasional loud events occur which might not be adequately represented by a time-averaged L_{eq} value.
- R Sound Reduction Index. Effectively the Level Difference of a building element when measured in an accredited laboratory test suite in accordance with the procedures laid down in BS EN ISO 10140-2:2010 and corrected for its size and the reverberant characteristics of the receive room.

Rw DwValue of parameter, determined as above, but weighted in accordance with the procedures laid downDnT,w Dn,e,win BS EN ISO 717-1 to provide a single-figure value.Dn.f.w

1.1 Octave Band Frequencies

In order to determine the way in which the energy of sound is distributed across the frequency range, the International Standards Organisation has agreed on "preferred" bands of frequency for sound measurement and analysis. The widest and most commonly used band for frequency measurement and analysis is the Octave Band. In these bands, the upper frequency limit is twice the lower frequency limit, with the band being described by its "centre frequency" which is the average (geometric mean) of the upper and lower limits, e.g. 250 Hz octave band extends from 176 Hz to 353 Hz. The most commonly used octave bands are:

Octave Band Centre Frequency Hz	63	125	250	500	1000	2000	4000	8000
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1.2 Human Perception of Broadband Noise

Because of the logarithmic nature of the decibel scale, it should be borne in mind that sound levels in dB(A) do not have a simple linear relationship. For example, 100dB(A) sound level is not twice as loud as 50dB(A). It has been found experimentally that changes in the average level of fluctuating sound, such as from traffic, need to be of the order of 3dB before becoming definitely perceptible to the human ear.

APPENDIX A

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ACOUSTIC TERMINOLOGY & HUMAN RESPONSE TO BROADBAND SOUND

Data from other experiments have indicated that a change in sound level of 10dB is perceived by the average listener as a doubling or halving of loudness. Using this information, a guide to the subjective interpretation of changes in environmental sound level can be given.

INTERPRETATION

Change in Sound Level dB	Subjective Impression	Human Response
0 to 2	Imperceptible change in loudness	Marginal
3 to 5	Perceptible change in loudness	Noticeable
6 to 10	Up to a doubling or halving of loudness	Significant
11 to 15	More than a doubling or halving of loudness	Substantial
16 to 20	Up to a quadrupling or quartering of loudness	Substantial
21 or more	More than a quadrupling or quartering of loudness	Very Substantial

1.3 Earth Bunds and Barriers - Effective Screen Height

When considering the reduction in sound level of a source provided by a barrier, it is necessary to establish the "effective screen height". For example if a tall barrier exists between a sound source and a listener, with the barrier close to the listener, the listener will perceive the sound as being louder if he climbs up a ladder (and is closer to the top of the barrier) than if he were standing at ground level. Equally if he sat on the ground the sound would seem quieter than if he were standing. This is explained by the fact that the "effective screen height" is changing with the three cases above. In general, the greater the effective screen height, the greater the perceived reduction in sound level.

Similarly, the attenuation provided by a barrier will be greater where it is aligned close to either the source or the listener than where the barrier is midway between the two.

Hackney Bridge.

DISPERSAL POLICY

This Dispersal Policy has been implemented to assist in the promotion of the four licensing objectives, in particular crime and disorder, public nuisance and public safety. This document is a live document where there can be updates reflecting best working practices via discussions with interested parties, professionals and in particular our neighbours.

Management are aware of the potential for neighbourhood noise and disturbance at closing time when customers leave. Management have agreed to implement a written dispersal policy to move customers from the premises and the immediate vicinity in such a way so as to cause minimum disturbance or nuisance to neighbours. Every effort will be made to minimise any potential nuisance and it will be the responsibility of all members of staff to support this policy.

Winding-down Period

- 1. Management have implemented a "wind-down" procedure to facilitate prompt closure of the premises and orderly dispersal pattern by customers.
- 2. At closing key members of trained staff monitor the exit. Customers are informed that the premises are about to close and are directed towards the nearest exit.
- 3. The premises will promote controlled dispersal of customers by directions from staff and notices.
- 4. Internal lighting levels will be adjusted during the last 30 minutes of trading.
- 5. Music will be played at a lower level.
- 6. The winding own period encourages customers to disperse gradually prior to cessation of trade.
- 7. We are proud of the area and we will endeavour to keep the area clean and attractive for our patrons and our neighbours. This means dealing with debris outside our frontage that may have nothing to do with us but in the interests of maintaining good standards in the area we will still clear it up.

Door Supervisors to assist with dispersal

Door supervisors, when deployed, shall be strategically positioned to help ensure that procedures for promoting public safety and preventing public nuisance are effective

Notices

Staff will be trained to be aware of

- 1. Where the nearest mode of public transport is.
- 2. Details of taxis and a number is available to customers.
- 3. General local knowledge so that if customers decide to move on the staff can help them with directions.
- 4. Where security is deployed, they will help ensure safe dispersal.
- 5. Litter pickers will be deployed to help keep the area clean.

- 6. The door supervisors are easily identifiable and before each night there will be a briefing.
- 7. There is an end of night team meeting to discuss any ways that the premises may improve the dispersal of patrons and any actions points are implemented.
- 8. Notices shall be displayed at customer exit requesting that patrons respect the needs of local residents and leave the premises and area quietly.
- 9. All employees are given appropriate instructions and training to encourage customers to leave the premises and the area quietly.

Incident Reports

- 10. All incidents of crime or disorder or nuisance are to be reported by the designated premises supervisor or responsible member of staff.
- 11. The licence holder shall ensure that the details of all complaints are recorded in an occurrence book.

Hackney Bridge will attach the utmost importance to the careful investigation and prompt resolution of any complaint made in respect of the running of the premises. Particular emphasis will be placed on building and maintaining close links with local residents including hosting meetings where necessary to allow our neighbours to raise any issues and for those issues to be quickly resolved. The telephone number of the premises will be provided to all our immediate residential neighbours.

Hackney Bridge will constantly review our Dispersal Policy and respond quickly to the needs of our neighbours.



11th March 2020

To Whom it May Concern,

I am writing to you with regard to the license application for the development known as Clarnico Quay. East Wick and Sweetwater Projects (EWS) is the master developer for the permanent residential led mixed use communities of this name being constructed around the western edge of the Queen Elizabeth Olympic Park, within which this proposal is located.

EWS and London Legacy Development Corporation are working with MAKE SHIFT to deliver a multi- use community space at Clarnico Quay that is fully supported by all parties.

EWS have invested considerable sums enabling the site, and supported the appointment of MAKE SHIFT as meanwhile developer to bring forward Clarnico Quay as an interim phase of our project. The scheme is a central part of our place activation strategy, and in doing so we have worked with them on the bar and event space proposals to ensure these can be developed and operated successfully without impact on our future residents.

Clarnico Quay will offer local people excellent opportunities for both work and recreation, and help both economic and social growth in Hackney Wick. MAKE SHIFT have a proven record in successfully developing new sites that help serve the community and local small businesses in London.

An extensive consultation exercise has been undertaken prior to this application with the community, neighbours and ourselves. A series of controls are in place through our lease of the site to Makeshift, an accompanying service level agreement and the oversight of a community led "Steering Group" to regulate the operation of the project. We are therefore confident that Clarnico Quay will be extremely well managed. Any risk relating to the four Licensing Objectives is mitigated by the operational policies and systems that have been developed to allow the site to deal with any issues quickly and effectively.

I welcome and fully support this license application for Clarnico Quay

Regards

Andrew Atkins Development Director Eastwick and Sweetwater Projects



