



ASSIMILATION OF THE LOST SITE

ESTABLISHING ARCHITECTURAL IDENTITY ON SITES DEFINED BY CONFLICTING GRIDS AND CONFLICTING PROGRAMMATIC TYPOLOGIES

BY SUNIL BAKSHI

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DEDICATION

This Thesis is dedicated to my parents, Suresh Bakshi and Neelam Bakshi. Their support and constant sacrifice is a testament to the immeasurable love they have always bestowed on me. I hope I can be every bit what you deserve from a son.

It is also dedicated to my Supervisor Associate Professor Daniel K. Brown. This Thesis is just an example of the knowledge he has endowed on me, knowledge which has changed my perception as an architect. I hope you are as proud to call me your student as I am to call you my supervisor and friend.

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ABSTRACT

The contemporary urban dilemma of the 'lost site' has arisen due to the ever-increasing density of our urban environments, where boundaries of contrasting urban contextual grid conditions overlap, forming pocket sites that ultimately must respond to multiple grids yet belong to none. These lost sites are the sites trapped by opposing contextual constraints, needing to respond to multiple and often conflicting conditions and as such ameliorating the architect's ability to provide them with a single unique sense of holistic identity.

This research investigates approaches for the design of these lost sites, particularly when they must not only respond to multiple grid conditions, but are also required to engage multiple diverse programs and reflect conflicting programmatic typologies. The vehicle for this design research investigation will be the actual site and program for the proposed new New Zealand School of Music on Jack Ilott Green in the northeast corner of Wellington's Civic Square. As an example of a 'lost site', this site must establish a public identity that responds to its principal frontage Jervois Quay and the Harbour, while simultaneously resolving and responding to a civic identity required by Civic Square and a more local identity required by Harris Street. The program must establish an academic identity as a music school, while simultaneously establishing civic identity as a public concert hall on Civic Square in conjunction with Capital E, Michael Fowler Centre, Town Hall, City Council, Public Library, and City Gallery.

The thesis argues that architecture on 'lost sites' can be conceived as a metaphorical 'joint' as a means of responding to opposing site and program conditions. The thesis argues that architecture's potential to be manifested as a joint can be strategically used as a viable means of addressing lost sites. This approach further suggests that a building on a lost site can be conceived as having multiple 'front' façades – each expressing identity in response to a different set of contextual and programmatic conditions. The thesis tests how this approach might enable architecture to establish a holistic identity upon an urban 'lost site', even with each of its façades needing to engage a different identity.

Recent demographic shifts which involve more families living in New Zealand's urban centres have led to an ever-increasing density of our urban environments. The denser the urban environment becomes, the greater the number of 'lost sites' begin to emerge. Most buildings address this dilemma by either considering only one dominant set of conditions, or by being conceived as an 'object in a field' which actively denies the contextual conditions. These complex sites are an urban and architectural issue in need of active critical resolution. This thesis explores how such diverse opposing requirements can be resolved holistically while establishing unique identities for each set of unique site conditions.

Thesis Format and Objectives

INTRODUCTION: THESIS FORMAT AND OBJECTIVES

This introduction outlines the key components explored and discussed throughout the following chapters as well as providing a basis for the approach of the arguments of this thesis. The intentions of this research are to identify key issues and characteristics of emerging urban 'lost sites' based upon a robust literature review relating to theory and practice of the lost site. Building upon this literature review, a site-specific experimental design is used to test an approach to the assimilation and recovery of the lost site. The structure of this Thesis consists of two primary sections: Chapters 1-2 establish the theoretical framework of the lost site as a consequence of ever-increasing urban densities, and Chapters 3-4 articulate design experiments which examine methods by which the lost site may be recovered.

- Chapter 1, the literature review, establishes the theoretical framework fundamental to this research. The chapter introduces and explains the issue of the 'Lost Site'. It identifies key urban conditions that have led to lost sites and defines the importance of resolving this contemporary issue. This chapter considers the role of the urban context as a system and how sites respond within this ever-evolving system. This section then formulates a key methodological framework based on integrating the work of four key theorists: Roger Trancik's five theories of Lost Space and Urban Design; Herman Hertzberger's Space and Place Theory; and Kenneth Frampton's theories of critical regionalism. This integrated methodology provides a new basis from which to identify key issues and test experimental design ideas to recover the lost site.
- Architects have attempted several different approaches to deal with forms of lost sites in the past. Chapter 2 investigates three diverse case studies with different approaches to the lost site: Daniel Libeskind's 2001 extension to the Jewish Museum Berlin; Gerhard Kallmann, Michael McKinnell and Edward Knowles's 1969 Boston City Hall; and Zaha Hadid's 2005 Phaeno Science Center in Wolfsburg, Germany. This section critiques and describes the site context, edge conditions and complex adjacencies that the architecture responds to and critiques the approach each architect takes in relation to those conditions.

- Chapter 3 introduces the proposed new New Zealand School of Music on Jack Ilott Green adjacent to Wellington's Civic Square as a program/site vehicle for testing resolution of a Lost Site. This program/site is particularly appropriate to the thesis investigation because it represents a site constricted by conflicting constraints both in the nature of its edges, its programs, and its potential civic versus non-civic identity. This section critiques the key period over which the development of Civic Square occurred, and how the evolution of its formation left Jack Ilott Green as a fractured remnant. Two conflicting urban grids define Jack Ilott Green, and each of its edges demand responsiveness to very different contextual conditions. This section then critiques the proposed building program for the new New Zealand School of Music which requires the incorporation of two potentially conflicting program typologies: a school together with a public concert hall. It also discusses the potential conflict of a school typology completing the missing corner of a city's Civic Square.
- Chapter 4 incorporates the experimental design and conclusion to the thesis. This design experiment tests the application of theoretical imperatives for addressing lost sites that were researched and analysed in the previous chapters. It uses the Wellington lost site Jack Ilott Green as a design research vehicle for testing this application. The objective of the chapter is to propose a design approach for resolving lost sites that successfully engages diverse grids as well as diverse programs while establishing a holistic identity of its own – in this case as an integrated new public Concert Hall as well as a School of Music shared by two universities: Victoria University and Massey University. This section illustrates the method by which both the principal city grid and the divergent harbour grid are assimilated into a single site while also responding to edge conditions relating to diverse adjacent urban contexts. The combination of these diverse urban edge conditions and diverse programs require this lost site to simultaneously establish a prominent civic identity in relation to Civic Square, as well as a private academic identity as a school – two diverse typologies occupying a single intervention on a single site composed of divergent grids. This section also tests how two very diverse programs can achieve their own identities upon this lost site, through unique entries and unique cores and unique contextual orientations. This section experiments with ways of establishing identity for the

overall building within the context of two diverse grids and two diverse programs, by using the shared program of the Concert Hall as a central element embraced by the two programs. The experiment concludes by establishing the Concert Hall as a shared common centre that provides seamless integration of the two diverse programmatic conditions, thus enabling the programs to coalesce into a singular architectural intervention on a 'Lost Site' that achieves a strong independent identity.

The design experiment in Chapter 4 tests the following approaches to resolving the Lost Site, based on the complex conditions evidenced by Jack Illott Green and its proposed program:

- > Invite hard and soft conditions to transform vertically on the facades, rather than just horizontally, as a means of addressing the complex urban contextual conditions defining each edge.
- > Establish a (North) building volume for one program which achieves identity by aligning with the main urban grid and a (South) building volume for the second program which achieves identity by aligning with the harbour grid.
- > Establish common dimensions for the two building grids based on parking dimension requirements below ground; locate a common grid point shared by both volumes, as a point of counter-flexure, as a means of integrating the two divergent grids.
- > Establish façades facing Civic Square and Jervous Quay that are responsive to civic identity, and facades facing Harris Street and the City Art Gallery side ramp that are responsive to Harris Street.
- > Test how the facades facing Civic Square and Jervois Quay (perpendicular to one another) can both act as principal 'front facades' of the same building.
- > Provide separate service cores for the North volume (School of Music) and the South volume (Concert Hall).
- > Provide separate entries for the North volume (students) and the South volume (general public)
- > Provide common shared elements between the North and South volumes (basement level parking and mechanical plant; ground level Jervois Quay lobby; upper level Concert Hall)
- > Utilise one particularly strategic common program element (in this case the Concert Hall) as a shared common centre to integrate the two volumes into a single holistic identity embraced by the dual programs, typologies, and grids artery.

1 **Theoretical Argument and Literature Review**

1.1 INTRODUCTION: LOST SITE

This section explains the issue and context of the lost site and what the thesis means by the term 'lost site'. It investigates how the issue of the lost site has been recognised by theorists and architects such as Roger Trancik and Rem Koolhaas, comparing their theoretical approaches to addressing the lost site. It identifies key conditions which form the type of lost site this study examines, and it defines the importance of resolving this issue.

The 'lost site', in the case of this thesis argument, is defined as an urban site resulting from urban expansion and densification leading to conflicting site, program, and typological conditions. The contemporary issue of the lost site has been acknowledged recently by some theorists and architectural practitioners. Roger Trancik recognises issues relating to the lost site in his book, *Finding Lost Space: Theories of Urban Design*, which discusses the decline in the aesthetics of the urban fabric as a result of "lost space" or "anti-space". According to Trancik:

The lost space is the unstructured leftover landscape at the base of the high-rise tower ... or the unused sunken plaza...away from the flow of pedestrian activity in the city. The lost spaces are the surface parking lots that ring the urban core of almost all American cities and sever connection between the commercial centre and residential areas. They are the no man's land along the edges of the freeways nobody cares about maintaining anyway; much less using... [L]ost spaces are also the abandoned waterfronts' train yards, vacated military sites and industrial complexes that have been moved out of the suburbs for easier access and perhaps lower taxes. They are the vacant blight-clearance sites. They are residential areas between districts and loosely composed commercial strips that emerge without anyone realizing it. Lost spaces are deteriorated parks and marginal housing projects that have to be rebuilt because they do not serve their intended purpose... Generally speaking lost spaces are undesirable urban centres that are in need of redesign... anti spaces making no positive contribution to the surroundings and its users. They are... ill defined without measurable boundaries and fail to connect elements in a coherent way. On the other hand, they offer tremendous opportunity to the designer or urban developer and creative infill and rediscovery of many hidden resources of our cities.

(Trancik, *Finding Lost Space*, pp.3-4)

Here Trancik explains what he considers lost space to be in the greater city sense: abandoned waterfronts, leftover sites that have been isolated and ignored, resulting in a loss of coherent identity for an urban area. The lost site can be defined as an area that has become isolated from its surroundings or ignored, often as an outcome of conflicting edges coming together with no coherent architectural transition. This pocket site, or lost site, is unable to identify with any single edge condition, in constant conflict in its attempts to belong to one edge condition as well as another.

Rem Koolhaas refers to these sites simply as "Junkspace", extending this notion further than just the empty site, but to the formation of these sites due to the surrounding architecture:

Because we abhor the utilitarian, we have condemned ourselves to a lifelong immersion in the arbitrary . . . If space-junk is the human debris that litters the universe, Junk-Space is the residue mankind leaves on the planet. The built product of modernization is not modern architecture but Junkspace. Junkspace is what remains after modernization has run its course, or, more precisely, what coagulates while modernization is in progress, its fallout. Junkspace is its apotheosis, or meltdown . . . Although its individual parts are the outcome of brilliant inventions, lucidly planned by human intelligence, boosted by infinite computation, their sum spells the end of Enlightenment, its resurrection as farce, a low-grade purgatory . . . Junkspace is the sum total of our current achievement; we have built more than did all previous generations put together, but somehow we do not register on the same scales. We do not leave pyramids. According to a new gospel of ugliness, there is already more Junkspace under construction in the twenty-first century than has survived from the twentieth . . . It was a mistake to invent modern architecture for the twentieth century. Architecture disappeared in the twentieth century; we have been reading a footnote under a microscope hoping it would turn into a novel; our concern for the masses has blinded us to People's Architecture. Junkspace seems an aberration, but it is the essence, the main thing. . . Continuity is the essence of Junkspace; it exploits any invention that enables expansion; Junkspace is sealed, held together not by structure but by skin, like a bubble. Junkspace is our punishment for their mystifications.

(Koolhaas, Junkspace, pp.175-190)

Both of these references to lost sites have one familiar aspect; they recognise the loss of identity, a missing component to connect the surrounding pieces. The lost site at its core is an issue of conflict between the converging territories and their individual identities. With an increasing populace these territories have began to spread out and overlap, becoming the cause of the convergence. As the movement towards city dwelling drew industry and people to the central regions, the original identities of the edge conditions no longer survived. Over the past few decades, radically changing economic, industrial, and employment patterns have further exacerbated the problem of the lost site. It is this growth for which the urban spatial design of the time could not accommodate. With no strategy to allow for this rapid growth and continual overlap, the lost sites emerged.

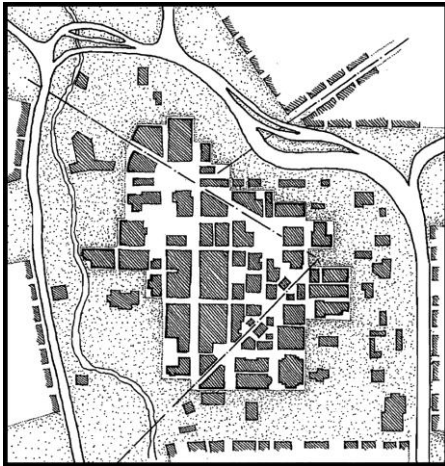


Figure 1: Diagram of the form of a typical city. high rise structures surrounded by a belt of parking lots and highways created during urban renewal.

Figure 1 depicts the form of a typical city according to Trancik. The high-rise core (hatched area) is surrounded by a belt of parking lots and highways created during urban renewal (stippled areas). An identifiable ring of lost space encircles the urban core and spatially segregates surrounding residential, waterfront and leisure areas. This example identifies vehicular highways as the main cause of space isolation. The loss of contextual identity in Trancik's example is an issue mainly in the zone between the outer edges of the central city and residential areas.

In Trancik's example through the evolution of the city, designers influenced by the Modern movement neglected earlier humanist principles of urbanism and the human dimension of the outdoor space established in the urban design of cities of the past. Here then, the modern city dweller is forced to create a social life on personal, controllable territory instead of engaging in a communal existence centred around the street and defined public plazas. As a consequence, individual attitudes toward the use of urban space have been radically altered.

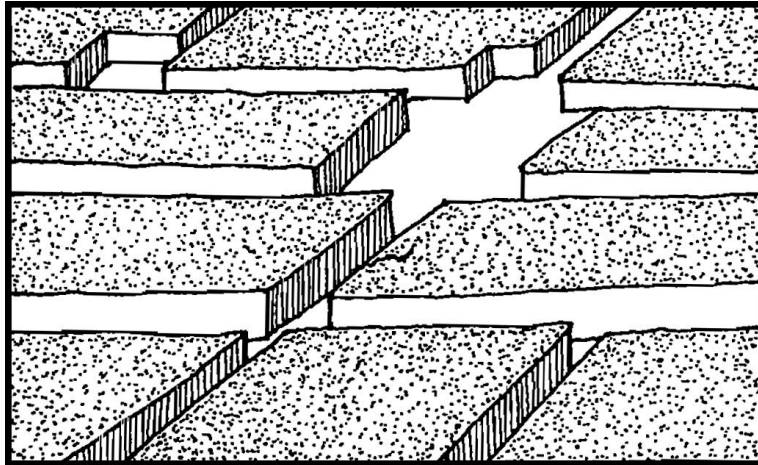


Figure 3: Traditional City Form, urban blocks here direct movement and establish orientation.

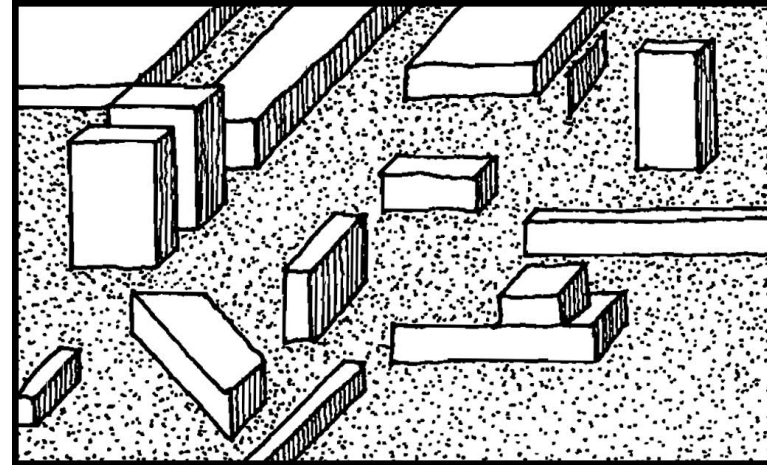


Figure 2: Modern City Form, the fragmentary and confused structure creates disorientation.

Trancik's view of the traditional city form, shown here in Figure 2, when compared to Trancik's view of the modern city form (Figure 3), illustrates the spatial structure of traditional cities and the fragmented form of the modern city. In the traditional city, urban blocks direct movement and establish orientation; in the modern city, the fragmentary and confused structure creates disorientation, potentially moving city dwellers away from parts of the city, leaving them underused and lost. This example identifies a type of lost space that is formed over the evolution of a city. This evolution occurs gradually, affecting different grids which will ultimately collide as traditional streets are redirected. The lost site that is formed here is in constant conflict, struggling to engage with opposing surrounding grids as these edges lose any sense of singular identity as they collide.

"Maybe we finally have to understand that history and environment are two faces of architecture, that no building stands alone, and that architectural solutions however brilliant cannot overcome the limitations of the urban fabric in which they are placed."

(Trancik, Finding Lost Space: Theories of Urban Design, p19)

Trancik identifies this issue of lost space forming over the evolution of the city and introduces the importance of the outdoor environment as a social and physical space which influences the built forms, forms that don't just stand alone but need to positively engage with their surrounding structures and space. By doing so he also begins to introduce crucial factors that need to be considered to recover the lost site.

Steven Peterson writes in Harvard Architectural Review:

"Modern space is, in effect, anti-space; the traditional architecture of streets, squares and rooms created by differentiated figures of volumetric void is by definition obliterated by the presence of anti-space... (which) leads to the erosion and eventual loss of "space" and the result of this can be seen all around us."

(Peterson, "Space and Anti-Space" in *Harvard Architecture Review*, p91)

Peterson explains here that any micro site, such as a square, centre or courtyard, would remain incomplete, or 'obliterated', when in the presence of anti-space, a lost site. Understanding the concept of the lost site as a predominant spatial typology is essential in contemporary architectural design. This study deals with a lost site caused by a collision of grids, from contrasting parts of the city, that have resulted from traditional streets being redirected during the ongoing evolution of a city. The lost site here becomes the incomplete, missing piece that needs to be recovered not only to complete the immediate urban space but to respond to this growth that has occurred around it. Understanding and formulating positive solutions to the issue that is the lost site will enhance the contemporary architecture's and the city's capacity to grow meaningfully over time.

1.2 RECOVERING THE LOST SITE

The lost site afflicts the core of many cities throughout the world today. The following section provides a hierarchical design strategy to engage with opposing conditions characteristic of lost sites, and also devises a scheme to allow conflicting programs on lost sites to form their own holistic identity at its core, allowing a space to become a place. This methodology integrates the work of three key theorists: Roger Trancik, Herman Hertzberger, and Kenneth Frampton.

Trancik considers five key theories for analysing lost spaces: hard space, soft space, figure-ground theory, linkage theory, and Place Theory. Each of these theories look at key qualities of lost spaces and look to identify where these theories within these spaces can be utilised to better connect these spaces to their surroundings. Trancik's five theories serve as a basis for recovering the lost sites, analysing how these theories can be applied as a basis for understanding how lost sites have emerged and how they must be dealt with to recover them. These theories are then compared. These are integrated with Hertzberger's theory of space and place to establish and identify key concerns surrounding lost sites in the urban context. This strategy emphasises the relationships between things and within things, and patterns of these relations, as opposed to the segregation of uses and objects.

Kenneth Frampton's theory of Critical Regionalism then provides a basis for the strategies adopted by both Trancik's five theories and Hertzberger's theory of space and place, to be explored in a particular location. The consideration of local materials, culture, and natural characteristics of a specific location are central to this. This formulation of the problem reveals and acknowledges the intrinsic qualities of lost sites and advances the idea that site relationship, connections, cultural and natural patterns are crucial to the design investigation and to successfully recover lost sites.

1.3 DENSITY AND DIVERSITY



Figure 4: Photo of modernist planning ideals. Isolated objects created within vast open areas

To form a strategy to recover the lost site, understanding what is required of that site and furthermore the urban fabric within which that lost site is located, becomes an important first step. Density is what makes a city a city. Density is the means by which a diverse population is achieved and cultural facilities supported. In her book *The Life and Death of Great American Cities*, Jane Jacobs referred to this relationship between diversity and density as it applies to residential areas in a city, which she believed was overlooked; yet residential areas make up a large part of cities. She insisted on an intensive use of the land to include a mix of activities to facilitate diversity (Jacobs 8). Jacobs was highly opposed to the city planning of the Modern period and rejected its advocacy of isolated high-rise buildings as seen in figure 4. She believed that this modern approach resulted in the neglect of the context around it. The Modern approach focus was on creating architecture as free-standing objects with no relation to

surroundings. Jacobs on the other hand recognised that density in the built environment, and not objects placed in a vast field, is essential to the survival of a lively city. The lost site can then be recognised as a negative feature because it diminishes density, diversity, mixed-uses, and identity. By looking at the city as a system of interrelated and interconnected parts that make up the urban fabric, we can then begin to understand how to recognise lost sites in the fabric and how to deal with them.

1.4 THE CITY AS A SYSTEM

An urban context is a system. Locations in the system embody the potential to strengthen the overall whole, which provides opportunities for the system to grow from within. A lost site is such a location. This agrees with Jacobs's argument that a city needs diversity and density and not sprawl. This also follows Roger Trancik's argument that sprawl can be counteracted by eliminating the lost spaces. Trancik argues that *anti-space*, lost site, is "underused and deteriorating," and provides "exceptional opportunities to reshape an urban centre, in that it attracts people back downtown and counteracts sprawl and suburbanization" (Trancik 4). Building on Trancik's notion of anti-space, it is possible to identify lost sites as gaps or weaknesses within the system. Lost sites also diminish the sense of place.

Martin Heidegger defines dwelling as:

[T]he way in which you are and I am, the way in which we humans are on the earth, is dwelling...

(Heidegger quoted in Nesbitt, *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory*, p442)

In other words, we are only capable of dwelling when we really think about what it means to dwell in a specific location. Heidegger points out, the systems of technology can be a threat to humankind in that they cause the environment to be exploited and turned into a "standing reserve." The purpose of a city is to enable necessities to be placed in close proximity; density and diversity aid and improve this, strengthening from within. By "standing reserve" Heidegger explains how systems of technology, like highways and the notion of a vehicle city, conflict with the positive notions of closeness, density and diversity; buildings become distant, far from other parts of the city, standing disconnected from their surroundings. The lost site turns a location, a potential place for dwelling, into a non-place resultant from the exploitation of space around it. Trancik describes five theories which help provide a strategy for resolving the lost

site and allowing it to respond to its surroundings and promote notions of density and diversity. They are: hard space theory, soft space theory, the figure-ground theory, linkage theory, and Place Theory.

1.5 TRANCİK AND FIVE THEORIES OF DESIGNING URBAN SPACE

Trancik, being guided by the theory of phenomenology and the theme of genius loci, was concerned that urban designers 'listen carefully' to what the public space 'wants to be' prior to designing it. This would provide stability to the place, offer it a particular image and identity and instil a sense of place which is a quality Trancik finds lacking in most modern cities. This notion of genius loci is similar to those identified earlier by Jane Jacobs: notions of closeness, density diversity and thus identity. In his book, *Finding Lost Space*, Trancik states that:

[R]esponsiveness to the historic evolution of a place will avoid superficial repetition and a retrogressive, cosmetic treatment that does not respond to the spirit of the times.

(Trancik, *Finding Lost Space*, p234)

The common elements are the concepts of 'time' and 'place', where 'time' is the sense of understanding the history of a place and the ability to respond to the process of change and 'place' is considered to be the conscious respect for local values and traditions. "Pedestrian links between important destinations are often broken and walking is frequently a disjointed, disorientating experience" (Trancik 2). It's important to identify the gaps in spatial continuity so that they may be filled in with a framework of buildings or defined spaces. Time and place are seen as tools to weave together the fabric of the city. Trancik developed five theories which he saw as a crucial component in developing genius loci, in turn encouraging density and diversity. These theories are: hard space theory and soft space theory, figure-ground theory, linkage theory and Place Theory.

HARD SPACE

According to Trancik, hard space, functioning as external gathering space, is characterised by enclosure and bounded by architectural boundaries (Trancik 61). Trancik describes the most important factors of hard space as the frame (or boundary); the surface condition and the focal point (Trancik 96). The frame of the space refers to the architectural confines which structure the space. Trancik's 'boundary' is never considered a negative thing but exalted for its order-giving qualities. The ground surface (or two-dimensional pattern) gives the space texture and dimensionality by means of a material. The space usually contains some type of feature



Figure 5: Hard edges here are exposed around the buildings with most areas around Civic Square responding to these edges with equally established edges to provide order. This is lacking around the Site of interest, Jack Ilott Green.

which is used to give the space focal points, vitality and identity. Hard space stands in contrast to the 'anti-space' which Steven Kant Peterson describes as being shapeless and without boundary and therefore with no rigid, perceivable form. (Kant in Trancik 89).

The hard space in Wellington's Civic Square, as the area of investigation for this thesis, is dominated by the buildings (figure 5). Buildings along Harris Street seldom relate to the space in which they are sited and edges seem to be lacking in any definition in regard to Jack Ilott Park, the proposed site for the new New Zealand School of Music. This relation with the park space is lost as the two edge conditions contradict each other; the park faces an edge condition which

is hard and built up to its boundary, while the park space lacks any definition of a definitive built edge. This hard space suggests a high rise or a built to the edge structure along Harris Street would complete the space accommodating the edges' order giving qualities.

SOFT SPACE

'Soft space' is defined by Trancik as that which contrasts with its hard urban surroundings and is dominated by the natural environment (Trancik 86). Soft spaces include parks, gardens and linear open urban space. They have few or no boundaries and are dominated by the natural environment. Being natural and non-built, soft space, contrasts with its architectural surroundings, thus enhancing the natural elements rather than detracting from them (Trancik 91). Social, historical and traditional conditions give the soft space its quality and prevent it from becoming 'dead' or 'lost' space.

Civic Square is primarily a hard space west of Jervois Quay; immediately to the east of Jervois Quay are copious amounts of soft space (Figure 6). The soft space here is recognised as the waterfront and lagoon area. This area provides a strong contrast to the architectural forms it neighbours. A transition between the built forms and the soft space here is established by the key vehicular route, Jervois Quay, which also adds to the strong contrast between the built and the non-built. This suggests that an architectural intervention along the western built edge should strongly contrast with the soft space thus enhancing the natural elements rather than detracting from them. A robust façade edge along Jervois Quay would offer people visual coherence, establishing a definitive edge as well as contrasting this edge to the active soft space.

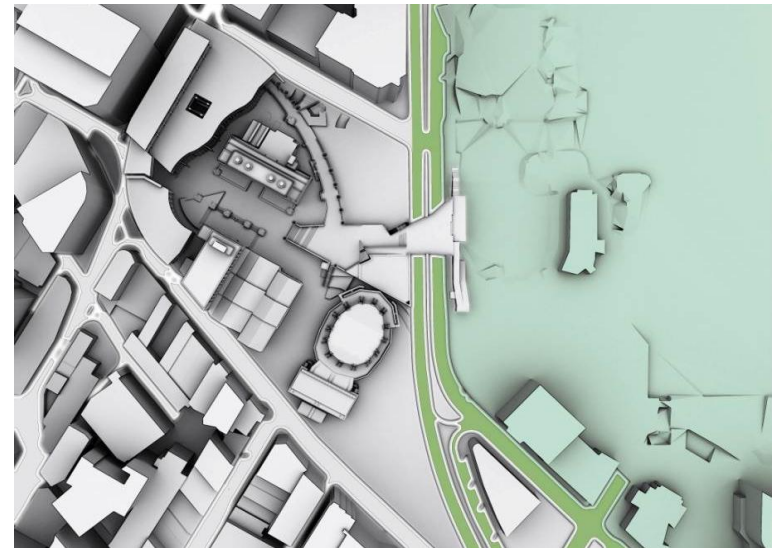


Figure 6: Soft spaces here in become evident around the waterfront and lagoon area. A robust structure in line with this facing edge would strongly contrast the soft space, clearly distinguishing between the two spaces while enhancing the soft space.

FIGURE-GROUND THEORY

'Figure-ground theory' studies the relationship between built masses [figure] and open voids [ground] (Trancik 97) by dividing the city through the use of figure-ground images into solids and voids. The important aspect of figure-ground theory is the acknowledgment of existing patterns of solids and voids that may be found in the urban environment. Doing this enables one to study the overall coherence of a city and look out for the continuous forms which may give clarity to a city and its workings. "The figure-ground drawing is a graphic tool for illustrating mass-void relationships; a two-dimensional abstraction in plan view that clarifies the structure and order of urban spaces" (Trancik 97).

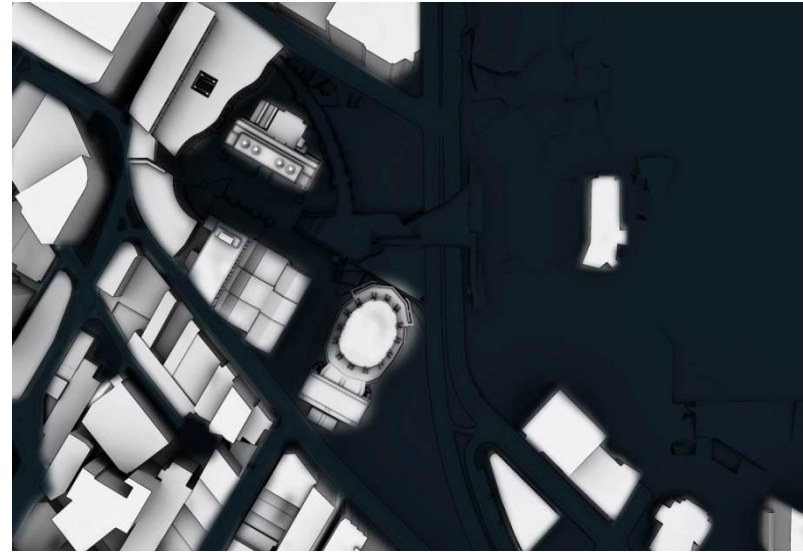


Figure 7: Figure-ground theory diagram illustrates the built masses against the open voids. The deformation of the traditional grid becomes apparent and disorientation in structural order can be seen around Iltott park.

'Poché' is a word sometimes used to describe the spatial field of solids and the articulation of the configuration of exterior voids (e.g. walls, other solid buildings) (Trancik 99). Colin Rowe and Fred Koetter, in their book *Collage City*, state further that "poché is also a matter of context and that a building itself may become a type of poché, for certain purposes a solid assisting the legibility of adjacent spaces" (Rowe and Koetter 79). Void space, in the theory, is seen as being carved from the solid space as if it is the solid space, which through its boundary and articulation, is seen to establish open space. The theory is about producing the 'urban fabric' (or figure-ground) of a place by using the associations of hierarchy and connectivity of enclosed (and ordered), and open (and fluid) spaces. For the Civic Square site this tool illustrates how the ongoing evolution of a city has caused the solid spaces from one grid to collide with the solid spaces of another. This evident collision has deformed parts of the soft spaces, exposing aspects of the lost site and its range. By using figure-ground theory and its requisite elements of hierarchy and connectivity, the lost site can begin to be addressed.

LINKAGE THEORY

'Linkage theory' involves the organisation of the routes, pathways and courses of a city, forming them into a constant spatial datum within which buildings and spaces may be placed (Trancik 106). It focuses on exposing the lines, or links that physically connect different parts of the city. The circulation of movement becomes the driving force as opposed to the spatial connections of the figure-ground. The intent is to "organize a system of connections, or a network, that establishes a structure for ordering spaces" (Trancik 97) Cities, according to this theory, are therefore a product of their linking elements and connections. There is a concern with making the city legible through the articulation of its parts. Fumihiko Maki is quoted as saying, 'linkage is simply the glue of the city' (Maki in Trancik 106). This is an important aspect when looking at the lost site's

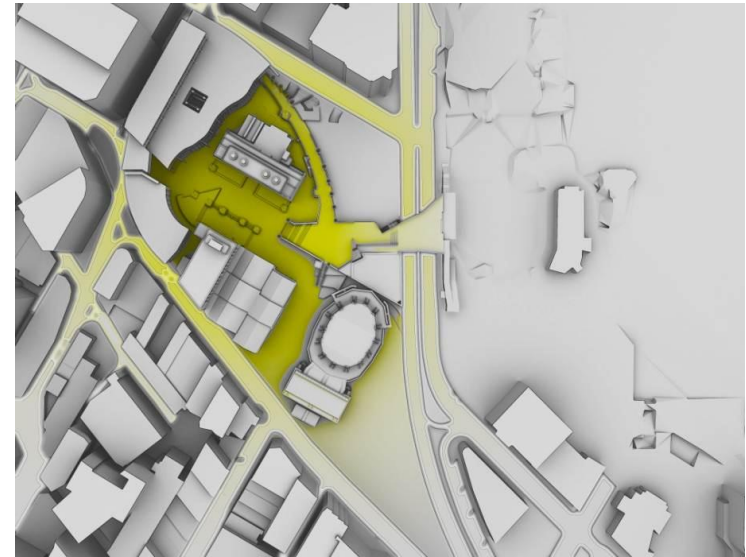


Figure 8: Linkage paths are illustrated here with an apparent neglect of paths or links with Jack Ilott Green.

potential to hold together parts of the site through physical connections. By analysing and thinking about current and possible user movement and patterns of activities through and around the site, linkage theory becomes a tool for linking together fragmented parts of the city fabric in order to strengthen the system.

Civic Square takes on the role of linking device between the activity nodes of the waterfront, the central business district as well as Cuba Street. The connected patterns of roads integrate these diverse activities into the broader framework. Maki terms this a type of "linkage megaform" (Maki in Trancik 107). Megaform imposes connectivity into a system for the sake of efficiency and varied functioning but fails to fully acknowledge open urban spaces and usually turns its back on the street. It is frequently the result of a high-speed mobility route and often neglects the human scale. Although Civic Square works as a 'megaform', the linkage paths within Civic

Square are extremely poor. There is no legible connection with Jack Ilott Park. The linear link from Wellington Public Library to the City to Sea Bridge via Civic Square is strongly established, as well as the three outer edges along the Council buildings, Michael Fowler Centre and the path created by the ramp behind the City Art Gallery. These pathways recognised in the linkage diagram (figure 8) suggest that an architectural intervention on Jack Ilott Green would need to connect to key pathways along the ramp following behind the City Art Gallery as well as opening up on the City to Sea Bridge and Wellington Public Library pathway, while establishing a visual connection along the Michael Fowler pathway leading up Cuba Street.

PLACE THEORY

Place Theory focuses on “history and the element of time and attempts to enhance the fit between new design and existing conditions. In Place Theory social and cultural values, visual perceptions of users and an individual's control over the immediate public environment are as important as principles of lateral enclosure and linkage” (Trancik 97-98). It analyses cultural and human characteristics of physical space. Space is only considered to be ‘a place’ once it is given contextual meaning which is derived from the cultural and regional contexts of a location (Trancik 112). These are the character-adding elements and lend the space its identity. Trancik’s account of Place Theory is the closest to Heidegger’s notion of place. A quote from Christian Norberg-Schulz is helpful in making the link to Heidegger’s notion of place:

"A place is a space which has a distinct character. Since ancient times the genius loci, or spirit of place, has been recognized as the concrete reality man has to face and come to terms with in his daily life. Architecture means to visualize the genius loci and the task of the architect is to create meaningful places where he helps man to dwell"

(Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture*, p7)

Place Theory introduces a key component to revealing and recovering the lost site. It establishes that a key character of the lost site is that it is a space that is formed when that space fails to engage with the history of its surroundings. A site should always have its own

identity but without a link to its surroundings, that site will remain underused and lost. To better understand Place Theory, Trancik's ideas will be compared with those by Herman Hertzberger.

1.6 HERTZBERGER SPACE AND PLACE THEORY

Herman Hertzberger adds another dimension to the notion of sense of place within a site.

"Designing is nothing more than finding out what the person and object want to be: form then makes itself. There is really no need for invention – you must just listen carefully."

(Hertzberger, Lessons for students in architecture, p114)



Figure 9: Place theory and Hertzberger diagram. The altering edge conditions or the façade conditions can begin to be viewed as the 'texture', for the lost site, while the surrounding structures can influence the built up form.

Hertzberger makes a clear distinction between the terms 'space' and 'place'. Hertzberger explains the terms in regard to a lost space or a site with unseen potential. Hertzberger illustrates the idea of 'space' as a longing, an expectation of possibilities, outside on a journey, dynamic and open. 'Place' however, is seen as a pause, inside redemption, a home and of being at rest. These two notions are interdependent characteristics in which the one brings the other awareness, enabling the other to exist as a phenomenon.

Place implies that an added value allows people who inhabit this space to create a link with it. The quality that can turn space into a place is the purpose given to it by its occupants or users. A location can then become a

'particular', a place coloured by occurrences, past and present, lending it associations and perceptions. When one is making place, one is making space in such a way that the conditions for giving it purpose endow it with the quality of sense of place and therefore identity.

Hertzberger suggests that we need to deploy spatial means that spawn a challenging environment that is at the same time familiar territory. At first glance, these two conditions seem contradictory since to challenge presupposes the surprise of change and unexpected situations, whereas familiar territory suggests something constant and readily identifiable. By this Hertzberger argues that the space wanting to be a place should be an environment:

that is continually changing because houses change and shops get refitted, but the streets are the same familiar streets. The overall structure stays the same even if its texture changes.

(Hertzberger, Lessons for students in architecture, p101).

Hertzberger recognises the role time plays over a city, identifying time as a factor as well as degrees of change over time. He distinguishes between these degrees of change; structures are seen as permanent whereas their 'texture' is more fluid and adherent to change over time. Applying these rules and those of Place Theory to the lost site and the program for the lost site would suggest that the altering edge conditions or the façade conditions would be the 'texture', for the lost site and program, while the overall unchanged structures that surround it would inform the architectural scale.

This suggests that, like Heidegger's notion of place, a site or location already embodies the necessary information for design to take place. An important subtlety to point out is that Hertzberger uses the term form. This notion that *form follows revealing* is interesting in conceptualising the potentials of the lost site which is similar to how Christian Norberg-Schulz defined place:

"The existential purpose of building (architecture) is therefore to make a site become a place that is to uncover the meanings potentially present in the given environment."

(Norberg-Schulz in Nesbitt, Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory, p422)

These concepts are describing conceptual strategies for how to design. They vary slightly, but the main idea is that a space becomes a place through the revealing of the unique qualities that distinct sites already embody. This becomes important for understanding lost sites in an urban context. A downtown that does not have place-based contextual characteristics would be a placeless space. So the specific location of lost sites within an urban context becomes a critical aspect when formulating possible solutions to transform the lost site into a 'place'. Trancik's hard space, soft space, figure-ground, linkage, and place theories offer the notion of revealing what a site wants to be, the relationship to context, and connections or links to parts of the city. These theories help in the understanding of possible solutions to the lost site. In conjunction with these theories by Trancik and Hertzberger, conceptual strategies based on the relationships between things and within things, and on creating networks, clusters, and entrances for user movement are also necessary to further understand the potentials of the lost site; therefore another theory that is important to examine and implicate at this point is Kenneth Frampton's theories relating to Critical Regionalism.

1.7 FRAMPTON AND CRITICAL REGIONALISM

In his writing *Prospects for a Critical Regionalism*, Kenneth Frampton refers to Paul Ricoeur's thesis that "a hybrid 'world culture' will only come into being through a cross-fertilization between rooted *culture* on the one hand and universal *civilization* on the other" (Ricoeur in Frampton 471). This is important as this is a consideration of place specificity. Frampton defines Critical Regionalism by stating: "If any central principle of critical regionalism can be isolated, then it is surely a commitment to *place* rather than *space*. The lost site appears to have lost the potential to become a place, given its ambiguous context. Building on Frampton this suggests that Critical Regionalism offers the ability to resist the dominance of space forming as a commodity and as Heidegger says a 'standing reserve.'

For Frampton, Critical Regionalism "favours the small rather than the big plan" (Frampton 325). Critical Regionalism offers an important means to avoid universal pattern making; this is also in line with Hertzberger's objection to sprawl in Place Theory. Critical Regionalism also recommends against free-standing object urbanism by focusing on specific location. Heidegger's statement that "places

receive their being from locations and not from spaces” aligns with this notion of Critical Regionalism. Critical Regionalism also “favours the realization of architecture as a *tectonic fact* rather than the reduction of the built environment to a series of ill-assorted scenographic episodes” (Frampton 327).

Critical Regionalism emphasizes site-specific factors such as topography, climate and the play of light across a structure. This play of light is seen to be the means of revealing the tectonic value of the work. Critical Regionalism attempts to focus on all the senses that inherently affect the experience of a place. “It is opposed to the tendency in an age dominated by media to the replacement of experience by information” (Frampton 327). Critical Regionalism “tends towards the paradoxical creation of a regionally based ‘world culture’, almost as though this were a precondition for achieving a relevant form of contemporary practice” (Frampton 327).

Finally, Critical Regionalism “tends to flourish in those cultural interstices which in one way or another are able to escape the optimising thrust of universal civilisation. Its appearance suggests that the perceived notion of the dominant cultural centre surrounded by dependent, dominated satellites is ultimately an inadequate model by which to assess the present state of modern architecture” (Frampton 473). This is important because it suggests a unique place that is not dependent on the generalisation of dominant culture.

One of Frampton’s examples of a critically regional architect is Tadao Ando. Ando aims to counteract the legacy of modern architecture because for him, modern architecture led to a displacement of culture in which the relationship between *man, nature, and culture* has been lost. His architecture seeks to recover and sustain this relationship. (Frampton 479). The materiality of building and light is of importance for him, in that he sees material concrete as being “the most suitable material for realizing surfaces created by rays of light...(where)...walls become abstract, are negated, and approach the ultimate limit of space. Their actuality is lost, and only the space they enclose gives a sense of really existing” (Frampton 479-480). Thinking of space in this way, Ando looks to the tactile qualities of materials in creating a sense of place.

"Light changes expressions with time. I believe that the architectural materials do not end with wood and concrete that have tangible forms but go beyond to include light and wind which appeal to our senses. . . Detail exists as the most important element in expressing identity. . . Thus to me, the detail is an element which achieves the physical composition of architecture, but at the same time, it is a generator of an image of architecture."

(Ando in Frampton, Modern Architecture, A Critical History, p480)

The central theme of Frampton's view of Critical Regionalism revolves around a commitment to place rather than space. Tadao Ando exemplifies this because of his adherence to place specificity, natural light, and a focus on the tectonic quality of his buildings. Space is not the main focus of his designs, but rather the experiential quality expressed by the unique landscape in which Ando works and the tactile qualities of the materials he uses to express the uniqueness of place. The attention to detail and experience, to create and enhance place, demands more than simple pattern-making.

1.8 CONCLUSION

Recovering the lost site becomes essential when understanding that any urban context is a system and sites within this system embody the potential to strengthen or weaken the overall. This perception recognises the need to view sites as built environments and not as individual objects placed in a vast field, 'space' without the inherent quality that could make it 'place'. To recover a lost site it is imperative to form a methodology which critically engages the contexts of that site. A key methodological framework for this thesis will be established based on the integrated work of four theorists: Trancik's five theories supported by Hertzberger's Space and Place Theory as well as Frampton's views of critical regionalism. These provide a basis from which to identify key contextual issues relating to place-making and to test experimental design ideas to 'recover' the lost site by enabling it to establish a sense of place and identity even within a space defined by contradictory contexts.

Analysing the hard spaces of Civic Square reveals key areas of the vacant Jack Ilott Green site which would benefit from an architectural intervention creating hard edges along these boundaries, thus allowing these edges to provide order-giving qualities. Examining the soft spaces revealed areas of contrast between the built and non-built as well as where these distinctions were required yet missing. Figure-ground diagrams exposed the disorientation of the site and the collision of the solid and void spaces, exposing the key area and range of the lost site.

The linkage diagram begins to illustrate existing links and in doing so exposes missing links that may generate further connections within the site and context. Place theory as well as Hertzberger's Space and Place Theory explain the significance of urban context as a tool with which design can establish sense of place. Acknowledging existing grids around the urban context would establish visual links and a sense of coherence in solid form. Critical Regionalism would be the final strategy to cement the notion of place and recover the lost site by reiterating imperative principals of establishing context but doing so through perception of the space, texture, light and form.

The main issues that are raised acknowledge place specificity (context), flexibility in program use, more so the possibility of more than a single program, and the experiential quality of place. The idea that building arises from relationships between uses and within uses is central to dealing with the problem of the lost site. Resolving these issues and designing based on these strategies will begin to assimilate the lost site. The use of this theoretical design strategy could extend beyond the limits of this experimental design to recover lost sites all around the city, strengthening the urban context in which they occur as well as strengthening the city as a system. The following chapter looks in greater detail at case studies suggesting how contemporary architects and designers have developed different strategies in their attempts to recover the lost sites they have encountered.

1.9 REFERENCES

- Barry, Peter. "Beginning Theory." Manchester and New York: Manchester University Press, 1995.
- Beitchman, Philip. "The Aesthetics of Disappearance.", trans. New York: Semiotext(e), 1991.
- Frampton, Kenneth. "Modern Architecture, A Critical History." New York: Thames & Hudson, 2002.
- Hertzberger, Herman. "Lessons for students in architecture.", Rotterdam: Uitgeverij 010, 1991.
- Jacobs, Jane. "The Death and Life of Great American Cities." New York: Random House, 1993.
- Johnson, Barbara. "The Critical Difference." Johns Hopkins University Press, 1980.
- Koetter, Fred and Rowe, Colin. "Collage City". Cambridge: The MIT Press, 1978.
- Koolhaas, Rem. "Junkspace." in *Obsolescence October Vol 100*, Cambridge: The MIT Press, 2002.
- Leatherbarrow, David and Mostafavi, Mohsen. "Surface Architecture." Cambridge: The MIT Press, 2002.
- Libeskind, Daniel. "Radix-matrix." Munich and New York: Prestel-Verlag, 1997.
- Libeskind, Daniel. "The Space of Encounter." New York: Universe Publishing, 2000.
- Lynch, Kevin. *The Image of the City*. Cambridge: The MIT Press, 1960.

Nesbit, Kate. *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965-1995*. New York: Princeton Architectural Press, 1996.

Norberg-Schulz, Christian. *Genius Loci: Towards A Phenomenology of Architecture*. New York: Rizzoli, 1979.

Peterson, Steven. "Space and Anti-Space," *Harvard Architecture Review* 1, 1980.

Smithson, Alison and Peter. "Urban Structuring: Studies of Alison and Peter Smithson." New York: Van Reinhold Co. Inc. 1967.

Trancik, Roger. *Finding Lost Space: Theories of Urban Design*. New York: Van Reinhold Co. Inc, 1986.

1.10 LIST OF ILLUSTRATIONS

Figure 1: Diagram of the form of a typical city. high rise structures surrounded by a belt of parking lots and highways created during urban renewal.

Source: Trancik, Roger. Finding Lost Space. New York, NY: Van Reinhold Co. Inc, 1986. p.10

Figure 2: Traditional City Form, urban blocks here direct movement and establish orientation.

Source: Trancik, Roger. Finding Lost Space. New York, NY: Van Reinhold Co. Inc, 1986. p.19

Figure 3: Modern City Form, the fragmentary and confused structure creates disorientation.

Source: Trancik, Roger. Finding Lost Space. New York, NY: Van Reinhold Co. Inc, 1986. p.19

Figure 4: Photo of modernist planning ideals. Isolated objects created within vast open areas

Source: Trancik, Roger. Finding Lost Space. New York, NY: Van Reinhold Co. Inc, 1986. p.1

Figure 5: Hard edges here are exposed around the buildings with most areas around Civic Square responding to these edges with equally established edges to provide order, this is lacking around the Site of interest, Illiot Park.

Source: Author's diagram

Figure 6: Soft spaces here in become evident around the waterfront and lagoon area. A robust structure in line with this facing edge would strongly contrast the soft space, clearly distinguishing between the two spaces while enhancing the soft space.

Source: Author's diagram

Figure 7: Ground theory diagram illustrates the built masses against the open voids, the deformation of the traditional grid becomes apparant and disorientation in structural order can be seen around Illott park.

Source: Author's diagram

Figure 8: Linkage paths are illustrated here with an apparent neglect of paths or links with Illiot Park.

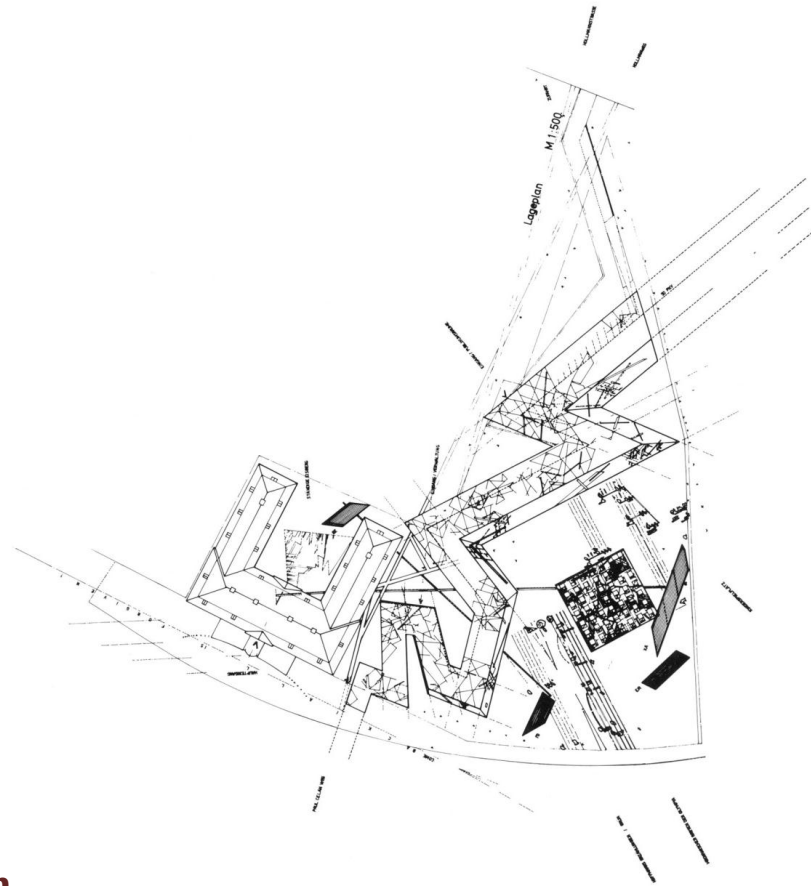
Source: Author's diagram

Figure 9: Place theory and Hertzberger diagram. The altering edge conditions or the façade conditions can begin to be viewed as the 'texture', for the lost site, while the surrounding structures can influence the built up form.

Source: Author's diagram

2 Case Studies

Architects have attempted several different approaches to deal with forms of lost sites in the past. Chapter 2 investigates three diverse case studies with different approaches to the lost site: Daniel Libeskind's 2001 extension to the Jewish Museum Berlin; Gerhard Kallmann, Michael McKinnell and Edward Knowles's 1969 Boston City Hall; and Zaha Hadid's 2005 Phaeno Science Center in Wolfsburg, Germany. This section critiques and describes the site context, edge conditions and complex adjacencies that the architecture responds to and critiques the approach each architect takes in relation to those conditions.



2.1 Jewish Museum Extension Berlin

Figure 1: Daniel Libeskind's extension for the Jewish Museum Berlin, 1990

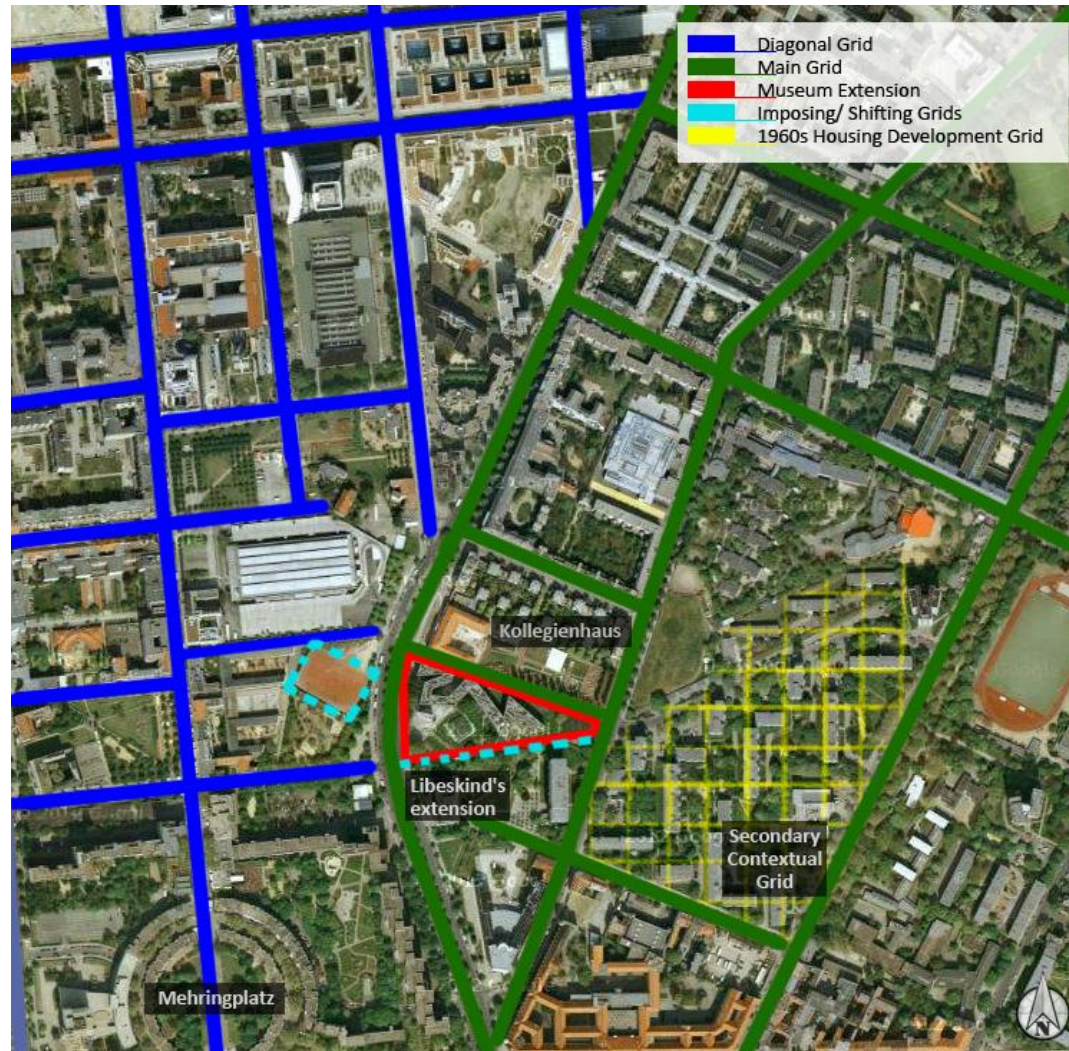
Daniel Libeskind intended the extension of the Jewish Museum Berlin to be a common ground for citizens, a space that would encourage people to look back at their common heritage and inspire individual hope. However, as a symbol of change, Libeskind conceived the Museum's form as one that embodies Berlin's fractured and transformed destiny.

(Vergara in Libeskind, *Between the Lines*, p87).

Libeskind's extension to the Jewish Museum Berlin was designed for a “lost site” that was the outcome of two shifting grids converging. There are three major imperatives for Libeskind’s design of the extension to the Jewish Museum Berlin, which influenced Libeskind's strategy to respond to his lost site: the historic role of the museum, the connection to the site as well as the neighbouring “Kollegienhaus” and the consideration of time as a component of the architecture. Based on a critique of these aspects and an analysis of the building, the following section reveals that Libeskind's design approach to the lost site involved using a *hard edge* to respond to the Kollegienhaus and the main grid on which the site is established, while using *external exhibitions* and employing *soft space* along the diagonal grid. Libeskind also internalised the key exterior contextual grids forming the five famous voids which make up the key permanent exhibitions; these enable the lost site to feel resolved even from the inside.

Libeskind's extension to the Jewish Museum Berlin is located on a site which is conflicted by its existing grid from the east, hereafter referred to as the 'main grid', and the shifted city grid to the west, hereafter referred to as the 'diagonal grid'. These colliding grids begin to converge along the site of the Jewish extension, forming a space facing onto the main grid on the east, adjacent to the existing “Kollegienhaus” (Collegiate House), built in 1735 by the architect Philipp Gerlach. This space also faces the diagonal grid imposed on it from the west side. Gerlach's building, the Kollegienhaus, was part of his eighteenth-century extension of the city, which included the formal street grid (main grid) and the laying out of geometric plazas such as the Mehringplatz, the former Belle-Alliance-Platz, just southwest of the Kollegienhaus. Notably Gerlach's early plans emphasised visual continuity and adhered to the ordering systems of the main spatial grid. The void left immediately to the south of the Kollegienhaus was a space that was also conflicted by the diagonal grid; therefore any built form here could not emphasise the same visual continuity or adhere to just the main grid, instead needing to respond to both grids converging on this site, being imposed on each other. The convergence and shifting of the two grids is seen here as grid patterns start to shift. Pathways and visual routes determined by the diagonal grid begin to be imposed on the conflicted site, while a built form, seen on the diagonal grid, orients itself to the main grid.

Figure 2: An Aerial View of the Kollegienhaus on the main grid, next to Libeskind's Jewish Museum. This diagram illustrates the two main city grids here titled, diagonal grid (blue grid) and main grid (green grid). It also illustrates how these grids begin to converge immediately to the south of the Kollegienhaus, the site of Libeskind's Jewish museum extension. These converging grids cause the appearance of a "lost site", a site conflicted by different edge conditions on all fronts. This diagram also identifies a secondary contextual grid that adds another complex edge condition that reinforces the lost site; this secondary condition arises from the housing development, located to the east of the lost site, forming a contextual grid determined by true north and true east facing buildings. Notably a built form (outlined in light blue dashes) can be seen on the edge of the diagonal grid which adheres its orientation to the main grid, a potentially poorly resolved lost site which actively ignores the conditions imposed on it from the diagonal grid.



The site is further disengaged with its surroundings by having to also respond to two secondary contextual conditions: the site of the housing development in the early 1960s, which was determined by its own grid and more so by the built forms located on this site

facing true north and true east, and the 'International Building Exhibition' (IBA), an extensive urban renewal project built between 1979 and 1987. In 1979, the Social Democratic administration appointed Josef Paul Kleihues to lead the architectural efforts through the IBA. Phillip Broadbent summarises the efforts of the IBA in his book *Berlin Divided City: 1945-1989*:

"[T]he goals ... were twofold; to restore usable turn-of-the century residential buildings and to create mixed-use residential structures in poorer parts of Berlin to stimulate growth and provide needed housing [T]he IBA brought together well known architects such as Peter Eisenman and Zaha Hadid to create attention grabbing structures that nevertheless blended with the character of the specific parts of the city, particularly the three designated areas of the southern Tiergarten, the Prager Platz, and the Friedrichstadt south of the Berlin wall."

(Broadbent, *Berlin Divided City*, p87)

Here Broadbent identifies another secondary contextual condition, which is that any building realised on this site would also need to adhere to the orientation of these new buildings that established connections with specific nodes/ parts of the city. In relation to Libeskind's Jewish Museum Berlin extension, the IBA was more than architectural context. The IBA targeted the Kollegienhaus and many of its surrounding plots for a coordinated building campaign to restore the area.

"The extension of the Berlin Museum with a special emphasis of housing the Jewish Museum Department is an attempt to give voice to a common fate: common both to what is and what is not. The Museum must not only serve to inspire poetry, music, and drama, but must be the threshold of the ordered-not-disordered, chosen-not-chosen...The past fatality of the German-Jewish cultural relation in Berlin is enacted now in the realm of the not visible. It is this invisibility which must be brought to seek light in order to give rise to a new hope and to a shared inner vision. Thus this project seeks to reconnect Berlin to its own history which must never be forgotten."

(Libeskind in Noever, *Architecture in Transition: Between Deconstruction and New Modernism*, p64)

There are three major imperatives for Libeskind's design of the extension to the Jewish Museum Berlin in relation to resolving issues of this "lost site":

- the historic role of the museum;
- the connection to the site as well as the neighbouring “Kollegienhaus”;
- the consideration of time as a component of the architecture

Here Libeskind portrays the first design imperative crucial to the success of his museum extension for recovering this lost site. As a critical means of establishing place, Libeskind considers the historical issues relating to the adjacent contexts. He believes that the city of Berlin is a place where the populace, those from the past, the present and the future, can discover their common heritage and individual hope. This is in line with Trancik’s view that:

"Maybe we finally have to understand that history and environment are two faces of architecture, that no building stands alone, and that architectural solutions however brilliant cannot overcome the limitations of the urban fabric in which they are placed."

(Trancik, *Finding Lost Space: Theories of Urban Design*, p19)

To this end, the Jewish Museum Berlin form itself must be rethought to transcend the passive involvement of the viewer, actively confronting change. Considering the historical imperative, Libeskind acknowledges the crucial role of the site as a second design imperative, its responsiveness to its immediate context as well as to the history surrounding it.

"Site context must not be neglected especially when analyzing architecture that works as public and civic spaces. The Berlin Museum is located at the center of the old city of Berlin near Lindenstrasse. It is in close proximity to the famous baroque intersection of Wilhelmstrasse, Friedrichstrasse and Lindenstrasse."

(Libeskind in Noever, *Architecture in Transition: Between Deconstruction and New Modernism*, 65).

This aligns with Trancik’s view of how Place Theory focuses on “history and the element of time and attempts to enhance the fit between new design and existing conditions.” (Trancik 97-98).



[R]esponsiveness to the historic evolution of a place will avoid superficial repetition and a retrogressive, cosmetic treatment that does not respond to the spirit of the times.

(Trancik, *Finding Lost Space*, p234)

Libeskind's proposal for the Jewish Museum Berlin extension enhanced the existing historical context of the site by reflecting the historic *evolution* of place. The building's orientation was related to the diagonal street pattern, the housing developments of the 1960's, and the new I.B.A. projects (Libeskind in Noever p65). Here it becomes evident that Libeskind designed his building, a seemingly irrationally shaped form, to resolve the key contextual edge conditions that made the site a lost site. The contrasts between the Kollegienhaus (the original Berlin Museum) and the Jewish Extension's architectural styles create a dialogue between the classically inspired versus the modern, and a tragic, historical past versus an optimistic, progressive future. Libeskind acknowledges these complex adjacencies and suggests, through the museum's built form, his approach to dealing with them. This will be described in further detail below.

Figure 3: Aerial View of the Kollegienhaus on the main grid, next to Libeskind's Jewish Museum Berlin. Here the contrast in architectural styles can clearly be seen; the neoclassical proportions of the original Berlin Museum versus the Deconstructivist architecture of the Jewish Extension.



Figure 4: Front View of the Kollegienhaus (Collegiate House)



Figure 5: View showing the contrast in architectural styles.

Libeskind linked the Jewish Extension to the Berlin Museum by means of a gallery located underground; here his approach was to not allow them to touch visually. Libeskind wanted to define a linear path between them, and a separation of styles, acknowledging the main grid as the edge condition uniting the Kollegienhaus and the Jewish Extension. Here Libeskind kept a hard edge on the main street, and used soft space to the far right (south) to resolve the edge condition imposed on this site from the converging diagonal grid. Both approaches together help resolve the lost site. Libeskind also utilised this method as an approach to remove any form of an

entrance into the Jewish extension at ground level. His solution to the complex edge condition becomes visual; reading the façades as walls and sculpture, a hard edge but one with no personal engagement by means of an entrance.

The underground gallery which becomes the primary entrance houses the Jewish Berlin collection and serves as the “interchange station” between the Berlin Museum and the extension. Here Libeskind creates a moment in his architecture where user movement to and around the two components, the Jewish Museum Berlin extension and the existing Berlin Museum, is subject to a hierarchy in favour of public movement at the ground level. Libeskind also uses this method to allow his extension to the museum to read as its own structure at the ground level. This allows user movement at this level to reflect the main grid between the buildings, emphasising visual continuity and adhering to the ordering systems of the main spatial grid as Gerlach's early plans intended.

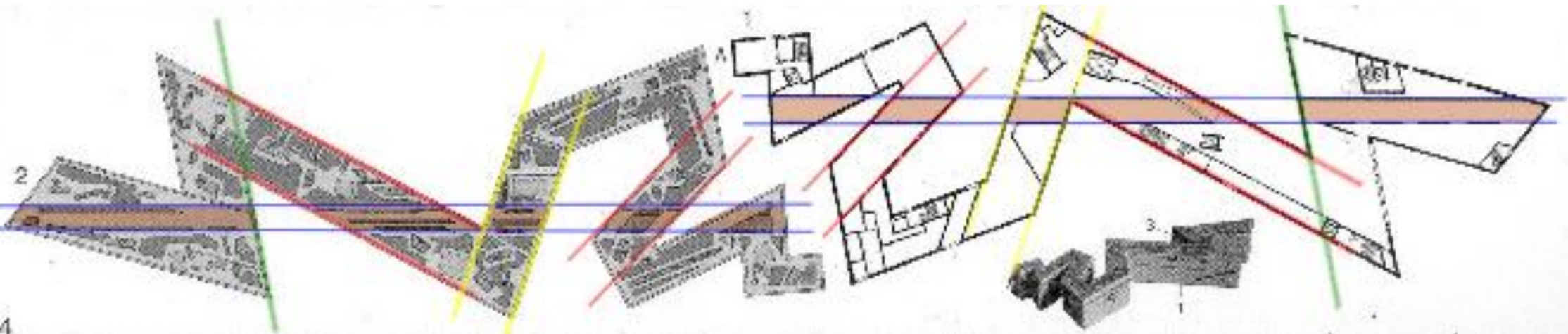
For the internal context there are three underground passages that connect the Jewish Extension with the Kollegienhaus. The first tunnel terminates at the Stair of



Figure 6: Intersection between tunnels

Continuity that leads to the new Museum and the permanent exhibits. The second leads to the Garden of Exile and Emigration, an installation of 49 square pillars arranged in a 7 by 7 grid. The last tunnel ends at the Holocaust Void; the void symbolises the dead and missing Jewish citizens of Berlin (*Berlin.de*). Here it becomes evident that Libeskind's response to the complex edge conditions extends past the exterior edges and begins to define both key internal and external spaces and exhibitions.

Libeskind defined a linear path between the existing Kollegienhaus and his extension, and visually separated the two styles. The path between reinforces the main grid; the same can be seen when looking at the linear skylights on the roof. These linear skylights are also readable internally, thereby also reflecting the original site grid, the main grid, and enabling the lost site to feel resolved even from the inside. The five oddly shaped voids that create key exhibition spaces all orient on one axis to the main grid and orient to another key contextual axis in the other as shown in Figure 7.



- Void Walls Oriented to Main Grid
- Void Walls Oriented to 1960s Housing Development Grid
- Void Walls Oriented to Diagonal Grid
- Internal Voids Housing Exhibitions
- Void Spaces Oriented to shifting grids between Main and Diagonal Grids

Figure 7: Plan images of roof level (centre right) and first floor level (centre left) altered to illustrate void spaces defined by contextual grids and shifting grid contexts.



Key exhibition spaces are not entirely enclosed by walls, hence acting as a series of open narratives. This design imperative is culturally, historically and contextually driven. Standard exhibition rooms and public spaces of formal traditional museum architecture are broken by the use of walls and temporary dividers that do not form right angles nor completely enclose a particular space. Libeskind's use of as architectural elements to create open narratives is another approach to dealing with the complex edges; he uses these open structures as a means of acknowledging the edge defining conditions and projecting them inward to allow context-driven forms to create voids based on a historic and cultural narrative.

Figure 8: One of the five voids, looking up. Here light can be seen filling the void through skylights oriented along the main grid, while the walls in the other direction are shifted. These shifted walls align with the diagonal grid and form this poetic space. This becomes an example of a context driven form creating internal space, in this case the void, to be used as an exhibition space. Its form creates a poetic space that is defined by complex edge conditions, enabling the lost site to feel resolved even from the inside.

Figure 9: Fallen Leaves installation inside the void. Here again light can be seen filling the void through skylights oriented along the main grid, while the walls in the other direction are shifted, never creating a rectangular space. These shifted walls again align with the diagonal grid and form this poetic space. This form creates a disproportionate space, with a sense of unease that is felt by the context-driven, confining space, which is further exacerbated by the use of smooth cold materials such as the concrete finish.





Figure 10: External Void. Libeskind's use of the slanted lines of his façade to gently guide the visitor between the old and the new continue into the void spaces created. His roofline appears to gradually reduce as it moves away from the Kollegienhaus, as a traditional roofline might. The material change at the base adds a sense of a *piano nobile*, typical of historic neoclassical buildings.

Voids in the Jewish Extension's corners suggest possible future public use. Here Libeskind uses another approach to the lost site, recognition of the site and city as a dynamic organism, designing for its contemporary state but considering its prospective growth in its surrounding public domain. One key feature of the open spaces is the "Mechanical Garden of Olympia." A moving image of Berlin is projected on four planes and 49 cubes (Garden of Exile and Emigration) which can be deconstructed further to 196 surfaces and 98 hidden facets. This permanent installation is located to the south end of the lost site, establishing a soft edge along the diagonal contextual grid. Libeskind uses external permanent outdoor exhibitions and large open green spaces, soft spaces, to respond to the edge condition defined by the conflicting diagonal grid to the south. The blurring of this edge by implementing soft space allows Libeskind to create a contrast with his Jewish extension's hard edge along the front façade to the west. This strategy for recovering lost space, and in this case recovering the lost site and edge condition created by the shifting diagonal grid on the main grid, aligns with Trancik's view of the use of soft space:

Being natural and non-built, soft space, contrasts with its architectural surroundings, thus enhancing the natural elements rather than detracting from them.

(Trancik, Finding Lost Space, p91)

Libeskind uses the slanted lines of his façade to gently guide the visitor between the old and the new. The new does not form a barrier, but rather it engages the senses of the visitor through the perspective lines that appear when touched by sunlight. His roofline appears to gradually reduce as it moves away from the Kollegienhaus, as a traditional roofline might. The material change at the base adds a sense of a *piano nobile*, typical of historic neoclassical buildings.



Libeskind designed the museum as a monument to remember the Holocaust. Based on photos alone, Libeskind's work educates feelings of aloneness due to the lack of warmth in the architecture, a poetic theme which acknowledges the fractured history of Berlin. The monolithic, jagged structure robustly acknowledges the key contextual grids surrounding the site, on one front forming a hard edge to respond to the Kollegienhaus and the main grid on which the site is established, while using external exhibitions and employing soft space along the diagonal grid. Libeskind's approach also internalises the key exterior contextual grids forming the voids, which make up the key permanent exhibitions. He uses the shifting grid part way through his building to acknowledge the two grids converging while reflecting the contextual connections to the east end, orienting one axis of his twisting building along the housing development grid. By integrating in unique ways with each side of the site context, Libeskind not only recovered his lost site but used the site's inherent location amongst its context and its edge defining conditions to inform the voids and key areas of the museum extension which makes it the success it is today.

« **Figure 11: One key feature of the open spaces is the “Mechanical Garden of Olympia.” A moving image of Berlin is projected on four planes and 49 cubes (Garden of Exile and Emigration). Libeskind's use of outdoor exhibitions and green spaces to the south of the “lost site” allows him to contrast between the hard spaces he creates on this site to respond to the contextual conditions of the main grid from the north.**

2.2 KALLMANN, MCKINNEL, AND KNOWLES' Boston City Hall



Figure 12: Gerhard Kallmann and Michael McKinnell, and Edward Knowles's Boston City Hall.

Completed in 1968, the Boston City Hall is located at the centre of a concentric town plan, which reflects Boston's colonial historic origins. Through a play of reveal and exposure, architects Gerhard Kallmann, Michael McKinnell, and Edward Knowles form a building that internalises one grid, the one similar in alignment to Congress Street to the west, while establishing an external soft space connection with the others. A case study of this building is fundamental as its approach to the lost site recognises both a need of sense of place as well as the need for seamless flow. The following section analyses the built form of the Boston City Hall explaining the key design approaches as well as the aligning of structure and exaggeration of it along the internalised grid to establish flow and a sense of place.

The site for the City Hall was in Boston's historic, but deteriorated, central area, where it became an important element in the government centre. A master plan for the area was prepared by I.M. Pei and Associates, defining traffic circulation and the location of open spaces and buildings. This laid down the general form of the City Hall in its urban context. Here one can see two predetermined design imperatives: a prominent vehicular road immediately to the east of the building site and pedestrian paths as well as a central civic square to the west and north-west of the building site. Rather than reflecting two different edge conditions like Libeskind's extension to the Jewish Museum Berlin, the Boston City Hall is in fact almost in the centre of a concentric town plan, which reflects Boston's colonial historic origins. Boston was founded in 1630 at the confluence of the Charles River and Boston Harbour, with a plaza (Scollay Square) at its centre. Such a site was deemed ideal symbolically for a City Hall location in one of America's oldest historic towns.

The building internalises one grid, the one similar in alignment to Congress Street to the west. What is interesting is that in fact the City Hall does not align precisely with Congress Street, or any street surrounding it. It is closest in alignment to Congress Street, even though this street frontage is in fact at the rear of the building. The front façade of the City Hall faces Campbell Street, which is on a totally different alignment. The plaza in the front of the City Hall is designed as radial lines – thus reinforcing the nature of the City Hall as being at the centre of a traditional historic town plan. This aspect of reinforcing and reflecting history as a means of resolving the lost

site aligns with Trancik’s view of Place Theory which focuses on “history and the element of time and attempts to enhance the fit between new design and existing conditions.” (Trancik 97-98).

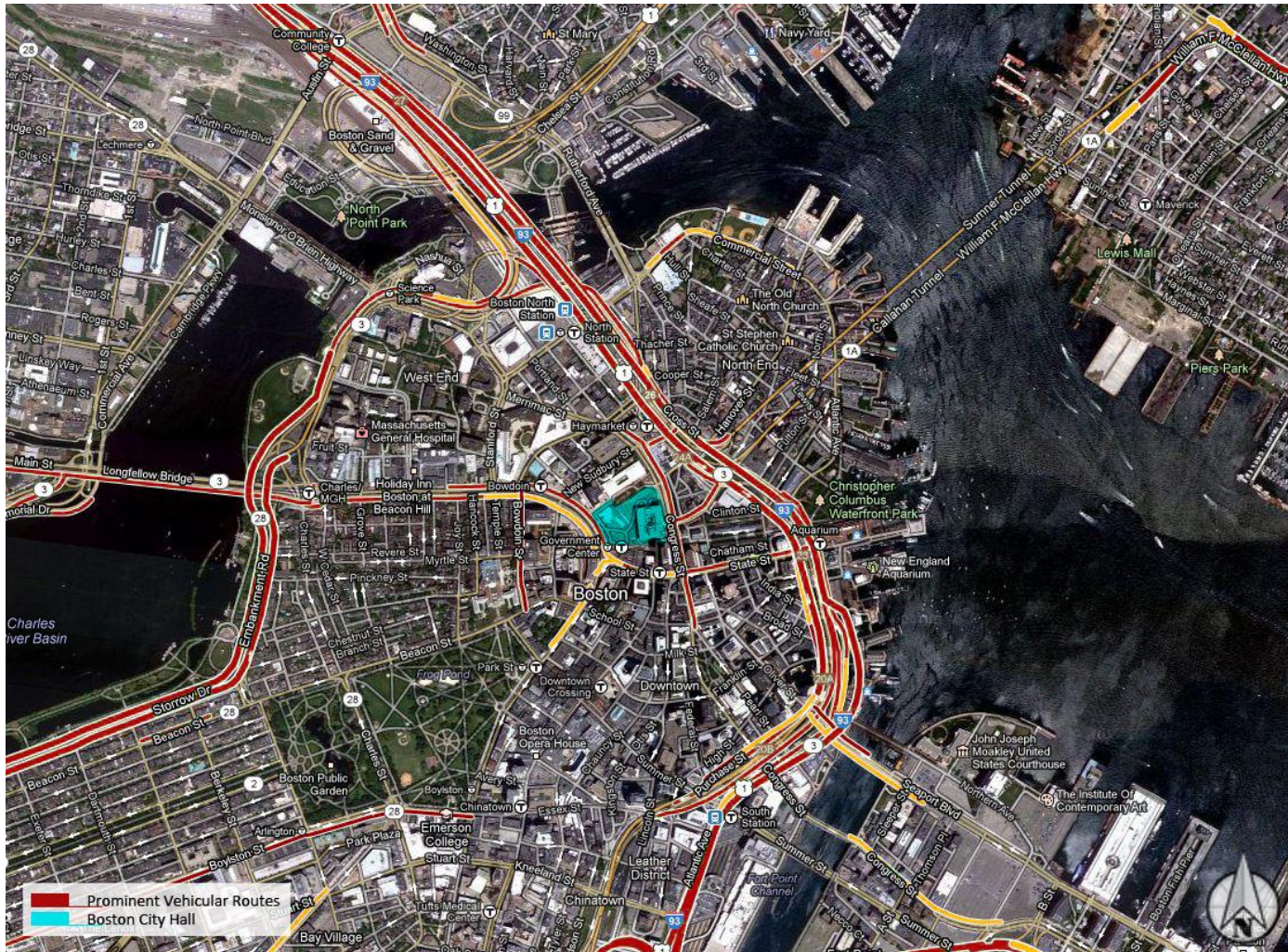


Figure 13: Context site plan of Boston City, Massachusetts, expressing the location of the Boston City Hall at the centre of a concentric town plan. When looking at the site at this scale, taking into account the larger site area it becomes evident that this site is conflicted by radial grids, making this site ideal for a town hall that must respond to all the contextual grids surrounding it, while also realising its own identity as a civic building.

Former professors at Harvard, Gerhard Kallmann and Michael McKinnell, as well as Edward Knowles's lost site emerges; it becomes evident that this site is isn't oriented to a fundamental grid. The area is radial. Part of the site must respond to the Quincy Market grid (Blue grid) while the other part must be elevated and respond to the public plaza along the diagonal grid (green grid). Both these grids, as well as the building site, are confined on the site with two prominent vehicular routes, as mentioned above, one of which is located directly to the east of the Boston City Hall site. This site is at a lower level along a main street edge, but steps up on the opposite side to establish an edge for a civic plaza. This extreme level change makes the site difficult to address, as does the need for two principal facades, each of which must establish a sense of 'front' while at varying scales. The nature of 'front' is very complex when a building is symbolically meant to be read as being at the centre of a concentric plan.

The "blue grid" of Congress Street is actually quite small, only a few blocks long and wide. The actual reason why the City Hall is oriented to this grid is that the grid contains Faneuil Hall / Quincy Market, the most important historic market place of Boston. The architects were resolving the lost site by linking the historic market orientation with a City Hall orientation, and then placing the City Hall at the centre of the existing concentric grid – two examples of using a reflection of history as a means of solving the site. A third example is that the architectural forms "drew from the example of Medieval and Renaissance Italian City Halls and public spaces, as well as from the bold granite structures of 19th-century Boston..." (Capital, *Top Capital Halls* 2012).

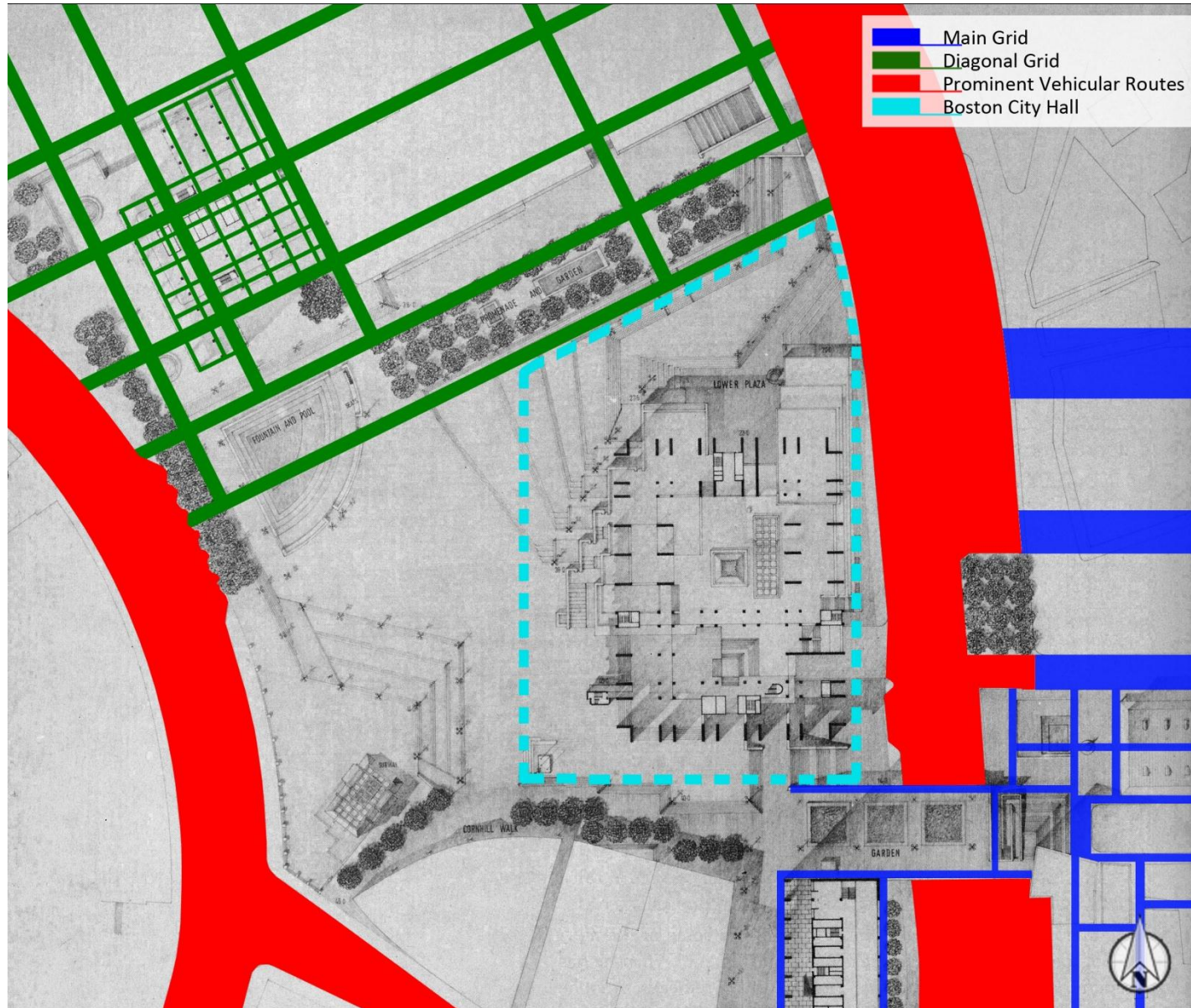


Figure 14: Plaza Master Plan, Boston City Hall, Massachusetts. The diagram is altered here to express grids; the diagonal grid (Green grid) and the Main grid (blue grid). This diagram also illustrates the prominent vehicular routes surrounding the site as well as illustrating the change in spatial scales from grand tall structured scale in the east (along the main grid) to the low and wide human oriented scale in the west and northwest, (along the diagonal grid).

Kallmann, McKinnell, and Knowles solved their lost site by utilising three approaches: the use of hard space and linear form building along the east axis, establishing soft space along the north, south, and west axes by taking advantage of the courtyard space formed, and by internalising one external grid, the grid aligning with historic Quincy Market, allowing the building to belong to the Quincy Market grid through built form while belonging to the radial grid through the soft spaces created.

Kallmann, McKinnell, and Knowles respond to the Quincy Market grid's edge conditions by forming their structure along the street front to be continuous, linear and roughly (although not exactly) aligned with the neighbouring buildings while also following the same large public scale in keeping with the buildings along this edge. This aligns with Trancik's theory of hard space as a means of establishing identity for a site:

[H]ard space, functioning as external gathering space, is characterised by enclosure and bounded by architectural boundaries. The most important factors of hard space are the frame (or boundary), the surface condition and the focal point.

(Trancik, Finding Lost Space: Theories of Urban Design, p96)

By forming their structure along the street front as a continuous linear form along the boundary, Kallmann, McKinnell, and Knowles form a clear frame that follows the Quincy Market grid's ordering structure allowing for the same visual continuity inherent in this grid. On the opposite façade (which in fact is the principal façade) they consider issues of soft space to respond to the diverse radial grids and allow for broken up, smaller scale elements that are more human oriented. The issue of soft space Kallmann, McKinnell, and Knowles utilise is evident through the use of the courtyard as an extension of the site, becoming the soft space through multiple radial lines in response to the diverse adjacent radial grids.

Kallmann, McKinnell, and Knowles utilise rough "beton-brut" concrete as the dominating construction material. Their challenge was for an architecture that could involve itself with the conflicting conditions of the site: civic centre contrasting vehicular movement,

as well as with its social, cultural, and political contexts. The result is a concrete tripartite structure. The lower structure of the City Hall contains large public lobbies that create continual flow from the large outdoor plaza to an inner one. By encouraging seamless flow and referential courtyards, a greater sense of place identity is established. The tripartite nature of the volumes and façade further a sense of identity, reminiscent of historical buildings. The tripartite reference is typical of grand public buildings – particularly the surrounding historic public buildings of Boston – and the public will understand this reference, thereby gaining additional sense of place identity. With conflicting conditions as one of the key causes of a lost site, this strategy of establishing an overall tripartite ordering system of base (public lobbies), middle (ceremonial spaces), and top (administration elements) in one program is an attribute crucial to the successful design of any architecture on a lost site with similar historical references nearby.

“We distrust and have reacted against an architecture that is absolute, uninvolved and abstract. We have moved towards an architecture that is specific and concrete, involving itself with the social and geographic context, the program, and methods of construction, in order to produce a building that exists strongly and irrevocably, rather than an uncommitted abstract structure that could be any place and, therefore, like modern man, without identity or presence.”

(Gerhard Kallmann in Paul Heyer, *Architects on Architecture: New Directions in America*, p260.)

This notion of an architecture that involves itself in the social and geographical context aligns with Frampton's views on Critical Regionalism as well as Trancik's Place Theory;

“Critical Regionalism also recommends against free-standing object urbanism by focusing on specific location favours the realization of architecture as a tectonic fact rather than the reduction of the built environment to a series of ill-assorted scenographic episodes. Critical Regionalism attempts to focus on all the senses that inherently affect the experience of a place. It is opposed to the tendency in an age dominated by media to the replacement of experience by information”

(Kenneth Frampton, *Modern Architecture, A Critical History*, p327)

Space is only considered to be 'a place' once it is given contextual meaning which is derived from the cultural and regional contexts of a location

(Trancik, Finding Lost Space: Theories of Urban Design, p112)

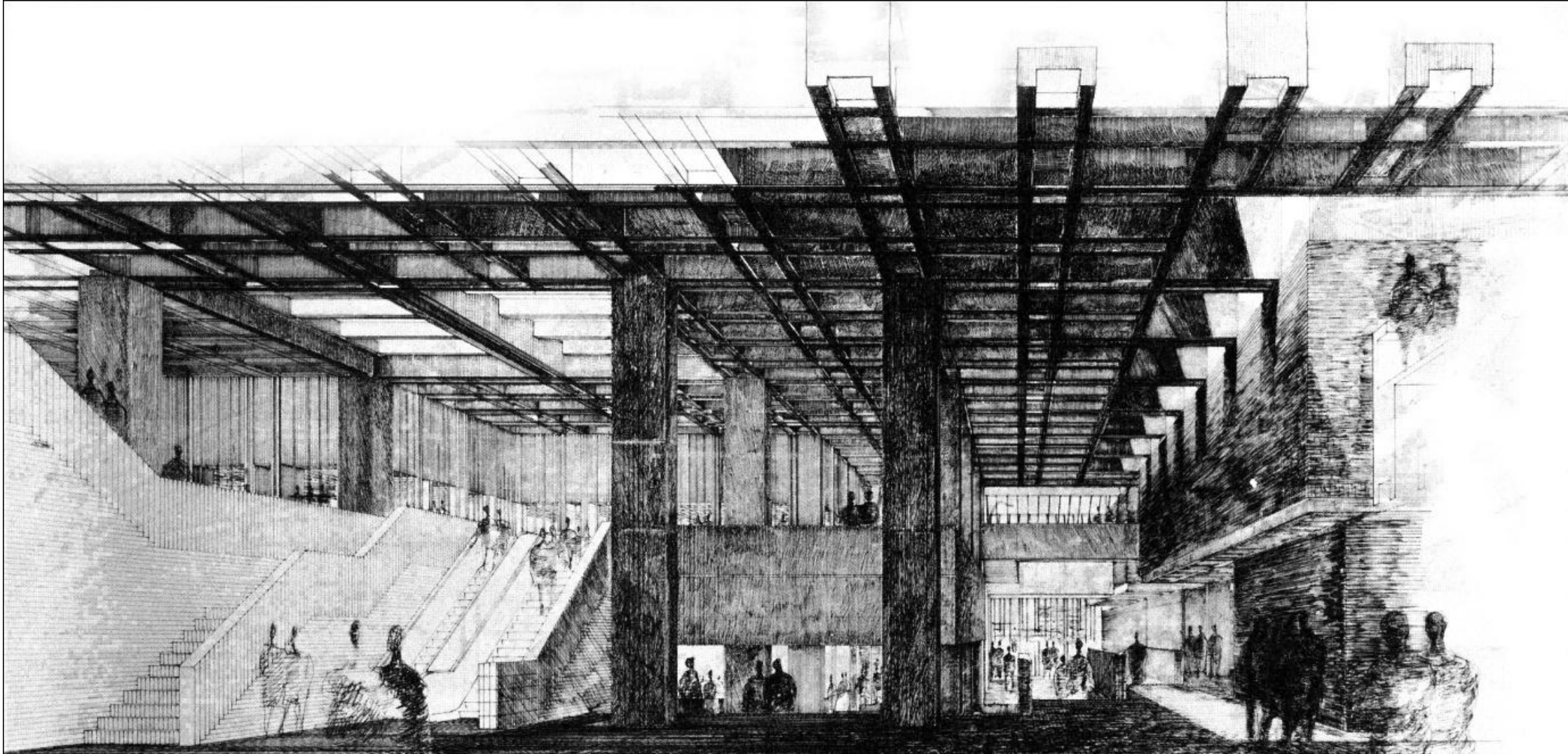


Figure 15: North Lobby expressing the contrast of the lower open public space against the disciplined upper office. Here the seamless flow between the external elements and the internal elements are expressed along the main grid, allowing for visual continuity when moving to and from the radially driven grid to the main grid.

From a distance the form achieves monumentality, drama and a sense of unity; and in detail the contrasting textures, the play of light and shade culminate in a series of dramatic terraces which present a vigorously unified form. This building has evoked a fair amount of criticism; the main contentions of the sceptics can be expressed in two categories. The building's "brutal" appearance that comes from the use of some raw materials, stone and concrete; and the large, sometimes considered arbitrary extrusions along the façades.

What isn't always expressed however is the intention of these extrusions. The design imperative of externalising program and internalising the Quincy Market grid into the building was an approach utilised to further affirm the seamless flow into the building providing an integrated programmatic reading for people inside. The tripartite ordering system of base, middle, and top, allowed the City Hall to be referential to surrounding architecture without necessarily copying it; this is important as it reflects the neoclassical architectural ideas, similar to the historic buildings in its adjacency. The structural extrusions exaggerate the Quincy Market grid while simultaneously forming structural skeletons and functional enclosures as a means of expression.

"The city hall is divided into three main entities that make up the overall system. Its division, both volumetrically and programmatically, is essentially a division of public and privatized spaces that are emphasized such that, as the building tapers into a cantilevering system, the more private aspects of the city government are directly related...As the building continues to taper out, the building becomes a more standardized, bureaucratic façade system, which directly relates to the work happening within. At the uppermost floors where the mayor's office workers are located, the façade system is structured on a monolithic scale appearing as an ancient tri-glyph that wraps the perimeter of the building.

(Kroll, *AD Classics: Boston City Hall* / Kallmann, McKinnell, & Knowles, 2011)

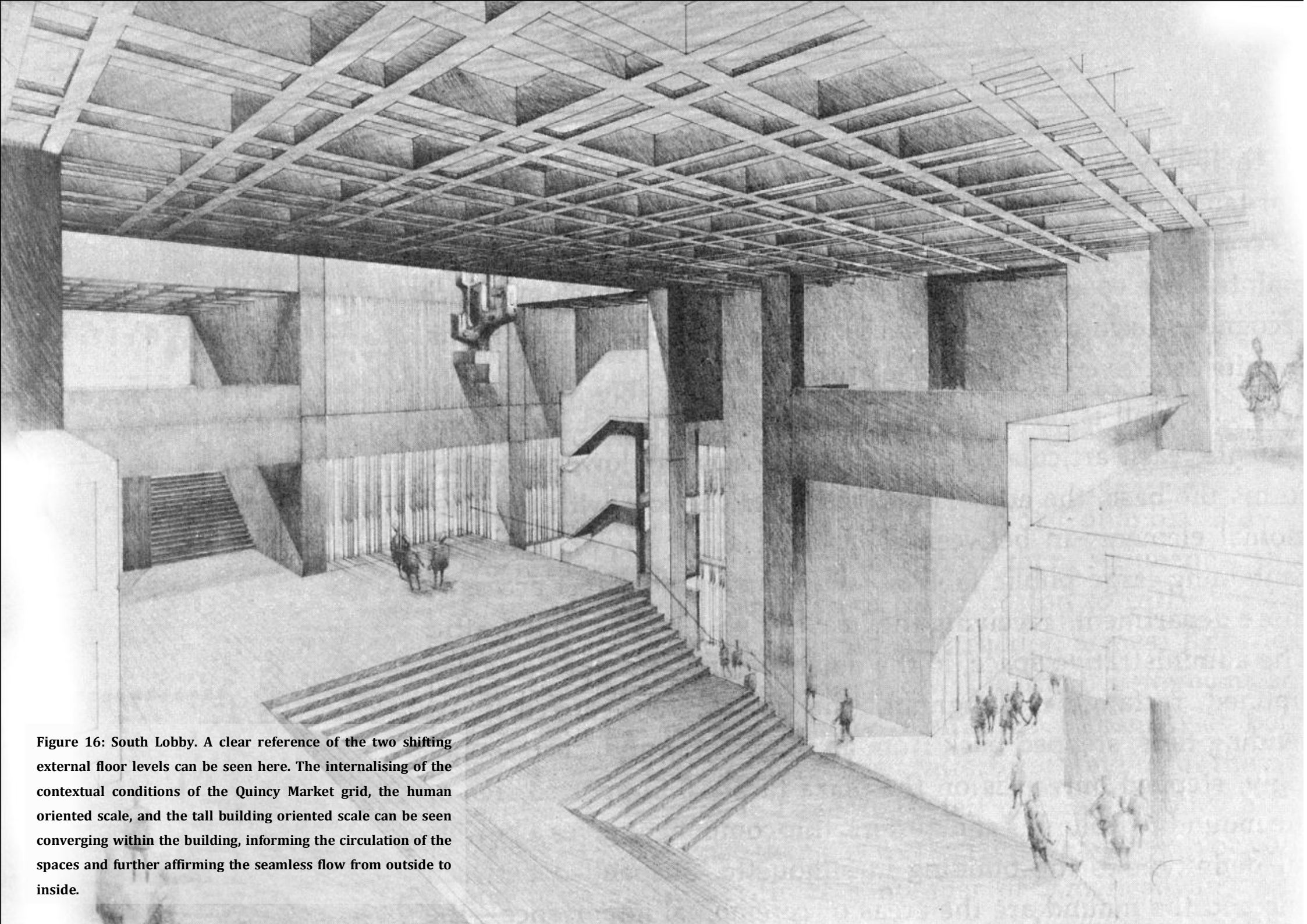


Figure 16: South Lobby. A clear reference of the two shifting external floor levels can be seen here. The internalising of the contextual conditions of the Quincy Market grid, the human oriented scale, and the tall building oriented scale can be seen converging within the building, informing the circulation of the spaces and further affirming the seamless flow from outside to inside.

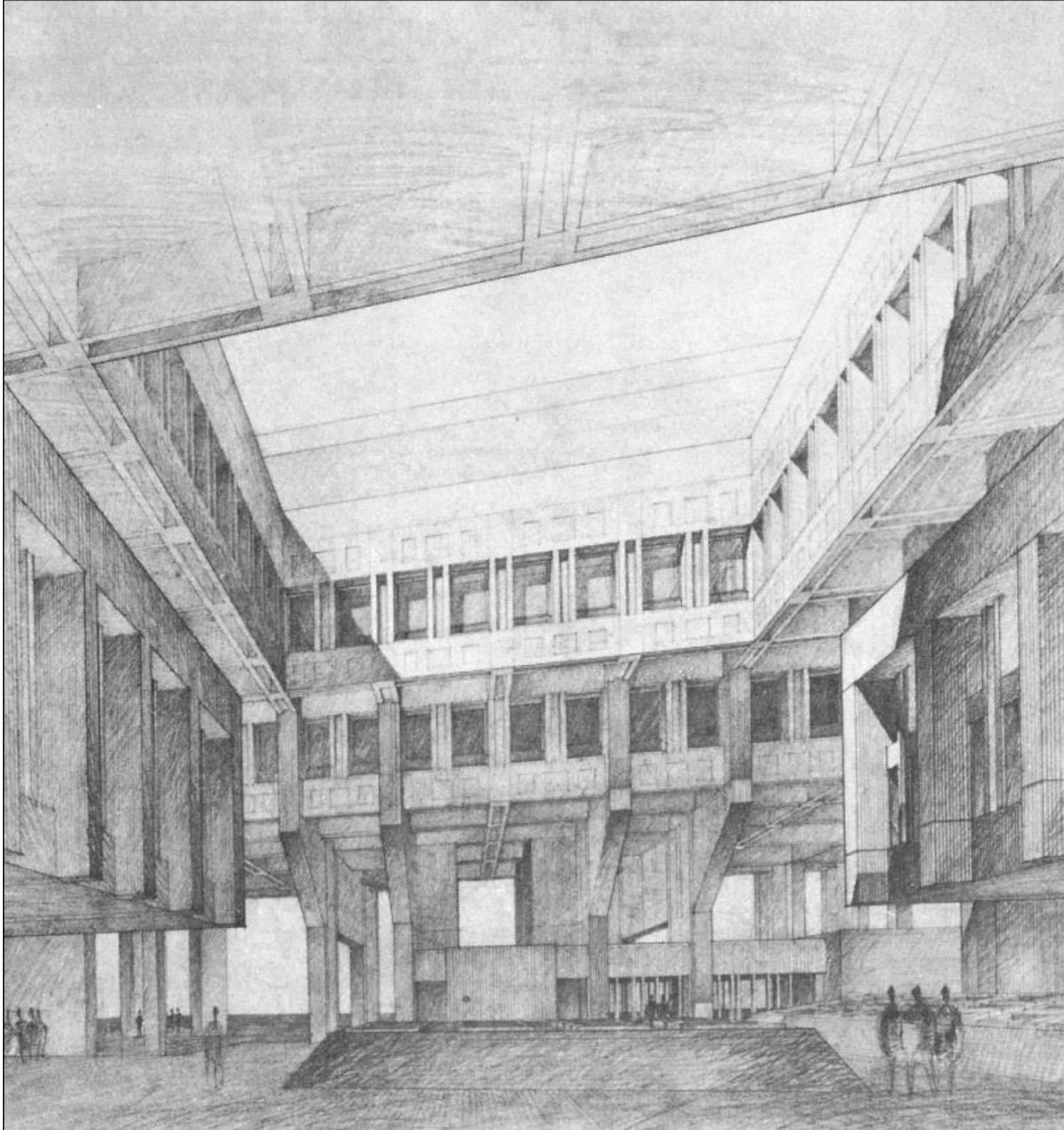


Figure 17: Inner Court. The administrative space is shaped as a disciplined, rectangular doughnut. Here offices are arranged in ascending tiers; stepped back to form an inner court. The use of an inner court is also reminiscent of neoclassical design imperatives; and correspondingly steps outward on the plaza façades. The inner court here also creates a transition between the converging edges and relief from both external moods, while allowing the users to still visually perceive both.

The “three main entities” Kroll refers to above are the lower structure that forms the base, the administrative offices that form the top, and the ceremonial elements in between. The lower structure contains the large public lobbies. This critically reflects theory of hard space and soft space and linkage theory. It establishes continual flow from the large outdoor plaza to an inner one. By encouraging seamless flow and referential courtyards, a greater sense of place identity is established. These allow easy and direct access to those departments receiving the heaviest volume of public traffic.

The administrative space is shaped as a disciplined, rectangular doughnut. The offices are arranged in ascending tiers; stepped back from an inner court and correspondingly stepped outward on the plaza façades. This use of an inner court is also reminiscent of neoclassical design imperatives. Supported free of the lower structure by columns and girders, this component gives powerful definition to the building, establishing a sense of identity with the site by aligning these large structural forms along the Quincy Market grid. Suspended over these areas are the programmatic spaces of ceremonial significance: the Mayor's department, Council Chamber, offices, and a Municipal library. As mentioned above, these are clearly expressed by their extruding forms on the external façade, thereby establishing identity on site directly through an aesthetic representation of the program, the reason for the building and these key areas within it.

The arrangement of the upper structure, in contrast to the variety of planes of the shape at the pedestrian level, has been described as "a brilliant demonstration of the principle of order in the sky and tumult on the ground." (Heyer 260) The Boston City Hall accommodates not only the varied forms and attendant voids of the building's ceremonial elements, but also the flexible open areas of the upper office structure. Personalised space and general space have been juxtaposed, with structure along the Quincy Market grid as a catalyst. This strategy allows for a truly holistic building to be realised. As Kallmann states, “it exists strongly and irrevocably on a rather private program”, a government building, which accommodates a demanding site in conflict, much like a lost site, necessitating a

response to complex edge conditions in all directions from those that are public, open, and slow paced to those that are vehicular, constraining and fast paced.

2.3 Phaeno Science Centre



Figure 18: Zaha Hadid's Phaeno Science Center.

The Phaeno Science Center, designed by Zaha Hadid with its dynamic form and structure creates an evocative response for its users. Located on a site surrounded by conflicting contextual programs as well as two shifted grids, in Wolfsburg, Germany, the Phaeno acts as a link between the two very different sides of the city. This building is an excellent case study confronted with yet again contrasting set of conditions on a main axis, but differing in how the architecture responds to these conditions. This study will analyse the building in regard to its surroundings, identifying spatial imperatives that gave rise to the site's architectural resolution. It looks at how Zaha Hadid dealt with the issue of conflicting edges and analyses the design strategy of the architectural approach on this lost site.

The project title, 'Phaeno', a Greek word meaning to 'cast light upon' or to 'discover', was chosen for the project to express an engaging sense of wonder. The urban district of Wolfsburg was built in 1983 for the primary purpose of housing the workers required to produce the Volkswagen. The lost site that emerges here is a consequence of conflicting contextual grids converging and forming a set of conflicted edge conditions along the one site. The triangular Phaeno Science Center site is along a historic canal that is on one grid, and a bridge that is oriented toward Alt Wolfsburg (old Wolfsburg) in the distance. The fact that this bridge aligns with a historic site is creating this lost site and is another aspect of history.

On the northwest side of the site there are the historical civic buildings and Volkswagen factories. These structures formally align with the diagonal grid of the canal, accommodating very little external space as to allow for large open internal spaces to meet the program requirements of a factory. On the northeast end of the site is the new Volkswagen Autostadt, one of the main tourist attractions within Wolfsburg, which also aligns to the diagonal grid while also engaging its program and circulation to respond to the Canal. Based on just the diagonal grid, the site of the Phaeno Science Center must already respond to two very different contextual conditions: one that is composed of historic factories and another that is composed of contemporary factories.



Figure 19: Context Site plan of Wolfsburg, Germany, showing relationship between Phaeno Science Center and the shifted grid on which it is found. The diagram is altered here to express the location of this lost site amongst its immediate context. This diagram also clearly expresses the historic canal oriented on one grid and the public bridge that is oriented towards old Wolfsburg in the northeast. This shifted bridge acknowledging an aspect of history is a key factor that influenced the appearance of this lost site.

Also running along these two contextual conditions are the Canal and the newly established high-speed train stop. These two contextual conditions, the train stop and canal, while aligning to the diagonal grid, further affirm the appearance of lost site by actively forming a clear barrier between the lost site and two key contextual programs, the historical Volkswagen factories and the Volkswagen Autostadt, to which the site must respond.

The south of this site is defined by traditional urban mixed-use blocks. These blocks are made up of a mix of commercial, business and residential units occurring at varying scales of construction from large multi-storey scales to single and two storey scales. These blocks roughly align with an east-west grid, here titled the main grid, and form another spatial edge condition to which the lost site needs to respond. A prominent vehicular route running between these blocks past the eastern face of the immediate lost site can be seen which is also visually linked to a pedestrian bridge connecting public users to the Autostadt and visually orienting them to Alt Wolfsburg in the distance.

These spatial conditions of central city and vehicular movement in the south, and the railway, canal, Volkswagen factories and Autostadt in the north gave rise to a site confounded by conflicting contextual conditions and identities, a lost site. These diverse edge conditions converging along this lost site are vital to resolve because: "It is now, next in being the link to Autostadt, the essential gate to the city" (Schumacher in Jamnani 67).



Figure 20: Map of Wolfsburg, Germany, showing relationship between Phaeno Science Center and the surrounding key spatial contextual conditions.

The Phaeno Science Center's form is designed to be continuous. Hadid designs the site itself to be a 'rolling' artificial landscape that merges into the cones, structural bases of the Phaeno. Hadid plays with the idea of the "urban carpet" by extending the rolling carpet into the surface of the building; the site becomes the walls and the structure of the Phaeno. Here Hadid confronts the issue of two shifted grids meeting along this site by treating the ground level of her site as a transition space. By blurring the line between walls and floors and raising her architecture up off the ground Hadid forms an externalised internal space. This allows engagement at the ground level between the architecture and the two contrasting edges to be resolved by a walkway; the architecture shields the user from any sensory contrast from the opposing edges. This creates a moment of seamless flow between the defining edges that this site is confronted by, both the train stop and canal in the north, and the business and commercial spaces in the south.

At the ground level this rise is made possible by large cone-like structures, which express a monumentality of the building above. These ten irregularly scattered room-sized objects that resemble inverted cones are separated by axial penetrations that create open plaza spaces below the building. Six of these cones support the weight of the floor above while the remaining four extend upwards to support the roof.

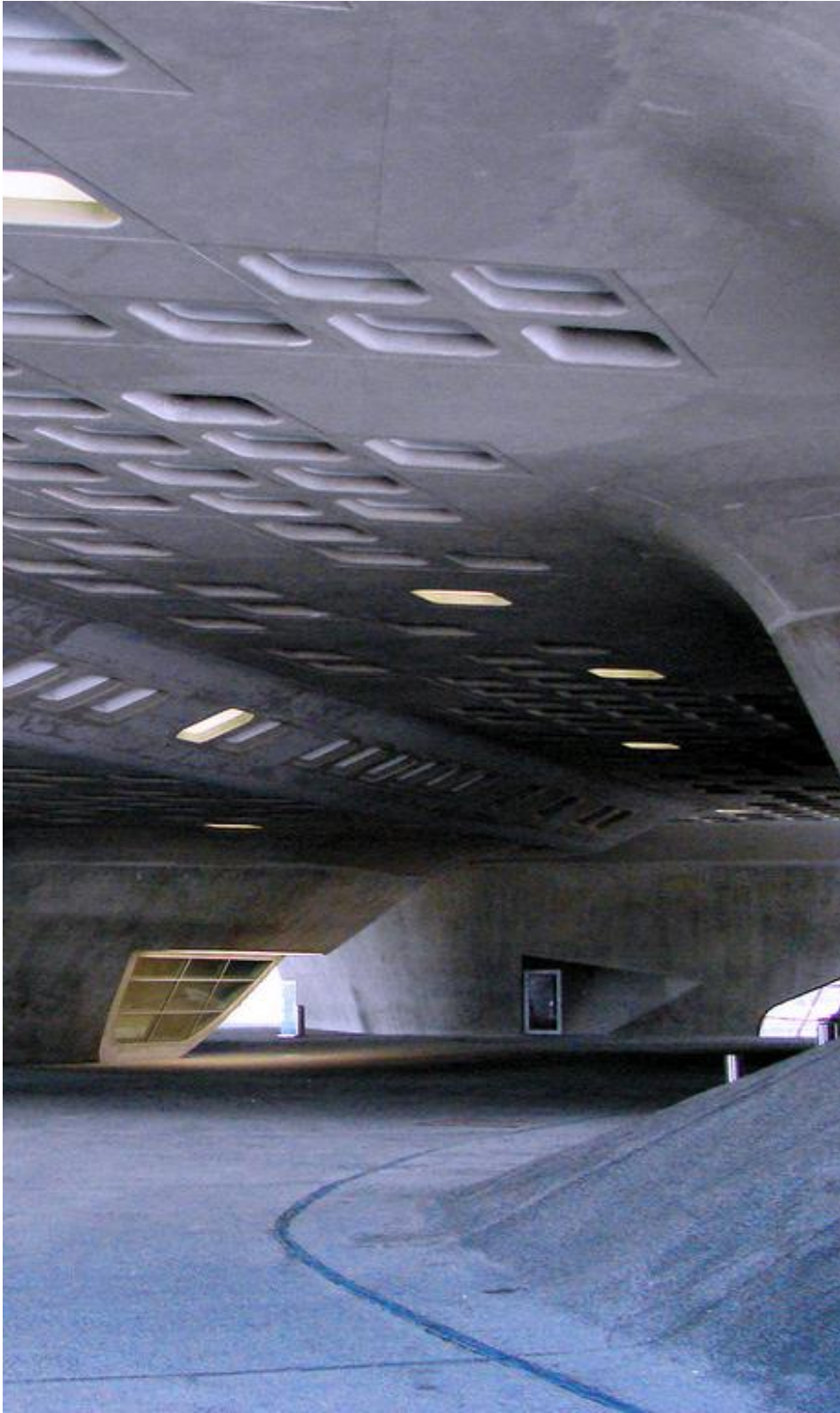
"Zaha Hadid's prizewinning design elevates the entire exhibition floor to a height of 6.5 meters, thus generating an urban area underneath the disc shaped building as an interactive link to the city centre and it is going to mark an urban place at the heart of an intersection"

(Schumacher, *Zaha Hadid Complete Works*, p145)



Figure 21: Urban Space during construction located at the ground level of Phaeno

Functional spaces like the museum entrance where an escalator takes visitors to the main level, the bookstore, and a theatre are located in these concrete cones, while the remaining three combine to become a large exhibition space underneath the main open space level, creating an unusual crater landscape. This crater landscape emphasises Hadid's approach to the contrasting edge conditions. By first raising the building off the ground, Hadid externalises this otherwise internal ground floor of her building, making it public, then internalises this now outdoor space by creating a moment of seamless flow between the two contextual edges. Hadid then locates functional spaces within this space, like the museum entrance which creates the notion of the unusual crater landscape

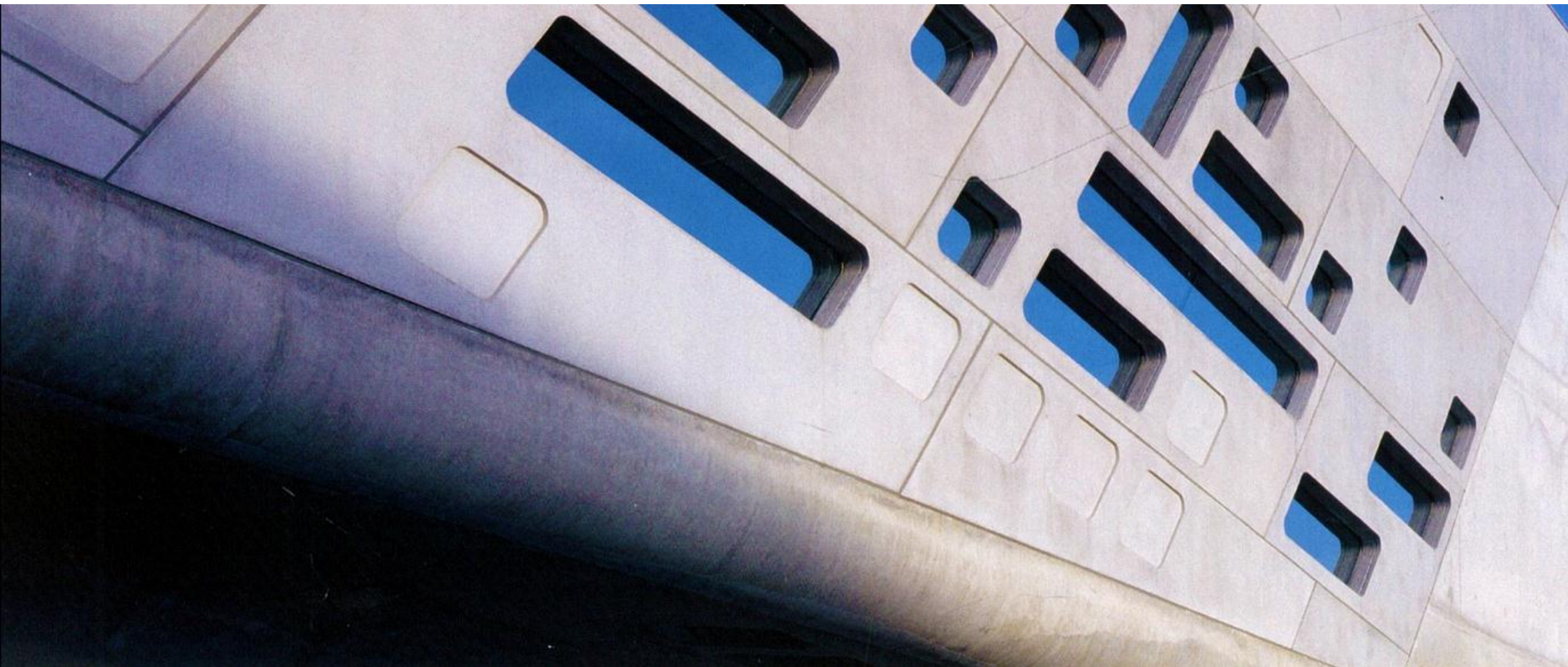


Zaha Hadid explains this unusual public space beneath the centre in Philip Jodidio's book, *Hadid Complete works 1979-2009*, by arguing that "The free ground is a modernist idea, but it was never an animated space. That's what I try to create" (Hadid in Jodidio 205). Here Hadid suggests a key imperative of her urban space is to create animated and useful space. A problem with early modernist approaches to urban utopias was the creation of monumental buildings surrounded with large open spaces that were inhuman. Hadid addresses this by creating a monumental building surrounded by open space where the space and building merge. She thereby achieves a type of density the early modernists avoided and she creates the linkage of inside to outside hard space.

« **Figure 22: The unusual public space created beneath the Phaeno.**

Hadid's approach to resolving the lost site was also based around the idea of movement and continuity. These ideas are represented in three aspects of the building: visual continuity, physical continuity, and surface continuity. Inside the building, in the exhibition spaces, the surface of the ground plane is continuously folding over and under itself creating an enclosed space. The cones do not appear to penetrate the planes but the two are merged together by the rounding of the edges to emphasise this surface continuity theme. The cones that raise the building off the site also seamlessly penetrate through it, holding up the roof structure, another layer of continuity.

Figure 23: Large inverted bell-shaped windows further add to the structure's sculptural presence.



"Phaeno is the most ambitious and complete statement for our quest for the complex, dynamic, and fluid spaces. The visitor is faced with a degree of complexity and strangeness, ruled by a very specific system based on an unusual volumetric structural logic" (Hadid in Jodidio 205). Hadid very much achieves this surface continuity through the extensive use of Self-Compacting Concrete, SCC. SCC has an ad-mixture of super plasticiser and a chemical addition that improves the material's flowing qualities and allows it to be poured directly into composite formwork. This cast-in-place concrete and its properties allow for a finish that is visually dynamic, and fluid in appearance. Here Hadid's use of concrete in this manner allows her to blur the edge between floors and walls. In the façade of Phaeno the use of both SCC and pre-cast vibrated concrete can be seen clearly. This contrasts between the hard edges of the slab-sided walls and the curved underbelly of the floor slab upon which they rest. The use of material and structural form to achieve surface continuity and furthermore to instil a sense of place aligns with Frampton's views of how Critical Regionalism focuses on the tactile qualities of materials in creating a sense of place.

The materiality of building and light is of importance... in that material concrete as being the most suitable material for realizing surfaces created by rays of light... (where)...walls become abstract, are negated, and approach the ultimate limit of space. Their actuality is lost, and only the space they enclose gives a sense of really existing.

(Frampton, Modern Architecture, A Critical History p479-480).

The total size of the site including the extended artificial landscape is approximately 12,600 square meters. Half of that area is the actual footprint of the building. The public main entrance to the museum is located near the centre of the site. Hadid achieves her aspect of physical continuity by forming a shifted hard edge along the eastern edge of her building. This edge does not align with any key grid but aligns more so to a contextual condition, the Volkswagen Autostadt. Hadid also implements a hard edge along the northern face of her building conforming to the canal grid and allowing for visual order with both the northern side of the city as well as the immediate train stop and canal. She also uses soft space to create a transition by extending the artificial landscape out in the south and west ends of the site.

The approach of implementing soft spaces in one direction while using hard edges in the other align with both Trancik's theories of hard and soft space as well as Hertzberg's space and place theory in the same sense as they did for both the previous case studies. Hadid also creates a moment of seamless flow similar to the Boston City Hall, but does so by raising her building up and off the ground instead of implementing a tripartite ordering system of base, middle, and top. A key difference however in this case study is the shifted hard edge along the east face that Hadid utilises to inform another aspect of her approach to the lost site, an approach based on visual continuity.

Hadid shifts the hard edge she creates along the east face of her building to align this edge with the Volkswagen Autostadt which is linked to the site by the pedestrian bridge mentioned earlier. This bridge forms the entire grid orientation of two sides of this site; it is oriented toward a historic centre. This reinforces visual continuity along this edge with a key contextual program around this site. Hadid completes this edge by implementing soft space along the boundary which further emphasises visual continuity by allowing the space to remain permeable, further establishing visual connectivity with the historic centre. Hadid's approach to achieve visual continuity is also seen through her use of another public bridge which leads through the interior of the building, causing the inside and outside to merge together and interpenetrate, instilling a sense of continuity. The shifting edge of the building affects the overall form of the building giving it its disc shaped form, which is resolved along the south and west edges with the use of the artificial landscape as artificial soft space.



Hadid's building portrays a signature of her style of design, one of sculpture and grandeur form. This is common of all three case studies analysed, but the key difference here is that this case utilises parametric flow as a means of form production. The use of parametric flow is what enables this building to engage with its site. Continuity is achieved throughout the building as well as around the site, with its unique form shifting to align with the Volkswagen Autostadt. Hadid's approach to the lost site encourages directionality through its form, linking interior with exterior and using specific materials to blur the boundary between the two. The main concourse rises above the ground creating an artificial urban carpet which extends out and acts as soft space to the south and west of the site. In her attempts to create animated space Hadid also creates a moment of seamless flow allowing the two very different edges of her site to exist amongst each and recover this otherwise lost site.

« **Figure 24: A strong cantilever facilitates seamless flow and the blurring of inside/outside and floor/wall.**

2.4 Conclusion

All these architects were faced with the problem of the lost site: sites defined by conflicting complex site adjacencies arising from transformative urban evolution. This phenomenon of complex adjacencies is becoming more and more evident and problematic as our urban centres transform over time. These three case studies represent three different styles of architecture, but their approaches to resolving conflicting site conditions share some commonalities:

Libeskind's approach to the lost site involved:

- Libeskind established a hard edge along the main street (front west façade) to create a sense of continuity with the existing street facades.
- Libeskind used soft space to the south to resolve the edge condition of the other street. Two different approaches to resolving the lost site: hard space on one façade and soft space on the other.
- Libeskind used an underground entry because he did not feel the new building should touch visually the old. He wanted to define a linear path between them, and visually separate the two styles. The path between reinforces the original or main grid, as do the linear skylights on the roof. He was also conscious that one 'visible front door' on a site based on conflicting grids and conflicting contexts can add ambiguity rather than clarity to the lost site.
- Linear skylights on the roof are readable internally, thereby also reflecting the original site grid on one axis and another key grid in the other axis, thus enabling the lost site to feel resolved even from inside.
- Libeskind wrapped his design around outdoor hard spaces to reflect the way the historic Kollegienhaus wraps around its outdoor hard space.
- Libeskind uses the slanted lines of his façade to gently guide the visitor between the old and the new. The new does not form a barrier, but rather it engages the senses of the visitor through the perspective lines that appear when touched by sunlight. His roofline appears to gradually reduce as it moves away from the Kollegienhaus, as a traditional roofline might. The material change at the base adds a sense of a *piano nobile*, reminiscent of historic neoclassical buildings

Kallman, McKinnell, and Knowles's approach is to achieve clarity within a complex set of conflicting programmatic elements by:

- The use of hard space and linear form building along the “main” grid; they specifically selected the grid of historic Quincy Market as their principal orientation.
- Establishing soft space along the opposing radial grids by taking advantage of the courtyard space formed.
- Internalising one external grid, the main grid, allowing the building to belong to the historic Quincy Market grid through built form while belonging to the opposing radial grids through the soft spaces created.
- Establishing a sense of front entry on both principal facades through the use of open flow of space.
- Exposing formally its served and servant elements.
- Establishing an overall tripartite ordering system of base (public lobbies), middle (ceremonial spaces), and top (administration elements) allowed the City Hall to be referential to surrounding architecture without necessarily copying it; this is important in establishing identity as it reflects the neoclassical architectural ideas, similar to the historic buildings in its adjacency.
- Demonstrating the principle of order in the sky and tumult on the ground.
- Externalising program and internalising the main grid into the building was an approach utilised to further affirm the seamless flow into the building providing an integrated programmatic reading for people inside. It also affirms a strategic connection to history by selecting the grid of Quincy Market.
- Exaggerating the structural extrusions which align to the Quincy Market grid while simultaneously forming structural skeletons and functional enclosures as a means of expression.

Hadid's approach to the lost site involved:

- Treating the ground level of her site as a transition space, thereby blurring the line between walls and floors and raising her architecture up off the ground. This forms an externalised internal space allowing for engagement at the ground level between the architecture and the two contrasting edges. This creates a moment of seamless flow between the defining edges. It also enables the issue of ‘front entry’ to be resolved by flow rather than implicating just one ‘façade’ that may exacerbate the nature of the lost site.
- Hadid creates animated space by forming a monumental building surrounded by open space where the space and building merge. She thereby achieves a type of density the early modernists avoided and she creates the linkage of inside to outside hard space.

- Hadid uses materials like Self-Compacting Concrete and pre-cast vibrated concrete in structural form to achieve surface continuity and furthermore to instil a sense of place.
- Hadid creates a shifted hard edge along the east façade of her building to acknowledge the V Autostadt and completes the space surrounding the bridge along this edge with soft space that further affirms visual continuity with the Autostadt. She also uses a hard edge along the North face to adhere to the canal grid as well as the immediate train stop and canal.
- Hadid used soft space on the south and west faces of her building to resolve the edge condition of the other streets allowing for transition along her artificial landscapes.
- Hadid responds to the bridge along this site, which formed the entire grid orientation of two sides of this site, by the use of a shifted hard edge along the east façade. The bridge along this edge is oriented toward a historic centre and by shifting her façade to do the same; Hadid allows her architecture to respond to this key historic centre as well.

All three of these case study sites differ in their architectural style; one was deconstructed (Jewish extension), one was rigidly orthogonal (Boston City Hall), and one was parametric (Phaeno Science Center). Such different case studies on lost sites were selected in order to consider if hugely different stylistic approaches still address similar problems in similar ways. As civic building types all three case studies felt they needed to engage notions of monumentality. All three established hierarchies as a means of establishing identity. All three established strong linkages between inside and outside spaces to facilitate issues of site identity. All three use soft transition space as a means of resolving conflicting grids. All three shared elements of 'object in the field' architecture, yet all three also integrated with their contexts.

The following chapter will look at the design research site, Jack Ilott Green, adjacent to Civic Square in Wellington, a lost site with little available soft space surrounding it – which was a principal device the three case studies all used to help resolve place. So this design research site demands that this study extend further than the case studies. Also, none of the case studies had the additional task of expressing multiple program typologies like the lost site adjacent to Wellington's Civic Square.

These case studies all dealt with one single large program, so they were able to establish a singular identity. This design research experiment on the other hand needs to be able to be simultaneously read as multiple typologies – a public concert hall and a university music school. Without critically addressing the issue of multiple typologies, the design would appear typologically generic, and thus lose any sense of identity and place. These case studies provide some insights on resolving this lost site. Today's lost sites are becoming more and more complex; by integrating multiple theorists to address these added complexities, the thesis argues that an approach to the contemporary lost site can be found.

2.5 References

Broadbent, Geoffrey. "The semiotics of the void." In *Semiotics Around the World: Synthesis in Diversity* Vol. 1. Ed. Gerald f. Carr. Berlin, Germany: Mouton de Gruyter, 1997.

Broadbent, Phillip., Hake, Sabine. "Berlin Divided City: 1945-1989" New York: Berghahn, 2010.

Capital, Kisska. "Top Capital Halls" 07 Feb 2012. Capital Hall. Accessed 21 August 2012. <<http://capitalhall.com/>>

Hadid, Zaha. "Zaha Hadid: Opere E Progetti." Torino: U. Allemandi, 2002.

Heyer, Paul. "Architects on Architecture: New Directions in America." New York : Walker, 1978.

Jamnani, Taraneh. "Critical Look to the Developments in Architectural Structures." Eastern Mediterranean University Press, 2009.

Jodidio, Philip. "Zaha Hadid: Complete Works 1979-2009." Köln; London; Los Angeles: Taschen, 2009.

Kroll, Andrew. "AD Classics: Boston City Hall / Kallmann, McKinnell, & Knowles" 06 Mar 2011. *ArchDaily*. Accessed 02 February 2012. <<http://www.archdaily.com/117442/>>

Libeskind, Daniel. "Between the Lines." In *Countersign*. New York, USA: Rizzoli, 1992.

Libeskind, Daniel. "Between the Lines." In *Architecture in Transition: Between Deconstruction and New Modernism*. Ed. Peter Noever. Munich, Germany: Prestel, 1991.

Libeskind, Daniel. "Between the Lines, Extension to the Berlin Museum, with the Jewish Museum." *Assemblage*, No.12, 1990.

Libeskind, Daniel. "Daniel Libeskind and the Contemporary Jewish Museum: new Jewish architecture from Berlin to San Francisco." New York: Rizzoli; Milan: Skira, 2008

Millard, Charles W. "The New Boston: City Hall" *The Hudson Review* Vol. 23, No. 1, 1970.

Mistur, Mark. "The Phaeno Science Center." Troy, New York 2006.

Müller, Alois Martin. "The Dialectic of Modernism." In *Architecture in Transition: Between Deconstruction and New Modernism*. Ed. Peter Noever. Munich, Germany: Prestel, 1991.

Schumacher, Patrik., Fontana-Giusti., Gordana., Hadid, Zaha. "Zaha Hadid: Complete Works." London: Thames & Hudson, 2004.

Schweinberg, Lindsey. "A New City Hall: Boston's Boost for Urban Renewal". *Wall Street Journal*, Feb 12, 1969.

Stankovic, Marina, Donald Bartes, Attilio Terragni, Marco Vido. "Daniel Libeskind, The Jewish Extension to the Berlin Museum." In *New Architecture: The New Moderns & the Super Moderns*. Ed. Dr. Andreas C. Papadakis. New York, USA: The Academy Group, 1990.

(No author) "Jüdisches Museum." Berlin.de. Berlin International. Accessed 11 February 2012.
<<http://www.berlin.de/orte/sehenswuerdigkeiten/juedisches-museum/index.en.php>>

Studio Daniel Libeskind, Projects. "The Jewish Museum Berlin." Studio Daniel Libeskind. Accessed 11 February 2012.
<<http://www.daniel-libeskind.com/projects/show-all/jewish-museum-berlin/>>

2.6 List of illustrations

Figure 1: Daniel Libeskind's extension for the Jewish Museum Berlin, 1990

Source: Daniel Libeskind [Between the Lines: Extension to the Berlin Museum, with the Jewish Museum](#) p.27

Figure 2: An Aerial View of the Kollegienhaus on the main grid, next to Libeskind's Jewish Museum. This diagram illustrates the two main city grids here titled, diagonal grid (blue grid) and main grid (green grid). It also illustrates how these grids begin to converge immediately to the south of the Kollegienhaus, the site of Libeskind's Jewish museum extension. These converging grids cause the appearance of a "lost site", a site conflicted by different edge conditions on all fronts. This diagram also identifies a secondary contextual grid that adds another complex edge condition that reinforces the lost site; this secondary condition arises from the housing development, located to the east of the lost site, forming a contextual grid determined by true north and true east facing buildings. Notably a built form (outlined in light blue dashes) can be seen on the edge of the diagonal grid which adheres its orientation to the main grid, a potentially poorly resolved lost site which actively ignores the conditions imposed on it from the diagonal grid.

Source: <http://maps.google.co.nz/>

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Source: Daniel Libeskind <http://www.daniel-libeskind.com/typo3temp/pics/a4f77522b0>.

Figure 4: Front View of the Kollegienhaus

Source: <http://archinform.org:8080/1/70004156.jpg>

Figure 5: View showing the contrast in architectural styles.

Source: Ben Brady http://beninparis.files.wordpress.com/2011/02/dsc_0903.jpg

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Source: Daniel Libeskind [Daniel Libeskind and the Contemporary Jewish Museum: new Jewish architecture from Berlin to San Francisco](#) p.71

Figure 7: Plan images of roof level (centre right) and first floor level (centre left) altered to illustrate void spaces defined by contextual grids and shifting grid contexts.

Source: http://www.berkshirefinearts.com/uploadedImages/articles/1112_Berlins-Jewish-Museum596816.jpg

Figure 8: One of the five voids, looking up. Here light can be seen filling the void through skylights oriented along the main grid, while the walls in the other direction are shifted. These shifted walls align with the diagonal grid and form this poetic space. This becomes an example of a context driven form creating internal space, in this case the void, to be used as an exhibition space. Its form creates a poetic space that is defined by complex edge conditions, enabling the lost site to feel resolved even from the inside.

Source: Nilüfer Eyişleyen,

http://content.architectureoflife.net/Content/ArticleContent/berlin%20jewish%20museum/aol_06_Holocaust-Void-berlin-jewish-museum.jpeg

Figure 9: Fallen Leaves installation inside the void. Here again light can be seen filling the void through skylights oriented along the main grid, while the walls in the other direction are shifted, never creating a rectangular space. These shifted walls again align with the diagonal grid and form this poetic space. This form creates a disproportionate space, with a sense of unease that is felt by the context-driven, confining space, which is further exacerbated by the use of smooth cold materials such as the concrete finish.

Source: Daniel Libeskind [Daniel Libeskind and the Contemporary Jewish Museum: new Jewish architecture from Berlin to San Francisco](#) p.68

Figure 10: External Void. Libeskind's use of the slanted lines of his façade to gently guide the visitor between the old and the new continue into the void spaces created. His roofline appears to gradually reduce as it moves away from the Kollegienhaus, as a traditional roofline might. The material change at the base adds a sense of a *piano nobile*, typical of historic neoclassical buildings.

Source: Daniel Libeskind <http://www.daniel-libeskind.com/typo3temp/pics/a882040f54.jpg>

Figure 11: One key feature of the open spaces is the “Mechanical Garden of Olympia.” A moving image of Berlin is projected on four planes and 49 cubes (Garden of Exile and Emigration). Libeskind's use of outdoor exhibitions and green spaces to the south of the “lost site” allows him to contrast between the hard spaces he creates on this site to respond to the contextual conditions of the main grid from the north.

Source: Sebastian Niedlich <http://www.flickrriver.com/photos/42311564@N00/3432015710/#large>.

Figure 12: Gerhard Kallmann and Michael McKinnell, and Edward Knowles' Boston City Hall.

Source: Lebovich <http://ad009cdnb.archdaily.net/wp-content/uploads/2011/03/1299365529-boston-city-hall-wikimedia11.jpg>

Figure 13: Context site plan of Boston City, Massachusetts, expressing the location of the Boston City Hall at the centre of a concentric town plan. When looking at the site at this scale, taking into account the larger site area it becomes evident that this site is conflicted by radial grids, making this site ideal for a town hall that must respond to all the contextual grids surrounding it, while also realising its own identity as a civic building.

Source: <http://maps.google.co.nz/>

Figure 14: Plaza Master Plan, Boston City Hall, Massachusetts. The diagram is altered here to express grids; the diagonal grid (Green grid) and the Main grid (blue grid). This diagram also illustrates the prominent vehicular routes surrounding the site as well as illustrating the change in spatial scales from grand tall structured scale in the east (along the main grid) to the low and wide human oriented scale in the west and northwest, (along the diagonal grid).

Source: Paul Heyer Architects on Architecture: New Directions in America. p256

Figure 15: North Lobby expressing the contrast of the lower open public space against the disciplined upper office. Here the seamless flow between the external elements and the internal elements are expressed along the main grid, allowing for visual continuity when moving to and from the radially driven grid to the main grid.

Source: Paul Heyer Architects on Architecture: New Directions in America. p263

Figure 16: South Lobby. A clear reference of the two shifting external floor levels can be seen here. The internalising of the contextual conditions of the Quincy Market grid, the human oriented scale, and the tall building oriented scale can be seen converging within the building, informing the circulation of the spaces and further affirming the seamless flow from outside to inside.

Source: Paul Heyer Architects on Architecture: New Directions in America. p256

Figure 17: Inner Court. The administrative space is shaped as a disciplined, rectangular doughnut. Here offices are arranged in ascending tiers; stepped back to form an inner court. The use of an inner court is also reminiscent of neoclassical design imperatives; and correspondingly, steps outward on the plaza façades. The inner court here also creates a transition between the converging edges and relief from both external moods, while allowing the users to still visually perceive both.

Source: Paul Heyer Architects on Architecture: New Directions in America. p261

Figure 18: Zaha Hadid's Phaeno Science Center.

Source: Philip Jodidio Hadid: Complete Works 1979-2009. p204

Figure 19: Context Site plan of Wolfsburg, Germany, showing relationship between Phaeno Science Center and the shifted grid on which it is found. The diagram is altered here to express the location of this lost site amongst its immediate context. This diagram also clearly expresses the historic canal oriented on one grid and the public bridge that is oriented towards old Wolfsburg in the northeast. This shifted bridge acknowledging an aspect of history is a key factor that influenced the appearance of this lost site.

Source: <http://maps.google.co.nz/>

Figure 20: Map of Wolfsburg, Germany, showing relationship between Phaeno Science Center and the surrounding key spatial contextual conditions.

Source: <http://maps.google.co.nz/>

Figure 21: Urban Space during construction located at the ground level of Phaeno.

Source: Helene Binet Zaha Hadid Complete Works p157

Figure 22: The unusual public space created beneath the Phaeno.

Source: New York Wallpapers

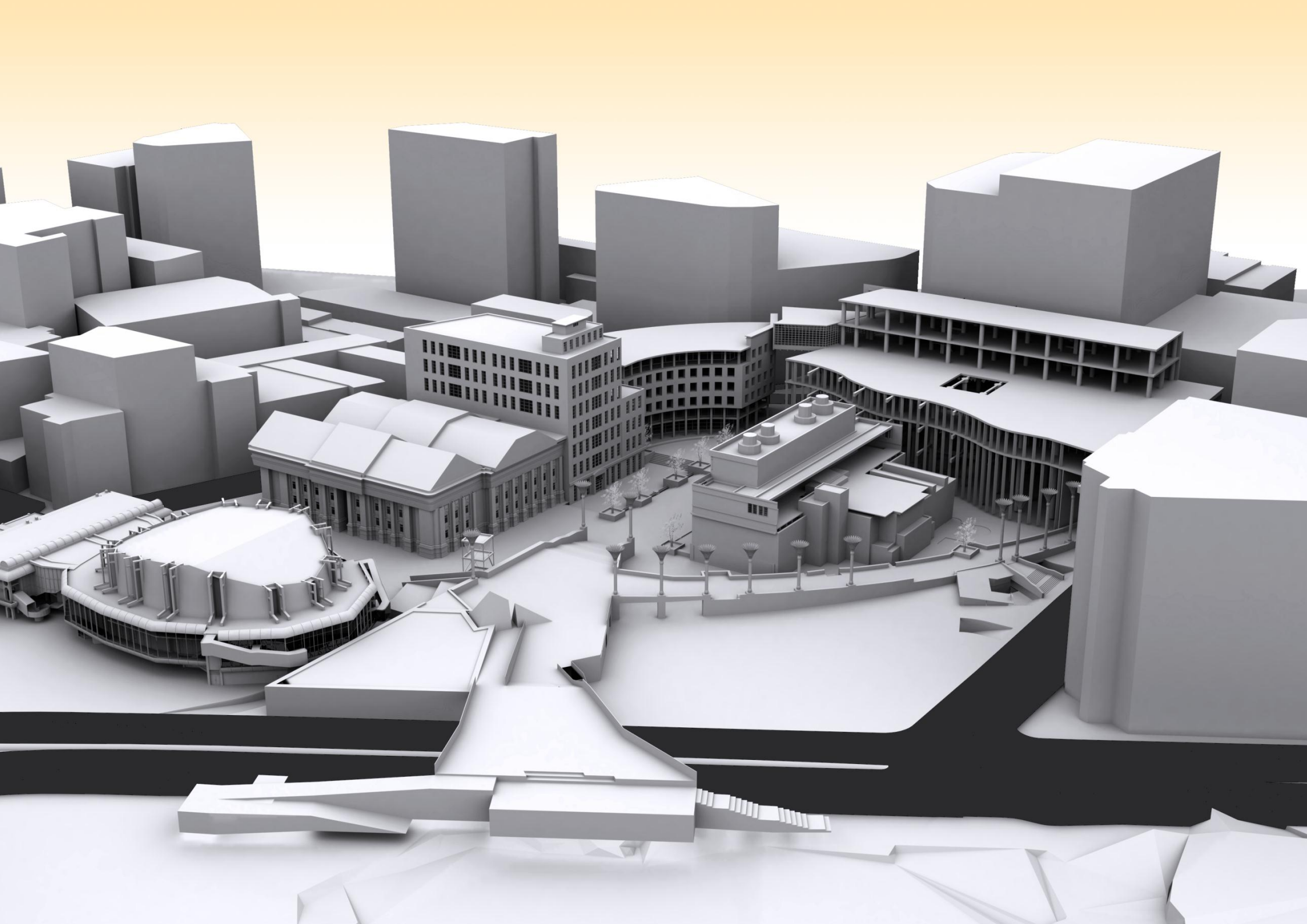
http://3.bp.blogspot.com/_Hm_vsUX1W-/TNjIFGrSJ8I/AAAAAAAAAKw/na3ZP3Q4_48/s1600/4568038546_6ab302dcba_b.jpg

Figure 23: Large inverted bell-shaped windows further add to the structure's sculptural presence.

Source: Philip Jodidio Zaha Hadid Complete Works 1979-2009 p208

Figure 24: A strong cantilever facilitates seamless flow and the blurring of inside/outside and floor/wall.

Source: Philip Jodidio Zaha Hadid Complete Works 1979-2009 p206



3 Site and Program Assessment

Chapter 3 introduces the proposed new New Zealand School of Music on Jack Ilott Green adjacent to Wellington's Civic Square as a program/site vehicle for testing resolution of a Lost Site. This program/site is particularly appropriate to the thesis investigation because it represents a site constricted by conflicting constraints both in the nature of its edges, its programs, and its potential civic versus non-civic identity. This section critiques the key period over which the development of Civic Square occurred, and how the evolution of its formation left Jack Ilott Green as a fractured remnant. Two conflicting urban grids define Jack Ilott Green, and each of its edges demand responsiveness to very different contextual conditions. This section then critiques the proposed building program for the new New Zealand School of Music which requires the incorporation of two potentially conflicting program typologies: a school together with a public concert hall. It also discusses the potential conflict of a school typology completing the missing corner of a city's Civic Square.



Figure 1: Overlooking Jervois Quay and surrounding area, Wellington, 1978

Reference Number: 1/4-031943-F

Looking south from an elevated position over Jervois Quay and surrounding area, Wellington, 1978. Shows vehicles on Jervois Quay at left and the area in the vicinity of the Central Library building (centre right) now the city gallery. Wellington City Council offices are also visible (top right). A building in the foreground is under demolition. Between the town hall and the library is the now truncated Mercer Street, joining on Cuba Street, now abridged to allow for the Michael Fowler Centre. Photograph taken for the Evening Post, by an unidentified photographer.

3.1 SITE EVOLUTION: FORMATION OF CIVIC SQUARE

This section analyses the history of Civic Square. Its development resulted in Jack Ilott Green, a vacant site resulting from the demolition of an existing building combined with the erection of the new Civic Square plaza structures in 1992. The intention had been to add an important building on this residual vacant site, thus completing Civic Square. But its tight footprint and conflicting edge conditions have thwarted viable solutions, resulting in an empty void on the northeast corner of Civic Square. Jack Ilott Green is the chosen 'Lost Site' for the design research experiment, remaining as a vacant lot on the northeast corner.

This section highlights the key period over which the development of Civic Square occurred. The section exposes the intentions of the new Civic Square when it was constructed in 1992, describing its formation surrounded by key civic buildings. It describes the holistic aims of the initial planning of the site, discussing to what degree these aims were or were not achieved and the resulting consequences. This section then explains how Civic Square was intended to be viewed based on its orientation, features and movement within the space. The intention here is to identify the overall scheme of the Civic Square plan and to understand what aspects of the design issues left Jack Ilott Green fractured.

It is rare in New Zealand to plan a completely new Civic Square, let alone to redevelop such a space in the capital, a city proud of its commitment to supporting culture and creativity. Wellington's dual identity as a local municipality and a national capital city may have contributed to the lack of a designated 'civic heart', as its principal squares and parks were clustered around Parliament and other national institutions to the north of the central business district. The civic amenities that existed around Wakefield and Mercer Streets by the 1950s, such as the Town Hall and Public Library, did not define any formal plaza or square, and planning had not addressed the spaces between the structures.

Ian Athfield was commissioned to integrate the cultural and local government buildings of this area into a cohesive Civic Square, with alternative plans constantly appearing. In 1987, the Wellington City Council appointed Fletcher Development and Construction Ltd as the project developers. The project involved building a new library, conversion of the existing library into the City Gallery, extension and refurbishment of City Council buildings, earthquake strengthening and refurbishment of the Old Town Hall, car parking space, design of the new public space and a link to the waterfront. Looking at master plans and sketches, one proposed building that was never realised seems to stand out. The basis for the Civic Square design included a proposed new office tower to be located on what is now Jack Ilott Green, the lost site. This design was never realised because of the difficulties posed by the fractured lost site. Although it is unclear how well this design responded to the surrounding contextual grids, its absence and the measures taken to address the site left the site unresponsive to its surroundings, and left Civic Square without definition along its northeast corner.

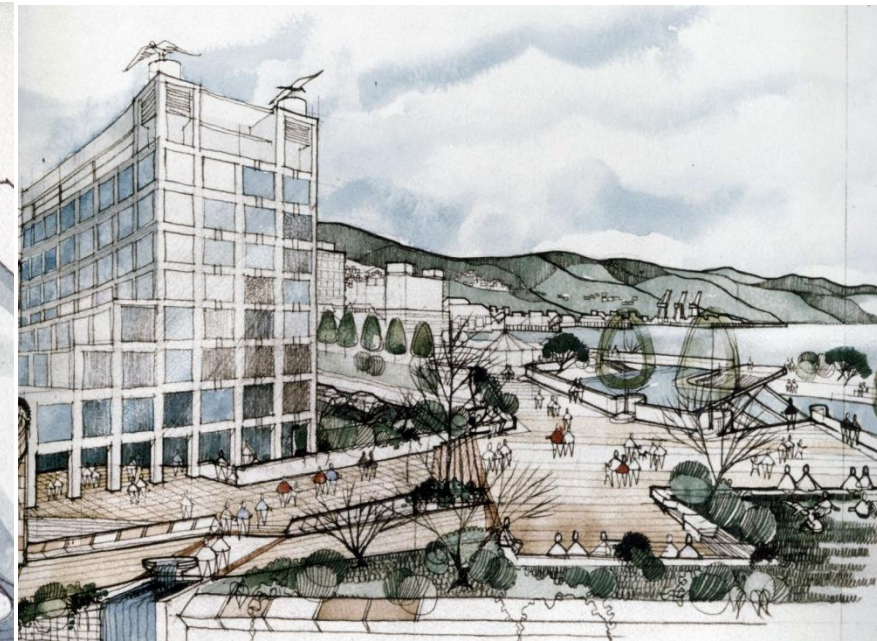
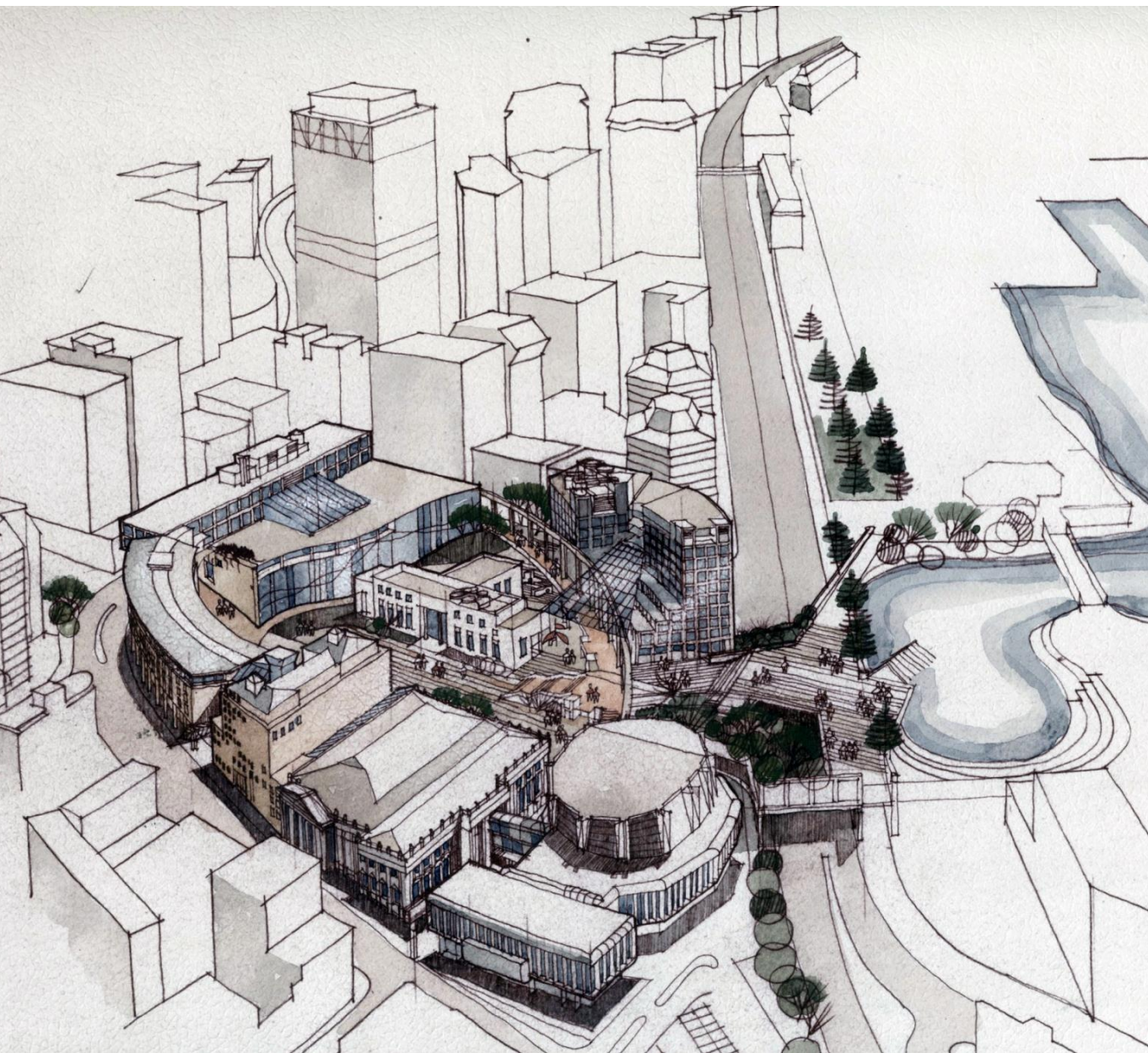


Figure 2-4: Perspective sketches depicting the overall master plan for the Civic Square site. Clearly evident on the now Jack Ilott green space is an office tower intended to be constructed with the existing buildings. Original Sketches 1987, Courtesy of Athfield Architects Ltd.

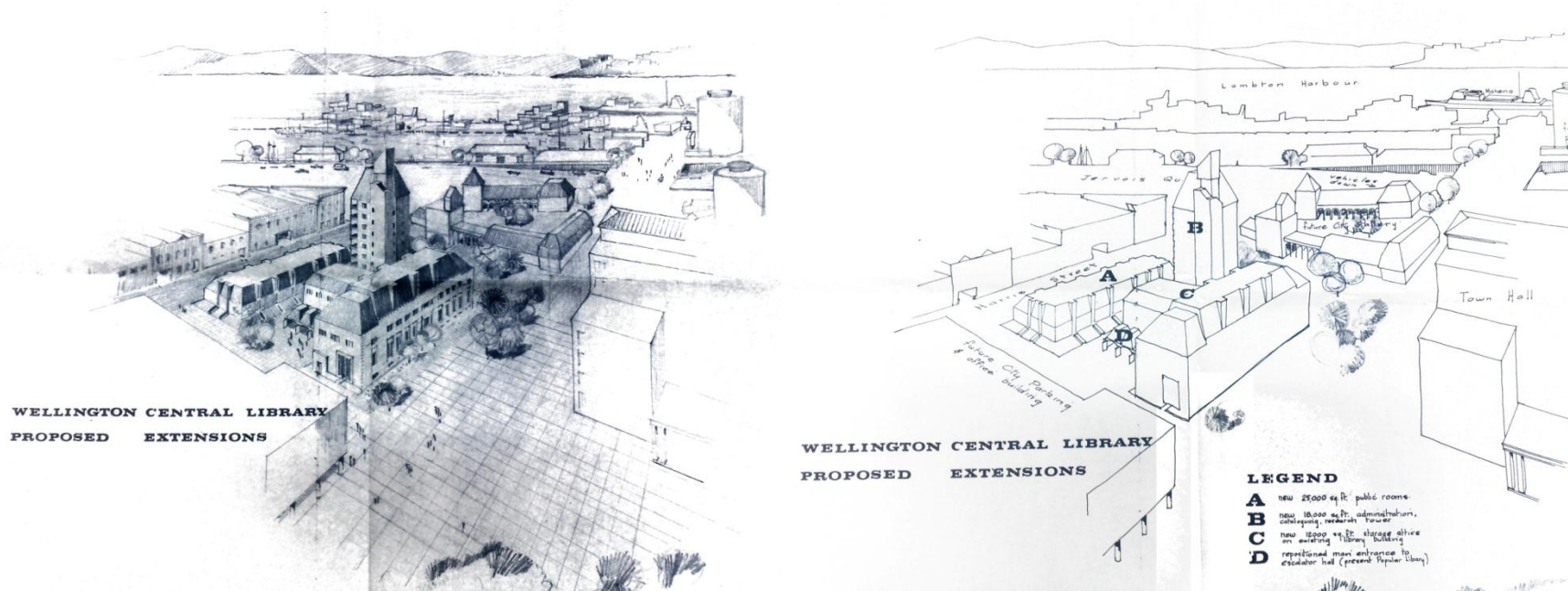


Figure: 5-6: These images show a proposal for adding a significant new addition to the old public library and allowing it to remain where it was. Rectilinear new buildings were proposed to the west and the east. This is one example of the proposed changes to the site housing the library and other key civic buildings. Sourced from the Gray Young Collection at the Victoria University Architecture and Design Library.



Figure 7-8: On the Left; the Town hall on the corner of Cuba and Mercer Street with its entrance orientated along the now shortened Cuba Street and on the right; opposite the town hall on the Mercer street axis is the original Public Library now the City Gallery. Reference Number: 1/1-015911-F. Photograph taken by Gordon Burt circa 1940.

The creation of Civic Square was completed in 1992 with the exception of Jack Ilott Green, which remained vacant. Mercer Street was truncated at Victoria Street at the western end of the new square, buildings were demolished, and a small historic fountain was relocated. In the final plan, the Square's design scheme was made of a library, city council offices, a town hall, an art gallery, a children's theatre and a multitude learning facility. The principal entry to the new Civic Square from the city is a broad archway on the southwest corner between architects Stephens and Turner's Council Offices and Ian Athfield's new library. Opposite the arch, wide stairs on the northwest corner lead to the City to Sea Bridge over Jervois Quay between the Square and Wellington Harbour.

The Gibbs Memorial was the first civic marker introduced to the area; it not only predates the current development by thirty-five years, but also predates the official naming as 'Civic Square'. It was installed in 1956 in front of the Municipal Office Building, a year prior to the site official naming in 1957. This work, a pond fed by two bronze dolphins, was moved from its original site to accommodate the redevelopment and is now located in a garden behind the City Gallery. By the 1980s planning and construction of Civic Square was well underway and concluded by 1991. The design combined new buildings with existing structures and sought to make greater sense of the spaces in between, creating through routes with places to stop and gather.

Advice was sought from Ihakara Porutu (Kara) Puketapu from the Wellington Tenth Trust on how to ensure that the scheme had a bicultural heart. Works of art were identified as a way of incorporating expressions of Tikanga and as reflections on 'place' embracing multiple viewpoints. An advisory group consisting of Roger Shand, Rewi Thompson and Neil Dawson guided this process. The series of works developed included the five in place when the Square opened in 1992: Rewi Thompson's Te Aho a Maui, Chris Booth's Silent People, Matt Pine's Prow and Capital, Charlotte Fisher's Reflected Pools, and Robert Franken's The Sun Sets the Stage to the Day, as well as Ian Athfield's Nikau. These works were later joined by the City to Sea Bridge in 1993.

The City to Sea Bridge is comprised of a broad walking platform constructed from timber planking, with side barriers of faceted wooden panels. On one side are two taniwha, sea monsters named Nake and Whataitai, and on the other are two manu, birds. Collectively they tell the creation story of Te Whanganui-a-Tara, Wellington Harbour, and of Te Aho a Maui, Maui's fishing line with which the great explorer is said to have fished up the North Island. Te Aho a Maui, which was realised first, is comprised of a 'mountain' pyramid form split in two and a paved area leading through it, symbolising the fishing line unravelling from the mountain to the sea.

The most prominent art in the Square is an arc of fifteen metal nikau trees, nine structurally supporting the portico of the library on the Harris Street edge and six without any structural function, which run along the curved access ramp behind the City Gallery and across the approach to the City to Sea Bridge. What was initially an aesthetic resolution to the load-bearing requirement of the curving

floor above Athfield's new Public Library became one of the primary icons not just of Civic Square, but of the city. Designed by Ian Athfield, these Nikau have been conferred the status of art; along with Neil Dawson's suspended aerial globe Ferns and the City to Sea Bridge, they can be found on tourist brochures as key visual signifiers of Wellington. Civic Square is one of the most resonant and esteemed spaces in Wellington. Holistically completing the growth of this space initiated over two decades ago is crucial.

3.2 URBAN CONTEXT: WELLINGTON



Wellington, the capital of New Zealand, is situated at the southern perimeter of the North Island near the geographical centre of the country. The city spreads over more than 18,000 acres of land and is built on the shores and the hills surrounding Port Nicholson, an almost geographically confined natural harbour of 50 square kilometres. Port Nicholson, also known by the Maori name Whanganui a Tara, was named in 1826 by Captain Herd of the First New Zealand Company. In the 1980s this name was changed to Wellington Harbour.

A key characteristic of Wellington is that it is a harbour city and the steepness of the surrounding hills has largely determined the physical layout. The commercial and industrial concerns are situated on the few flat areas of the inner business district while the suburbs occupy sites enjoying sunny positions and views of the harbour. Due to its position across the Wellington Fault line, the city has had many earthquakes, two of which have particularly affected the face of the city. The one in 1855 raised much of the coast of the

harbour 1.5 meters and contributed to reclamation work along the Lambton foreshore, where Wellington's commercial district now stands. Another heavy tremor occurred in 1942, when considerable damage was done to buildings in the city and surrounding districts.

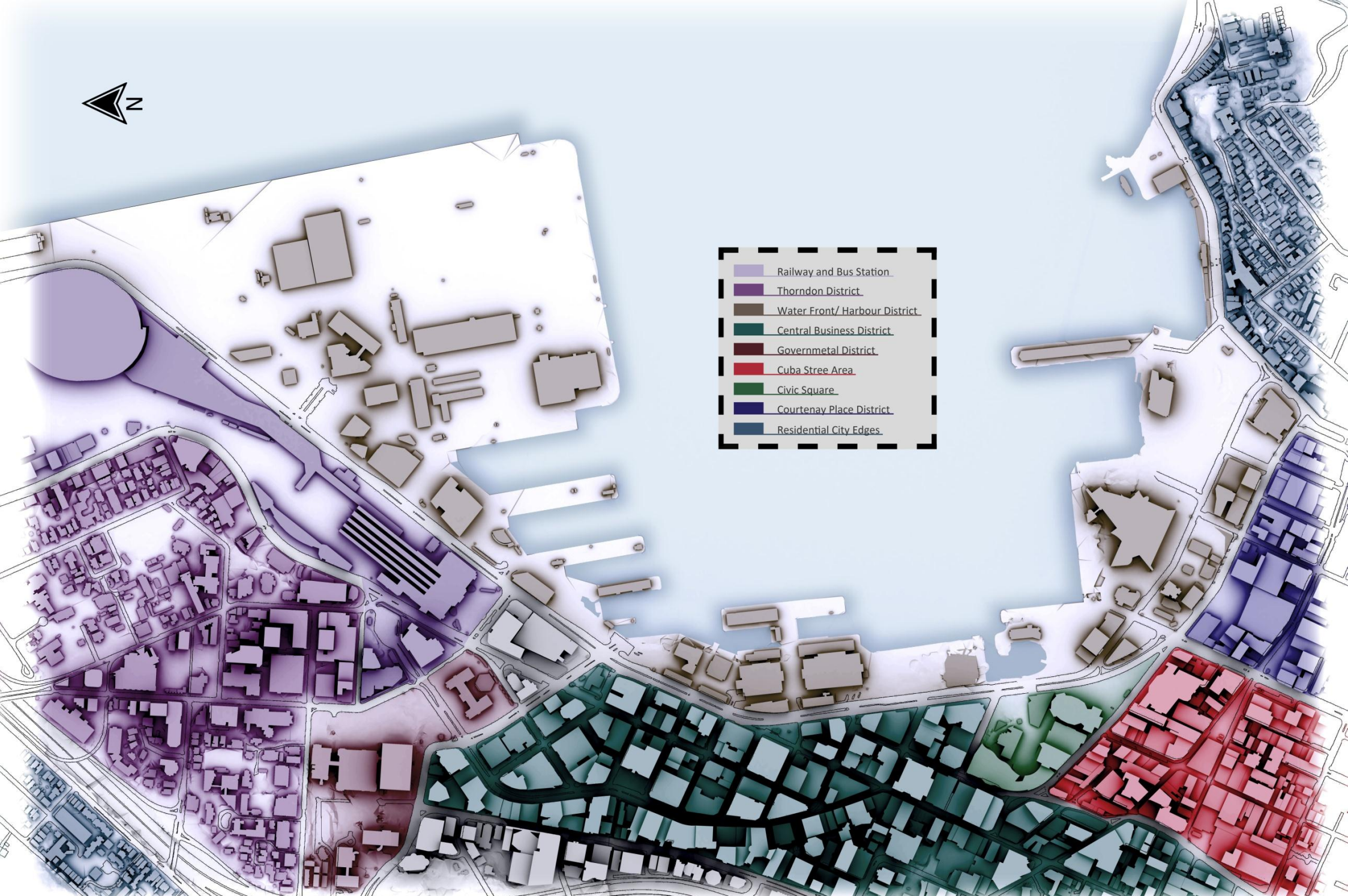


Figure 9: Shifting the Map of the Wellington off its customary upward North clearly depicts the two city grids. Principal City grid (in red) and Harbour grid (in Blue). This also exposes locations of other likely lost sites.

grid alignment can be seen. This also makes the shifts away from that alignment more visible. This diagram clearly illustrates the proportion of streets in the city that in fact follow the principal grid. This diagram also begins to reveal locations of grid collision and likely lost sites, which mainly occur the closer one gets to the harbour edge, where the urban grid dramatically shifts in orientation.

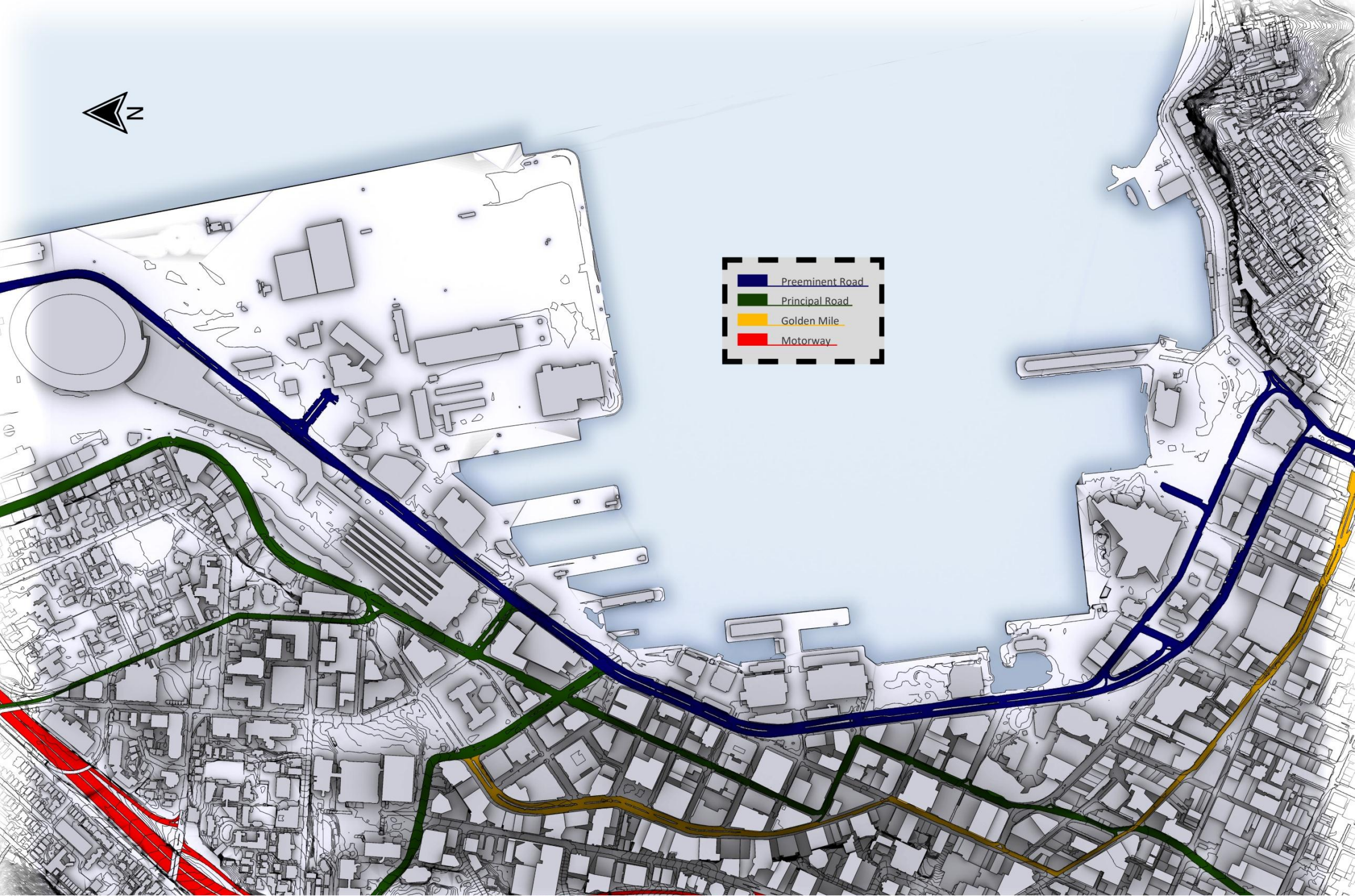
With Wellington's evolving, land reclamation, the shifting of the waterfront, the growth of the city, and the decision to orient each new grid neighbourhood to the harbour edge, an overlapping shifting network of confusing grids arose along the waterfront that helped to ensure the appearance of lost sites. The Central Business District (CBD) along Lambton Quay follows a curving, wave-like pattern. Kent Terrace, Taranaki Street, Cuba Street, Willis Street, and Courtney Place/Dixon Street are on the principal city grid (red grid). However their 'districts' distort the closer they are to the harbour edge. The main streets between Courtney Place/Dixon Street and the harbour – Manners Street, Wakefield Street, Jervois Quay – all shift into diagonal orientations (harbour grid- blue grid). The diagonal shifting of Wakefield Street off the greater city grid is responsible for the grid anomalies of Civic Square. A north/south grid (blue) defines the harbour edge, while the principal city grid (red) is on a different alignment. Civic Square occurs exactly where these two strategic defining grids come together.

Thorndon and the government buildings only align with one short section of the motorway. The number of orthogonal sites following the principal city grid sharply reduces in these areas in the northern neighbourhoods. By shifting the map of Wellington the primary

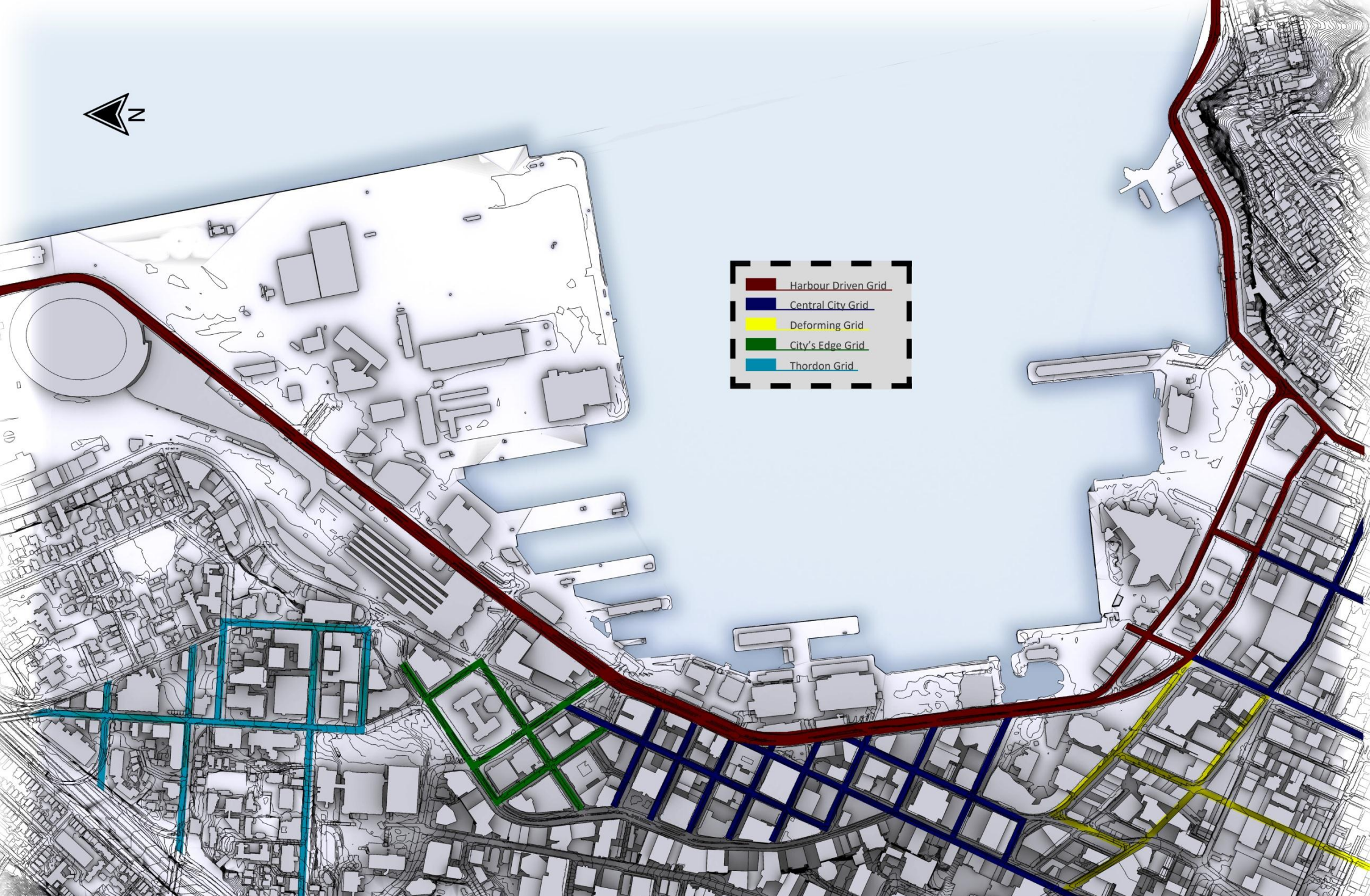


- Railway and Bus Station
- Thorndon District
- Water Front/ Harbour District
- Central Business District
- Governmetal District
- Cuba Stree Area
- Civic Square
- Courtenay Place District
- Residential City Edges

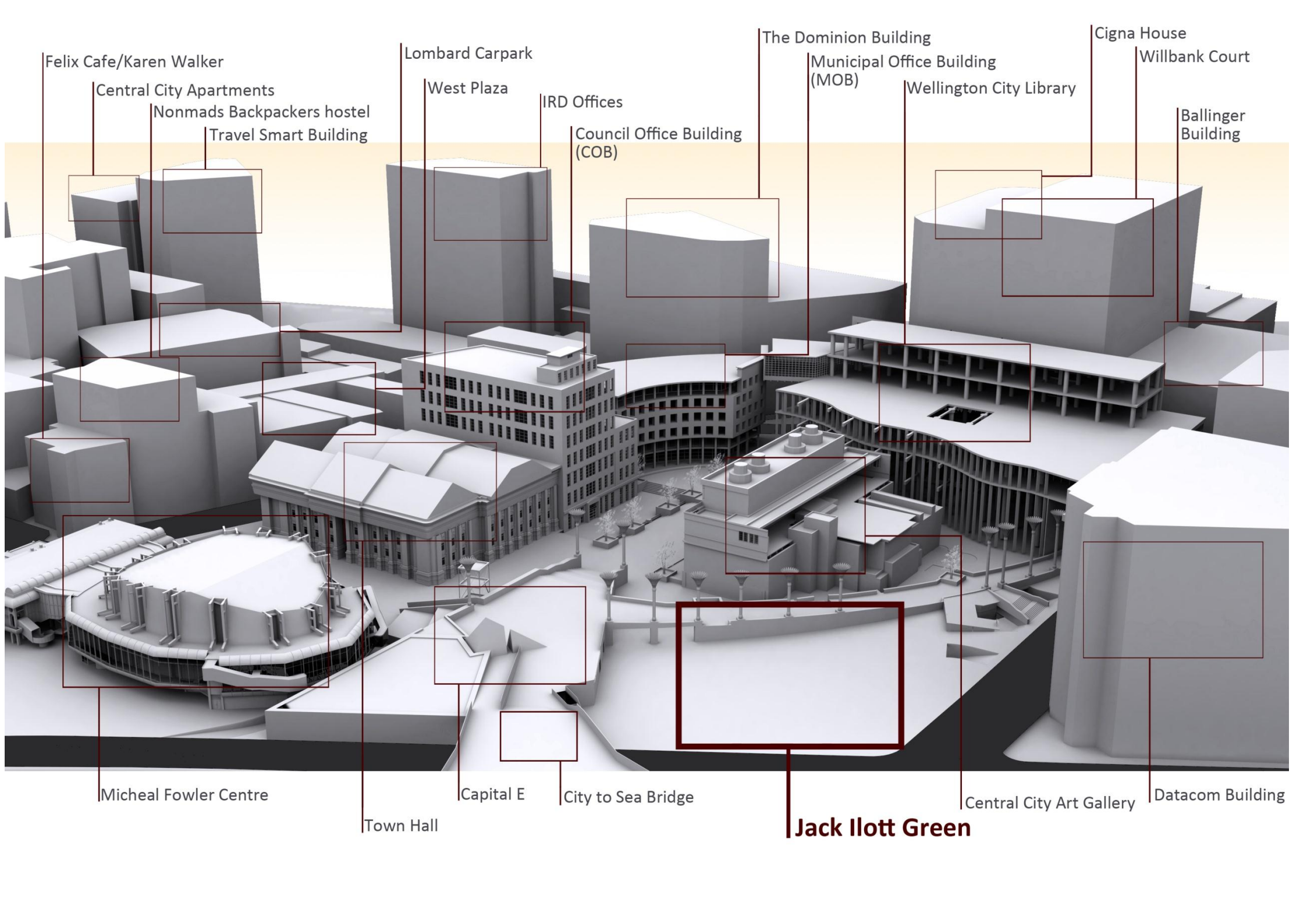
Rendered illustration depicting the diverse contextual districts making up the City. Notably, Civic square is surrounded by distinctly varying conditions in each direction



Rendered illustration depicting street hierarchy. The immediate civic square site surrounded by a principal road and preeminent road on its East to West Axis.



Rendered illustration depicting City Grids. The immediate Civic Square site surrounded by the Central City grid which begins to deform around Civic Square due to redirected and truncated streets.



Felix Cafe/Karen Walker

Central City Apartments

Nonmads Backpackers hostel

Travel Smart Building

Lombard Carpark

West Plaza

IRD Offices

Council Office Building (COB)

The Dominion Building

Municipal Office Building (MOB)

Wellington City Library

Cigna House

Willbank Court

Ballinger Building

Micheal Fowler Centre

Town Hall

Capital E

City to Sea Bridge

Jack Ilott Green

Central City Art Gallery

Datacom Building

3.3 SURROUNDING CONTEXT: CIVIC SQUARE



Perspective view of Civic Square from the Harbour

This section addresses the characteristics that make the vacant northeast corner of Wellington’s Civic Square, Jack Ilott Green, an example of a lost site. This section looks at the approach each building in Civic Square took in their attempts to establish a sense of order as part of a Civic Square, which resulted in built forms on all edges of Civic Square except for one vacant site, Jack Ilott Green, on the northeast corner. It also introduces the proposed New Zealand School of Music program as the chosen vehicle for the design experimentation, which the city plans to locate on Jack Ilott Green. The site is defined by conflicting contextual demands, while the program is defined by conflicting typological demands. It highlights key issues of the program that need to be resolved to allow it to recover the lost site as well as complete the missing corner of Civic Square.

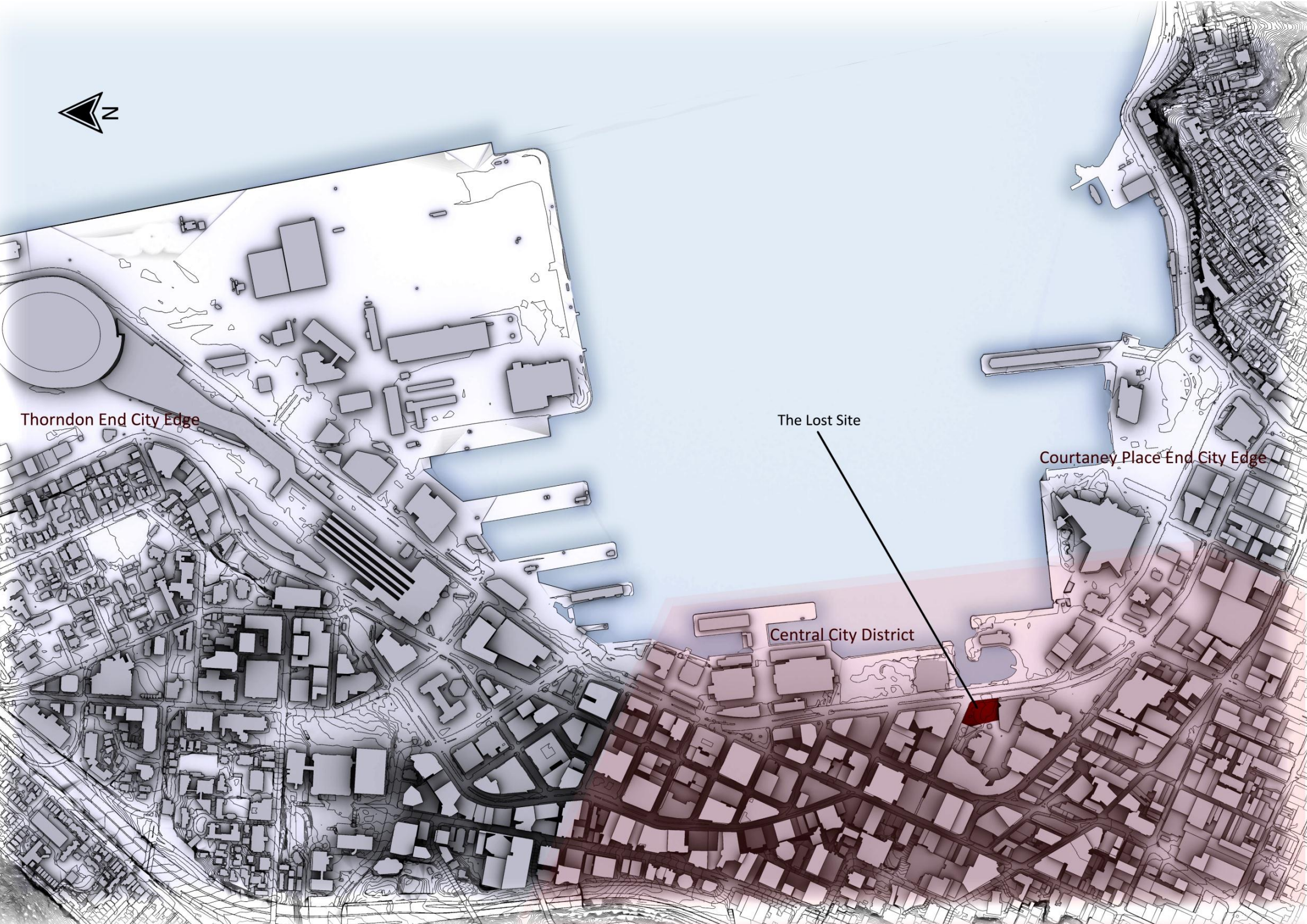


Thorndon End City Edge

The Lost Site

Courtaney Place End City Edge

Central City District



Civic Square as a whole is surrounded by contrasting edge conditions, from its immediate in-site conditions to its surrounding contextual conditions. These surrounding edge conditions include Jervois Quay (east), Wakefield Street (south), Victoria Street (west), and Harris Street (north), all requiring Civic Square to function as a heart or a metaphorical joint holding together these converging conditions.

JERVOIS QUAY

The contextual characteristics here for both open areas and built up structures are oriented due north and south, following the harbour grid. The lack of any architectural obstruction on the eastern side of Jervois Quay along this area robustly allows any architecture to acknowledge this view and the city's harbour front lifestyle. Characteristics of buildings along the eastern edge are often spread apart single or two storey buildings; with the western side of the street housing commercial type buildings and the eastern side of the street containing either open space or cultural type buildings. Buildings along this edge are minimal with large areas of soft space. An additional condition specific to the Civic Square site from this district is acknowledging the vehicular road, Jervois Quay; here recognised as a Preeminent Road that runs between the Civic Square site and the waterfront. This 'preeminent road' allows for high traffic movement around the city. Yet again another edge condition that needs to be considered for any design intervention.

The key conditions along the western edge of Jervois Quay are:

- It aligns with the harbor grid, not the city grid;
- An exit ramp from the Civic Square parking garage opens onto Jervois Quay;
- Jervois Quay has a continuous frontage of principal building facades except where there is a gap created by Jack Ilott Green. (This suggests that the new design should have a principal façade on this street.);
- The principal historic buildings along this edge are divided into traditional hierarchical levels;

- There is some pedestrian circulation along Jervois Quay, but very little since the predominant pedestrian traffic is east-west across the City to Sea bridge;
- Traffic flow on Jervois Quay is dense and fast;
- Jervois Quay aligns along Jack Ilott Green. Vehicular access may be ideal along this edge;
- Jervois Quay is at a different elevation than Victoria Street. The city elected to maintain Civic Square at the elevation of Victoria Street, since this would become the principal entry. Jack Ilott Green is lower, at the level of Jervois Quay.

The key conditions along the eastern edge of Jervois Quay are:

- Soft conditions as opposed to the hard continuous edge along the western side of Jervois Quay;
- Uninterrupted views to the harbour, thus offering valuable views from offices in the new building.

These Jervois Quay edge conditions suggest that:

- The new design should have a principal façade and entry facing onto Jervois Quay, possibly with a passenger drop-off (as long as it is off the main artery);
- The new design should be fairly continuous along the footpath; this means that this façade will align with the harbor grid, rather than the internal Civic Square grid;
- The new design should express itself vertically with hierarchical levels to acknowledge the other historic buildings along Jervois Quay;
- If the new design incorporates a principal entry at both Jervois Quay and Civic Square, each needs to be at a different elevation. This is another evidence of how difficult this “lost site” is to resolve.

WAKEFIELD STREET

Building orientation in this area responds to the diagonal shifting grid which is the outcome of Wakefield Street shifting off the greater urban grid. Built forms established here along this shifting grid orient along the same city grid but only achieve this along one axis. It is evident that this grid is beginning to deform around the southern end of Civic Square. Efficient use of space is a key condition along this edge, building right to the boundary of a given site. These buildings tend to be primarily commercial and some residential, often small to medium scaled construction, with the exception of the Michael Fowler Centre. This area differs from the northern and eastern edge conditions due to the greater use of this area in both the commercial and hospitality fields as well as the culture and overall treatment of the streets and spaces between the built up architecture; with entire streets blocks, dedicated to pedestrian movement, and surrounding streets usually as single one way or bus lanes, some examples of this would be Manners Street and Courtenay Place.

The key conditions along Wakefield Street are that:

- Wakefield Street doesn't align with the harbor grid nor the city grid, instead it veers away from both these grids as it forms a transition from one to the other;
- Wakefield Street has a mix of side, back and front facades with priority given to public movement and redesigned front facades along the town hall;
- There is predominant pedestrian traffic along Wakefield Street from Cuba Street, allowing for public movement around Civic Square into the central Cuba and Courtney place districts;

These conditions along the southern edge (Wakefield Street) suggest that:

- The new design should have a principal façade and entry oriented towards Wakefield Street to establish visual connectivity with pedestrian traffic moving into the square off of Wakefield Street;

- The new design should reestablish an internal orientation with the harbor grid; this means that this façade would align with the harbor grid, rather than veering away from both grids.

VICTORIA STREET

The buildings in this area are very reliant on well-established and formally laid out boundaries. Buildings here are large multi-storey blocks; hospitality and commercial stores are strategically placed at the ground level while the upper floors of this area are mainly office spaces or apartments. Buildings here are usually built to the edge of their boundaries to allow for large open office spaces efficiently occupying the greater footprint. An additional condition specific to the Civic Square site is that on the west side of this site runs the Principal road, along Victoria Street, a primary edge condition.

The key conditions along Victoria Street are that:

- It aligns with the city grid/ principal urban grid;
- The pedestrian ramp leading to and from Civic Square exits onto Victoria Street;
- The western and eastern edges of Victoria Street have continuous frontage of building facades except where there is a gap, an arch way leading into Civic Square along the eastern façade;
- There is some pedestrian circulation along Victoria Street, but as this is a principal road this building along this edge pulls back at the ground level to accommodate a drop off lane which also moves the foot path under the Wellington Library façade. This façade extends to the boundary edge at all upper levels but not at the ground level;
- Traffic flow on Victoria Street is dense and moderately fast.

These western edge (Victoria Street) conditions suggest that:

- The new design should have a secondary façade oriented towards Victoria Street. This would expose the building identity to those pedestrians who are moving into Civic Square via the arch way;

- The new design should integrate a user entry along the ramp which extends from Victoria Street and aligns along the internal boundary of Jack Ilott Green.

HARRIS STREET

The architectural response and characteristics of buildings in this area are very reliant on well-established and formally laid out boundaries. Buildings here are often large multi-storey blocks, to allow for large open office spaces covering the greater footprint. The characteristics of the buildings in this area are commonly attributed to land use efficiency, building right to the boundary of a given site and often as high as allowable by both regulations and building budget. An additional condition specific to the Civic Square site is that on the west side of this site runs the principal road (Victoria Street) along which the main entry to Civic Square occurs.

The key conditions along the southern edge of Harris Street are:

- It aligns with the principal urban grid;
- Two ramps from the Civic Square basement parking area; one entry and one exit ramp, open onto Harris Street;
- Harris Street has a side façade from the Wellington Library as well as a back façade from the City Art gallery along this edge. This edge also has a pedestrian / wheelchair ramp running along this edge into Civic Square over the Capital E building;
- There is some pedestrian circulation along the Harris Street footpath between Victoria Street and Jervois Quay and to the Crèche;
- Traffic flow on Harris Street is limited to vehicles moving slowly between Jervois Quay and Victoria Street or to park vehicles along the Harris Street edge;
- Harris Streets aligns along Jack Ilott Green. As a side street, vehicular access to parking along this edge would be ideal.

The key conditions along the northern edge of Harris Street are:

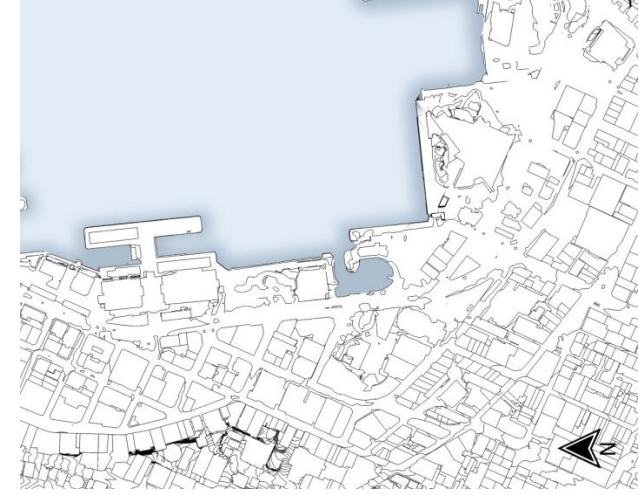
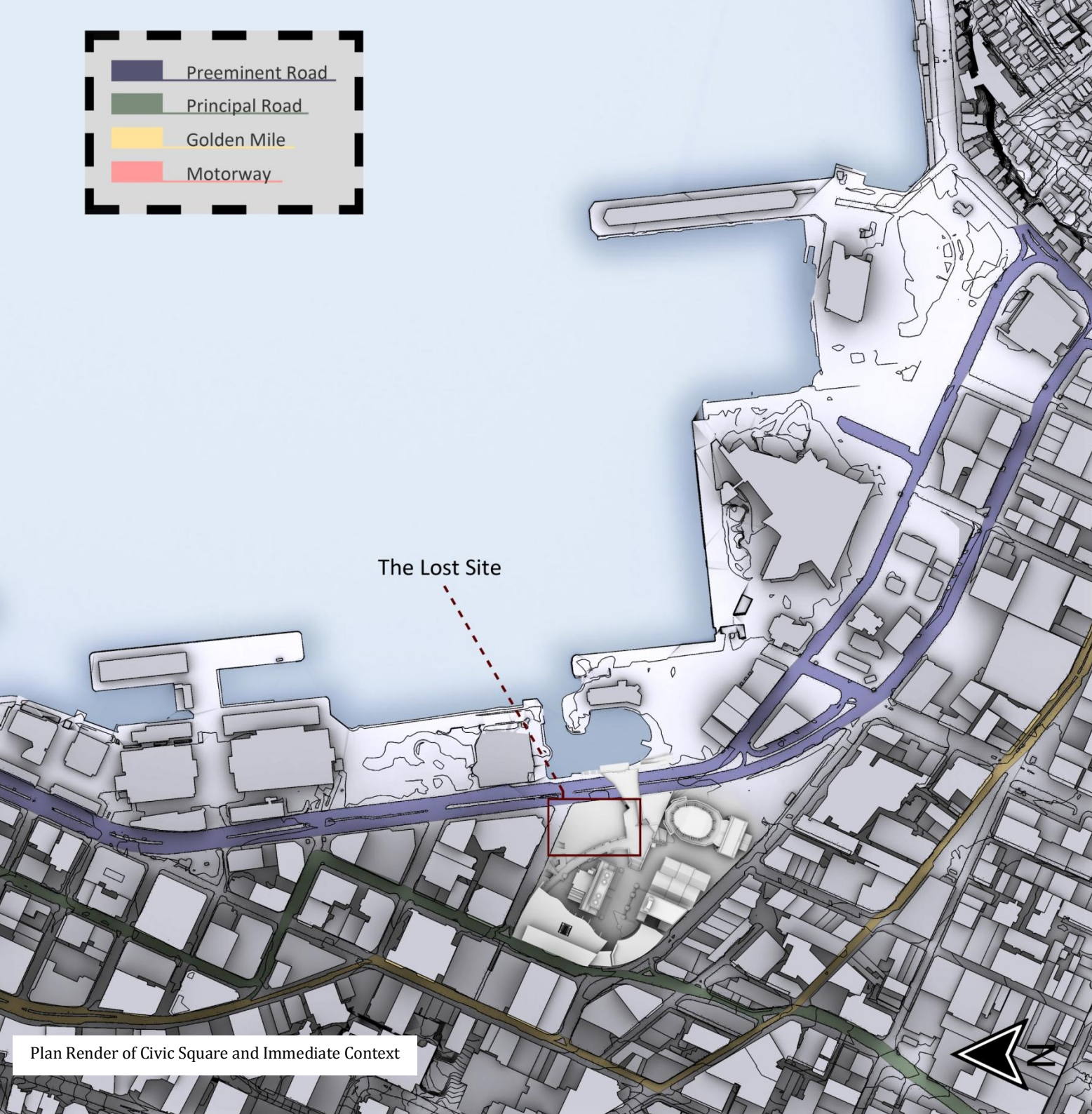
- Only sides of existing buildings; no front facades or entries;

- Relatively continuous hard edge averaging 25 meters high.

These Harris Street edge conditions suggest that:

- The new design should have a secondary façade and entry facing onto Harris Street, possibly with a pedestrian ramp, to link this edge to the existing conditions from the ramp along the Wellington Library;
- The new design should be about 5-6 stories in height to match the height of the Public Library on the west end, and pulled back at the lower levels from the edge to facilitate the ramp; being on Harris Street, this façade will align with the urban grid; matching the height and tectonic conditions of the Public Library, this façade to read as coherent when viewed against the existing Wellington Library;
- The new design should also include step access from Harris Street to the new ramp - redesigning the Crèche to accommodate for the second stairway may need to be considered.

These edge conditions all converge around Civic Square, suggesting that the lost site did not just entail the lost corner of Civic Square, Jack Ilott Green, but in fact once the decision was made to create Civic Square, all the buildings based on this site become building on Lost Sites, attempting to respond to and hold all these different districts in place. This extends the task of assimilating the lost site to those buildings that make up the Civic Square; Wellington City Library, National Art Gallery, Town Hall, Michael Fowler Centre and Capital E. It becomes crucial at the next stage to understand and critique the different approaches all these buildings have taken in their attempts to respond to the nature of the lost site so that the one vacant site that remains can learn from these other five buildings' strengths and weaknesses.



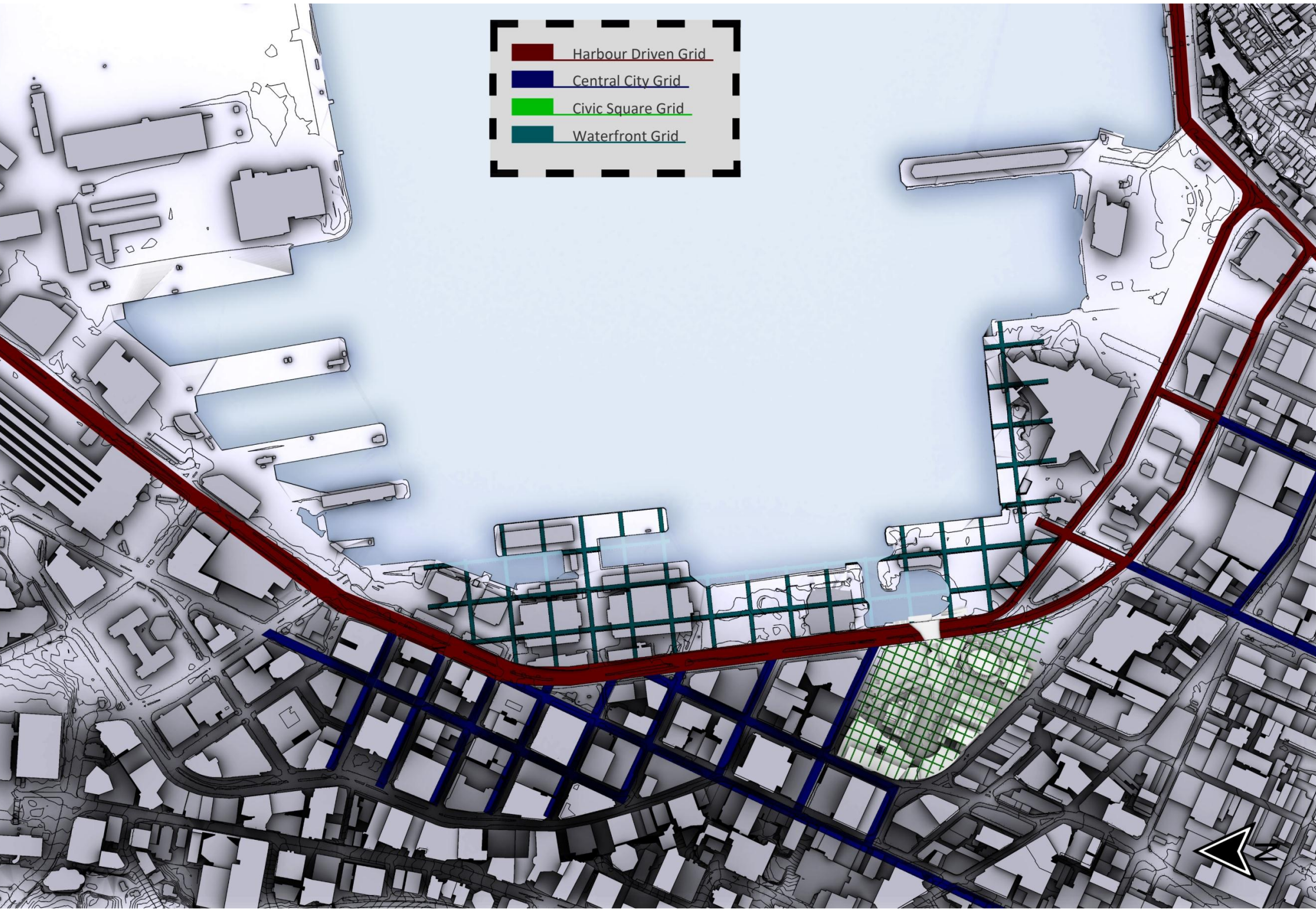




Figure 10: An Aerial view of the current Civic Square altered to express the four surrounding streets. Soft and hard spaces are utilised with shifted objects such as a pyramid and suspended tarps to transition between the two grids.

The new Civic Square uses tiling patterns to establish a central rectangular zone that is parallel to the front façade of the old Public Library on the north and the side façade of the old Town Hall to the south. The new buildings (the new Public Library to the northwest, the new City Council to the southwest, and Capital E to the east) align with street frontages that respond to different grids. In response, the new Civic Square design uses soft space to transition between these new buildings and the hard space of the central rectangular zone. The result is a very informal inner building edge surrounding a rectilinear central paved zone in the middle. The outer building edges of the new buildings surround the new square in the form of an ellipse where the new ramp from Harris Street echoes the curve as Wakefield Street turns into Victoria Street.

The City to Sea Bridge above the Capital E building uses a combination of soft/hard space, with shifted objects such as a pyramid and suspended tarps to transition between its two grids. However the result appears somewhat chaotic when seen from aerial view and its relationship to the Michael Fowler Centre is particularly awkward. Like the Capital E building, the Jack Ilott Green empty site also must simultaneously respond to the Civic Square orientation as well as the diagonal alignment of Jervois Quay.



Michael Fowler Centre: object in a field that does not try to resolve the corner of Civic Square, nor does it try to relate to all its grid edges

IMMEDIATE CONTEXT: JACK ILOTT GREEN

Almost all the building sites associated with Civic Square became 'lost sites', once the decision to create a Civic Square was made. As a result, each original building struggled with maintaining identity, and each new building struggled with establishing a strong sense of place and identity:

MICHAEL FOWLER CENTRE (MFC)

The Michael Fowler Centre's axes are in denial of its frontages on Wakefield Street and Jervois Quay, and its circular northern element, by being circular, denies the grid of Civic Square in that it does not establish a corner identity to help spatially define the Square. In fact it turns its back on Civic Square and lends no sense of formal completion to the southeast corner of Civic Square. In this sense, the MFC is an example of a building placed upon a lost site that has failed. The remaining site, Jack Ilott Green has a similar challenge as that of the MFC, to establish a corner identity and help spatially define the square; therefore it must take a different approach. The MFC does account for pedestrian movement into the square coming from the Cuba Street District, by using linkage theory and maintaining a line of sight; however the building itself imposes a side façade identity to this edge and weakens any connections to the neighbouring Town Hall. In fact, facing the side façade of the MFC effectively masks the original front façade of the Town Hall. The MFC attempts to use soft space theory to resolve the conflicting geometries of its own circular design next to the rectilinear design of the town hall with a water feature between the 'City to Sea Bridge' access steps and the gap between the two buildings. This space however, deviates down from the pathway and as a series of pools it is predominantly an empty unusable space.

- The design of the new Michael Fowler Centre elected to follow the Cuba Street grid, yet in building it the entire extension of Cuba Street that ran past its site into Jervois Quay was removed. In doing this, the Cuba Street grid was no longer an edge factor, whereas the Wakefield Street alignment was. By selecting the Cuba Street

orientation instead of Wakefield, the new MFC did not provide a transition between the colliding grids defining its new site, and as a result it created a very awkward undefined triangular parking lot in a prominent urban location;

- It provides no front entry onto Civic Square and fails to define a principal corner of the site. So the Michael Fowler Centre design in fact did nothing to address Civic Square and in fact reduces its sense of coherency.

WELLINGTON CENTRAL LIBRARY

When Ian Athfield designed the new City Council and new Public Library, he understood how they both needed ‘front facades’ facing both Civic Square as well as the principal urban avenues on the opposite side. However these two buildings are located on opposing grids, so Athfield used curving facades to attempt to deal with the conflicting grids; these appear somewhat awkward and the buildings themselves have weaker formal identity on Civic Square than might have been desirable. The library has a strong sense of identity on Victoria Street and Harris Street. It developed a dual entry façade and it is successful in one direction but fails to establish its own sense of formal identity in the other.

A successful aspect of the library is that it considers pedestrian movement in and around the north and west ends of the site. Along the west edge, the front of Victoria Street, the raised entry establishes monumentality while also providing a sense of its own identity. On the north edge, the front of Harris Street, Athfield uses linkage theory by means of a ramp which leads pedestrians into Civic Square. Above the ramp the building extrudes out to its boundary; these extra spaces are used as offices and storage while again establishing a sense of monumentality. This space is structurally held up by nine columns which have become iconic to both Wellington and the site. This use of the upper levels of the building in this manner further enhances the success of this façade as it creates visual coherence, a sense of ordering, public movement below and private formal offices above.

- City Council and new Public Library both utilize 'front facades' facing both Civic Square as well as the principal urban avenues on the opposite side;
- Athfield used curving facades to attempt to deal with the conflicting grids; these appear somewhat awkward and the buildings themselves have weaker formal identity on Civic Square.



The City Gallery defines the Civic Square grid therefore maintains a civic edge with respect to Civic Square, but in choosing one front façade over the other, it obviates any identity in relation to Harris Street, leaving Harris Street entirely defined by the backs of the buildings.

CITY ART GALLERY

The City Gallery defines the Civic Square grid and therefore maintains a civic edge with respect to Civic Square, but in choosing one front façade over the other, it obviates any identity in relation to Harris Street, leaving Harris Street entirely defined by the backs of the buildings. This is mainly due to the fact that this is one of the existing buildings from before the establishment of the square. This also depreciates the success of the ramp leading into the square and onto the City to Sea Bridge due to little interaction from the back of the City Art Gallery. This building also uses ideas of linkage theory by having raised lawns along the front façade, establishing a sense of monumentality along the entrance while also providing a sense of its own threshold.

- A weakness is that it is a building whose typology clearly says library was made into a museum;
- A strength is that it is the only building with an original front entry façade oriented onto the grid of Civic Square;
- Ideas of linkage theory are evident through the use of raised lawns along the front façade, establishing a sense of monumentality along the entrance and providing a sense of its own threshold.

TOWN HALL

The Town Hall had to change the nature of its front door from the east façade to a new entry on the north. That is a critical change. Suddenly its principal neoclassical front façade is a side façade, and a new odd ‘portal’ was added facing Civic Square to affect a notion of main entry. The Town Hall became defined by its Wakefield Street façade, on the street front, which is off alignment. Its Wakefield façade is in fact simultaneously oriented along two diverse grids. Its identity suffered. Soft space was introduced north of the Town Hall in the square to establish linkage, but it does so poorly.

- The historic Town Hall had to change the nature of its front door from the east façade to the north;
- Suddenly its principal neoclassical front façade is a side façade, and a new odd ‘portal’ was added facing Civic Square to affect a notion of main entry.



The Town Hall had to change the nature of its front door from the east façade to a new entry on the north. Suddenly its principal neoclassical front façade is a side façade, and a new odd 'portal' was added facing Civic Square to affect a notion of main entry.

CAPITAL E

Capital E actively denies all site contexts; its external form becomes the joint between the library ramp and a platform which then connects Civic Square to the Waterfront. This building, which should have formed the critical east boundary of Civic Square, was placed underground in order to enable the creation of the City to Sea Bridge. This is a key example of a lost site, because this site represents a transition between two opposing grids. Athfield buried the building as a means of dealing with the difficult transition, and as a result there is no clarity of boundary on the east edge of Civic Square. To ameliorate this difficulty, he raised the plaza over Capital E in order to establish a readable edge one storey high created by the grand steps that are oriented to reflect the Civic Square grid, while the plaza above the steps shifts to orient toward the harbor grid. Capital E also presents opportunities to allow the remaining site to engage with both the pathways between the Central Library ramp, the City to Sea Bridge and Civic Square.

- Does not form a critical east boundary of Civic Square;
- Placed underground, thereby losing its identity, in order to enable the creation of the City to Sea Bridge.

JACK ILOTT GREEN

This vacant site always had a building planned for it, but the difficulties of it being a lost site made it very difficult to achieve something appropriate to all the conditions. This site has a major public frontage on the orientation of Jervois Quay. It needs to complete a missing corner of Civic Square, which aligns with a different grid than Jervois Quay. A building on Jack Ilott Green needs to announce itself as a suitable civic function on Civic Square, even though its principal program is a school. It needs front entries on Civic Square, Jervois Quay, and Harris Street in order to not 'turn its back' on any principal avenue of plaza. The creation of the new Civic Square made this site particularly difficult to address, a truly lost site.

- Needs to establish dual entry façades, two front entry facades and two secondary entry facades;

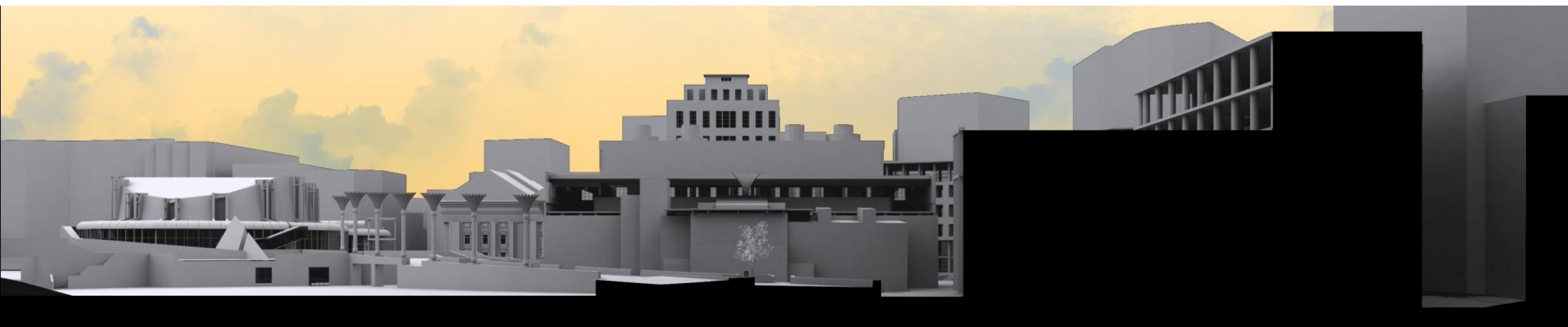
- Needs to address a complex dual program, announce itself as a civic function as well as fulfill its principal function as a school.



In the Foreground Capital E and Jack Ilott Green, in the background, top right, Municipal Office Building (MOB). This Jack Ilott Green site always had a building planned for it, but the difficulties of it being a lost site made it very difficult to achieve something appropriate to all the conditions.



Looking at the site in section and treating these views as architectural topography clearly exposes the one remaining site. In both the Jervois Quay axis and the Harris Street axis, this fracture is seen as symmetrically negating the notion of 'civic square'.



Surrounded by historically and culturally iconic buildings, Civic Square has never been completed. The original building on the northeast corner of this site was removed, and the site is still vacant. It is temporarily being used as a park, Jack Ilott Green. The conflicting grid orientations of this vacant lost site formed as a result of progressive urban designs that have shifted large grid areas in response to evolving contextual conditions. Such sites struggle to find identity or respond to site and edge conditions, becoming lost. This is why the Jervois Quay eastern sea edge of Civic Square is in a different orientation to the Victoria Street / Harrison Street western city edge, which is in a different orientation to the southern Wakefield Street edge.

Recognising the potential of such a prominent undeveloped site on the corner of Civic Square, Massey University and Victoria University combined their resources, proposing a joint venture to establish a New Zealand School of Music as the program on the site. In order to do so the city required that the program also incorporate a public Concert Hall. This thesis proposes to engage this actual site and program to test methods of assimilating this lost site. The dual program of school and public concert hall is one of the elements that make the program a 'lost program', causing a potential typological conflict of establishing a clear identity. An approach needs to be established that achieves clarity within the complex set of conflicting programmatic elements; a private academic facility which educates its students in the field of music will also house a public component, a Concert Hall where music played by outside artists and performers will be witnessed by the general public.

3.5 BUILDING PROGRAM

The following section outlines and analyses the brief for the New Zealand School of Music based on summarised documentation presented to the Wellington City Council from a joint committee made up of both Massey University and Victoria University of Wellington members. This section explains the intent of the joint venture between the two universities and analyses how the conflicting programmatic elements of the program, the School of Music and the Public Auditorium/ Concert Hall, can be reconceived as dual elements existing coherently together. This will aid in forming a clear brief and strategy as the basis of the following experimental design chapter.

The Councils of Massey University and Victoria University of Wellington gave approval in September 2003 for a joint venture between Massey and Victoria to establish the New Zealand School of Music in Wellington, bringing together the Massey Conservatorium of Music and Victoria's School of Music. This approval followed a period of consultation on a proposal prepared by senior representatives of the two universities and consideration of submissions received from staff, students and external stakeholders.

As a partnership between the two universities, it is envisaged the School will have undisputed national strengths and an international reputation in musical education, research, composition and performance. The joint school would attract talented overseas and local students and would foster closer relationships with the New Zealand Symphony Orchestra and the Wellington Sinfonia. Students could expect to take part in outstanding orchestras and musical groups and be involved in large-scale productions for occasions such as the New Zealand Festival of the Arts. The school would bring a high level of community engagement, including an academy for talented secondary school students and extensive concert and informal performances. It would cater for 600 equivalent full-time students plus 50 staff. This is the optimal size envisaged for the school. The present number of students at the Massey and Victoria schools combined is around 475 or 440 equivalent full-time, so the school would increase student numbers in the city.

The building program is comprised of three significant features: school facilities, public facilities; and an auditorium or concert hall as well as a category for miscellaneous facilities.

School Facilities 40%

The building will provide teaching services: one 120-seat lecture theatre (also available for public use), 3 medium sized studios with incorporated lecture facilities, 40-50 music practice rooms, and a music library. Student facilities also include a student common space which promotes visual and physical engagement with the civic nature of the site, as well as a student cafeteria which could potentially allow students to purchase or prepare meals on site. School facilities also include staff services: staff offices for key members and lecturers, temporary staff offices for visiting lecturers or speakers, and administrative offices which accommodate spaces for the Dean of Music as well as key administrative figures. Administrative areas will also need to include a vacant office available for use by staff members (including both administrative and teaching staff) when meeting with students in a formal setting. A staff common room as well as a clear reception space is a further requirement of the staff facilities segment.

Public Facilities 15%

Public facilities will include a 120-seat lecture theatre, a space used in collaboration with student services. This lecture theatre needs to be located in an area with established circulation between the auditorium space as well as linking to student spaces, while having easy public access. Other key public facilities include a sound recording studio available for hire and an opportunity for a retail outlet dealing in some form of musical merchandise; this outlet should allow for commodities for both the public and student buyer. In addition, a café-bar will be included on the south side of the auditorium adjacent to the City-to-Sea Bridge. These facilities, especially the recording studio, will operate 24/7, ensuring frequent night-time use.

Auditorium/Concert Hall 20%

The program proposes that a 650-seat auditorium/concert hall be included. It would be a public facility able to accommodate a full symphony orchestra, including the various specialist and acoustic trappings that this entails. This component of the programme, although not a necessity, would be a crucial component to completing the program on the site. Wellington currently lacks a medium-sized auditorium, with a venue offer that jumps from around 330 seats in Ilott Theatre, to around 1200 in State Opera House.

Miscellaneous Facilities 25%

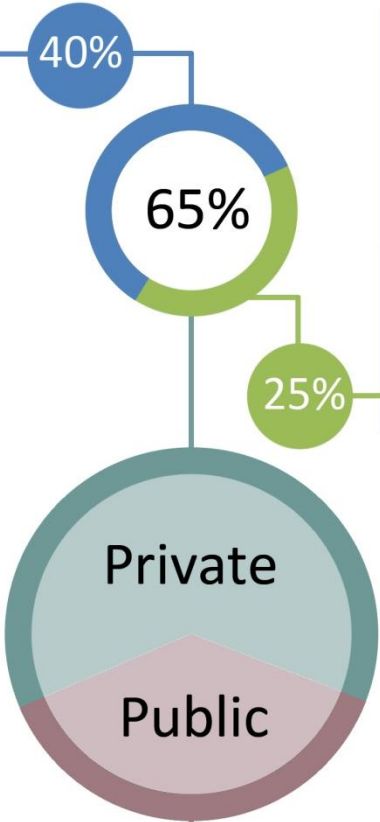
These spatial requirements are comprised of service facilities, including a campus security office, where surveillance of key areas can be monitored, preferably located near administrative areas. They also include a space primarily for car parking; this includes two distinct parking types, permanent staff parking and public parking for auditorium users. The site may also accommodate drop-off zones. These drop-off zones again include two kinds of zones: a drop off zone for any public attending a performance and a service drop off zone for any equipment that may be dropped off for performances such as instruments or administrative equipment; preferably this zone will be located at the basement/car park level near service lifts and stairways Also required is a service plant core.

The following diagrams summarise this program into concise tables while also illustrating the spatial requirements for each of the spatial groups mentioned above.

Site and Program Assessment

School facilities	40%
120-Seat Lecture Theatre	250 m ²
3 Medium Sized Studios	360 m ²
40-50 Music Practice Rooms	400 m ²
Music Library	350 m ²
Student Common Space	360 m ²
Student Cafeteria	420 m ²
Staff Offices	380 m ²
Temp Staff Offices	120 m ²
Administrative Offices	60 m ²

Miscellaneous Facilities	25%
Campus Security Office	20 m ²
Car Parking	
Staff Parking	300 m ²
Public Parking	900 m ²
Drop-Off Zones	
Public Drop-Off Zone	120 m ²



Auditorium/Concert Hall	20%
650 Seat Auditorium	1,250 m ²

Public facilities	15%
120-Seat Lecture Theatre	250 m ²
Sound Recording Studio	360 m ²
Music Retail Outlet	400 m ²

School Facilities

250 m2	120-Seat Lecture Theatre
360 m2	3 Medium Sized Studios
400 m2	40-50 Music Practice Rooms
350 m2	Music Library
360 m2	Student Common Space
420 m2	Student Cafeteria
380 m2	Staff Offices
120 m2	Temp Staff Offices
60 m2	Administrative Offices
40 m2	Staff Common Room
50 m2	Reception Space

Miscellaneous Facilities

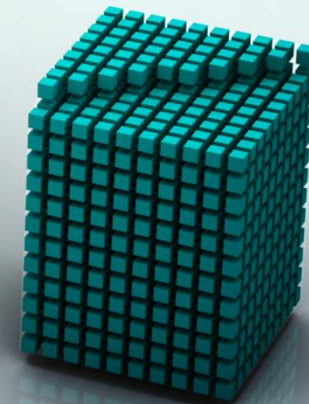
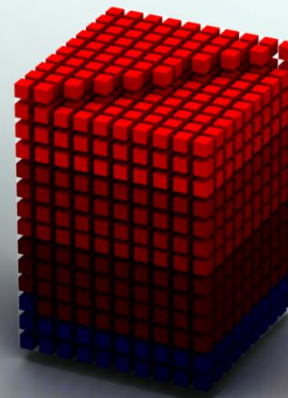
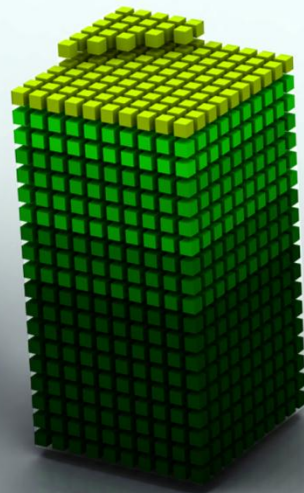
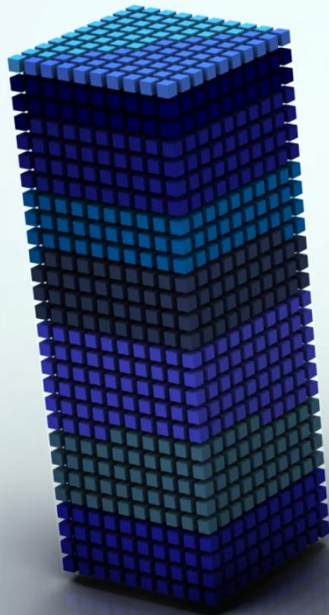
20 m2	Campus Security Office
	Car Parking
300 m2	Staff Parking
900 m2	Public Parking
	Drop-Off Zones
120 m2	Public Drop-Off Zone
180 m2	Service Drop-Off Zone
400 m2	Service Plant Core

Public facilities

250 m2	120-Seat Lecture Theatre
360 m2	Sound Recording Studio
400 m2	Music Retail Outlet
350 m2	Café- Bar

Auditorium/Concert Hall

1,250 m2 650 Seat Auditorium



Design Capacity	Building User	Period	Movement
35-40	Teaching Staff	Permanent or Contract based.	Complete Access
10	Administrative Staff	Permanent, standard working Hours.	Complete Access
600	Students (National and International)	3-5 years dependant on courses with additional 2-4 years for Masters or P.H.D study.	Limited to student areas, with afterhours access to most student facilities
650	Public	Temporary access, limited to open days or during scheduled performances.	Very controlled movement, only to public areas. Admission to any other facilities is subject to predetermined tours of the school under supervision.
2-3	Campus Security	Permanent Access 24/7	Moderate access to all areas of surveillance. Excludes all staff offices
4-5	Any Other Visitors (Student Family)	Restricted or No access. Very limited access granted after registering at reception or following university procedure	Limited to student working spaces under the supervision of active student

This chart shows the different types of building users, taking into account the added public program and auditorium user.

3.6 PUBLIC VS. PRIVATE

The two conflicting programmatic elements, the New Zealand School of Music and the Public Auditorium/Concert Hall (with its associated public entry, gathering lobby, public toilets, etc.), must be conceived as dual parts existing together. This will establish an overall ordering system and aid in forming a clear brief and strategy for the basis of the following experimental design chapter. The analysis of the program reveals that almost two-thirds of the school will be made up of private areas such as teaching, staff facilities and student spaces, and one-third will make up the public elements such as the auditorium and public facilities.

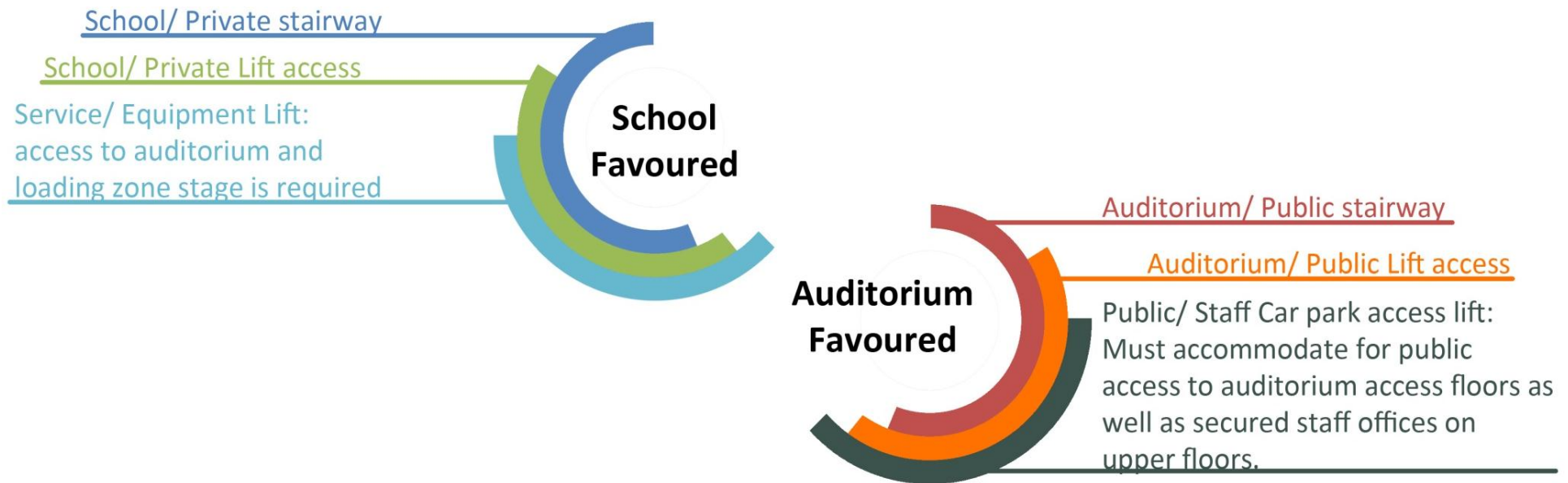
The key issue here becomes one of identity. The typology of a Public Concert Hall would be most suitable to the principal orientations of Civic Square and Jervois Quay; being more private, the typology of a School of Music would be most suitable to Harris Street. The focus of music however becomes the common ground which allows the two programs to coexist. The proposed design approach will be to inform the identity of music through a play of reveal and exposure that allows the public to become integrated, either physically or visually, into the daily affairs of the school as well as witness the Concert Hall. This play of reveal and exposure will be dictated by the edge conditions to which each face of the building will need to respond. This will allow the program to respond to the site contexts, allowing each face to respond to the site conditions while serving the programmatic requirements.

By placing the concert hall at the core of the site, a strong narrative and circulation patterns begin to merge, the first of which is acknowledging that this program must be designed for a lost site, one which needs to respond to this site from all sides, with no conceivable back. One solution is that each of the faces of the building could act as a form of entrance to either the public users or private users. Another would be the 'witness' effect that the two programs and their users could impose on each other. The two grids create two volumes, effectively enabling one for each of the two programs. The identity of each is realised by assigning each program to its own grid. The volume along Harris Street and City Gallery respond principally to the school. The volume along Jervois Quay and the City to Sea Bridge respond principally to the Concert Hall. While the Concert Hall program is much smaller than the school program, this second

volume provides all the lobby and gathering and drop off spaces required by a large public Concert Hall. The school shares these spaces, but the monumental entries on both these edges create facades of a civic nature responding to a civic typology, not a private typology. So this allows the two volumes to read as representing the two programs. The actual Concert Hall has one function in the evenings when there are public performances, and a different function in the daytime when it is used for student rehearsals. As such, placing it in the core allows it to act as a visual and symbolic 'joint' connecting the two grids and integrating the two volumes. Unveiling this symbol in the direction of Civic Square is another means of establishing the civic identity of the Concert Hall while also exposing the solution to this difficult site.

Another key element that will influence public movement and private movement will be the two integrated vertical access systems between the floors such as stairways and lifts; one vertical access system for students, and one for the public. These can be shared, but is another solution that may be tested to further the identity of two unique programs. The nature of the two programs introduces two degrees of formality; stairways and lifts for the public attending a showing at the auditorium are required to be more formal whereas stairways and lifts for students may be less formal. For a concert hall where the entire audience leaves at the same time and needs facilities such as toilets at the same time, stairs must be wider and more toilets must be provided together. With an auditorium at the core and the school facilities on the northern side, this suggests that the northern stairways and lift systems may favour continual use by small numbers, while the southern side where the public will normally enter may favour short-term use by large numbers. The use of these systems may extend to allow for concerns such as service access for musical equipment and car park access. Such considerations can be utilised to determine lift and stage orientation within the auditorium, designing the student favoured lift to be larger, and therefore acting as an equipment service lift as well.

The following diagram shows how the four types of access are accommodated by the two programmatic elements:



3.7 List of illustrations

Figure 1: Overlooking Jervois Quay and surrounding area, Wellington, 1978; Looking south from an elevated position over Jervois Quay and surrounding area, Wellington, 1978. Shows vehicles on Jervois Quay at left and the area in the vicinity of the Central Library building (centre right) now the city gallery. Wellington City Council offices are also visible (top right). A building in the foreground is under demolition. Between the town hall and the library is the now truncated Mercer Street, joining on Cuba Street, now abridged to allow for the Michael Fowler Centre. Photograph taken for the

Source: Unidentified photographer Evening Post. Reference Number: 1/4-031943-F.

Figure 2-4: Perspective sketches depicting the overall master plan for the Civic Square site. Clearly evident on the now Jack Ilott green space is an office tower intended to be constructed with the existing buildings. Original Sketches 1987.

Source: Courtesy of Athfield Architects Ltd.

Figure: 5-6: These images show a proposal for adding a significant new addition to the old public library and allowing it to remain where it was. Rectilinear new buildings were proposed to the west and the east. This is one example of the proposed changes to the site housing the library and other key civic buildings.

Source: Gray Young Collection at the Victoria University Architecture and Design Library. Reference Number: 54c.

Figure 7-8: On the Left; the Town hall on the corner of Cuba and Mercer Street with its entrance orientated along the now shortened Cuba Street and on the right; opposite the town hall on the Mercer street axis is the original Public Library now the City Gallery. circa 1940.

Source: Gordon Burt. Onslow Hilbury Collection. Reference Number: 1/1-015911-F.

Figure 9: Shifting the Map of the Wellington off its customary upward North clearly depicts the two city grids. Principal City grid (in red) and Harbour grid (in Blue). This also exposes locations of other likely lost sites.

Source: <http://maps.google.co.nz/>

Figure 10: An Arial view of the current Civic Square altered to express the four surrounding streets. Soft and hard spaces are utilised with shifted objects such as a pyramid and suspended tarps to transition between the two grids.

Source: <http://maps.google.co.nz/>



4 Experimental Design

Chapter 4 incorporates the experimental design and conclusion to the thesis. This design experiment tests the application of theoretical imperatives for addressing lost sites that were researched and analysed in the previous chapters. It uses the Wellington lost site Jack Ilott Green as a design research vehicle for testing this application. The objective of the chapter is to propose a design approach for resolving lost sites that successfully engages diverse grids as well as diverse programs while establishing a holistic identity of its own – in this case as an integrated new public Concert Hall as well as a School of Music shared by two universities: Victoria University and Massey University. This section illustrates the method by which both the principal city grid and the divergent harbour grid are assimilated into a single site while also responding to edge conditions relating to diverse adjacent urban contexts. The combination of these diverse urban edge conditions and diverse programs require this lost site to simultaneously establish a prominent civic identity in relation to Civic Square, as well as a private academic identity as a school – two diverse typologies occupying a single intervention on a single site composed of divergent grids.

This section also tests how two very diverse programs can achieve their own identities upon this lost site, through unique entries and unique cores and unique contextual orientations. This section experiments with ways of establishing identity for the overall building within the context of two diverse grids and two diverse programs, by using the shared program of the Concert Hall as a central element embraced by the two programs. The experiment concludes by establishing the Concert Hall as a shared common centre that provides seamless integration of the two diverse programmatic conditions, thus enabling the programs to coalesce into a singular architectural intervention on a ‘Lost Site’ that achieves a strong independent identity.

The design experiment in Chapter 4 tests the following approaches to resolving the Lost Site, based on the complex conditions evidenced by Jack Illott Green and its proposed program:

- Invite hard and soft conditions to transform vertically on the facades, rather than just horizontally, as a means of addressing the complex urban contextual conditions defining each edge.
- Establish a (North) building volume for one program which achieves identity by aligning with the main urban grid and a (South) building volume for the second program which achieves identity by aligning with the harbour grid.
- Establish common dimensions for the two building grids based on parking dimension requirements below ground; locate a common grid point shared by both volumes, as a point of counter-flexure, as a means of integrating the two divergent grids.
- Establish façades facing Civic Square and Jervous Quay that are responsive to civic identity, and facades facing Harris Street and the City Art Gallery side ramp that are responsive to Harris Street.
- Test how the facades facing Civic Square and Jervois Quay (perpendicular to one another) can both act as principal 'front facades' of the same building.
- Provide separate service cores for the North volume (School of Music) and the South volume (Concert Hall).
- Provide separate entries for the North volume (students) and the South volume (general public)
- Provide common shared elements between the North and South volumes (basement level parking and mechanical plant; ground level Jervois Quay lobby; upper level Concert Hall)
- Utilise one particularly strategic common program element (in this case the Concert Hall) as a shared common centre to integrate the two volumes into a single holistic identity embraced by the dual programs, typologies, and grids artery.

4.1 EDGE CONDITIONS

The theoretical research in the previous chapters suggests that hard and soft spaces can be critically established on ground level to resolve different edge conditions. The design experiment in Chapter 4 will now test how architecture can also resolve different edge conditions by strategically transforming and engaging hard and soft vertical conditions as the building changes from one level to the next as a means of resolving lost sites. The following section addresses the complex contextual edge conditions of the Jack Ilott Green lost site, as recognised thus far in the theory and site analyses. This section critiques and applies the findings of the previous chapters, considering the dual programs, dual grids and dual typologies required by this constricted site.

JERVOIS QUAY EDGE CONDITION (EAST FACADE)

The harbour grid aligned form (the Jervois Quay edge and the City to Sea Bridge / Civic Square edge) – henceforth referred to as the South Form – establishes major front facades, in recognition of the importance of establishing a strong civic identity facing these two prominent contextual conditions. The major facades along Jervois Quay and the City to Sea Bridge establish primary civic entries and must maintain a hard edge. This South Form is the only major frontage that this building site has on a principal street (Jervois Quay); any design intervention along this edge will need to consider this principal urban vehicular route along the Wellington waterfront as a key contextual condition. This vehicular route would allow motorists to visually engage with the architectural form and reinforce identity. This ‘primary façade’ edge needs to register as providing a front entry, but the only way that a viable front entry can exist here is to pull the entry inwards away from Jervois Quay to provide a safe drop off area. This dual façade (principal façade along Jervois Quay and secondary façade pulled inward) approach establishes a soft edge at street level with a hard edge on all the stories above. This vertical application of soft edge theory starts to influence programmatic considerations such as a drop off lane and principal entry lobby off of the main artery route.

CITY TO SEA BRIDGE EDGE CONDITION (SOUTH FAÇADE)

Jervois Quay and the City to Sea Bridge are on the same grid alignment, perpendicular to one another, yet both edges face urban conditions that warrant a principal 'front' façade. Typically dual principal facades would be back and front, as Athfield tested with the Public Library. This lost site situation calls for the site to establish a front façade entry on two sides that are perpendicular to one another (along the City to Sea Bridge and along Jervois Quay). In the design experiment, this is achieved by maximising the nature of the hard edge on these two fronts while simultaneously integrating the use of a soft edge. The hard edge along the City to Sea Bridge must accommodate a pedestrian path between Capital E and the new public Concert Hall; in doing so the design intervention extrudes its entrance out onto the bridge itself and provides a visible 'public scale' entry by cantilevering the large auditorium above the bridge. The dominant bridge entry reinforces the hard edge, while the space on either side (viewing the ground below) acts as a soft edge.

HARRIS STREET EDGE CONDITION (NORTH FAÇADE)

Harris Street is an unusual hard edge as there are no front facades and thus no clear identity. On the south side of Harris Street, the back of the City Gallery is sited centrally with open space on either side. By recognising that the edge conditions along the south side of the street include a side elevation of a library to the west and a back elevation of the art gallery to the centre, the identity of the street edge can be reinforced by completing the east corner by mirroring the hard to soft edges from the west corner. The design could then enable the City Art Gallery to have an image/identity even from its back façade orientation, allowing it to read as a front façade. The design intervention would base its own northern façade conditions, not as a primary entry, but as a secondary entry. The symmetry created along the south side of Harris Street through form would respond to the hard to soft to hard edge conditions, centring attention towards the Art Gallery allowing it to read as a front façade without a front entry. By creating this symmetry, this would enhance the design intervention's ability to give identity to the northern edge of the site.

The secondary facades facing Harris Street and the City Gallery ramp have a much greater capacity in being secondary entries as they are an integration of hard and soft that achieves an edge but also achieves symmetry for the whole street. By using this symmetry approach the design will be able to deal with the anomaly of the lack of identity of Harris Street, going from hard space, to soft space, and to hard space again to provide a clear sense of order to the street identity.

CITY GALLERY EDGE CONDITION (WEST FACADE)

The west façade is the first façade that will be viewed by people entering Civic Square. Yet the west façade faces only a side elevation of City Gallery and an elevated access ramp to the City to Sea Bridge. The west façade and the City Art Gallery are also oriented on a different grid to the south façade and the City to Sea Bridge. Thus the west façade encounters multiple conditions, and so engages soft space theory to most effectively ameliorate these contradictions. While Athfield used soft space theory to resolve the southwest corner of Civic Square, this design experiment uses soft space theory differently to resolve the northeast corner of Civic Square. Instead of adding curves, the design experiment allows the building to expose its core. The spherical nature of the core creates a 'frontage' that can be understood from the diagonal approach from Civic Square or from the axial approaches of the other facades.

CIVIC SQUARE APPROACH

The Lost Site of Jack Ilott Green, located on two diverse grids with the requirement for two very different programs, is resolved through the use of two different forms (North and South) each inhabited by one of the two programs. This resulted in a central space where the two are seen together. The southwest corner of the building, which is the most prominent view of the site from Civic Square, can be used to unveil this integrated condition. This could allow the design intervention to expose its identity as a school of music centred on an architectural form that ceremoniously celebrates its dual function as a Concert Hall: rehearsal space for students and

performance space for the general public. This corner engages with the monumentality of the program exposed along this edge and also serves as an entry for student users.

SERVICE ACCESS THROUGH THE BASEMENT

This is made possible through the basement which is through the existing car park, which is why the design allows for a service core and a public core. By not having a service facade the design intervention incorporates a service core and a public core facing each other with equal identity. The facades are about the concert hall versus the school. The service versus the non-service locks the two programmatic identities in place.

GRID DRIVEN FORM

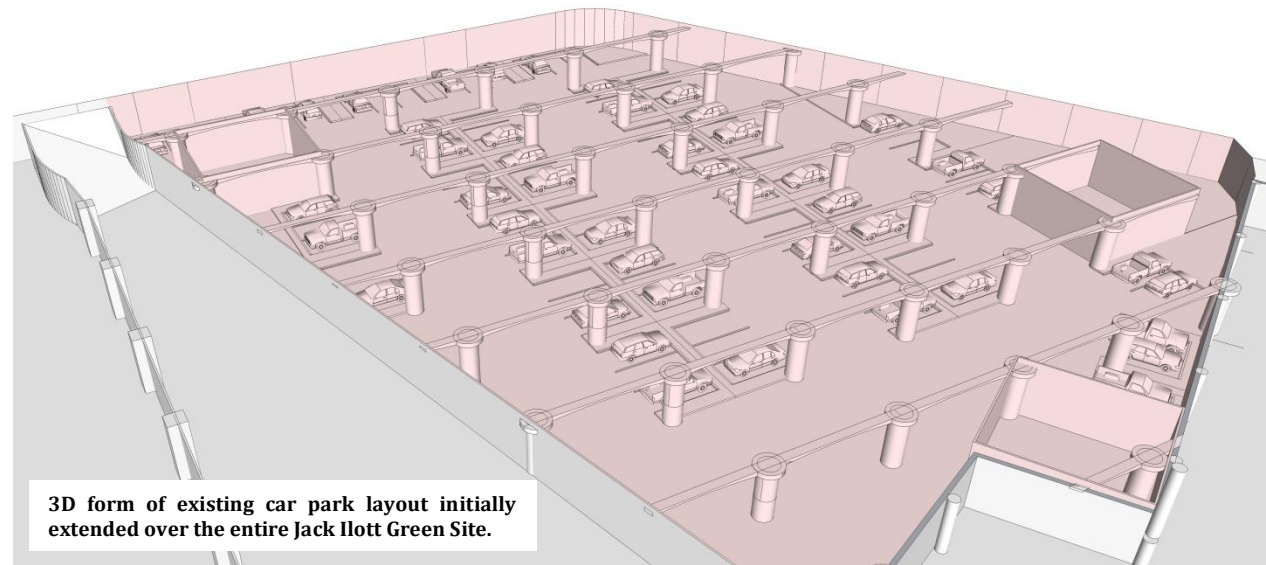
Grid Experiment 1: The overall site condition must respond to the two main grids described in the previous chapter, the Harbour Grid and the Principal City Grid. The primary layout of Civic Square is aligned with the principal city grid. This is clearly evident when looking at the basement/ car park level of Civic Square. A design intervention on the 'lost site' of Jack Ilott Green would need to incorporate some aspects of the principal city grid / Civic Square grid. The thesis design experiment utilises the same structural grid below Civic Square, extending it onto the Jack Ilott Green site at the basement level. This initial test covers the entire Jack Ilott Green site with a



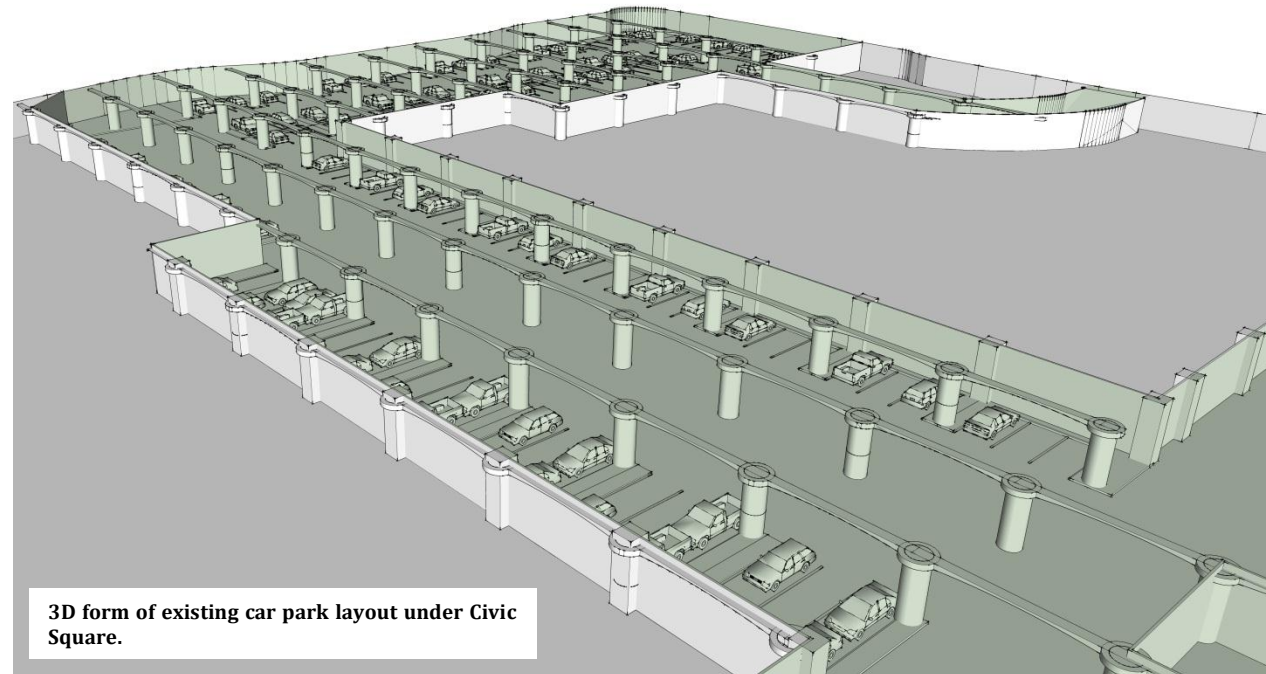
Initial Experiment 1. This diagram depicts the initial test which covers the entire Jack Ilott Green site with a viable car park layout that is only influenced by the principal city grid.

viable car park layout that is only influenced by the principal city grid; however this begins to provide some indication of the number of parking spaces achievable for this area and also the potential orientation of the structural columns making up the building's structure.

This initial test suggests that the design intervention, when driven primarily by the principal city grid, could accommodate a maximum of 94 vehicles, including 18 disabled parking spots and also three main service/access cores. By using the existing entrance and exit ramps located on the Harris Street edge, with a service entrance and exit ramp along Jervois Quay, the car parking layout on the Jack Ilott Green site can avoid



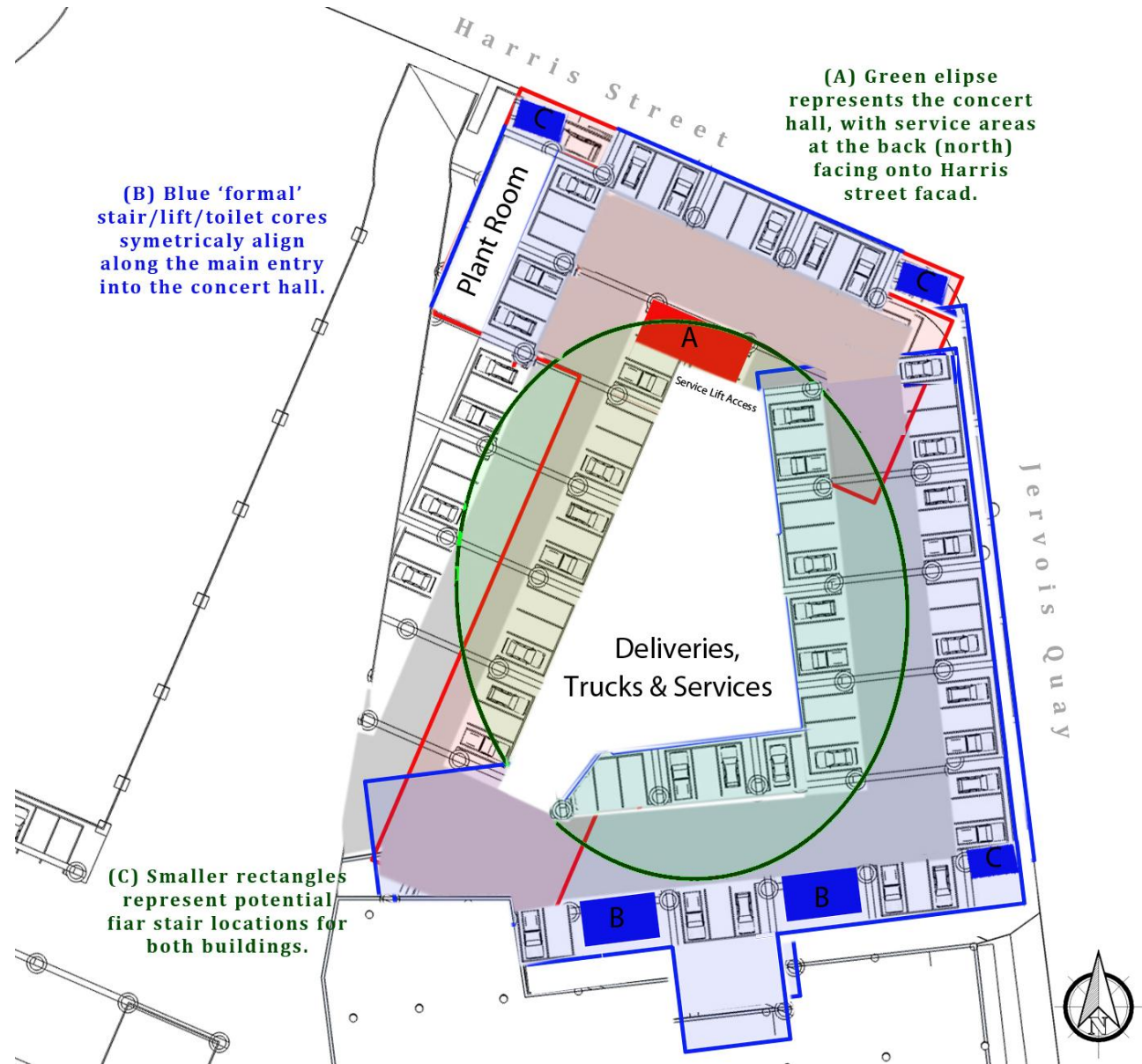
3D form of existing car park layout initially extended over the entire Jack Ilott Green Site.



3D form of existing car park layout under Civic Square.

accommodating segregated entrance and exit points within the constraints of the design site. This aligns with the characteristics of the Harris Street façade identified in the previous chapter; suggesting that this edge is one of two edges that open directly onto a street edge, making vehicular access along this edge ideal.

Grid Experiment 2: The next stage of the design experiment begins to respond to the second grid, the harbour grid, by orienting the east and west parking areas of the site along this grid. This test begins to inform a clear structural layout and also allows for better vehicle circulation. The programmatic consideration of the concert hall above the ground level is further used to inform vehicular circulation and the service layout along the basement floor.



(B) Blue 'formal' stair/lift/toilet cores symetrically align along the main entry into the concert hall.

(A) Green elipse represents the concert hall, with service areas at the back (north) facing onto Harris street facad.

(C) Smaller rectangles represent potential fiar stair locations for both buildings.

Integration of the secondary grid condition, Harbour Grid. This begins to identify points of vehicle circulation as well as loading zones, disability parking spots, service plants and core layouts.

This test accommodates a service core at the centre of the basement level which also accommodates a trucks and deliveries lane.

Grid Experiment 3: An analysis of the structural layout and circulation begins to identify key elements which will inform the design's basic form; a critical column is located that can be shared by the two grids. This 'pivotal' column (identified in red) exposes the critical point at which the two grids converge, but it does so in a manner that allows both grids to coexist without compromising the vehicular circulation or layout to which each grid adheres. Columns aligning with both grids beyond the critical 'focal' column (here identified in blue) become superfluous, as the concert hall above can be supported by the columns along its perimeter. This experiment suggested that at the core of the basement floor layout, these structural systems can be reconceived to allow for a structure

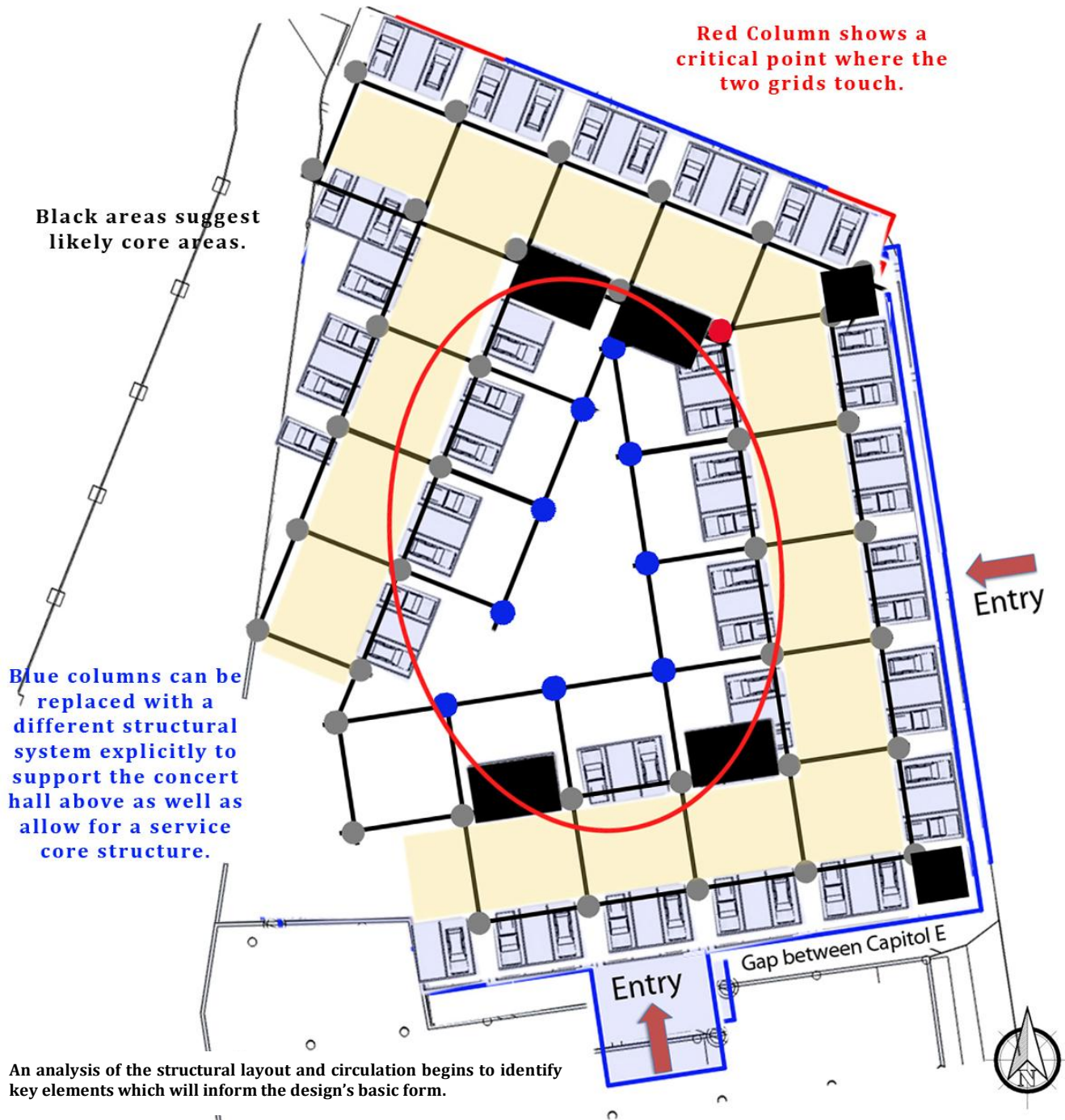
Experimental Design

Black areas suggest likely core areas.

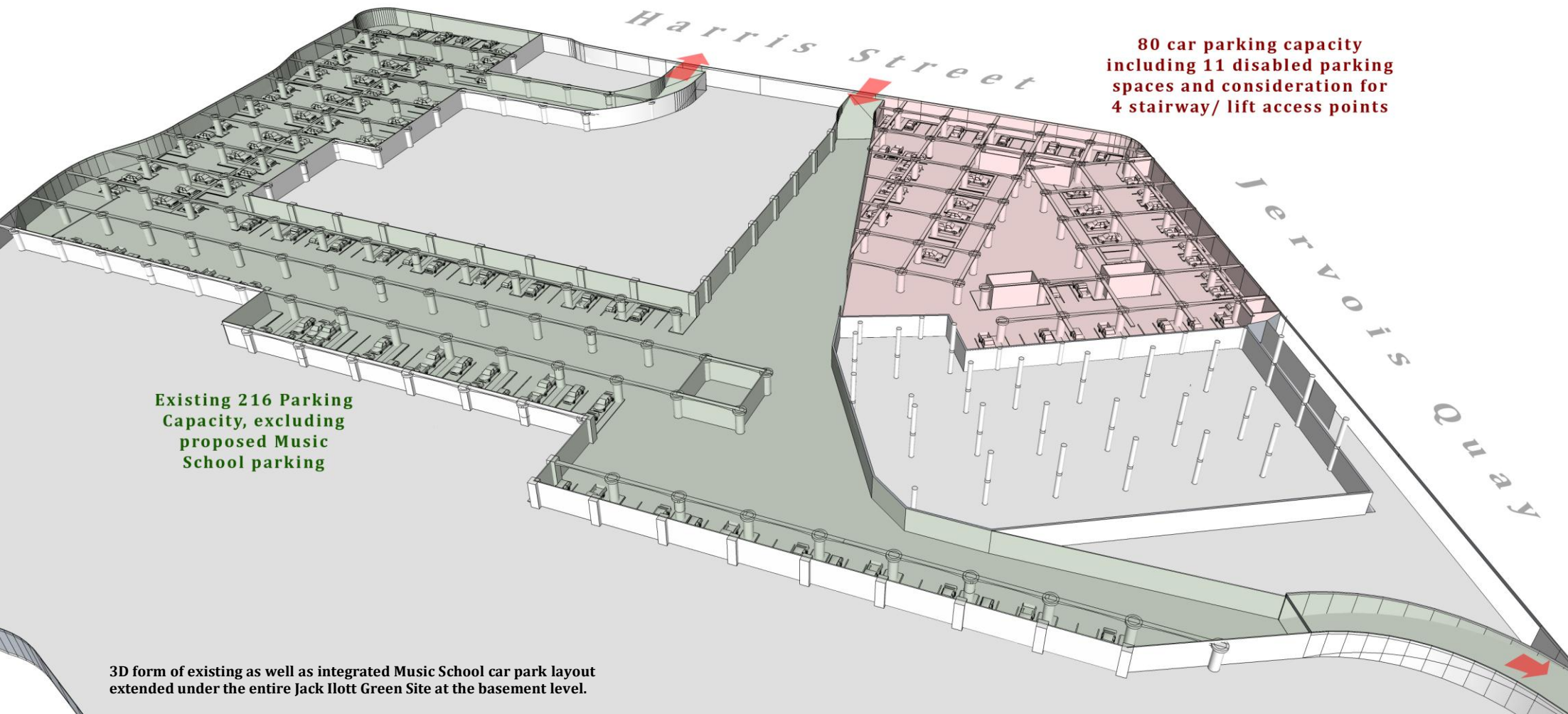
Red Column shows a critical point where the two grids touch.

Blue columns can be replaced with a different structural system explicitly to support the concert hall above as well as allow for a service core structure.

An analysis of the structural layout and circulation begins to identify key elements which will inform the design's basic form.



appropriate for the programmatic requirements of the spaces within and above this area. Formalising this layout determines that this grid experiment could accommodate a maximum of 80 vehicles, including 11 disabled parking spots and four main service/ access cores.



4.2 INTEGRATING DIVERGENCE BY ENGAGING A SHARED COMMON CENTRE

Establishing contextually responsive edge conditions begins to unveil a viable identity for the lost site. Each edge should be responsive to the diverse conditions it faces. The resulting building responds to two grids, two identities. The two identities reflect the two programs held within (the public concert hall and the school) as well as the two different schools that must work together. The architectural narrative reflects these contextual conditions working together to create a holistic identity that responds to diverse and opposing conditions.

The next experiment in establishing a coherent architectural narrative is to establish a shared commonality within the two divergent sets of conditions: the unveiling of the inner persona, the heart, the true soul. The real heart is the concert hall held in the centre, where music is made. The design experiment unveils and exposes the heart as a narrative about the true identity of the building. Unveiling and exposing the heart is the lesson the building teaches about true inner identity to the public who visit the Concert Hall and the students who will study at the new School of Music: music is the one element that brings it all together, the singular identity held within that unites the complex programmatic, contextual and user conditions.

In this sense, the design experiment resolving the lost site becomes a building within a building. The answer to the mystery of the identity of this building is exposed to the east through the multi-height glass entry portal facing Jervois Quay. As people drive along Jervois Quay at night, they see a golden concert hall suspended inside the larger building, illuminated in the darkness. This is the answer to the mystery of the building's real identity, exposed on Jervois Quay and exposed on the southwest corner facing the entry to Civic Square. The principal public entry to the concert hall will be within the South Form (Jervois Quay and City to Sea Bridge edges), so public core access will be within this form to the south.

The large service lifts needed behind the stage will therefore face Harris Street to the north. The public core to the south and the service core to the north are designed as if they support the central Concert Hall. By making the northern service lifts predominantly of thicker share wall but allowing for continuous glazing along two faces, students entering the school from Harris Street see immediately the workings of the concert hall. They see the instruments being moved up and down. They see the structure holding up the stage. Everything for them - the inner workings of a concert hall - is exposed within the North Form as part of their school's narrative, part of their education. The architecture of the learning and teaching spaces is defined by the concert hall. Like Frampton's theory of critical regionalism, places emphasise on the site site-specific factors and the play of light across a structure. This play of light is seen to be the means of revealing the tectonic value of the work. Using Frampton's theory of critical regionalism to influence the overall form of the two cores is an attempt to "focus on all the senses that inherently affect the experience of a place" (Frampton 327).

The concert hall within this building is surrounded by open public space on the Jervois Quay side so that it can be viewed within a multiple height atrium facing the harbour. All the principal administration offices are located on the upper levels along Jervois Quay in the South Form. All the practice rooms are against the glass windows on Harris Street in the North Form. In this way, the public sees the concert hall itself when they drive along Jervois Quay, and they see the practice rooms filled with students when they drive along Harris Street - two aspects of the narrative exposed. From Civic Square, they see what they expect to see - a civic building wearing the proud mask of a civic building. And the vacant lot on a principal corner of Civic Square now acts to complete the identity of the square as an important civic site with clarity of its edge condition.

4.3 EXPERIMENTAL DESIGN

The overall site condition incorporates two grids and the overall program incorporates two programs. This design proposal will experiment, using one grid to provide identity to the school and one grid to provide identity to the public concert hall. One grid incorporates primary frontages (Jervois Quay running parallel along the harbour, and the dominant City to Sea Bridge of Civic Square), while the other grid incorporates secondary frontages (Harris Street and the side of City Art Gallery). This proposal will test how the dominant 'civic program (Concert Hall) would be best suited to the grid aligning with the principal frontages, while the 'less public' program (Music School) would be best suited to the grid aligning with the secondary frontages.

The two programs each need an identity, as does the building as a whole. The design proposal will test how each program will have its own entries and its own cores. In many ways, a core provides identity for a program by providing the principal vertical circulation and amenities for that program. One of the most important issues to resolve is to achieve identity of the overall building within the context of two diverse grids and two diverse programs. The two programs share a Concert Hall; the two grids share a common centre. So to achieve a unified identity upon this lost site, this design proposal will test placing the shared concert hall at the central point around which the two grids are oriented.

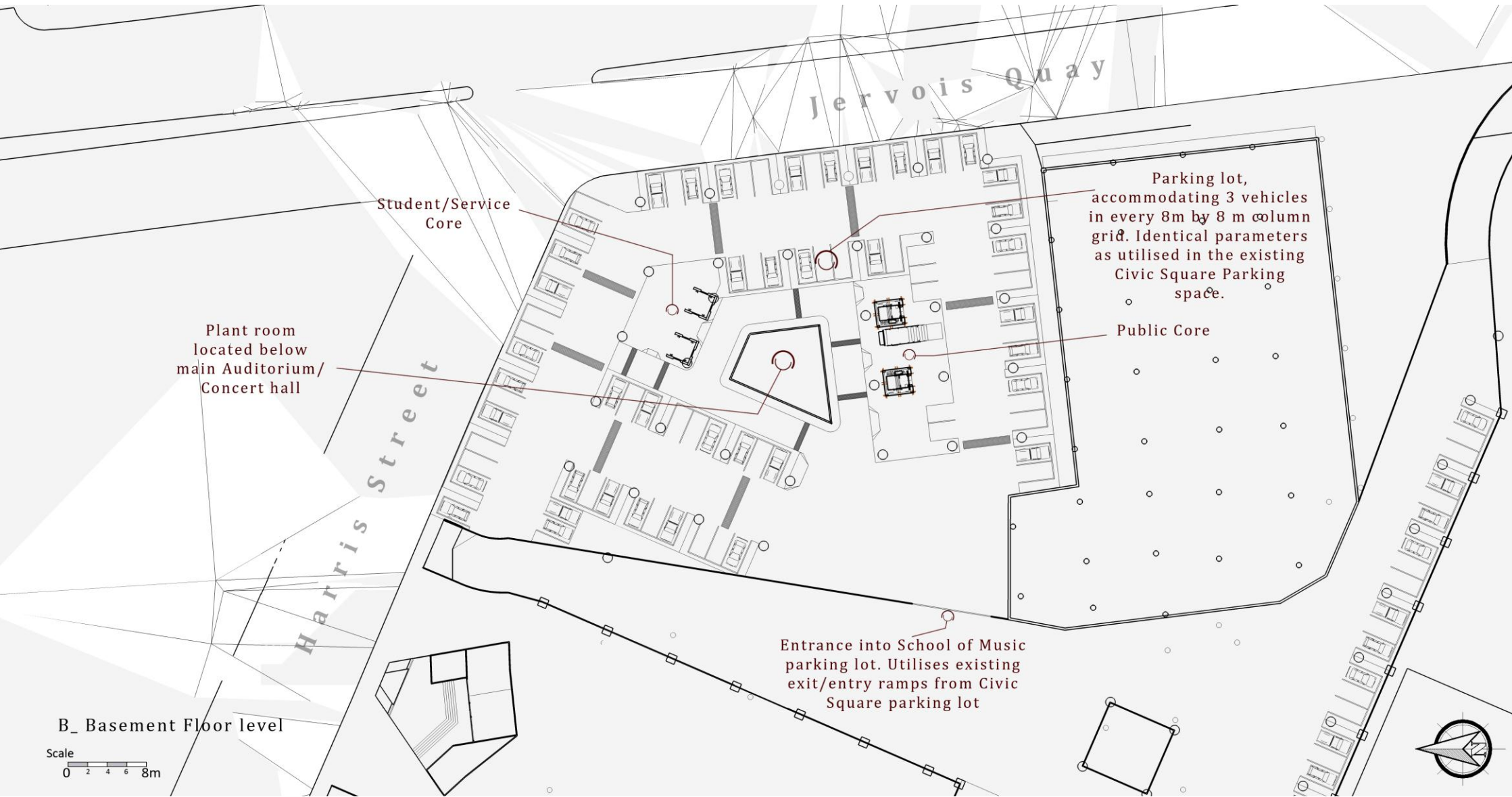
The shared Concert Hall provides the unifying identity; it is an important symbol of the integration of the two programs. So the design proposal will test unveiling the Concert Hall when seen from Civic Square. This means that the 'unveiling' should occur near the southwest corner of the new building, which is the principal view when entering Civic Square. "Identity" involves more than just façade conditions; it also involves internal spatial conditions. This design proposal tests how the two diverse grids can be translated into two diverse volumes. Each shares a common column, which acts metaphorically as a 'pivot point'. The two volumes define a common space in between. The design experiment proposes that a lost site can be resolved by establishing clear, shared conditions (such as the form and meaning of the concert hall in this case) that establish coherence to the diversity. This design proposal tests how two distinct

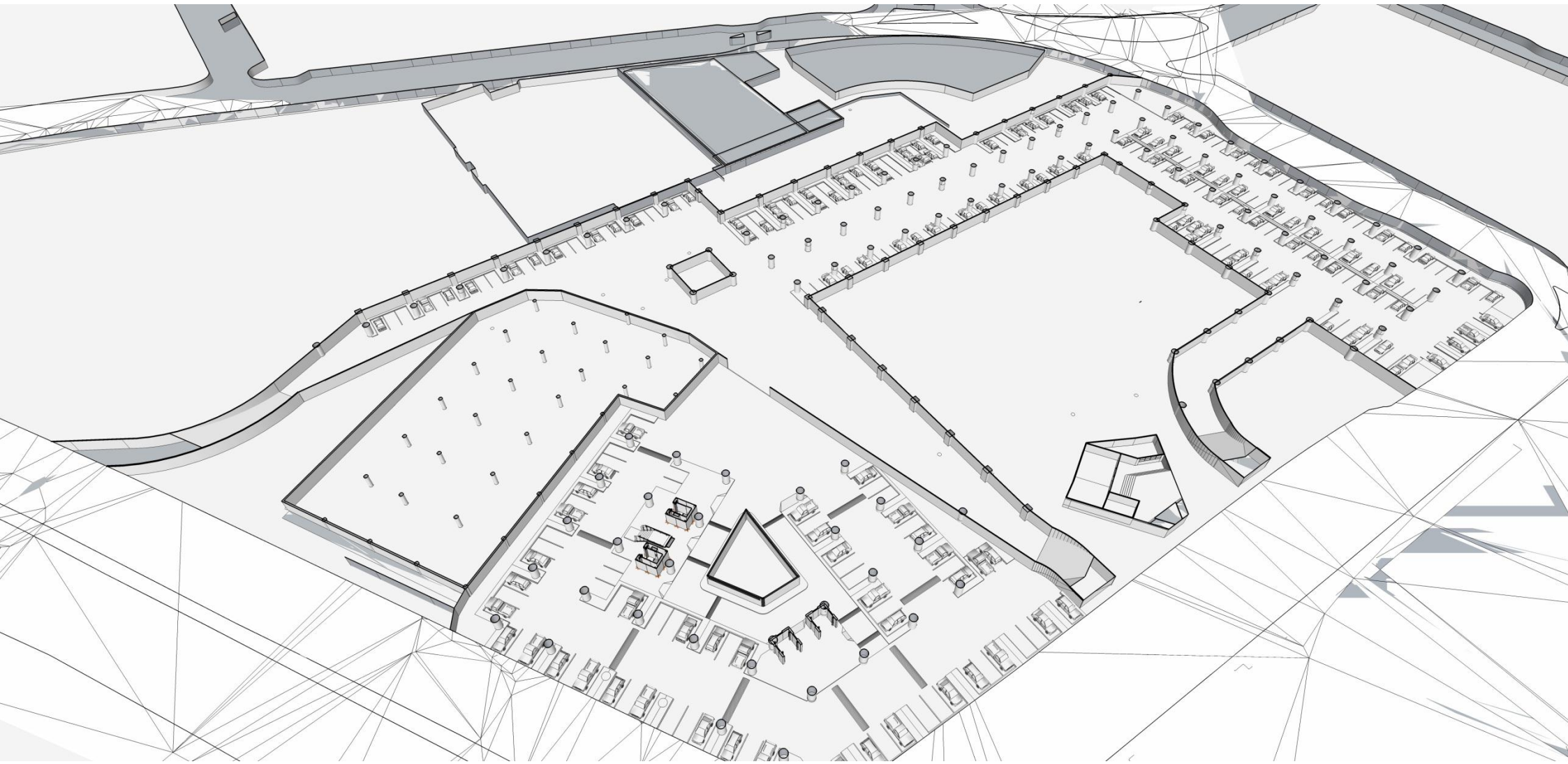
'identity' cores (one for each program) can support and access the shared concert hall in different ways, providing entry and amenities for students from one direction, and for the public from another. The two distinct cores represent the identity of the individual programs, which link to the concert hall, which represents the identity of the building overall.

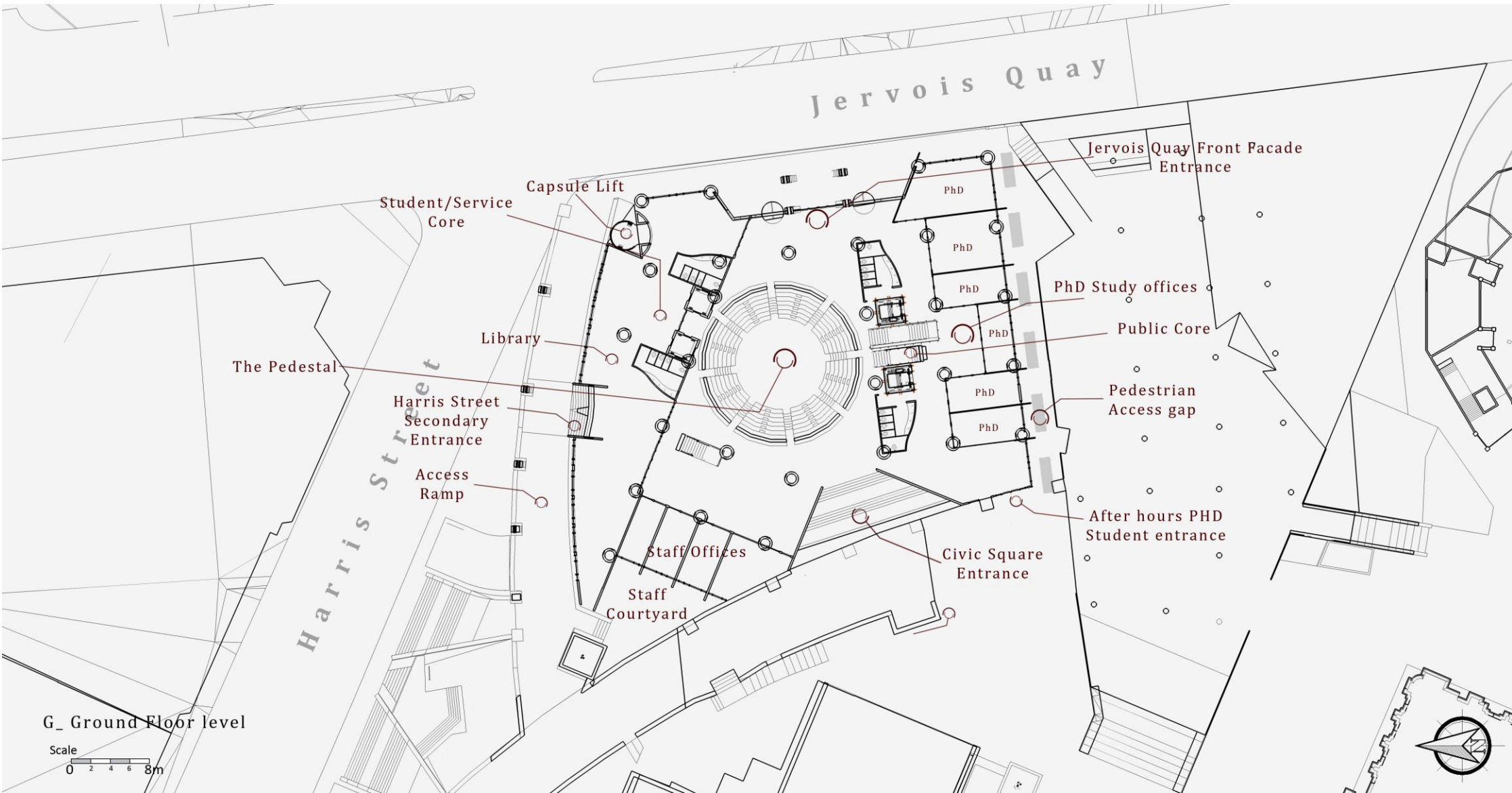
A five-story height was considered ideal to match the height of the other buildings on Civic Square, particularly the height of the adjacent City Art Gallery and the Michael Fowler Centre. The required large volume of the program upon a constricted site footprint requires a five-storey building that takes up the entire site. This therefore allows little 'traditional' use of soft space in the form of a surrounding outdoor plaza or lawn.

Each of the propositions to be tested as listed in section 4.1 requires a critical implementation of soft and hard space. Yet because this 'Lost Site' fills the entire site, the design proposal will test the use of soft and hard spaces in a unique manner, changing progressively both vertically as well as horizontally, as conditions require. The northern Harris Street edge proposes a 'soft' approach to the façade near the City Gallery (northwest), progressing to a 'hard' approach to the façade near the corner of Jervois Quay (northeast). It also proposes a 'soft' approach to the façade near ground level, progressing to a 'hard' approach to the façade as it moves upward. The Jervois Quay edge proposes a 'hard' approach to the entire façade, but with a 'soft' approach to facilitate an entry off of the busy highway to facilitate easy entry.

The thesis therefore proposes that an integrated use of soft/hard along common edges in both vertical and horizontal directions can provide a means of seamlessly integrating multiple conditions into a viable identity for an architectural intervention on a 'Lost Site'. The thesis also proposes that determining a strategic common grid point and shared program element are two critical conditions that can act to resolve disparate grid and program alignments.

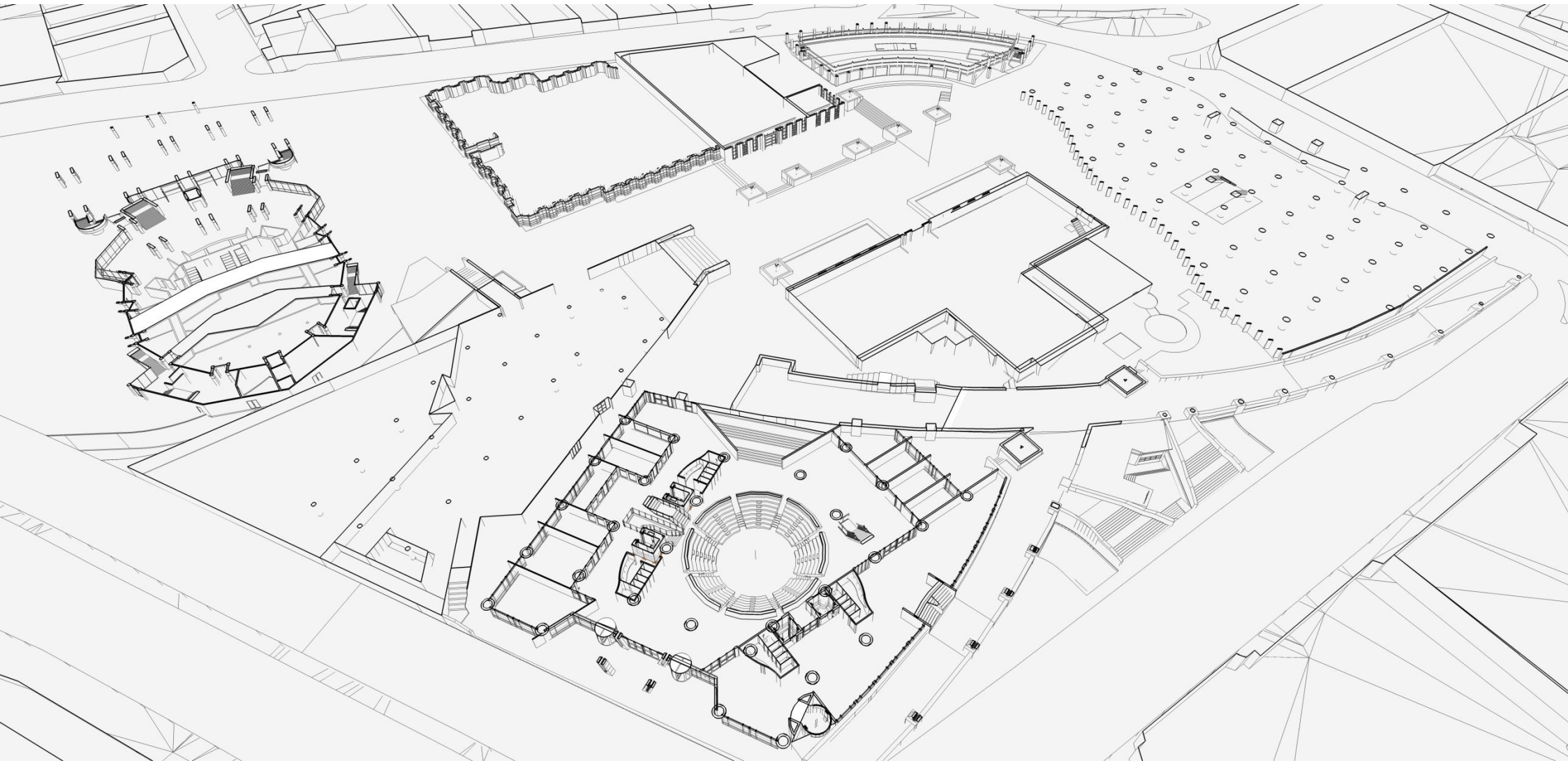


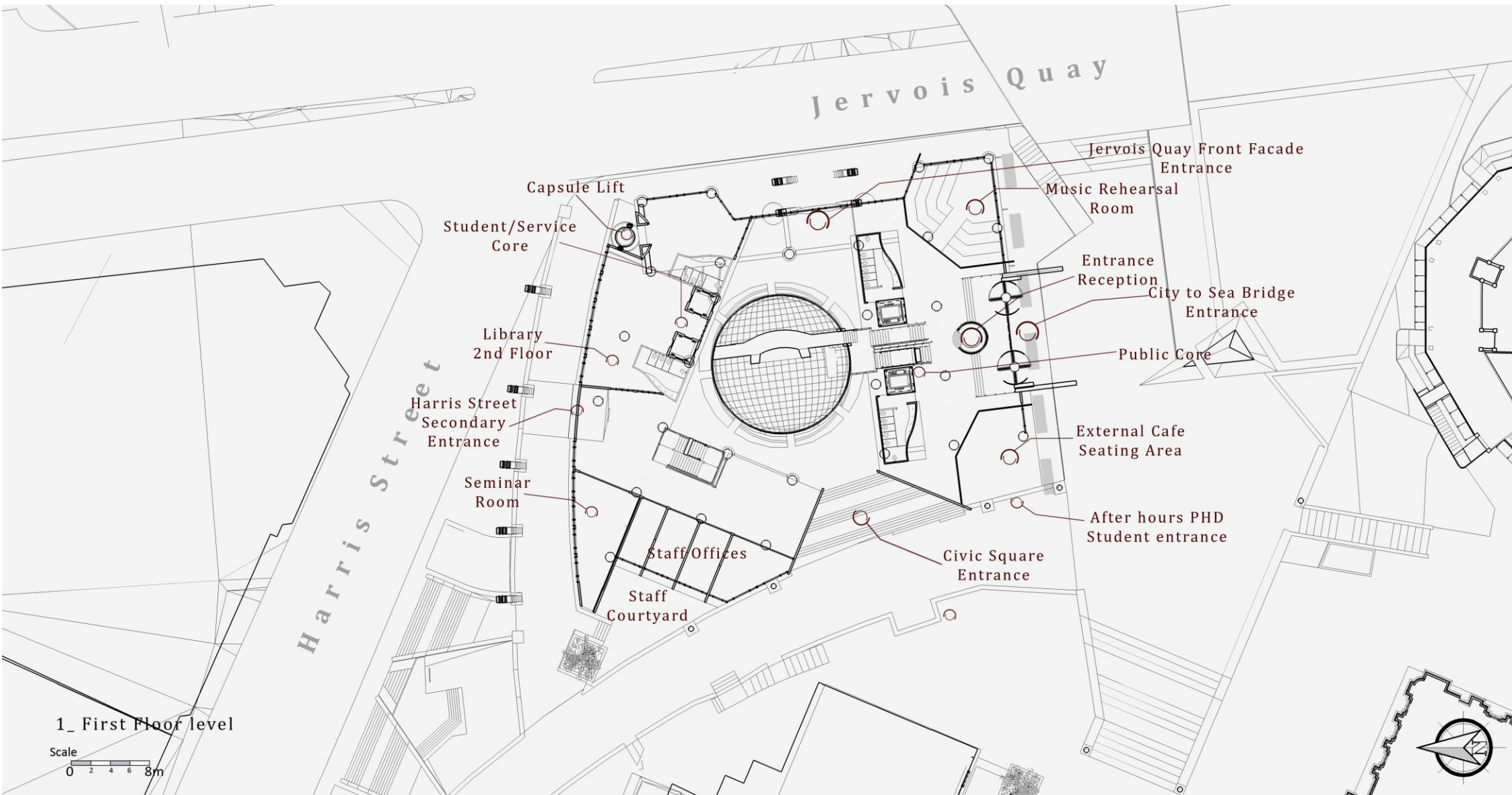


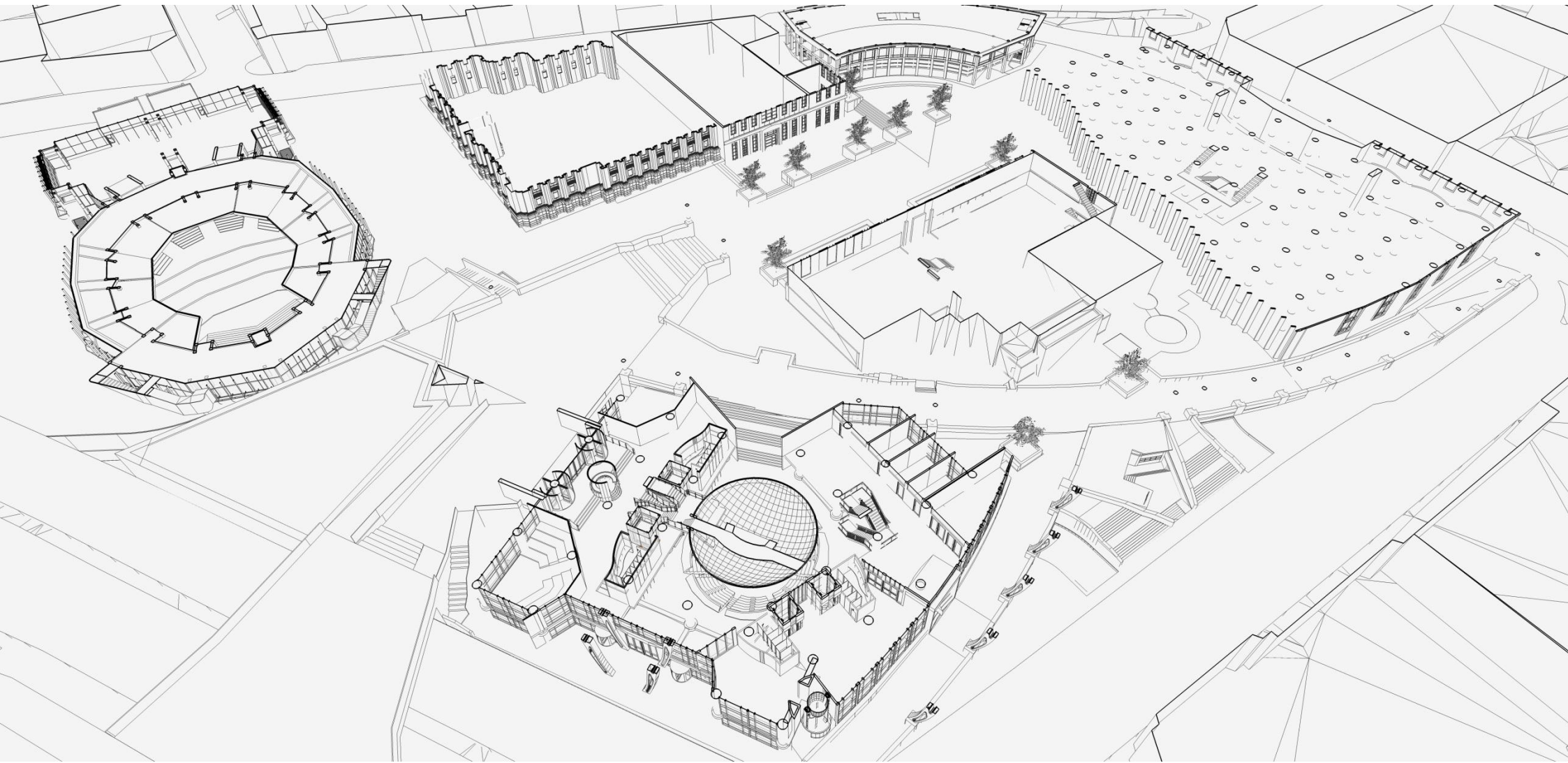


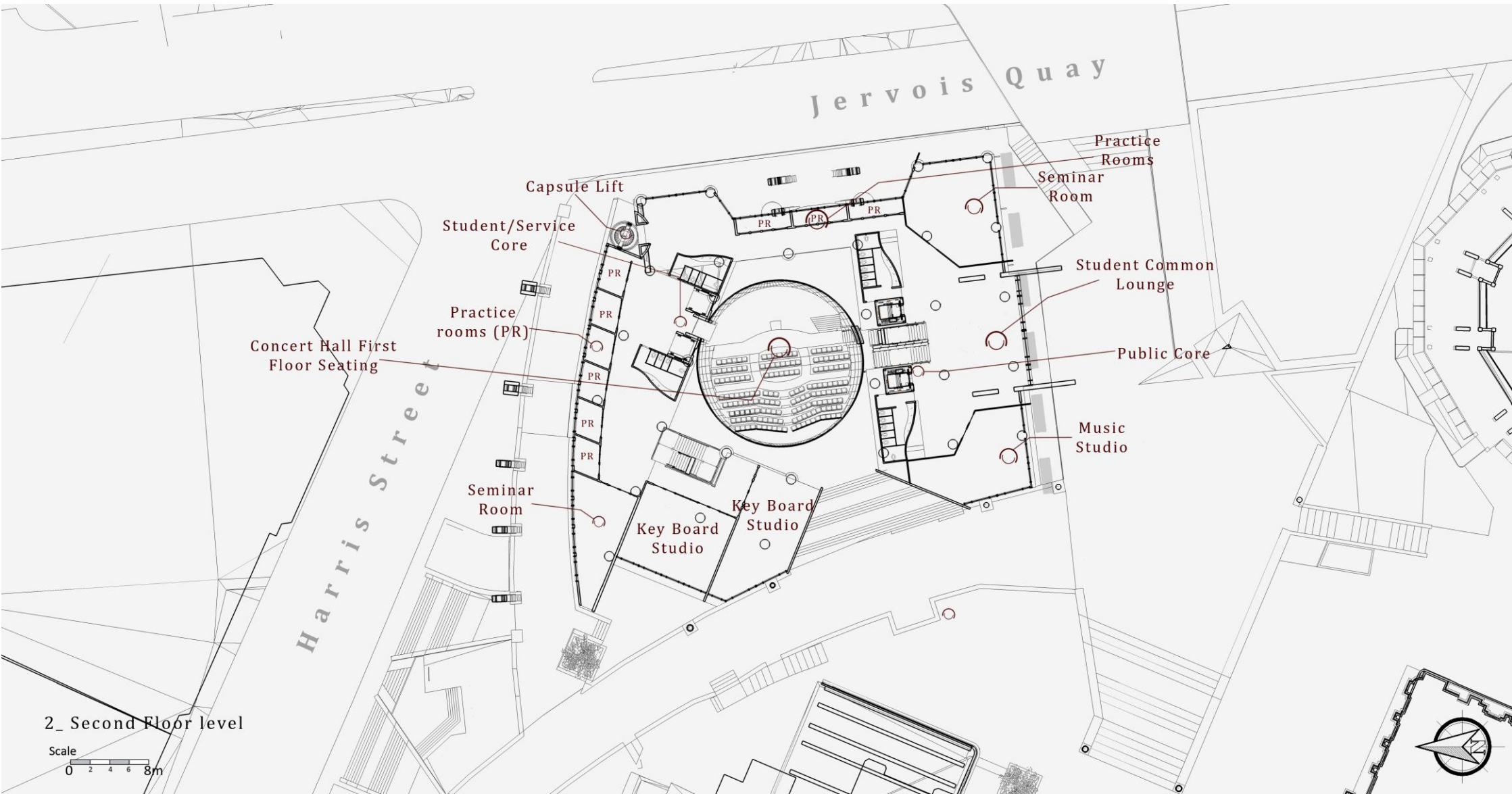
G_ Ground Floor level

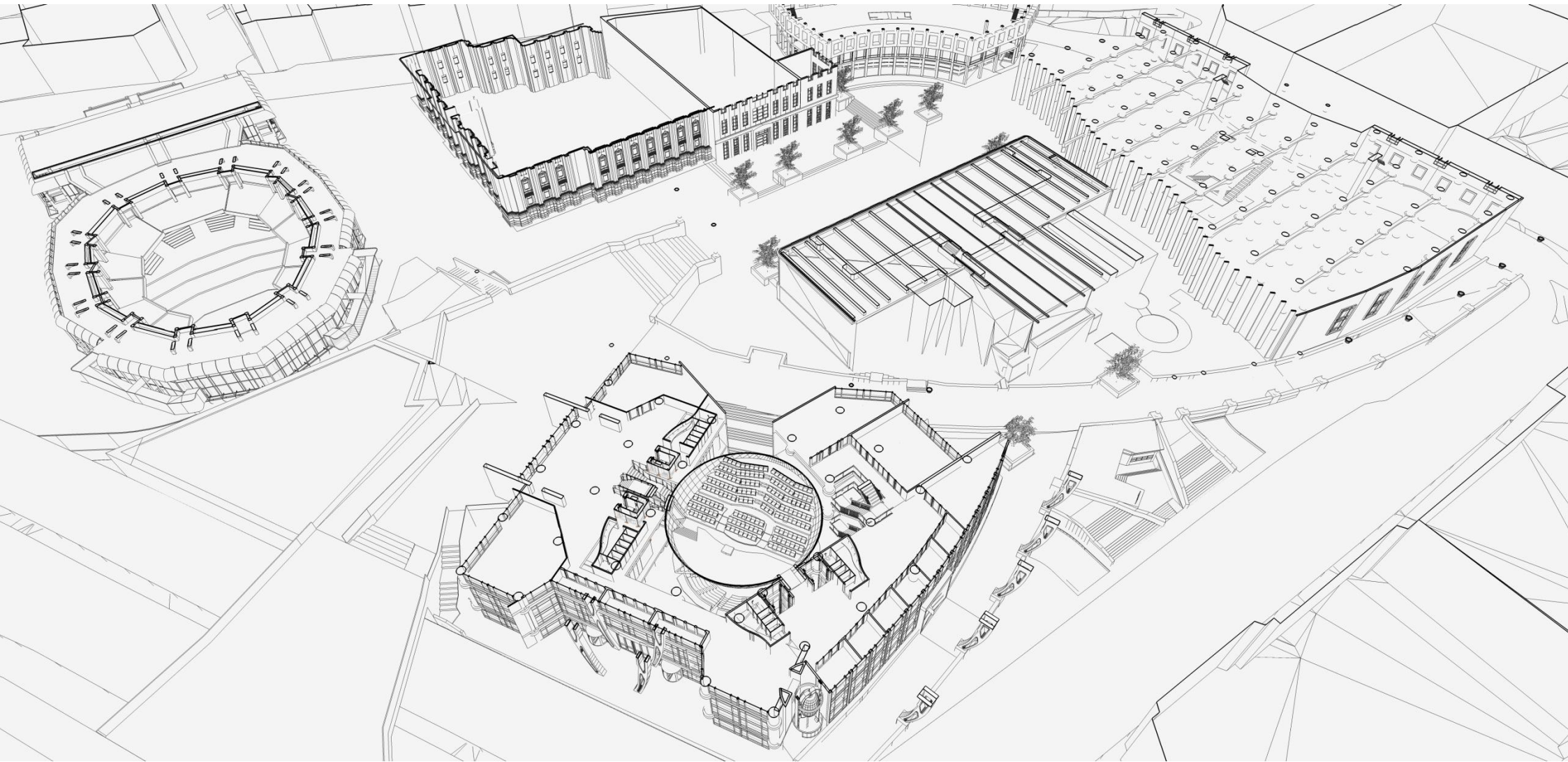


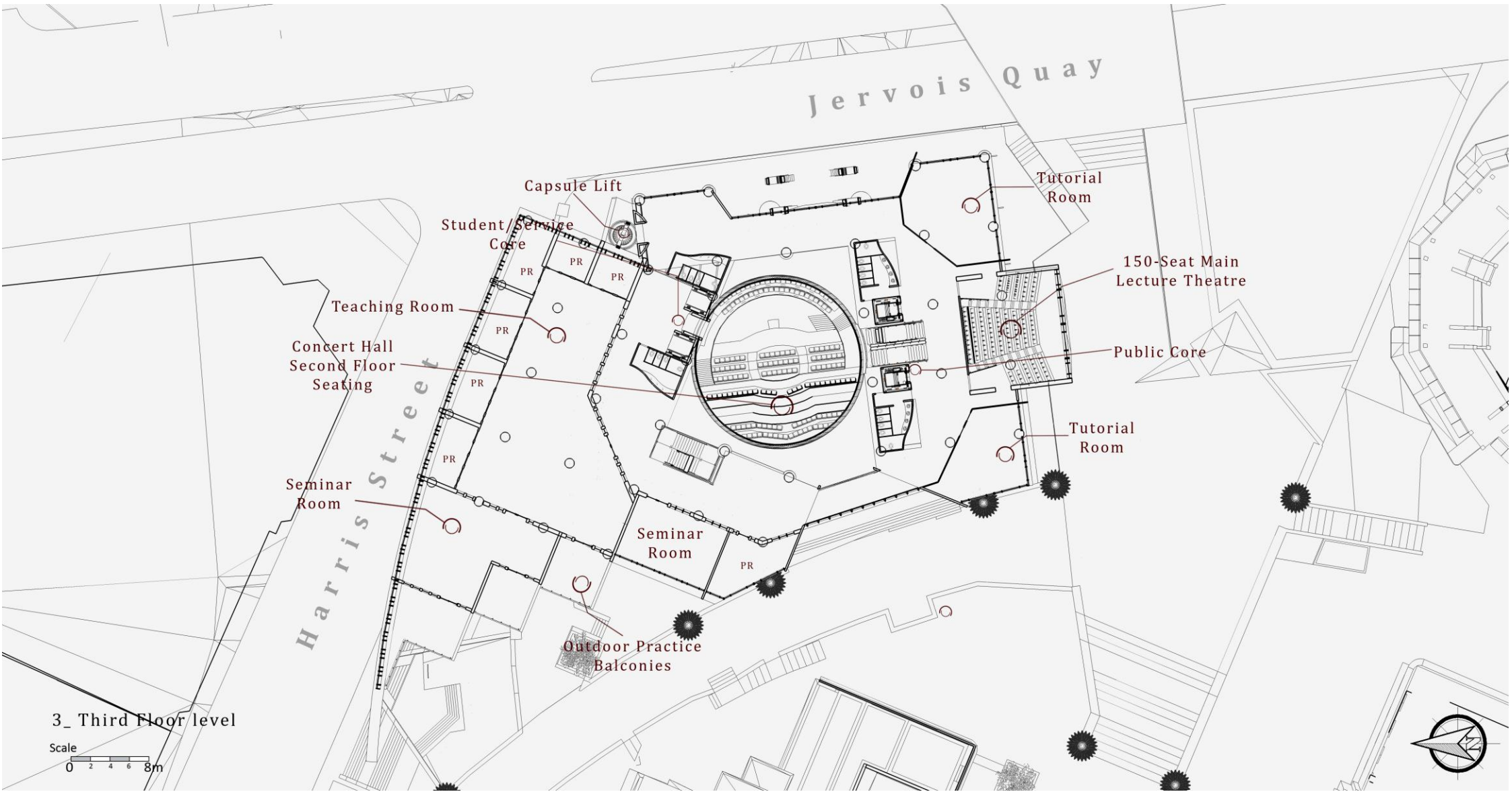


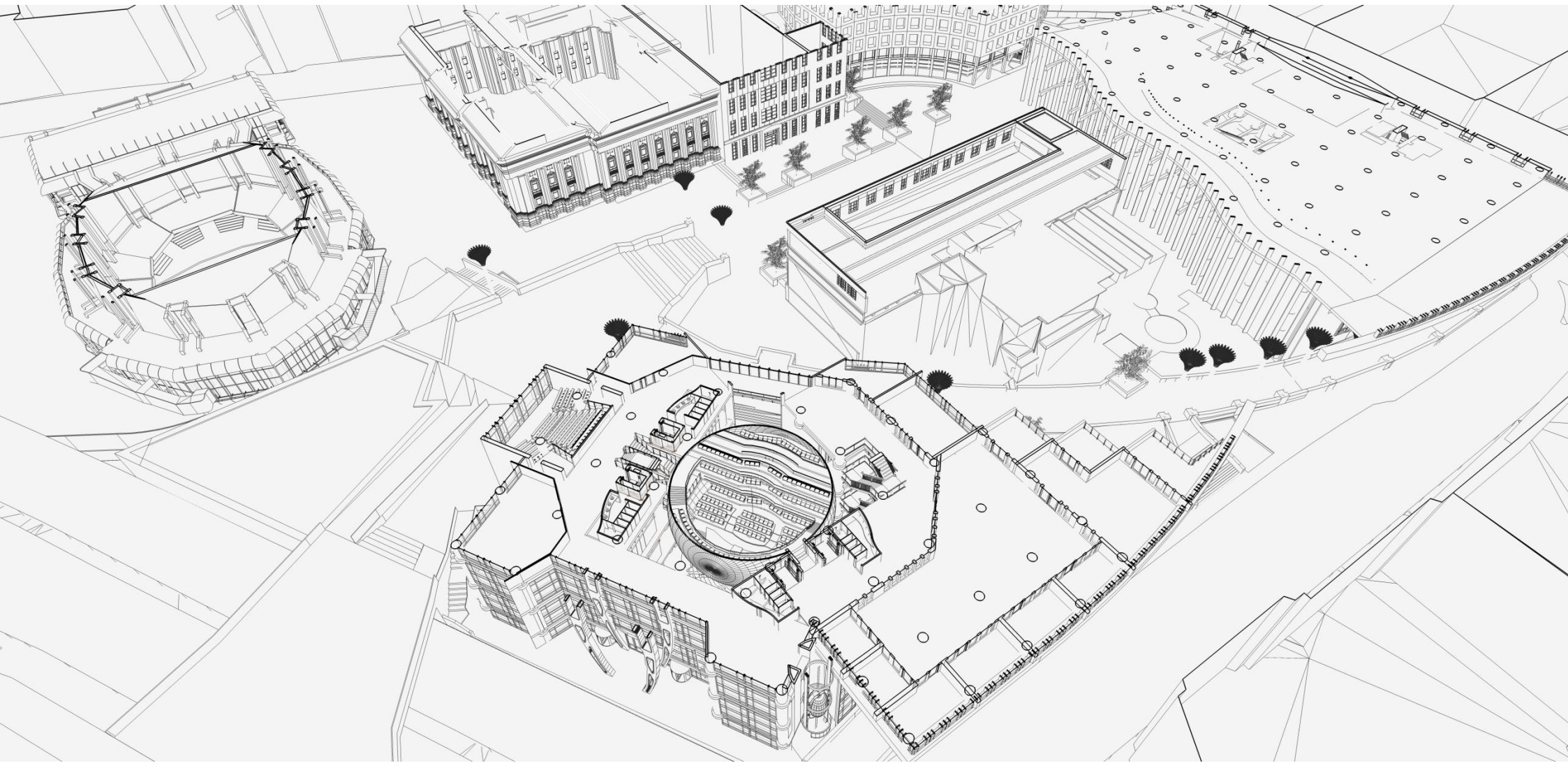


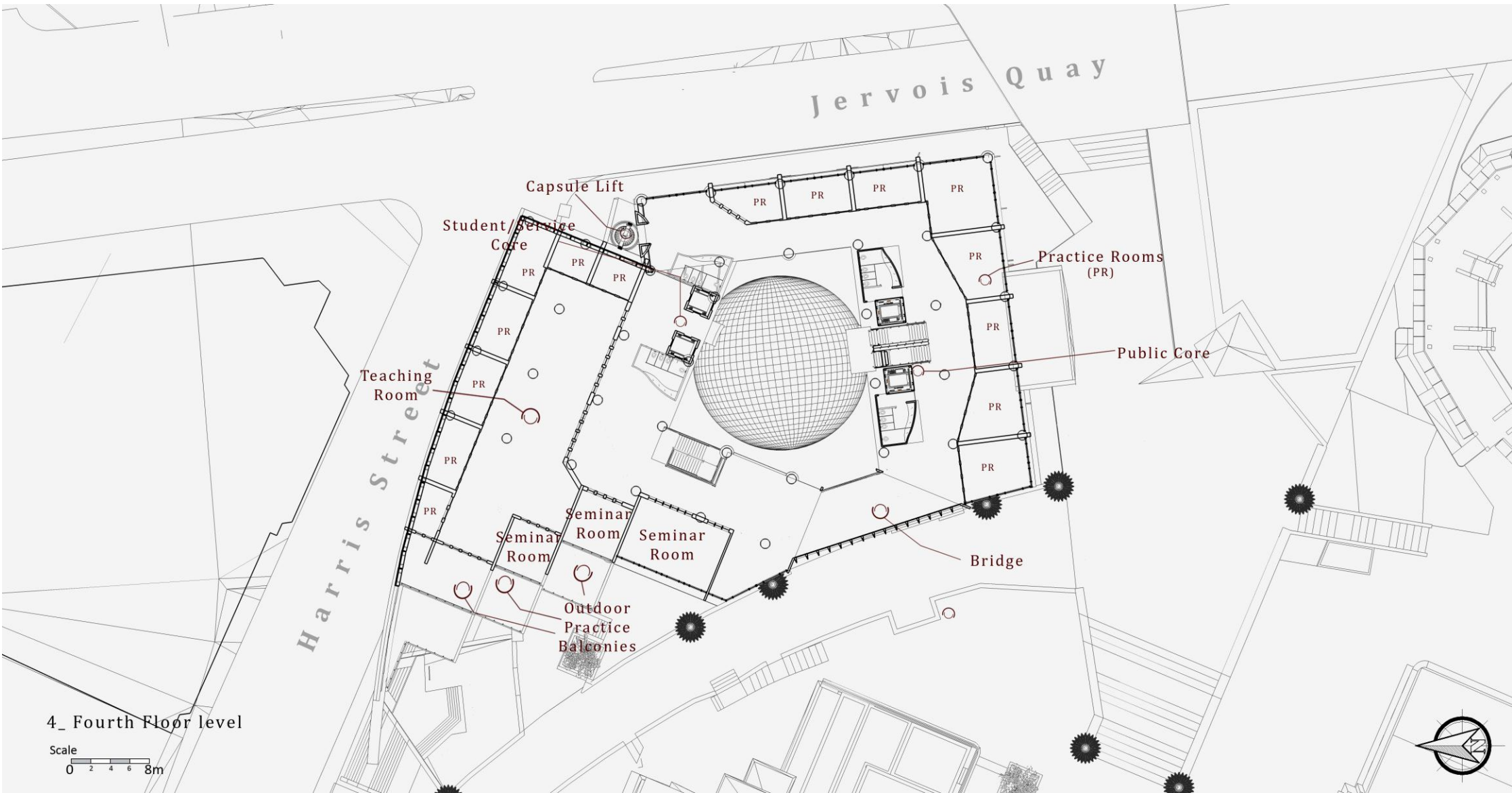


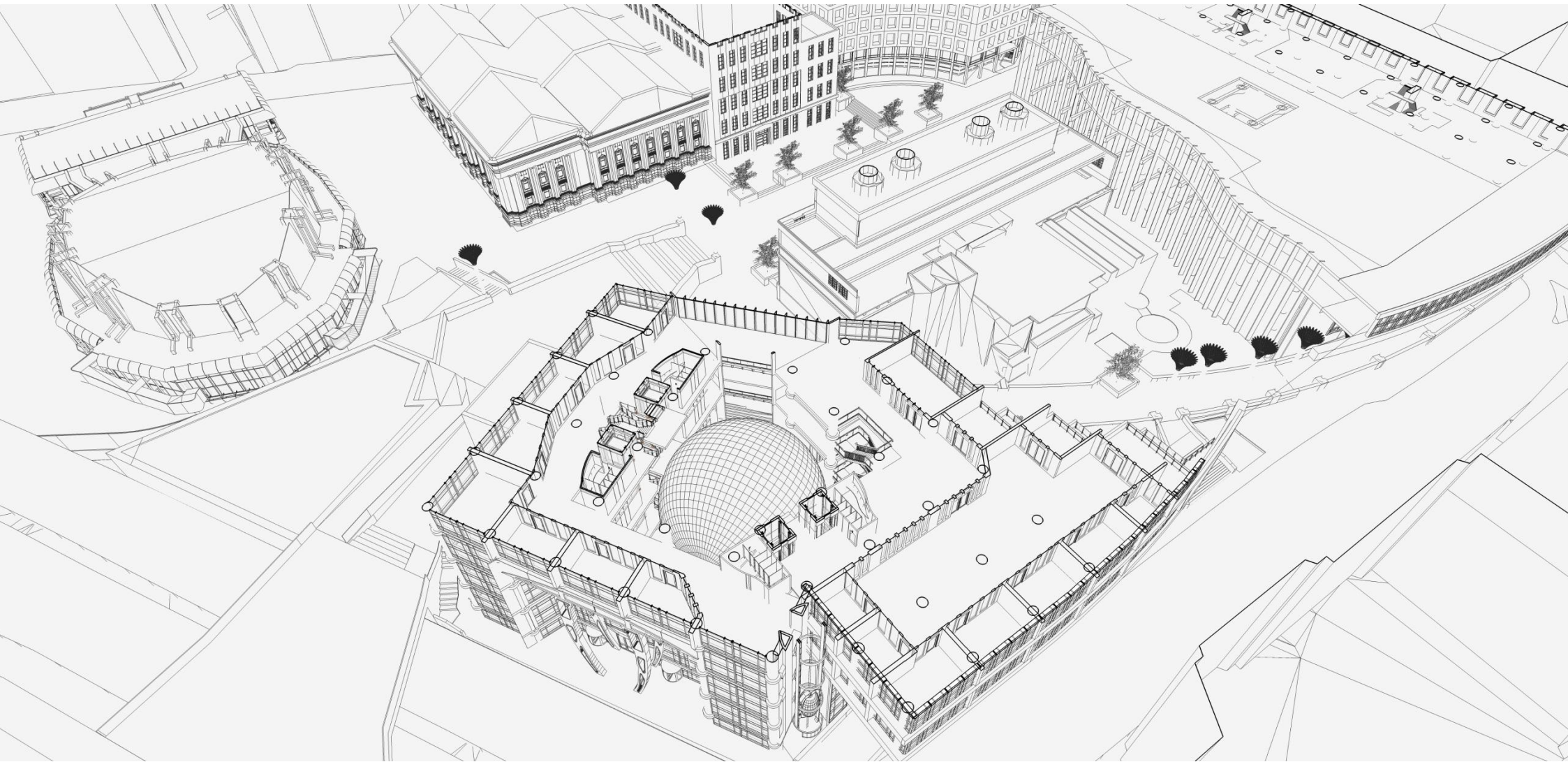


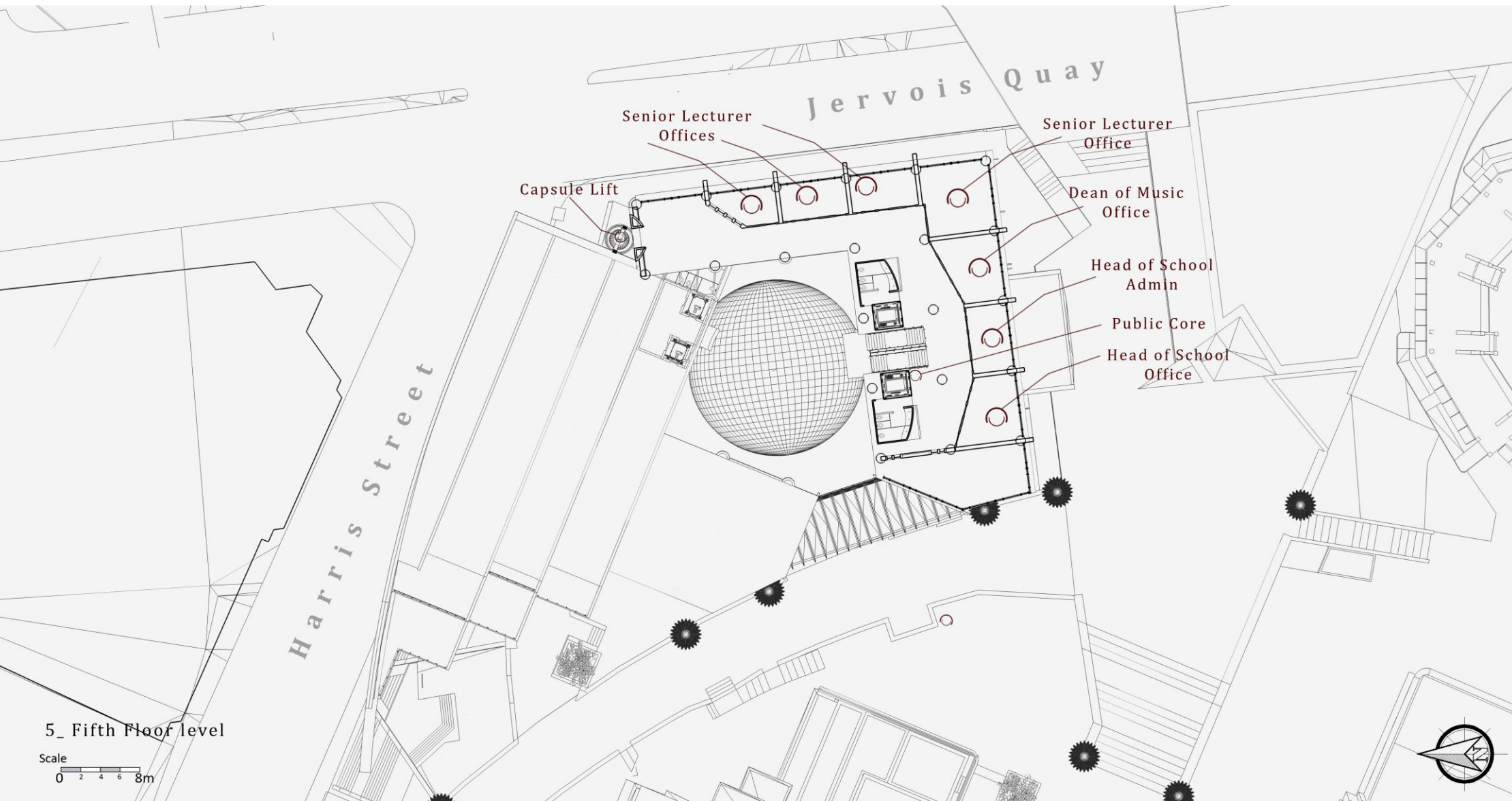






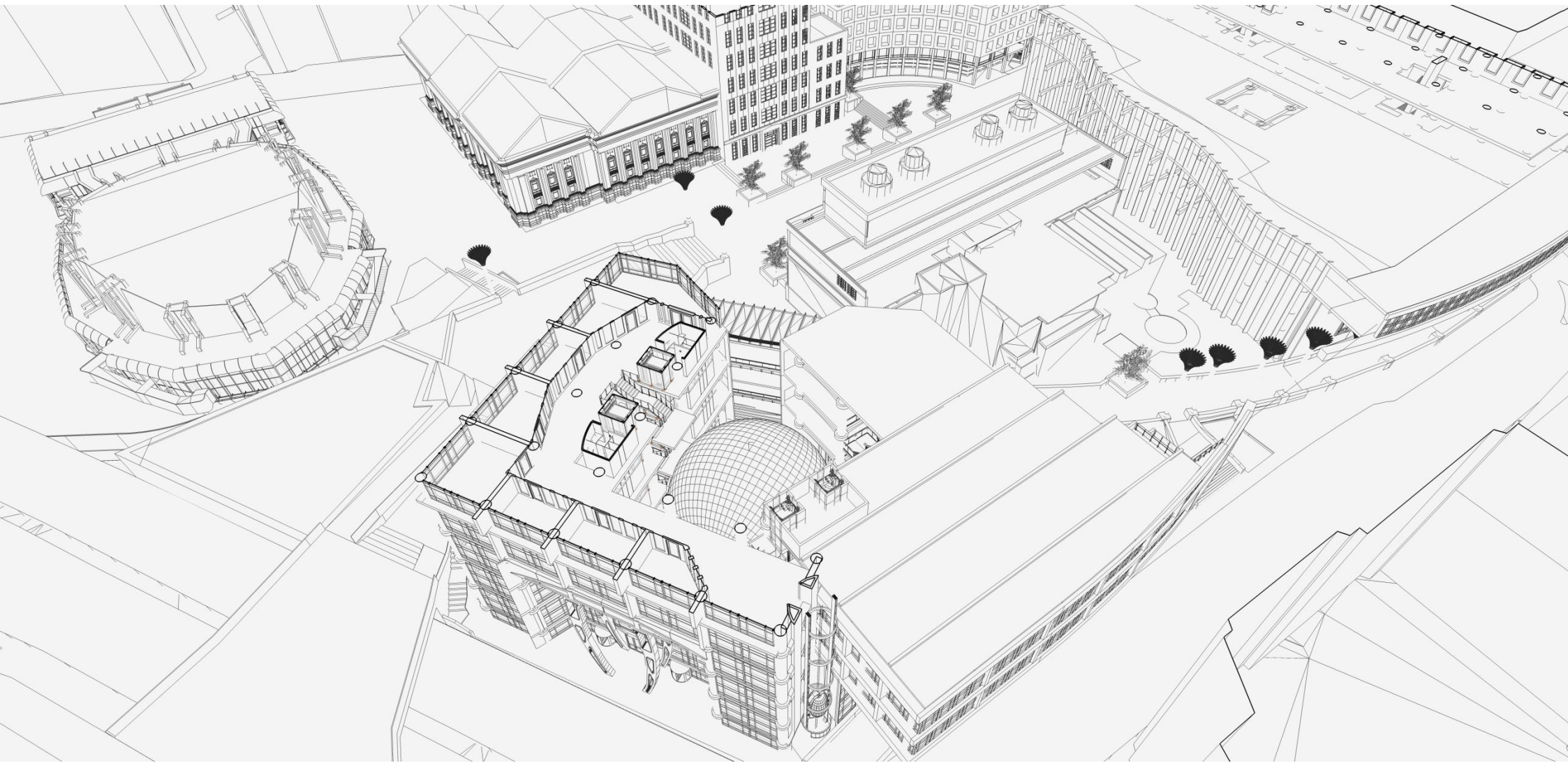






5_ Fifth Floor level

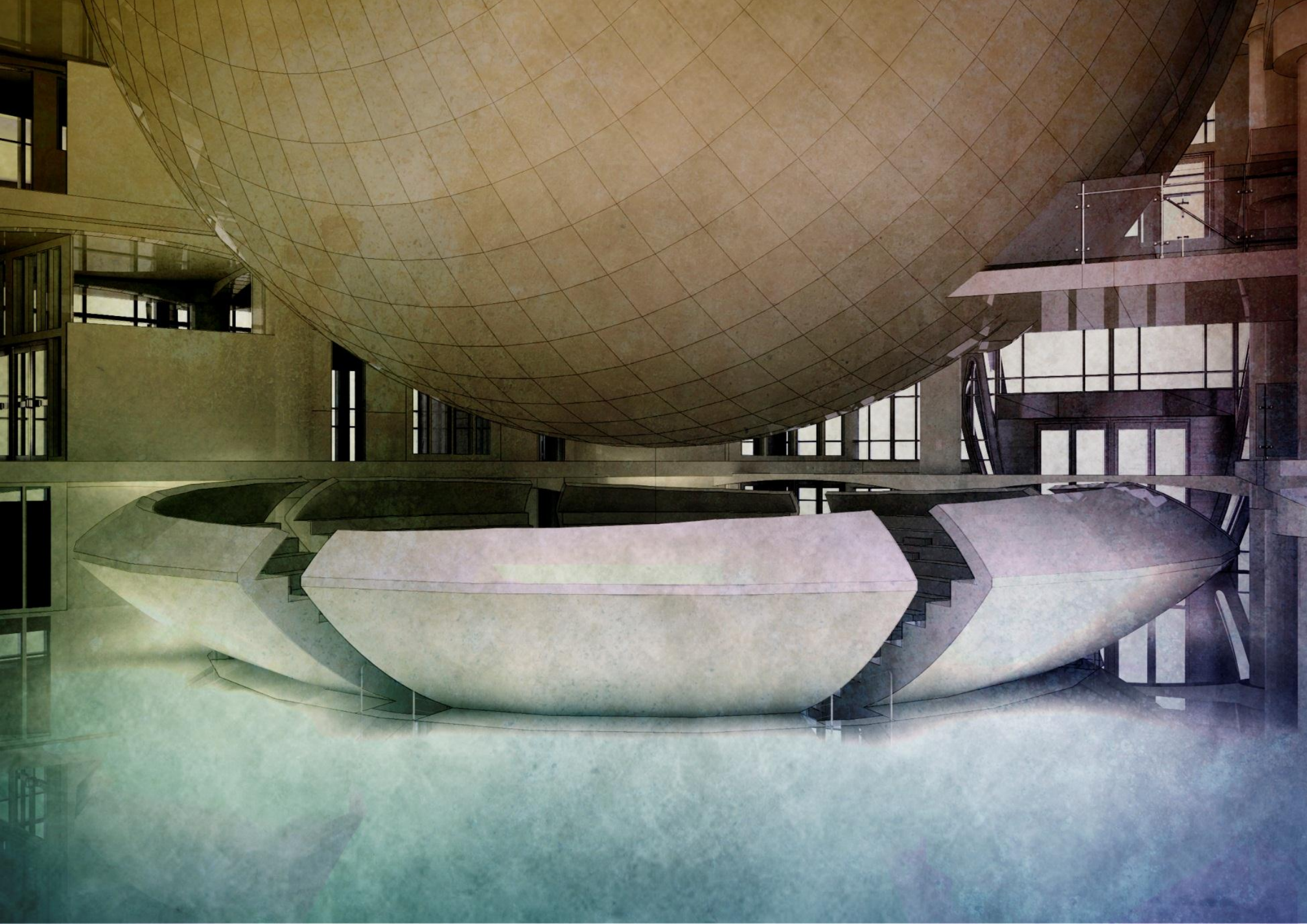
Scale
0 2 4 6 8m



THE PEDESTAL

On the ground level (contiguous with Jervois Quay), a large central space is surrounded by open plan circulation space, serving as a gathering space to allow users to witness the inner workings of the school; both the public and student cores are exposed here, as are key programmatic spaces such as the library, located on the north east corner of the ground and first floor, as well as the keyboard labs in the north-west corner on the first floor. When the public enter from Jervois Quay, they are witness to the shared workings of the two programs, which includes the monumental concert hall elevated above them. When entering the school from the entrance along the handicapped ramp east of the City Art Gallery (west façade), students and visitors also witness to the shared functions on this level. This centre of this shared space is visually and programmatically complimented by an architectural element referred to in the thesis experiments as the 'Pedestal', which acts as a performance space for student rehearsals and smaller public events.

The 'Pedestal' under the concert hall on the ground floor acts as an informal performance and social space, allowing users to step down into the central performance space to practice their talents with fellow students. This space can thus act as a semi-formal performance space for classes or as a social-public performance space. This becomes one of the key aspects of the narrative, of the two programs (the music school and the concert hall); 'The Pedestal is the foundation above which the concert hall is suspended. The foundation here refers metaphorically to the student's talents being refined throughout their education and involvement at the university, through practices and the hours they spend perfecting their musical skill set. The concert hall in this narrative acts as the next step for users and performers who have perfected their skills, reaching a point which allows them to formally perform for the public.



WITNESS

Along the upper levels of the music school, the dual grids and programs become the witness to the two principal cores. Here the public core is exposed to the south and its orientation faces the concert hall, which reinforces programmatic connections and linkages. Movement and circulation around the concert hall in the upper programmatic spaces always allows for visual linkage between the users and the concert hall; however this visual linkage exposed through form is most prevalent through the architectural forms that make up the two distinct cores. Here the structural grids of the building are exposed through their orientations, the two principal grids informing the orientation and the overall shape. Both these grids are surround the concert hall, thus allowing the architecture to respond to site context as well as reinforce the narrative of the concert hall holding the two programs and shifting grids together on this 'Lost Site'.



A CORE AS A SERVICE

The student/ service core is designed to accommodate large and wide instruments; it was designed with the consideration of safe movement of instruments such as a concert grand piano. This core links to two key floors entering the concert hall; one that aligns with the concert hall stage, allowing for easy and fast movement of performance equipment directly on to the stage, and one that aligns to the second floor concert hall seating space for students. Access to the second floor seating also allows for another level of user accessibility, with a main consideration for public users with disabilities. These service lifts would allow users to access lifts directly from the car park level in the basement to the seating level within the concert hall. The design of these lifts is based mainly on programmatic requirements, centred on the service requirements. Another aspect of these service lifts is that they also align with the library ground and first floor. This would accommodate another type of service consideration, when moving large amounts of literature and textbooks between the campus libraries. The walls of these cores are designed with the predominant focus on structure, with a greater thickness in form and little glazing.



THE CAPSULE

The design includes a secondary core in the form of a glass lift located on the northeast corner, Harris Street and Jervois Quay, which acts as a symbolic expression of the critical pivot point engaging the two grids identified in the previous section. The critical pivot point that merges the two grids can be seen here and the form of this core attempts to further express this 'pivot point'. The use of a glass lift allows this lift to seem light in appearance while the structural components of the lift define the critical pivot point. These light materials also allow the user to experience the waterfront views as it rises up to the upper levels of the building. The location of this lift on the north east corner allows this lift to be readily used by the semi-private users, students and staff, but its aesthetic appeal, connection to the car parking level, exposure along a major front façade, and its symbolic location at the point where the two programs meet, make it a core that invites use by both user groups.



LECTURE THEATRE

The lecture theatre is the largest single programmatic space after the Concert Hall. Its large scale suggests that it would enhance the civic nature of the building by exposing it on the southern façade. Its structural form and layout therefore line up symmetrically along the harbour grid and is located above the City to Sea bridge entry (Southern entry). This 150 seat lecture theatre extrudes out on top of the major Civic Square entry façade on the south facing edge of Civic Square thus accommodating no built structure above this extruded entry. This programmatic space is available to the general public, and it expresses the building's dual identities as a music school and a concert performance space to the users as they witness or engage with the building along this edge. Its glass façade enables its function to be fully visible from Civic Square, providing another means of witnessing and understanding.



TRANSITION

Entering from the south façade, City to Sea Bridge façade, the users immediately acknowledge the central concert hall. The public core that is witness to the concert hall aligns with its two main entry points, along the first floor and second floor. As this edge favours public movement, the materials used here express a sense of lightness. The lifts for the public core are predominantly glazed to encourage visual linkage with the concert hall. This transition is crucial in the design experiment to allow the mixed programs to retain their individual identities.



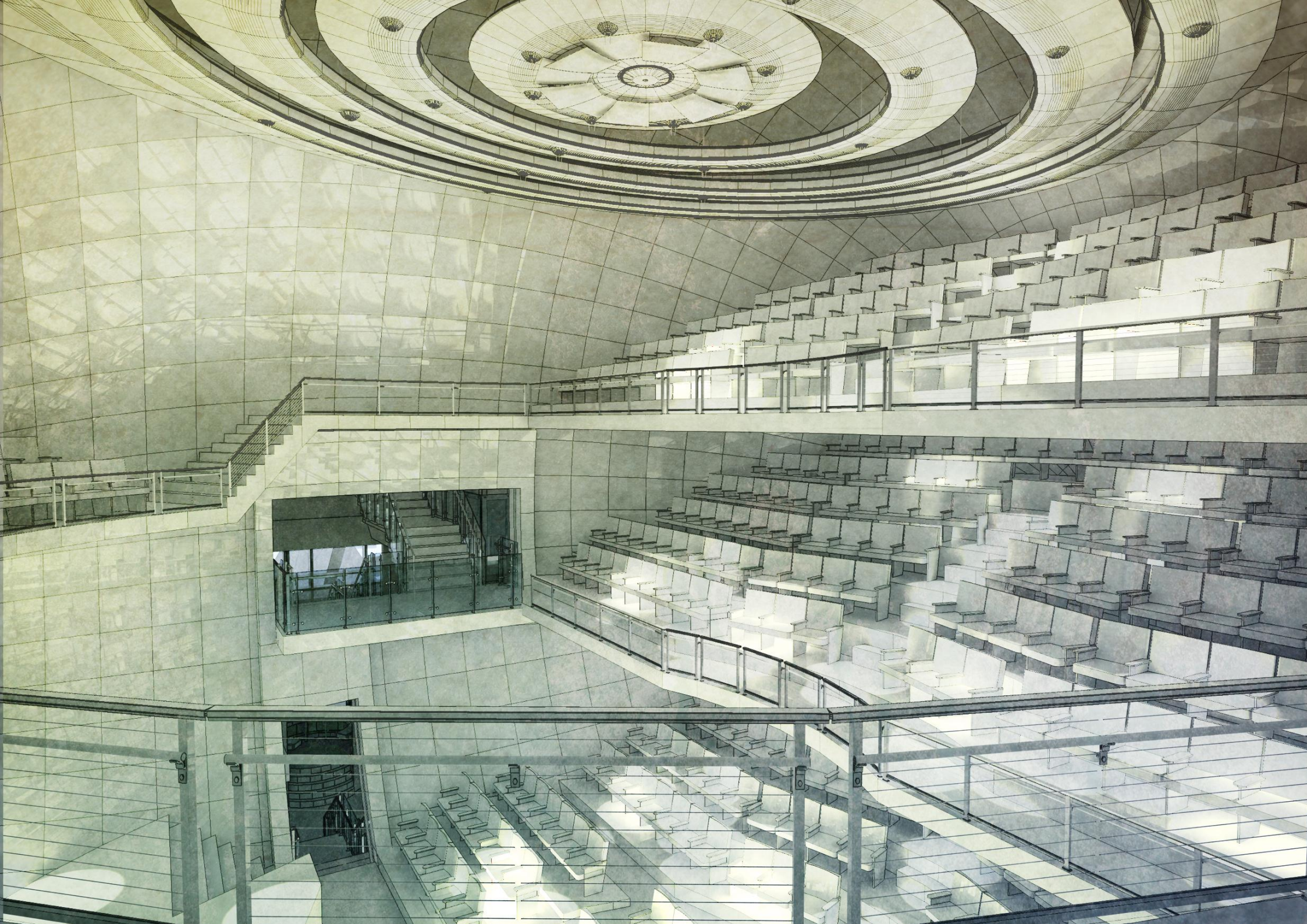
PUBLIC CORE

On the second floor the staircase belonging to the public core extends into the concert hall to allow for a means of entrance to the second level of seating within the hall. This directly links core circulation with this programmatic space. These key points of connection between the concert hall and the public core extend the role of the core further than just acting as a witness. It begins to support and provide a direct means of access to the core identity. It extends its access and vertical circulation to include movement into and out of the concert hall as well as providing visually readable amenities for the concert hall users.



SERVICE APPROACH TO THE CONCERT HALL

The dual programs, dual grids, and two core types come together at the concert hall, not just structurally but visually through means of entrance. When entering the concert hall through the northern service end, may it be directly on stage or directly on to the second floor seating area, users witness the opposite entry type. When entering through the service core, users witness public movement into the different seating areas through two openings that acknowledge the southern entry façade. This extends the openness notion of the public space that is adherent to this edge and also supports programmatic and circulation considerations this edge attempts to form.



PUBLIC APPROACH TO THE CONCERT HALL

When entering the concert hall space through the southern public core and entry point, similar visual permeability is evident from the service core and entry point. The service entry acknowledges the front façade created along the north side of the building, along Harris Street. Through the use of materiality such as thicker structural materials as well as limited glazing components, attention otherwise sustained through natural lighting diminishes, so the public entering from the public core see very little beyond the entrance of the service core. This allows the entrance to the stage to read as service based entrance. The concert hall here doesn't just acknowledge these two different conditions but allows them to respond to each other and complement each other. Even within the two cores of the building, grid driven design decisions and grid based structural systems begin to respond to each other and assimilate a role both for programmatic and circulation purposes.



UNVEILING THE INNER PERSONA TO THE HARBOUR

The monumental façade along Jervois Quay exposes the concert hall to vehicular passers-by and to pedestrians in Frank Kitts Park. The monumental scale of the central entry suggests a very Civic Square identity, signifying a public gathering event. Smaller scale entrances would serve as the main entry points for the majority of the time, allowing the much larger doors to visually frame the concert hall and its 'pedestal' below. During celebrated moments such as formal performances, the larger frames would open to further unveil the concert hall.



DUEL IDENTITIES

When vacating the concert hall, public users are exposed to a view of the two different programs layered above and below one another. Moving out of the main seating area of the concert hall (located on the first floor), users are witness to a split level; on the first floor they see their point of entry, a formal and visually directive space; on the second floor they see a student common room lounge. These two different areas are expressed through very different forms. At the entrance level, the floor to ceiling height is almost double that of the common room space above. Only from the exterior view of the entrance is this relationship clear. Located above the common room space is the main lecture theatre, the primary reason for the lowered ceiling height in the student common room lounge. This programmatic relationship reveals the extent to which circulation considerations have allowed the two identities to collaborate on the one site.



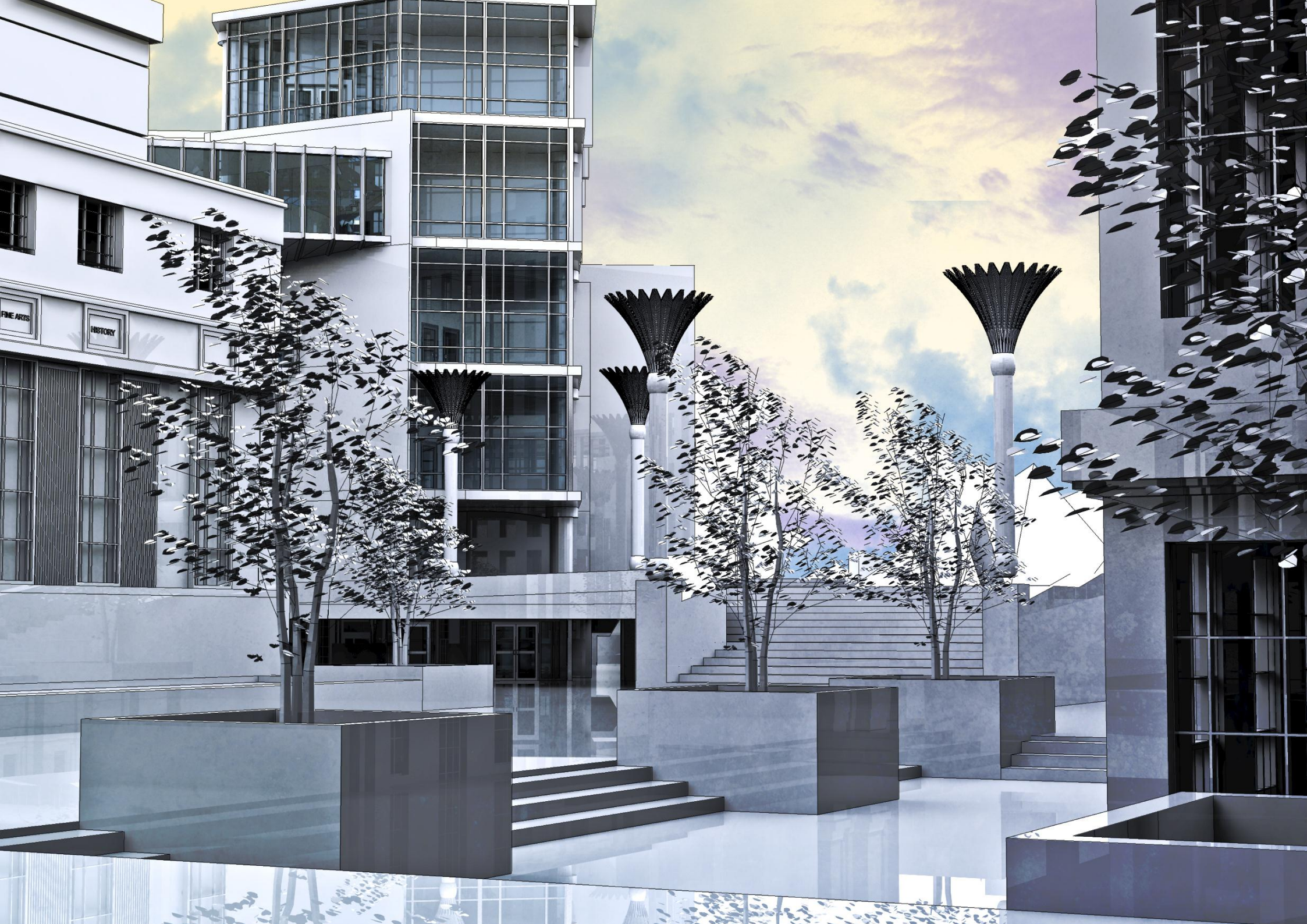
STUDENT ENTRY

Along the north façade, Harris Street edge, the user entry responds to this edge as a secondary front façade. Movement along this edge mimics the circulation and movement patterns already existent on the west end of Harris Street. Entering the building along this edge via the new Harris street ramp allows users to visually engage with the two-story library located along the northeast corner of the site. Upon entering the building students are confronted by the service/student core as well as the library entrance. These programmatic spaces conform to the principal city grid but do so in a manner that influences student movement either towards the service cores or into the library. This is a good example of edge conditions simultaneously working with programmatic layout to determine student movement, which was a key integration approach in the experiments to resolve the lost site.



A COMPLETED SQUARE

Looking at the School of Music from the Municipal Office Building (MOB) on the southwest corner of Civic Square, the form of the design experiment notably expresses a notion of completing the missing corner of Civic Square. The new design acknowledges the existing architectural forms of Civic Square, such as the Capital E structure located beneath the large steps which lead to the City to Sea Bridge. This design experiment also acknowledges the cultural and iconic City to Sea Bridge, effectively framing the path leading up to it. The Southern extruding façade which orients along the harbour grid also establishes visual linkage with the waterfront, suggesting a possible path beyond the music school



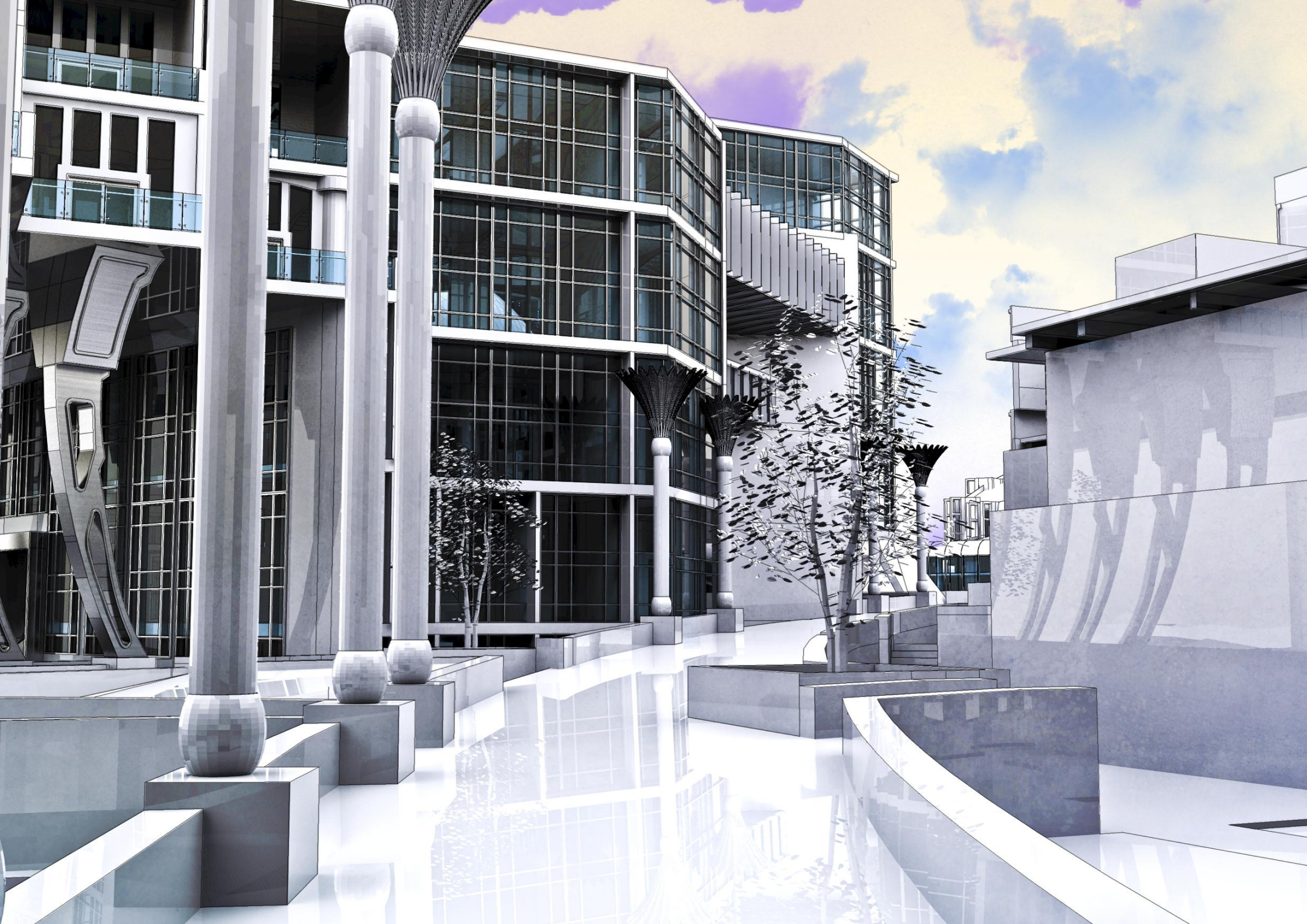
UNVEILING THE CONCERT HALL TO THE CITY

The design unveils the concert hall when viewed from Civic Square. The experimental approach involves establishing and exposing strategic elements of commonality within the contradictory conditions as a critical means of resolving a lost site. From this façade the notion of an inner identity is clearly exposed to Civic Square. The large scale of the inner structure assimilates the design's own identity as a whole, while instigating a sense of wonder to the public who witness it. This façade also acts as an informal entry point, predominantly for the student users, leading them down into the ground floor circulation space.



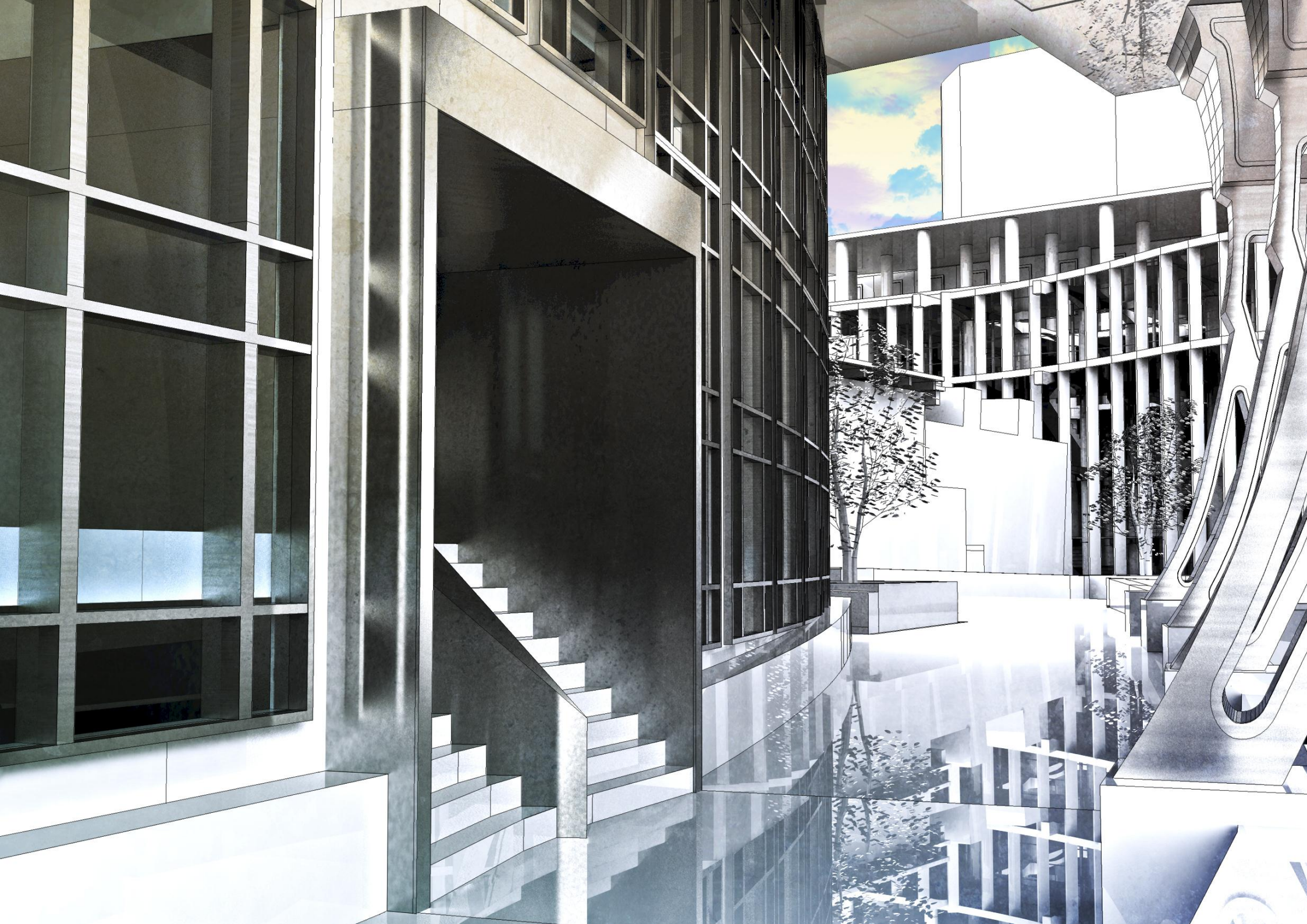
SOFT EDGE APPROACH

When approaching the music school from the northwest ramp along Harris Street, the design uses a hard edge built up to the ramp to direct the public into Civic Square and over the City to Sea Bridge. The ramp itself creates the soft space along this edge while also acting as soft space. Soft space that forms here is the outcome of the principal grid-driven form creating a small courtyard space. This courtyard has administrative and staff offices that open onto it, which was designed with the intent of providing staff a semi-private outdoor space.



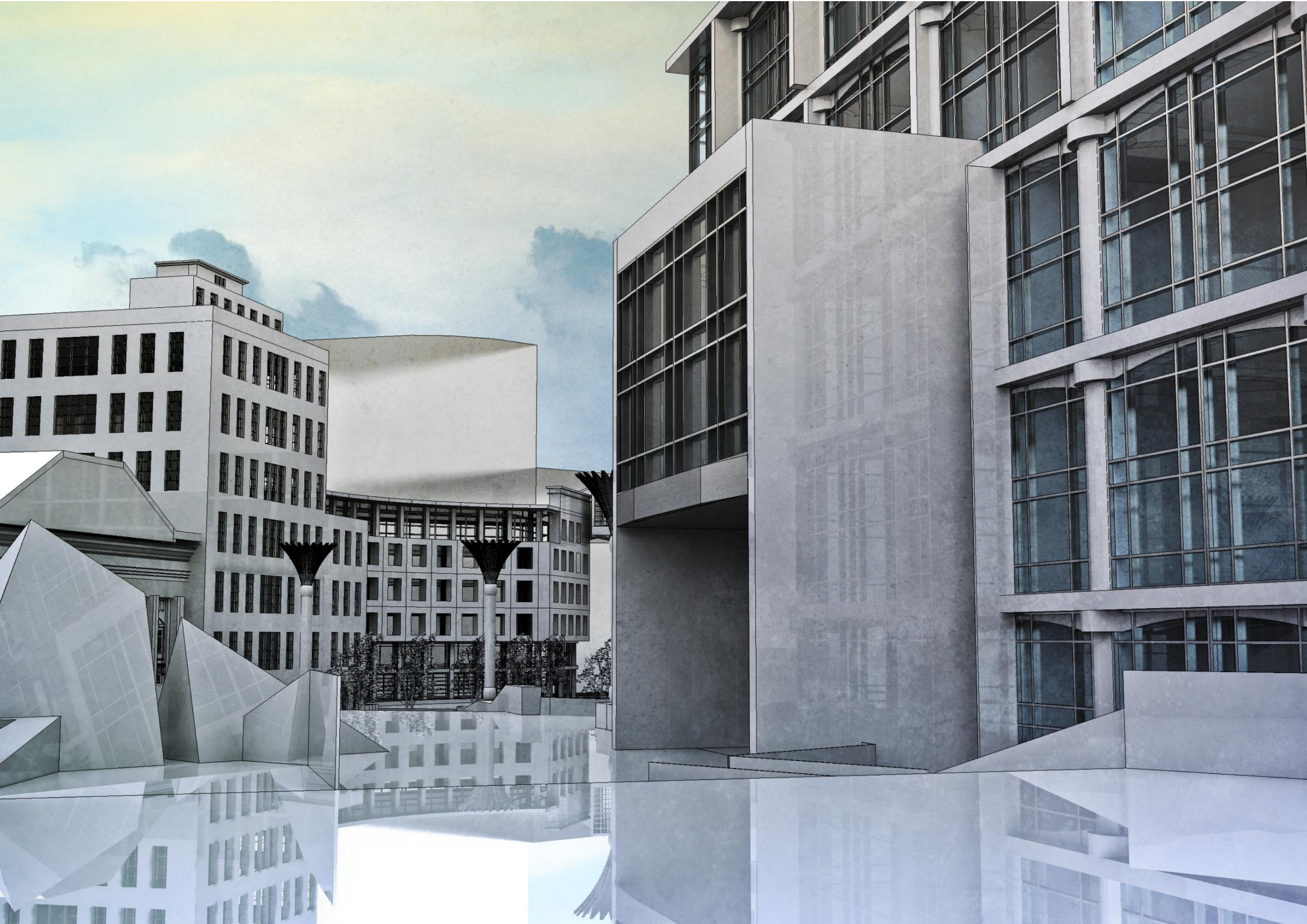
STUDENT SECONDARY ENTRY

The entry along the Harris Street façade is identified as a secondary entry in relation to the ‘civic’ entries along Jervois Quay and Civic Square. The design experiment tests resolution of the Lost Site by establishing hierarchies of primary and secondary elements within conflicting conditions. This entry is designed to read as a conventional entrance into the student-driven North built form. As a secondary entrance, this entry point assimilates along this edge by scarcely extruding out from its first floor façade. Attention here is mainly on public circulation along this ramp which connects to the existing ramp, moving into Civic Square. The large load bearing columns along this ramp are designed to support the upper floors in a similar manner as those designed and used by Ian Athfield for the neighbouring Wellington Library. Athfield’s ‘Nikau’ have been translated from being a simple aesthetic resolution for load bearing structure to an iconic symbol that represents Civic Square. By using a similar structural resolution for the music school along the Harris Street edge, a symbolic sense of context identity is continued. The structural form of these columns was however redesigned to allow the school to also form its own identity as a building in its own sense.



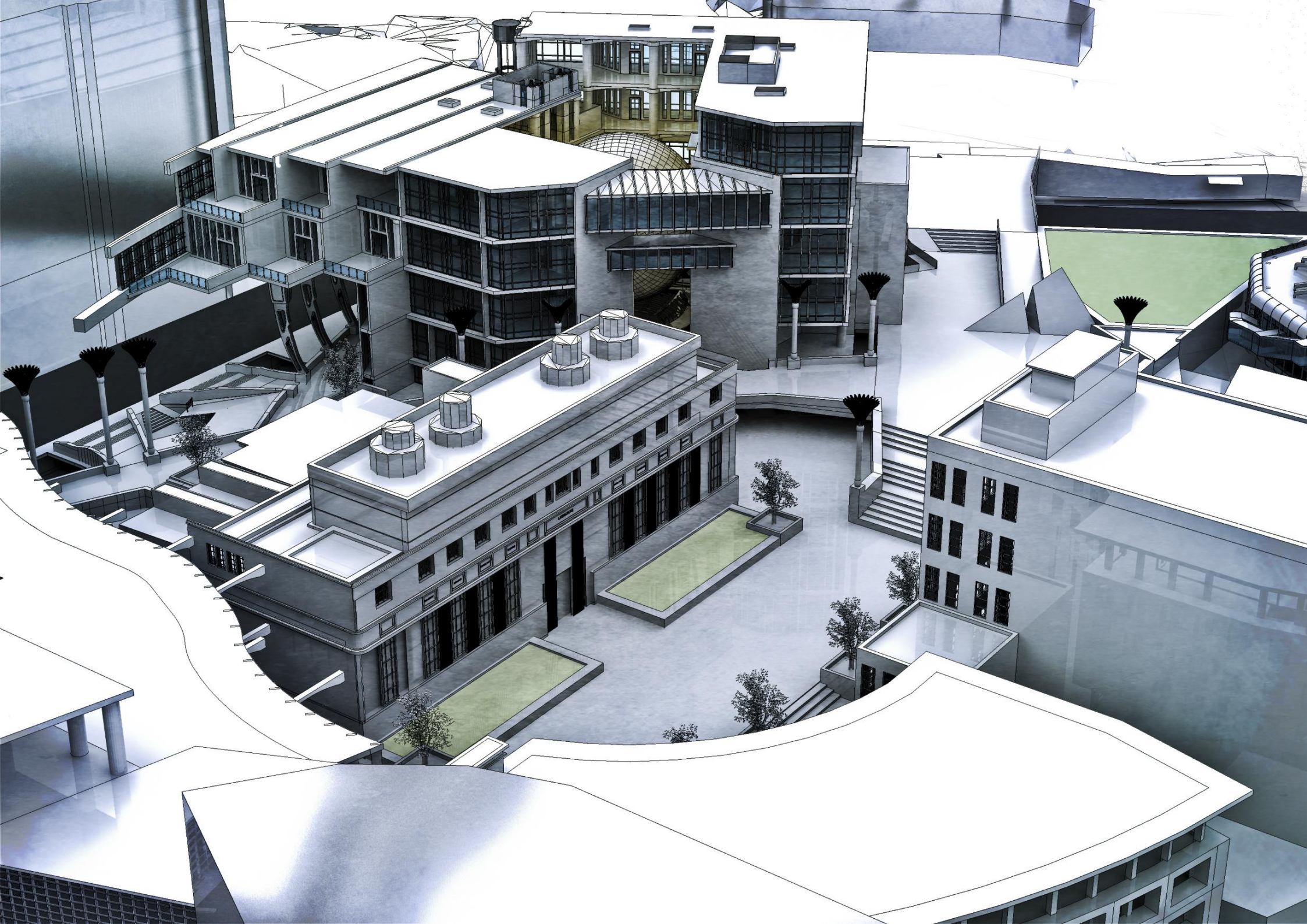
FRONT FAÇADE

The City to Sea Bridge façade is designed as a major front façade which extrudes out onto Capital E and the City to Sea Bridge. This dominant entrance attempts to establish a clear civic identity while also incorporating a key shared space, the main lecture theatre. This integration, while still giving precedence to the public program, acknowledges and visualises the two programs collaborating on the one site.



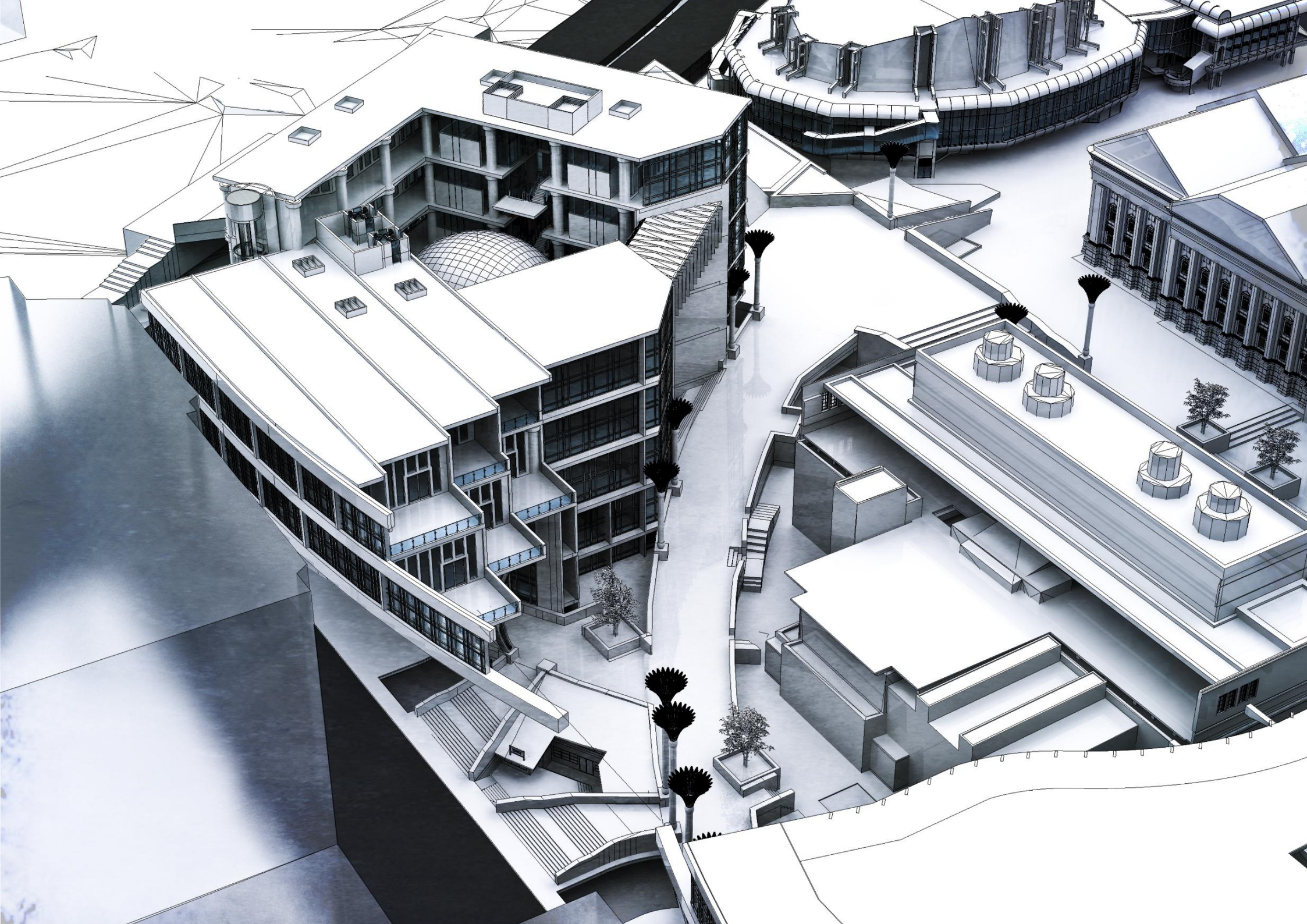
A CIVIC IDENTITY

The design experiment recovers the lost corner of Civic Square. From its Art Gallery edge, the design reveals its strategic shared centre and its inner persona. The west façade maintains the hard edge while allowing the stepped in soft space to act as an entry and a frame, expressing the concert hall. The new design reinforces the perimeter of Civic Square, with its façade completing the corner of the square.



HARD EDGE, SOFT SPACE, AND HARD EDGE

A 3D aerial view of the new School of Music clearly expresses the symmetrical nature of the north edge façade. The two stair ways (one existing on the existing ramp, and one connecting to the new space) leading onto the ramps sit symmetrically between the car park entrance and exit ramps below. Between these a redesigned Crèche can be identified. The two ramps join behind the crèche, becoming one which continues to lead into Civic Square. The balconies seen here facing the Wellington Library are spaces used for outdoor tutorial sessions, engaging with the site's outdoor activity character.



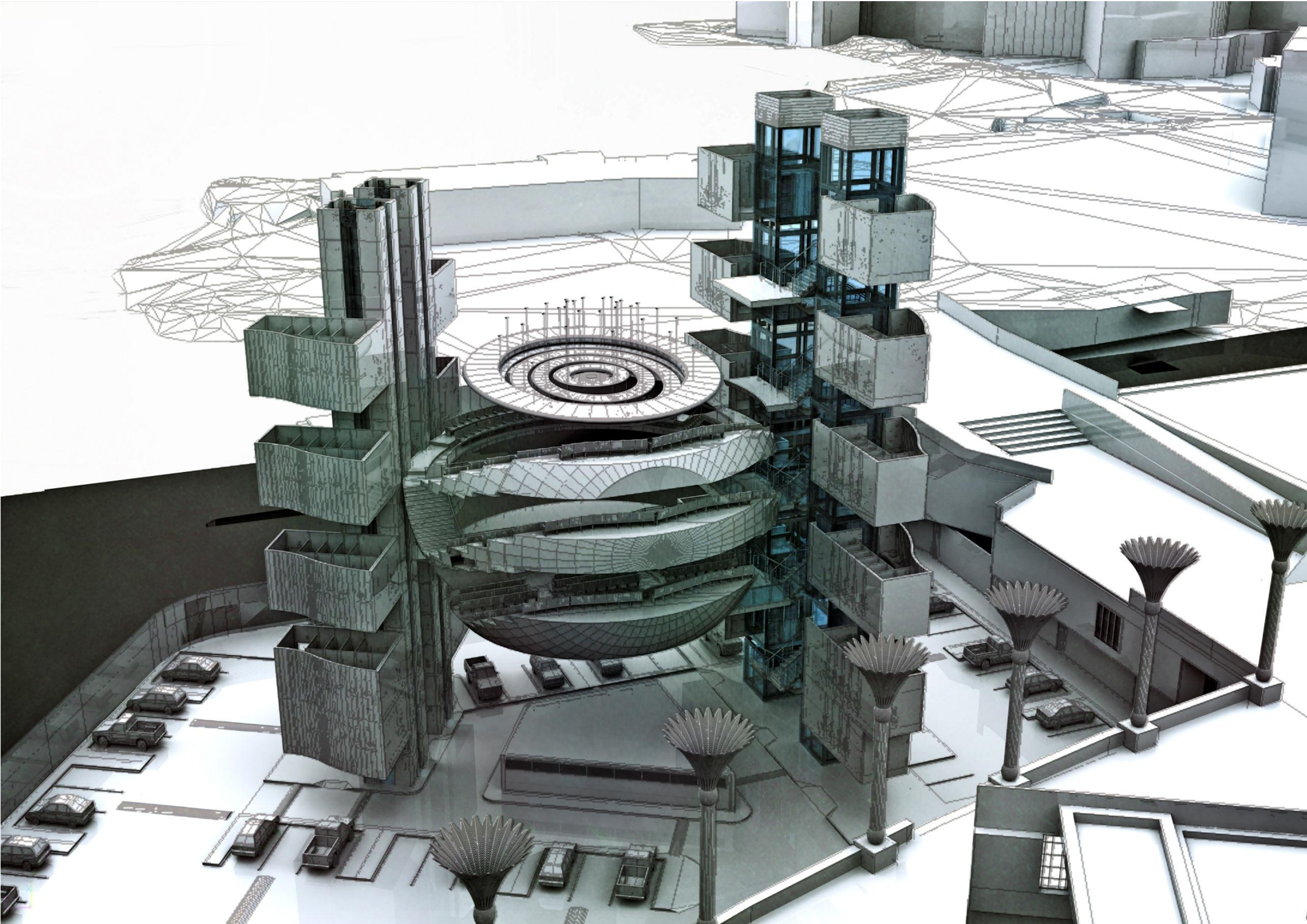
CORE TO CORE

This roof level image of the music school depicts the way in which the two grid driven cores face the concert hall standing as tall 'witnesses'. The pivoted dual building form shelters the concert hall from the Jervois Quay side while exposing it to the Civic Square area. The subtle unveiling of the concert hall along Jervois Quay creates moments of reveal and exposure along this edge while its identity is fully exposed to the public within Civic Square. Mechanical areas of the lifts are extruded up and out of the building to allow them to further express the core's strategic placements within the building.



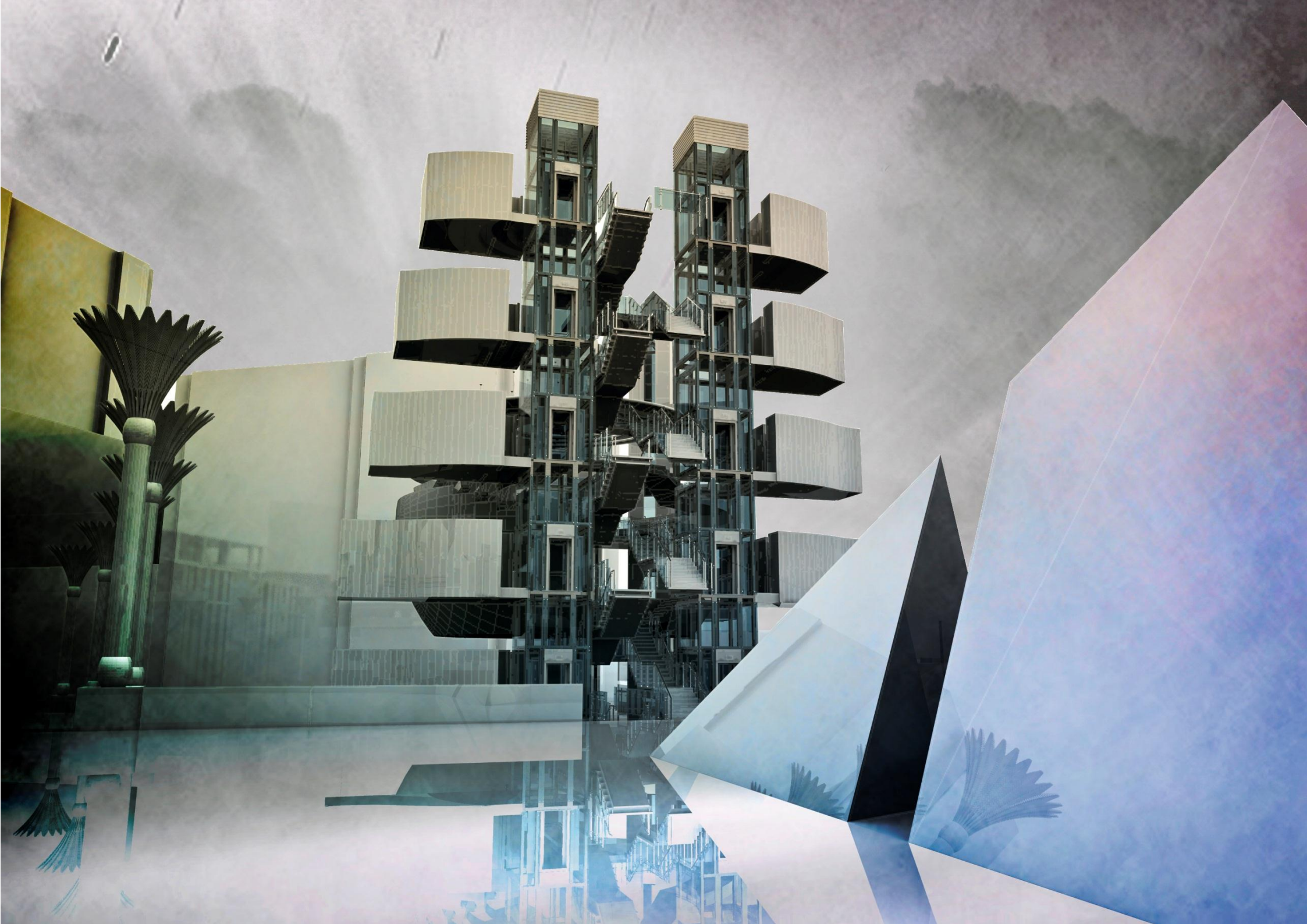
CORES AND CONCERT

Looking at just the two cores and the central concert hall illustrates the way in which the two diverse cores are responding to their own typologies. Both cores act as transition points into the concert hall while still providing amenities in both directions. Circulation from the student core favours disability access as well as access for moving equipment. Circulation from the public core allows for public access as well as allowing for visual permeability from the south façade.



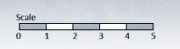
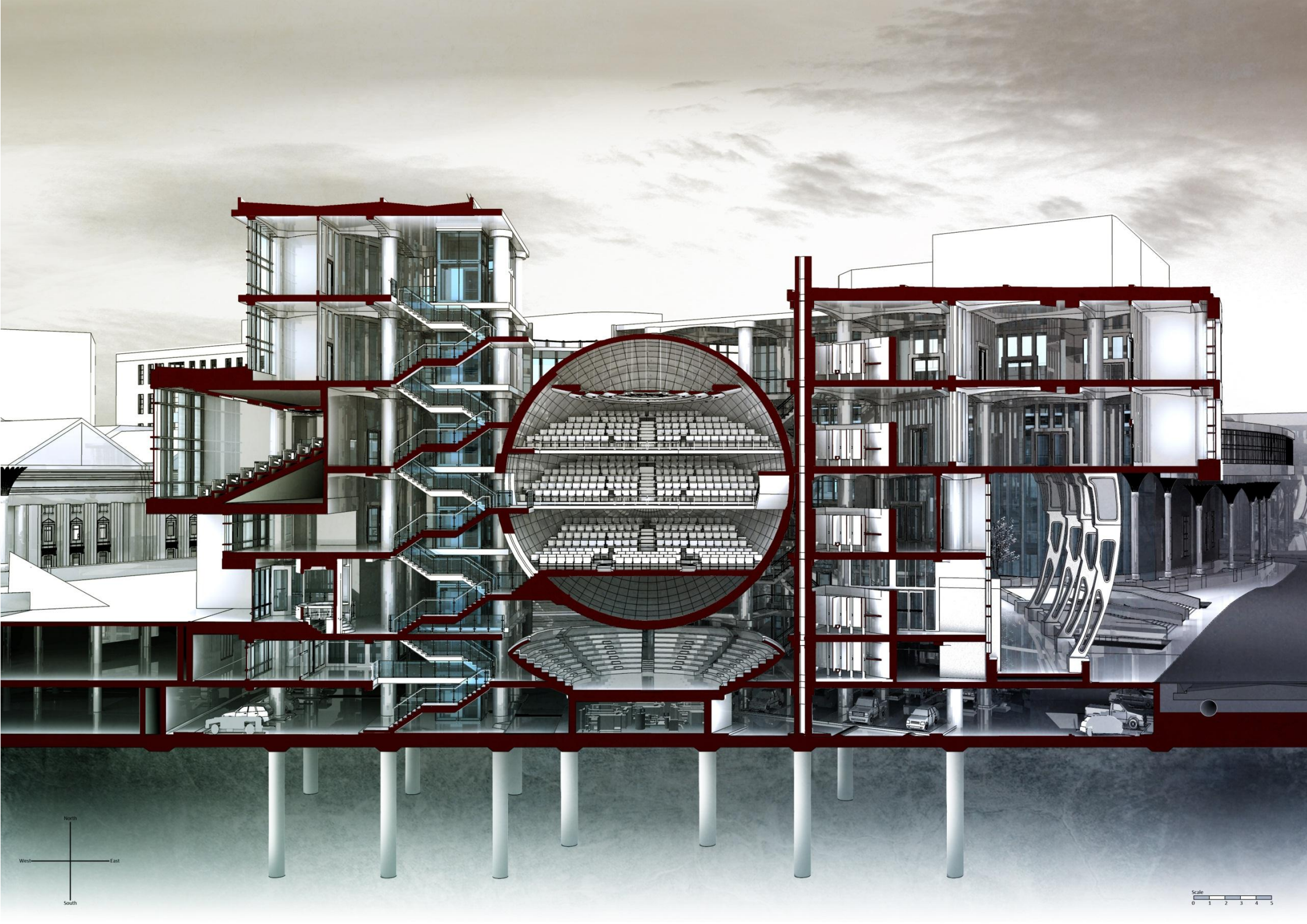
THE SPINE OF THE PUBLIC CORE

At the first and second floor of the southern public core, the numbers of bathroom facilities are the highest, to allow these facilities to accommodate the large number of public users that will enter and leave the concert hall at the start and end of performances. Along the upper floors, this decreases as the number of users that use the building throughout the day and the number of users at any one point are not as frequent. At the top floor these facilities only account for two bathroom facilities per toilet block, as this is mainly a senior staff office floor. This aesthetic quality of the transforming core dimensions is visible when viewed from the central atrium space.



SECTION

A key section through the design experiment reveals how the design resolves the disparate requirements of the lost site from the large entrance, with the varying programmatic spaces along the City to Sea Bridge edge to the key service connections between the two cores. The two grids come together, each expressing and responding to the contextual conditions that they face, while also establishing identity of the overall building within the context of two diverse grids and two diverse programs through the means of the shared Concert Hall; a shared common centre which holds the grids together, forming a building that assimilates the once lost site.



CONCLUSION

As our urban centres have become denser due to growing populations, a growing number of sites have developed that are defined by competing and contradictory conditions. This thesis refers to these as 'Lost Sites'. The main intension of this research was to investigate approaches for the resolution of lost sites, particularly when they must not only respond to multiple grid conditions, but are also required to engage multiple diverse programs and reflect conflicting programmatic typologies. The vehicle for this design research investigation was the actual site and program for the proposed new New Zealand School of Music on Jack Ilott Green in the northeast corner of Wellington's Civic Square.

The contemporary urban dilemma of the 'lost site' has arisen due to the ever-increasing density of our urban environments, where boundaries of contrasting urban contextual grid conditions overlap, forming pocket sites that ultimately must respond to multiple grids yet belong to none. These lost sites are the sites trapped by opposing contextual constraints, needing to respond to multiple and often conflicting conditions and as such ameliorating the architect's ability to provide them with a single unique sense of holistic identity. As an example of a 'lost site', this site had to establish a 'public' identity that responded to its principal frontage along Jervois Quay and the Harbour, while simultaneously it had to resolve and respond to a 'civic' identity required by Civic Square and a more 'local' identity required by Harris Street. The program needed to establish an academic identity as a music school, while simultaneously establishing civic identity as a public concert hall on Civic Square in conjunction with Capital E, Michael Fowler Centre, Town Hall, City Council, Public Library, and City Gallery.

The thesis argues that architecture on 'lost sites' can be addressed by conceiving them as a metaphorical 'joint' responding to opposing site and program conditions. The thesis establishes that architecture's potential to be manifested as a pivotal joint can be strategically used as a viable means of addressing lost sites. This approach further suggests that a building on a lost site can be

conceived as having multiple 'front' façades – each expressing identity in response to a different set of contextual and programmatic conditions. The thesis tested how this approach might enable architecture to establish a holistic identity upon an urban 'lost site', even with each of its façades needing to engage a different identity. The design experiment interprets Trancik's view that space is only considered to be 'a place' once it is given contextual meaning which is derived from the cultural and regional contexts of a location (Trancik 112).

Architects have attempted several different approaches to deal with forms of lost sites in the past. Three diverse case studies with different approaches to the lost site were analysed: Daniel Libeskind's 2001 extension to the Jewish Museum Berlin; Gerhard Kallmann, Michael McKinnell and Edward Knowles's 1969 Boston City Hall; and Zaha Hadid's 2005 Phaeno Science Center in Wolfsburg, Germany. All three of these case study sites differed in their architectural style; one was deconstructed (Jewish extension), one was rigidly orthogonal and brutalist (Boston City Hall) and one was parametric (Phaeno Science Center). Such different case studies on lost sites were selected in order to consider if hugely different stylistic approaches still addressed similar problems in similar ways. As civic building types all three case studies engaged notions of monumentality. All three established hierarchies as a means of establishing identity. All three established strong linkages between inside and outside spaces to facilitate issues of site identity. All three used soft transition space as a means of resolving conflicting grids. All three shared elements of 'object in the field' architecture, yet all three also acknowledged their contexts.

These case studies all dealt with one single large program, so they were able to establish a singular identity. These case studies were also set upon large sites capable of engaging expansive areas of open space as a means of resolving their conflicting site conditions. This thesis maintains that Lost Sites are becoming ever more complicated, involving multiple programs as well as ever-restrictive footprints. The design experiment moves beyond the site conditions in the Case Studies to explore resolution within these added constraints.

This design research experiment needed to be simultaneously read as multiple typologies – a public concert hall and a university music school. Without critically addressing the issue of multiple typologies and conducting a site and program analysis, the design would appear typologically generic, and thus lose any sense of identity and place.

This site and program analysis revealed that with Wellington's evolving land reclamation, the shifting of the waterfront, the growth of the city, and the decision to orient each new grid neighbourhood to the harbour edge, an overlapping shifting network of confusing grids had arisen along the waterfront that helped to ensure the appearance of lost sites. The diagonal shifting of Wakefield Street off the greater city grid was a major factor responsible for the grid anomalies of Civic Square. This analysis further revealed other locations of grid collision and likely lost sites, which mainly occurred the closer one was to the harbour edge, where the urban grid dramatically shifts in orientation.

The overall site condition incorporated two grids and the overall program incorporated two programs. This design proposal involved these main strategies below:

- Re-interpreting Trancik's theory to enable it to be integrated vertically as well as horizontally, and to sequentially evolve in both directions
- Establishing and exposing strategic elements of commonality within the contradictory conditions as a critical means of resolving a lost site. This is tested with the column as a grid pivot point, the concert hall as a seminal shared function, the dual cores facing one another, a spherical form at the centre alignment of both grids, and the act of witnessing and exposure. The auditorium is a strategic shared space, like the concert hall and the lobbies. The design proposal exposes the shared spaces as a strategic means of integrating the two diverse programs.

- Establishing hierarchies of primary and secondary elements within the conflicting conditions, and interpreting these with monumental scale versus non-monumental scale elements that are in dialogue with one another (such as the monumental entries on the east and south in opposition to the non-monumental entries to the north and west)
- Resolving and repairing key contextual edge conditions; one grid incorporated a major street frontage (Jervois Quay running parallel along the harbour, and the dominant City to Sea Bridge), while the other grid incorporated secondary frontages (Harris Street and the side of City Art Gallery). This proposal tested how the dominant 'public' program (Concert Hall) was best suited to the grid aligning with the Jervois Quay and City to Sea Bridge edges. The 'less public' program (Music School) was best suited to the grid aligning with the Harris Street and City Art Gallery edges.

The design proposal tested how each program would have its own entries and its own cores. The two programs were designed to share a Concert Hall; the two grids could share a common focal point. This method was tested to achieve a unified identity upon this lost site. This design proposal tested how two distinct cores (one for each program) could support and access the shared concert hall, providing entry and amenities for students from one direction, and for the public from another. The two distinct cores represented the identity of the individual programs, which linked to the concert hall, which represented the identity of the building overall.

Each of the contextual conditions identified above required a critical implementation of Trancik's theories designing urban space; soft and hard space. Yet because this 'Lost Site' filled the entire site, involved dual grids, and dual programs, the design proposal tested the use of Trancik's theories, particularly soft and hard spaces, in a unique manner. The Harris Street edge established a 'soft' approach to the façade near the City Gallery, which progressed to a 'hard' approach to the façade near the corner of Jervois Quay. It also proposed a 'soft' approach to the façade near ground level, which then progressed to a 'hard' approach to the façade as it moved upward. The Jervois Quay edge proposed a 'hard' approach to the entire façade, but with a 'soft' approach to facilitate an entry off of the busy highway that made the entry difficult.

The public and private core each responded to the two different user groups; the north student/service core responded to the school program users and the south public core responded to the concert hall user group. Both these cores provided means of entrance to the concert hall. When entering through the student/service core, students witness public movement into the different seating areas through two openings that acknowledge the southern public entry façade. This extended the shared and open nature of the public space that is adherent to this edge and also supports programmatic and circulation considerations this edge attempted to form. When entering the concert hall space through the southern public core and entry point, similar visual permeability was evident from the service core and entry point. This entry acknowledged the façade created along the north side of the building, along Harris Street. Frampton's theory of Critical Regionalism influenced the form and materiality of these two cores and entrances to the concert hall. The concert hall here didn't just acknowledge these two different conditions but allowed them to respond to each other and complement each other. Even at the core of the building, grid driven design decisions and grid based structural systems responded to each other and assimilated a role both for programmatic and circulation purposes.

The denser the urban environment becomes, the greater the number of 'lost sites' begin to emerge. IN the recent past, buildings have addressed this dilemma by either considering only one dominant set of conditions, or by being conceived as an 'object in a field' which actively denies the contextual conditions. These complex sites are an urban and architectural issue in need of active critical resolution. This thesis suggests that such diverse opposing requirements can be resolved holistically by integrating soft/hard spaces along common edges thus providing a means of seamlessly integration of multiple conditions into a viable identity for an architectural intervention on a 'Lost Site'.

