FINAL PROJECT - DA.184801

SETIABUDI LIBRARY: ARCHITECTURE IN THE DIGITAL MEDIA CULTURE

MIFTAH ADISUNU NUGROHO ALUI

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Supervisor
Defry Agatha Ardianta ST., MT.

Department of Architecture
Faculty of Civil, Planning, and Geo Engineering
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LEMBAR PENGESAHAN

SETIABUDI LIBRARY:
ARCHITECTURE IN THE DIGITAL MEDIA CULTURE

Disusun oleh:

MIFTAH ADISUNU NUGROHO ALUI
NRP : 08111540000096

Telah dipertahankan dan diterima
oleh Tim penguji Tugas Akhir DA.184801
Departemen Arsitektur FTSPK-ITS pada tanggal 16 Januari
2020 Nilai : A

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Judul Tugas Akhir	: *Setiabudi Library: Architecture in the Digital Media Culture*
Periode	: Semester Gasal Tahun 2019 / 2020

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Surabaya, 29 Januari 2020

Yang membuat pernyataan

Miftah Adisunu Nugroho Alui

NRP. 08111540000096

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PREFACE

In praise to Allah SWT for it is because of His blessings, the final project entitled **"Setiabudi Library: Architecture in the Digital Media Culture"** may properly completed.

This project could not have successfully done without the help and support from many parties. Most gratitude would be to Defry Agatha Ardianta, ST., MT. as my final project mentor who has providing me lots of insights and knowledge throughout the process. Also, especially the author would like to thank all his friends who have given the proper physical and emotional support in the most critical times so that he may continue and have faith that this project may succeed. Without any of their help, this project may never be accomplished. Other individuals that also worth an appreciation are:

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2. The author's family who always motivates him to keep on learning.

All in all, this final project is not even close to perfection. Yet the author would be very grateful and wishing for this paper to provide and expand all its readers' knowledge and insights.

Surabaya, January 16th, 2020

Author

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SETIABUDI LIBRARY: ARCHITECTURE IN THE DIGITAL MEDIA CULTURE

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ABSTRACT

Our societies are still facing the chaotic, full of spectacle, digital media culture phenomenon where the ubiquitous production-consumption of information occur perpetually since the internet exists and most of them are likely to degrade our cities' social qualities. A library typology is considerably a suitable case study as it is the most relevant regarding to the educational and socio-cultural values that it promotes to the society. Library is one of architectural artefacts which is undoubtedly influenced/affected by the developments of information technology.

This project further tries to focus on the experience of content-discovery in the new library by exploring the possibilities of solid-void definitions that forms a series of interruptions that is able to enhance social interaction in the process of knowledge gathering and transferring processes. This aims to emphasize not only the stored information, but the people accessing those pieces of information themselves.

The library might then be redefined not merely a storage of information but also a place where social interaction needs to occur between people accessing that information, and social interaction might again become a tool for people to stay relevant and maintain balance with the existing digital media technologies.

Keywords: Affordance, Digital Media Culture, Library, Production-Consumption of Information, Social Interaction, Solid-Void Definitions

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TABLE OF CONTENTS

LIST OF FIGURES

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LIST OF TABLES

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CHAPTER I
INTRODUCTION

1.1. Background

1.1.1. Digital Media Culture

Our societies have faced the chaotic, full of spectacle, digital media culture phenomenon where the ubiquitous production-consumption of information occur perpetually since the internet exists. The impact of technology has transformed the way people live. Each of those technological inventions - from typewriters and sewing machine to computers and smartphone-connected self-lacing shoes - eventually settled into the mainstream society and unleashed political, social, & practical changes (Greengard, 2015). The invention of transportation modes, for example - airplanes and railways - has allowed us to travel great distances with less time spent than travelling by car. Even greater, the emergence of communication technology has allowed us to 'travel' to the furthest part of the world in just seconds, and thus we have the sense that we could grasp the world in our hands. Information and Communication Technology (ICT) also allows us to access knowledges we never had imagine before. It appears also that such advanced technology has result in the degradation of the social qualities which mostly are about the lack of co-presence, immediate distribution-response, and problems of misinformation.

The ubiquitous culture where most of human communication process are mediated by digital media such as the internet and television in this case are the very basic definition of Digital Media Culture phenomenon. More than two billion people around the world now use gadgets to navigate, to compare product reviews & prices, to follow the news, watch movies, listen to music, play video games, to memorize vacations, and lot least of all, to participate in the social media (Bhattacharjee, 2019). The fact that nowadays people can get any kind of information without having to go anywhere in no time. As what Katherine Viner quoted from Hossein Derakhsan, the diversity that the world wide web had originally envisioned has given way to the centralisation of information (Viner, 2019). The evident issue is that the internet made it possible for any kind of stored

information to be subject of accumulation, rediscovery, & redistribution. This phenomenon thus undoubtedly changes our socio-cultural practice within the society where people must strive to stay relevant.

1.2. Architectural Issue and Context

1.2.1. Social and Physical Space

In order to stay relevant within the age of information abundance, people must perpetually fight to filter out the irrelevant and insignificant information. In the physical realm, this can be achieved through reconsidering the importance of physical space's impact in generating or enhancing proper social qualities of spaces in a neighbourhood where oneself might relate with their socio-cultural backgrounds. A research done by Vinicius M. Netto and his colleague about social interaction has another perspective on seeing the city as information environment. In his paper he wrote that our spatial environment becomes an external memory or as an extension to our cognitive abilities that carries information about activities and agencies for future retrieval. The structure of social space thus manifests itself, in the most diverse contexts, in the form of spatial oppositions, inhabited (or appropriated) space functioning as a sort of spontaneous metaphor of social space (Bordieu, 2018).

The non-physical social qualities seem to have very strong bond in relation to physical space, as there is no space that does not express social hierarchies. Our very actions and perceptions about the physical space defines the social space itself. Our knowledge of spatial properties includes semantic, visual, and configurational properties that allows us to project and orient ourselves in the urban space as social agents. Our physical space can also be understood as an environment that contains information. Information, in that sense may be related to a specific place's physical or non-physical properties. And the level of how such information may be perceived has ranged from the most explicit information to the most implicit or symbolic one. We can then understand that information also has a very close relationship to meaning and how it affects people's perception throughout time and places they collide themselves into. In Netto's research, one may also find out how social spaces in the city has a significant impact to gain social interaction. In a view of

social systems constituted by connections of actions, this means that space can be part of the constant transition from individual acts to complexes of actions (Netto, 2017). In order to gain social interaction, there are basically two ways for each people to interact with others. The first one is that each individual action mostly are being connected by a specific purpose between the individuals which occurs in a place related to the purpose. The second one is when individuals are connected by places in which, within those places they may experience an unintended or unexpected interaction with other people.

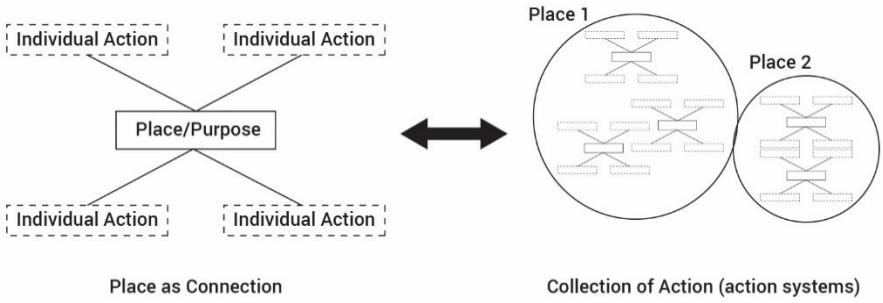

Figure 1.1. Social Interaction Mechanism.

1.2.2. Digital Media Culture Generation

From the various aspects that had significant influence by the digital media culture, some specific aspect or values need to be clearly defined and limited. In this case, the specific values chosen as the design context are the educational and the socio-cultural values from the digital media culture. These values are going to be perceived later as platforms to be accommodated and responded by architectural design programs.

Because of the simultaneous process of information production and consumption, it is important to identify societies that represent significant developments in its socio-cultural and economical structures. This is to say that group of people especially millennials have significant differences with their predecessors in terms of how they communicate and react to information exchange. In societies with growing amounts of information and agency, the number of possible (social) interactions grows exponentially (Netto, 2017). This can be seen in the example where information may simply be understood as ‘topics’ to discuss.

Whenever there are more relevant topics to talk about, it means more in the time people spend to talk about it, and it is the general form of social interaction.

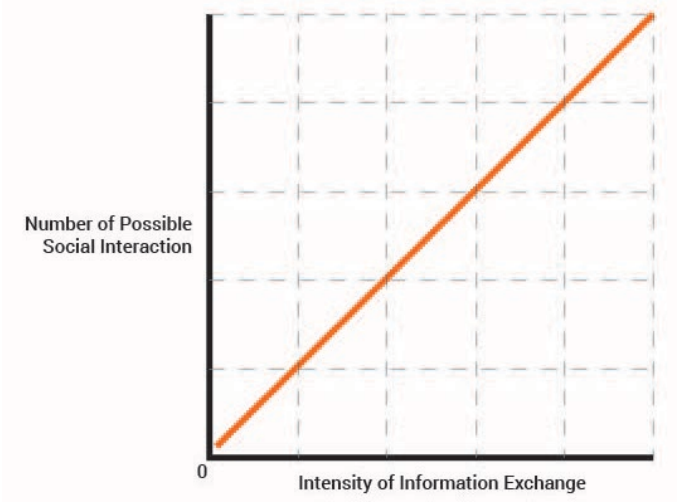

Figure 1.2. Information Exchange Intensity and Possible Social Interaction Relationship. (Netto, 2017)

1.2.3. Location & User

For a specific context, a specific location is needed to narrow the architectural response related to the issue. In this case, Jakarta is chosen as the city basically because of it is leading in most urban developments, economic growth, and most importantly the flow of information.

Figure 1.3. Portrait of Jakarta. (Kartapranata, 2009)

The location for the architectural intervention is further narrowed to the area located around Sudirman Central Business District (SCBD) of South Jakarta City. The selection is ultimately based on the search for the area with the average population in productive age as the population with most exposure to the digital technology. 'Productive age' population in this case are practically seen by the existing working and educational facilities around the area. Regarding the basic principles of information exchange process, the diversity of inhabitants around the site location are key. It is also important to find a location which has a significant relationship to people of productive ages. Such population may be found in a relatively 'busy' area consist of working spaces (offices), business activities (commercial buildings), and educational activities (schools and universities). It is found that there are notable educational and office buildings around the area in a 2km radius. The diverse activities of the area indicate that there are also diverse processes of information exchange in many platforms. The existence of mass rapid transportation was also being considered as part of the site's accessibility and connectivity of reaching outside of the 2km radius area.

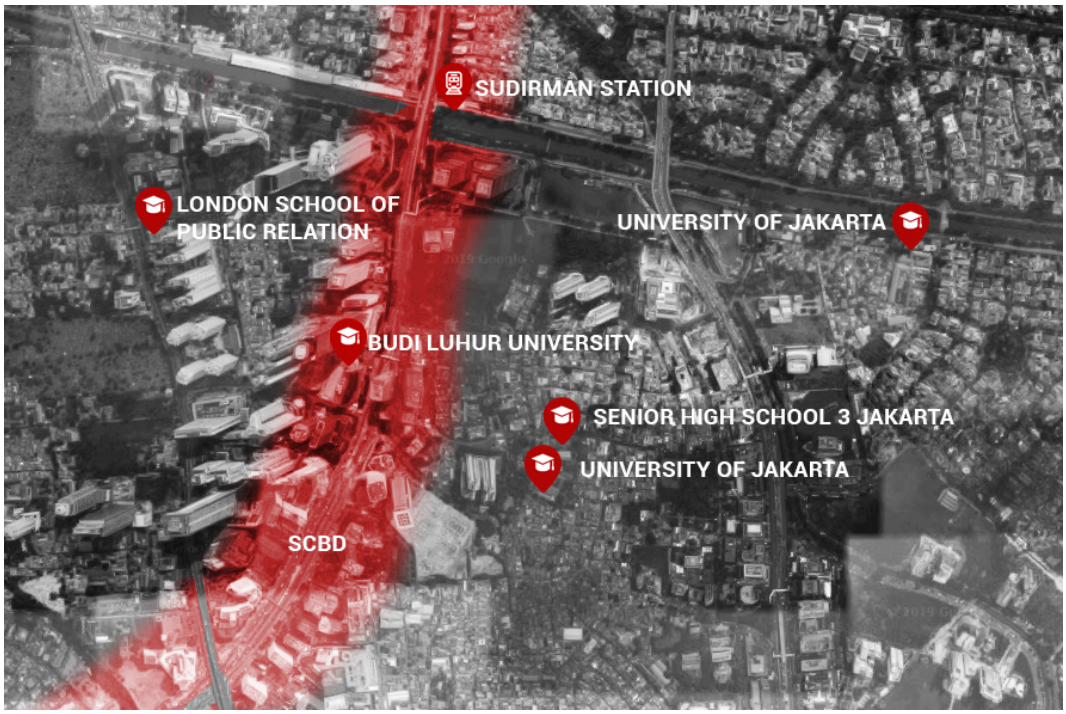

Figure 1.4. Significant Properties of Setiabudi Sub-District.

The diversity of inhabitants, of activities ranging from educational to economical occasions of Setiabudi sub-district informs that the area manifests the partial growth of the city's development which basically mediated by information. And every information being exchanged in the process will keep growing and thus maintain the social interactions around the area.

1.3. Design Problem and Criteria

1.3.1. Design Problem

A library typology is chosen as it is the most relevant regarding to the educational and socio-cultural values that it promotes to the society. Library is one of architectural artefacts which is highly influenced/affected by the developments of information technology. The design problem for the new library is all about how the library may re-emphasize the core mechanism for knowledge gain that is overshadowed by the digital media culture, the physical social-interaction process. It is possible to see that there is a chance for new affordance of contemporary libraries in the digital age.

The idea then is to rethink of libraries as part of the social processes of information exchange within the society. It may then possible to find out that the digital-social space and physical-social space may collide and amplifies each other's existence as part of the community. This project then tries to explore the idea of content-discovery experience as a medium in order to stay relevant within the digital age and being relevant in the digital age is not always about going fully digitalized.

1.3.2. Design Criteria

The information abundance phenomenon inevitably requires every individual who is trying to access any piece of information to carefully filter and quick-assess the validity of that piece of information. This results in a condition where we find even in the public places, there is not much people trying to socialize with each other. Instead, they naturally give their full attention to the technology within their hands that contains a specific information.

When libraries are basically about accessing specific piece of information, the only possible way for social interaction to occur in the digital age between people doing so is for every individual to interrupt or being interrupted by other people. The question then is how might we create ‘interruptions’ that are acceptable and ultimately considered reasonable for users? This leads to the idea of creating a series of interruptions within the library design that can enhance social interaction and stay relevant with each individual’s socio-cultural background or preferences in the knowledge acquiring processes occurred.

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CHAPTER II
DESIGN PROGRAM

2.1. Design Program Recapitulation

2.1.1. Programmatic Strategy

The programmatic strategy of this project departs from understanding the standard library functions. The typical library programs could be seen as patterns which should further analyzed to extract its basic set of rules or constraints. The typical library programs are based on several typological literatures and the local regulations, which are:

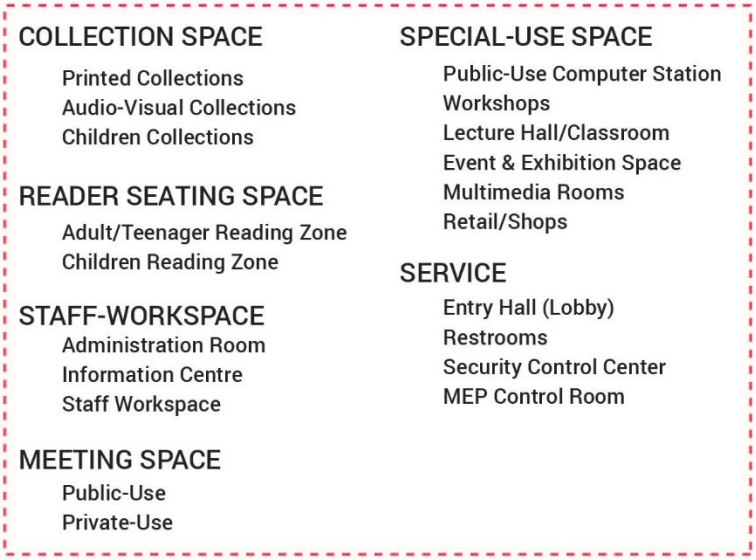

Figure 2.1. Typical Library Programs

After knowing the patterns of a typical library program, the next step is to analyze the main actions/activities that the library may affords. Such actions are: Browsing, Reading, Listening, Watching, Working, & Conversation. These specific actions is important to further redefine more specific library functions.

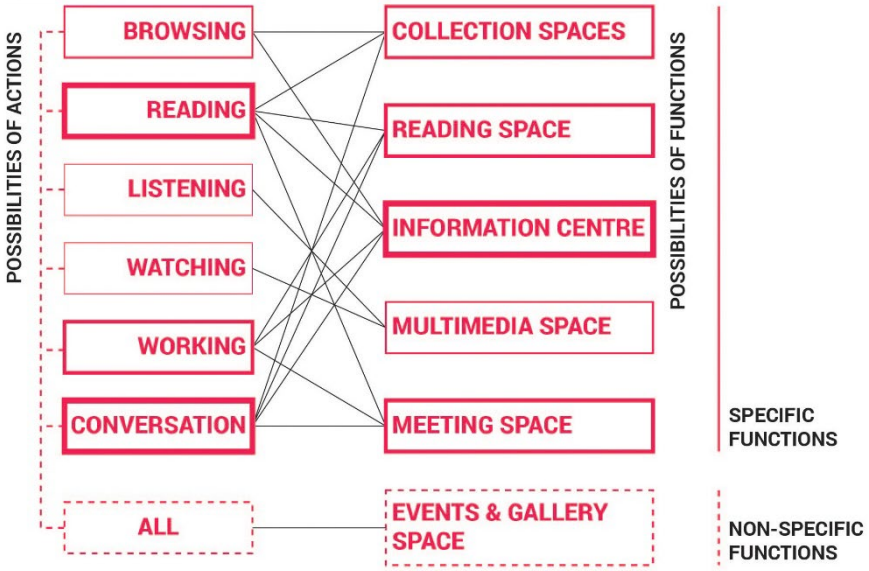

Figure 2.2. Essential Library Programs.

2.1.2. Space Requirements

Based on 'Time-Saver Standards for Building Types' written by Joseph de Ciara and John Callendar, the formulation of space needs in a library building is calculated based on the population the library going to serve.

	Shelving Space						
Population Served	Size of book collection volumes	Linear feet of shelving	Amount of floor space (sq ft)	Reader's space (sq ft)	Staff's work-space (sq ft)	Estimated additional space needed (sq ft)	Total floor space (sq ft)
25.000 to 49.999	50.000 plus 2 per capita for pop. over 25.000	6.300 Add 1 ft of shelving for every 8 vols. over 50.000	5.000 Add 1 ft for every 10 vols. over 50.000	Min. 2.250 for 75 seats Add 3 per 1.000 over 25.000 pop. served, at 30 sq ft per reader space	1.500 Add 150 sq ft for each full-time staff members over 13	5.250	15.000 or 0.6 sq ft per capita, whichever is greater

1 ft ~ 0.3 m | 1 sq ft ~ 0,092 sqm

Figure 2.3. Guideline for Determining Minimum Library Space Requirements. (de Chiara et. al, 1987)

In this case, the population number is determined based on the data provided by the local government for each sub-district. The selected subb-districts are mainly

the district where the site is located, and also adding the most adjacent sub-districts to the site location. The following highlighted table is to show the district and sub-distrcits in Setiabudi and around it which is going to be the main parameter to simulate the building intensity.

Table 1. Estimated Population Served. (*BPS*, 2016-2018)

District	Sub-District	Population	Total
Setiabudi (2016)	Karet Semanggi	3.007	**111.708**
	Kuningan Timur	6.956	
	Karet Kuningan	18.131	
	Karet	11.718	
	Menteng Atas	32.758	
	Pasar Manggis	31.011	
	Guntur	4.606	
	Setiabudi	3.521	

The following table is the simulation of the building intensity based on calculation tools provided above:

Table 2. Building Intensity Simulation.

MINIMUM SPACE REQUIREMENTS FOR LIBRARIES ft to m: 0,30
*Population Scheme Used: Above 50.000 people sqft to sqm: 0,09

Estimated Staff (People)	Population Served* (People)	Shelving Space			Reader Space (sqm)	Staff Workspace (sqm)	Additional Spaces ** (sqm)	Total Floor Space (sqm)
		Size of Book Collection (Volumes)	Shelving (m)	Amount of Floor Space (sqm)				
36	**111.708**	**173.416**	**6.622**	**13.953**	**519**	**334**	**11.171**	**25.977**

BUILDING REGULATIONS

Population around Setiabudi sub-district **111.708**

Site Area	**17.000** m2
KDB & KTB	**9.350** m2
KLB	**28.050** m2
Height	**3** Levels (max 8)
KDH	**30** % (minimum)
	5100 m2

PARKING SPACE

Non-Green Open Space	**2.550** m2
Needs	**87** cars
Area (exclude circulation)	**996** m2

2.1.3. Space Needs

According to the local regulations, the first step to determine basic space need for a library is to determine the collection category based on the age of the users. In this case, collection spaces for adult/teenagers are preferably separated from the children's.

Table 3. Space needs simulation based on collection type.

Collection Type	Minimum Amount (Titles)	Provided Amount (Titles)	Space Need (sqm)
Children	500	112.358	**1.011**
Teenager/Adult	1000	224.716	**2.022**
Children's References	50	11.236	**101**
Teenager/Adult References	50	11.236	**101**
Subscribed Newspaper	1	225	**2**
Subscribed Magazine	1	225	**2**
Audio-Visual Files	2	449	**4**
		Total Physical Collection Space	**3.244**

The children's collection space should be located in a single area for the sake of safety and surveillance concerns. On the other hand, the teenager/adult collection space are divided into 9 main category based on Universal Decimal Classification each with their own reading spaces to expose the readers of each category and allow the possibility of cross-disciplinary-interest information exchanges. Such categories are:

1. Generalities, Science and Knowledge
2. Philosophy & Psychology
3. Religion & Theology
4. Social Sciences
5. Mathematics and Natural Sciences
6. Applied Sciences, Medicine, & Technology
7. The Arts, Recreation, Entertainment, & Sport
8. Language, Linguistics, & Literature
9. Geography, Biography, & History

According to the national standars of libraries in Indonesia and the regulation of the Head of National Library about Technical Guidelines for Librarian Functional Position, there are some key activities that closely related to how the librarian/staff workers might use their spaces within the library. The number of staffs' space to be provided are determined by estimating the need based on the functional position of the library's structural organisation. In this case, because the collection space are divided based on the knowledge classification, the need of library service worker are estimated to be at least 2 people each category.

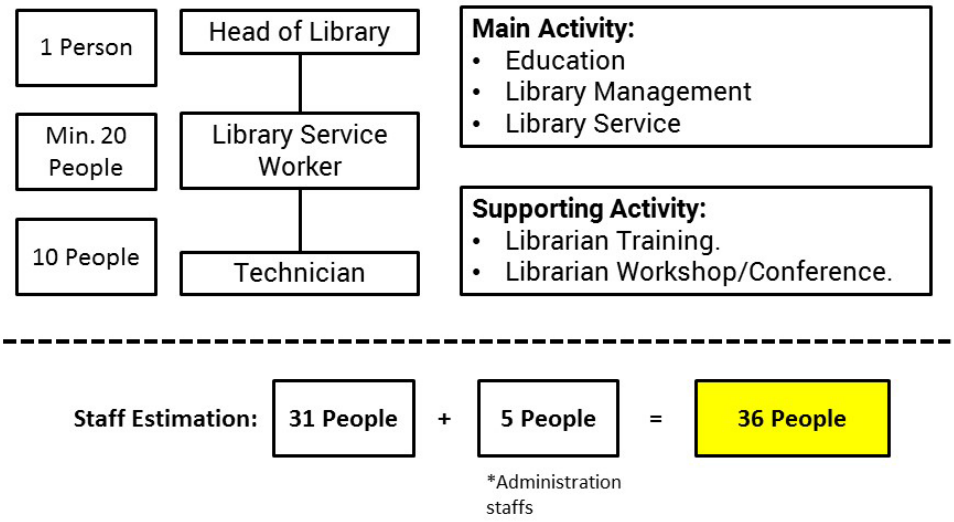

Figure 2.4. Staff's Space Need Based on Job Description and Activity.

Table 4. Updated space programs.

Space Category	Specified Programs	Measured Space (m^2)
Collection Spaces	General Collection	9,981
	Children's Collection	6,218
Activity Pockets	-	1,369
Staff Workspace	Front Desk	118
	Staff Workspace	501
Meeting Space	-	228
Special Use Space	Cinema	527
	Radio Station	162
	Café	193
	Bookshop	254
Non-Assignable Space	Entry Hall (Lobby)	332
	Restrooms	450
	Nursery Room	205
	Locker Room	149
	Shipment Storage	268
	Prayer Room	57
Service	Control Room	147
	Server Room	96
	Generator Room	45
	Pump Room	194
	Ground Water Tank	196
	Trash Dump	52
Total Measured Spaces		**21,742**

2.1.4. Activity Requirements

For most libraries, the main consideration for the activities to perform within is basically set upon the following criterias:

1. The indoor space of libraries should incorporate daylighting to provide proper amount of lighting for the well-beingness and productivity measures.
2. Libraries should as well allow visual access to its surroundings. (Preferably to the north an facing mostly natural elements).
3. The library should have clear definition on which space should be quiet, for reading and which space should allow non-quiet activities like conversation or discussion and other forms of social interactions.

From the established activities and space programs, the basic space organisation of a library design, as de Chiara suggests is basically divided into four main groupings: The entrance, Adult's collection and reading space, Children's collection and reading space, and the staff's workspace.

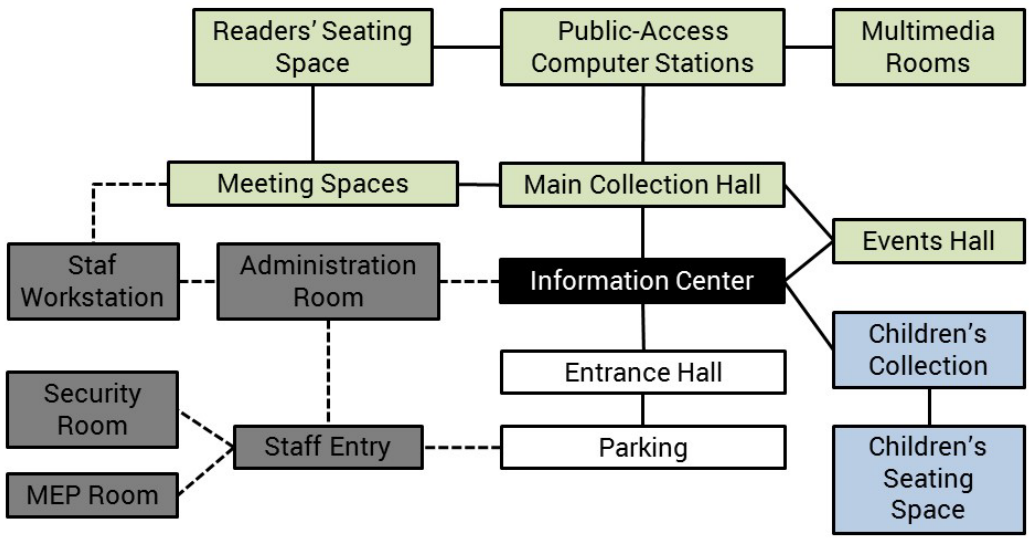

Figure 2.5. Space Organisation Based on Library Typology Requirements for Specific Functions.

2.2. Site Description

2.2.1. Location

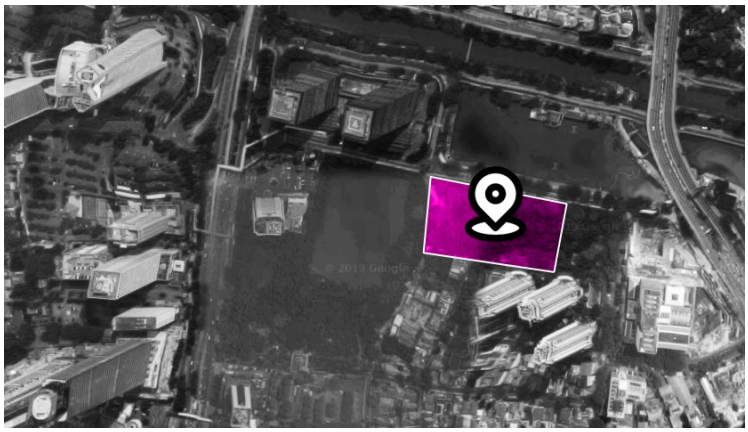

Figure 2.6. Site Location

The site is located in a mixed (use) zone in Setiabudi sub-district of South Jakarta city with land area approximately ±20.000m^2. The site is situated near the Sudirman Central Business District (SCBD) of Jakarta.

Figure 2.7. Zoning Category.

2.2.2. Site Analysis

According to *Time-Saver standards for Building Types*, there are at least four main criteria in terms of selecting the right site for a library building. Such criteria are:

1. The site is located in a strategic location. In a more practical way, at least the site is visually accessible from the main streets or the local main activities. The existing condition already fulfilled this criterion that the site is located near a dam. This is potential for a library building because the main face which is facing the north would not have any visual obstruction. It would mean that the site is not only visually accessible to the adjacent streets, but also the streets across the dam.

Figure 2.8. View to South from Across the Dam.

2. The site should allow a street-level entrance. In order to attract more people to the library, the library should simply be easily accessible from the streets, without having complicated paths with different levels. In this case, the site is already street-leveled where people can access through the pedestrians.

Figure 2.9. Surrounding Conditions.

3. The site should be (relatively) large enough to allow expansion of the library.
4. The site is preferably to be north-south oriented. This should allow the building to have proper daylight amount into the building while having minimum heat gain from the east and west side.

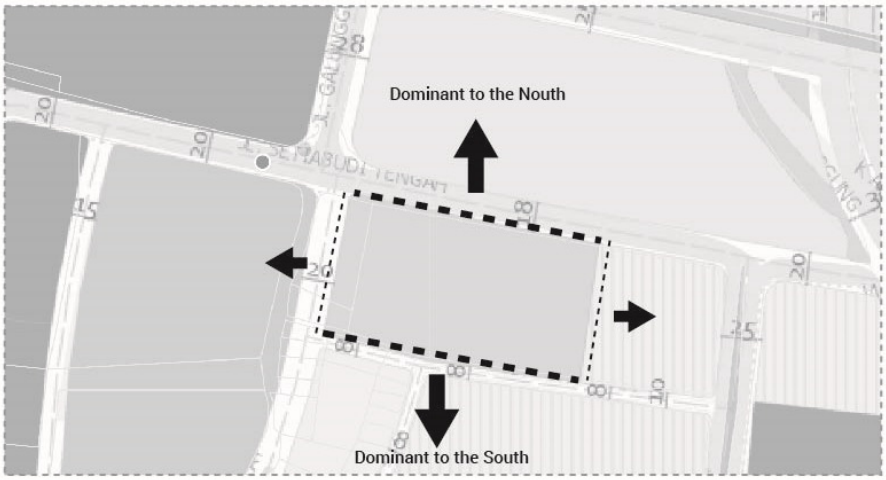

Figure 2.10. Site Orientation.

Aside from the site-selection analysis, an analysis for the design is also needed. In this case, the main aspect being analyzed are mainly about accessibility to the site which then reflected as an idea for the accessibility responses in the site.

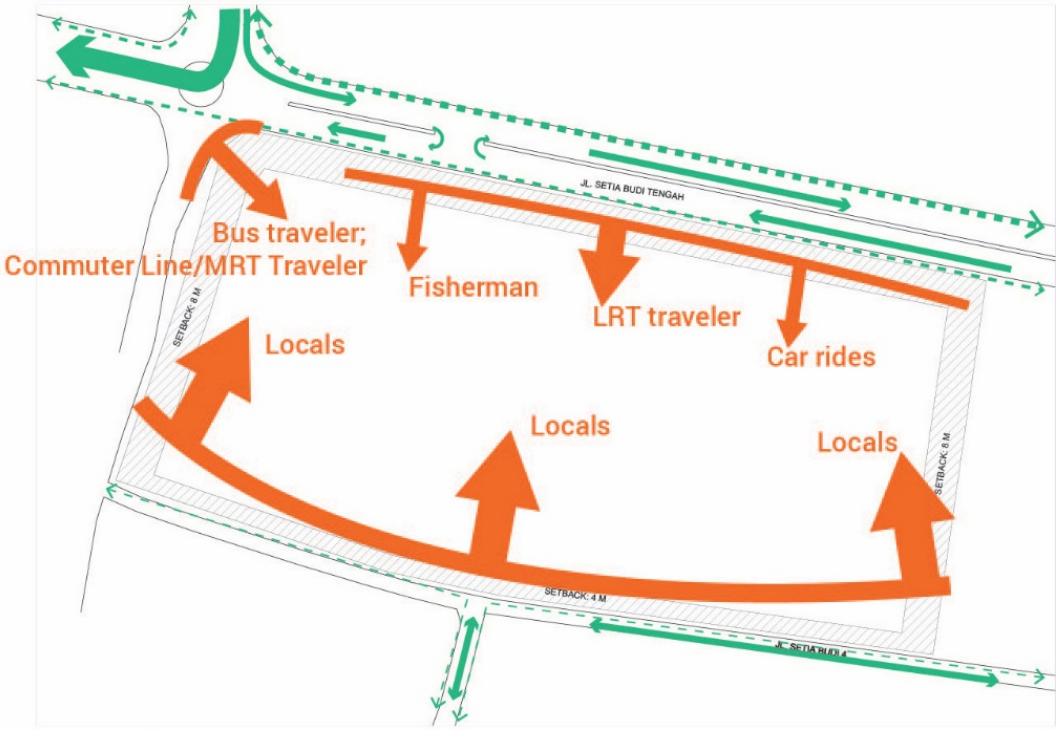

Figure 2.11. Neigbourhood-Accessibility Analysis.

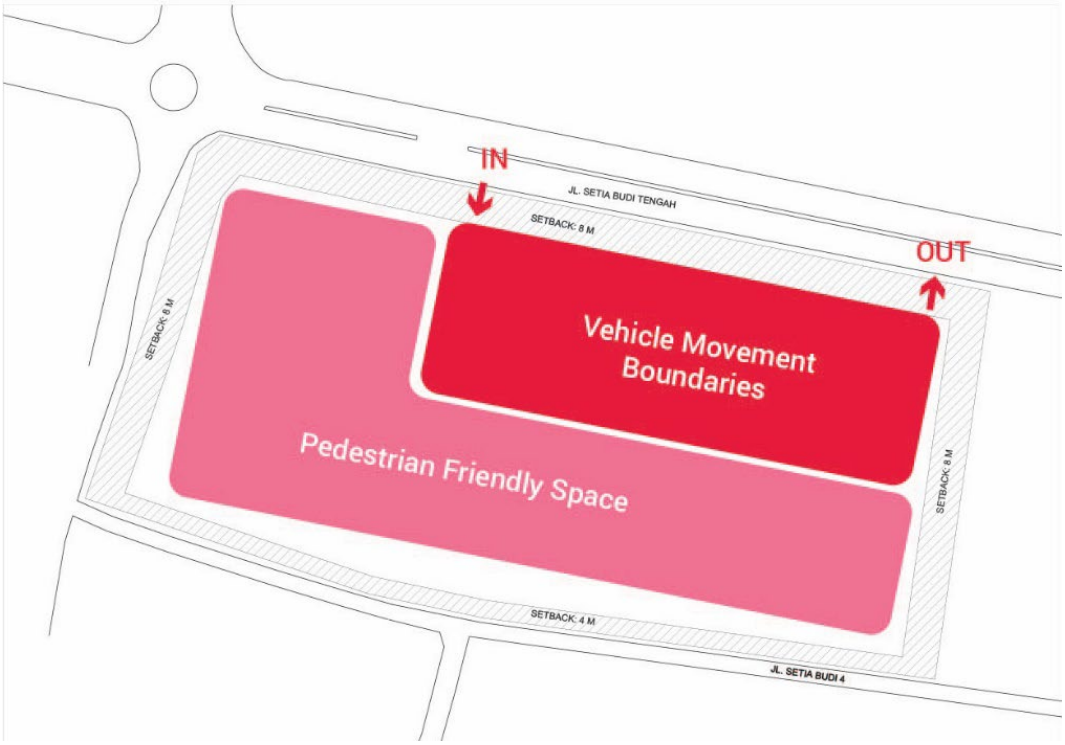

Figure 2.12. Ground-Level Zoning Idea.

2.2.3. Regulations

Based on the local building regulations, it is found some building technical requirements such as:

1. Building Coverage (*KDB*) : 55%
2. Floor Area Ratio (*KLB*) : 3
3. Building Height (*KB*) : 8 Levels
4. Green Area Ratio (*KDH*) : 30%
5. Basement Coverage Ratio (*KTB*) : 55%
6. Neighborhood Pattern (*PSL*) : Dense (*Padat*)

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CHAPTER III
DESIGN APPROACH & METHOD

3.1. Design Approach

In order to understand the impacts of Digital Media Culture to our socio-material/physical environment, it is important to analyze the behavioral patterns of people with high frequency of digital-media use. In the case of this project, the theory of affordance plays a vital role in designing the library by identifying the digital-media users' abilities based on the possibilities of action that a library may provide as part of their socio-material environment. The digital media user's abilities which later defined as 'behavioral patterns' are being considered as they reflect the habits of people communicating using mobile media. It is whether an action may preferably do privately or communally, sedentary or while on the move, and whether it is a passive or active engagement towards information or any present affordance. Such behavioral patterns could be understood as parameters which will be useful to map the possibilities of action in a library.

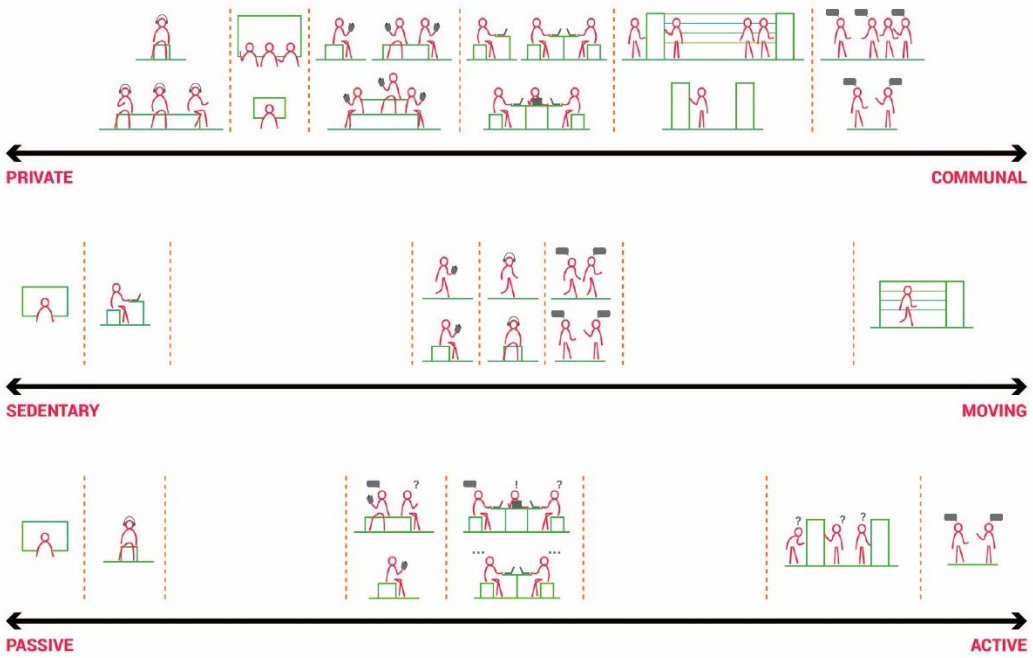

Figure 3.1. Behavioral Pattern Analysis of Libraries.

A research conducted on social interaction and its relationship within a city found that cities have historically been a key part of the process of information, selection, and actualization of actions (Netto et. Al, 2017). That the society is build and mediated by information. As we load our built environment with information, the fragmented clusters of information connect the pieces of information through similarities of physical aspects of the environment or through relations between their meanings (Netto et. Al, 2017).

The implementation of the collective space idea for library buildings have been done by OMA in one of their projects: Seattle Central Library. The basic idea of collective space as mixing chambers in the library has the purpose of expanding the knowledge-spreading process and reach as part of the information exchange within the society. The mixing chambers in this case has the vital role in the social process and key aspect for libraries to not being regarded as mere book storages.

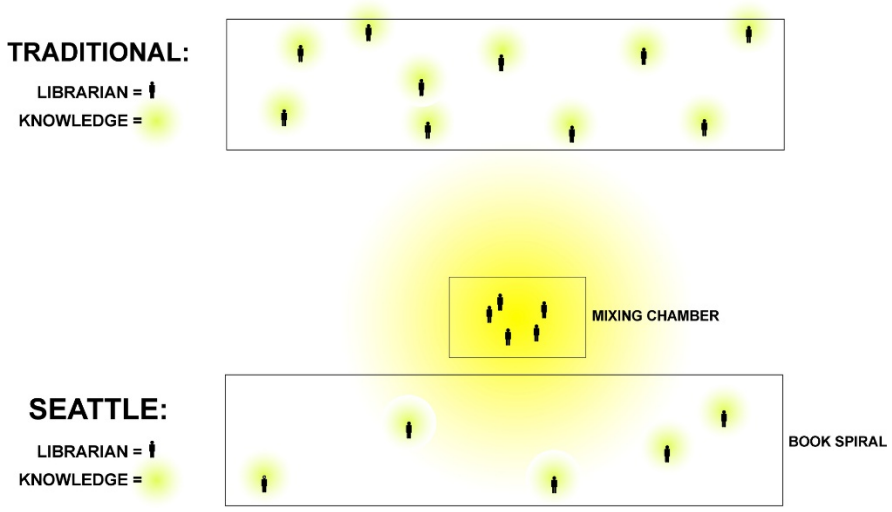

Figure 3.2. Idea of the collective space in a library by OMA. (Archdaily, 2009)

3.1.1. Thinking Framework

In this project, the dominant framework used is the pattern-based framework. The basic argument on the dominant use of this framework is because the problem or the issue that is being discussed here, in relation to social process of information exchanges is actually a common issue that has already been tackled in various ways yet it leaves some similar patterns in achieving social qualities of space. The idea is not to fully repeat the previous patterns, but to reconsider the previous solutions

for similar problems for furtherly reinterpreted in relation to the chosen context and situation of the design project.

A pattern-based framework is considered to be dominantly an internal method as it usually does not require the transfer of content between domains of knowledge depending on the issue being tackled. As design method, only the spatial relationships are used explicitly. Aside from the spatial properties, the other important aspect is the events of each spaces themselves. As Tschumi puts it, there is no architecture without program, without action, without event. He also argued that architecture was first and foremost, the adaptation of space into the existing socioeconomic structure and process within the society (Tschumi, 1996). In this case, the use of pattern-based framework as a method will be done by identifying the formal and the programmatic aspects of the typology used.

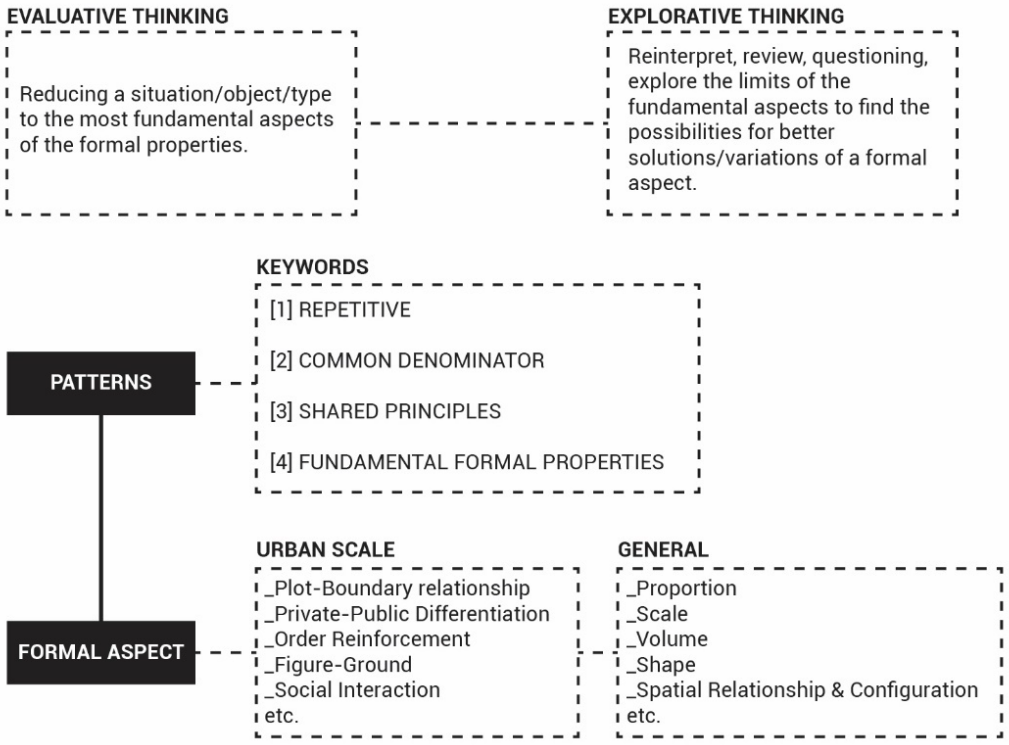

Figure 3.3. Understanding of the pattern-based framework from Plowright's theory.

In the pattern-based framework, the use of first principle as a thinking tool is also important in the process of patterns identification. There were four main phases in Durand's process of using the pattern-based framework (Plowright, 2014):

1. Identification of formal patterns from existing types, spatial relationships, and drawn examples.
2. Identification of needs and uses based on occupation and context.
3. Selection and application of building elements.
4. Aggregation of building elements to building parts, and of building parts to the whole building.

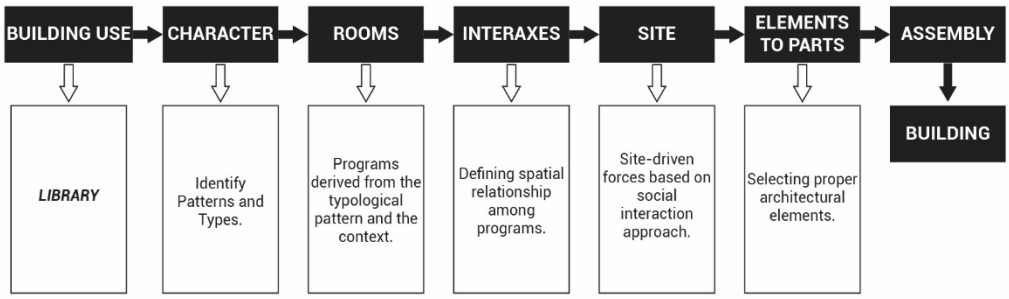

Figure 3.4. Applied pattern-based framework for the design process.

This project was basically based on the omnipresent digitalisation phenomena to the fact that digitalisation changed the way how people communicate to each other are being evaluated by the basic principles and needs for direct interaction process. In this case, the idea was to highlight the process or event of information exchange in the society which is divided into two main platforms: educational, and socio-cultural. The starting bias for this project is to rethink the role of libraries as part of the social process within a community. The architectural response will be examined by identifying the patterns found in the library typology in order to find the fundamental aspects of a library. After the fundamental aspects are identified, the next step is to define the spatial relationship between events or activities inherited within each program derived from the identified patterns and the intended program related to the issue to arrange the spatial relationship between them.

The two intended platform are then going to be cross-checked with the identified patterns of library typology then mapped by examining each activity's spatial and technical requirements to generate the formal aspects of architecture

which is going to be incorporated in the design. After having the programs and the requirements, the challenge then will be in the arranging process of such programs into a complete architectural design.

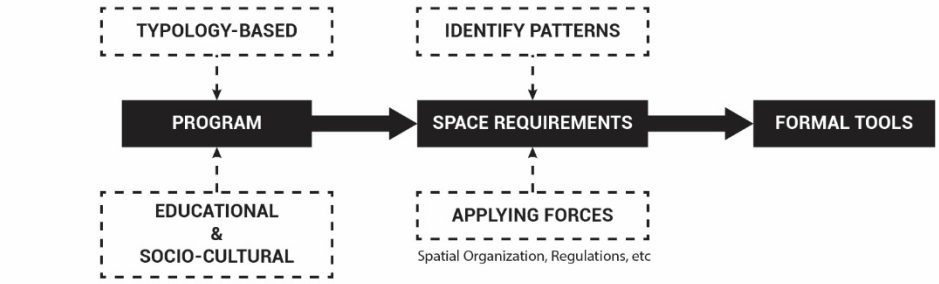

Figure 3.5. Process in generating the formal aspects.

3.2. Design Method

3.2.1. Programming

The two intended platform were later to be used as the basic idea of generating the main activities to be housed. The explorative thinking of pattern-based framework is a key aspect as part of the design method to reinterpret, review, or even questioning the specified patterns found in the typology. In this case, the one of the unique ideas of this design is the separated general collection spaces based on the chosen library classification category to expose people accessing any specific collection or information. By doing so, the users may easily relate their individual with other people with the same interests.

As a place intended to be part of the social structure of a neighbourhood, the library design should not only consider the specific and typical functions of a library building. It should also consider the presence of perhaps, unintended or unexpected experience of social interactions. Thus, it is important to consider the non-specific activities to be properly programmed.

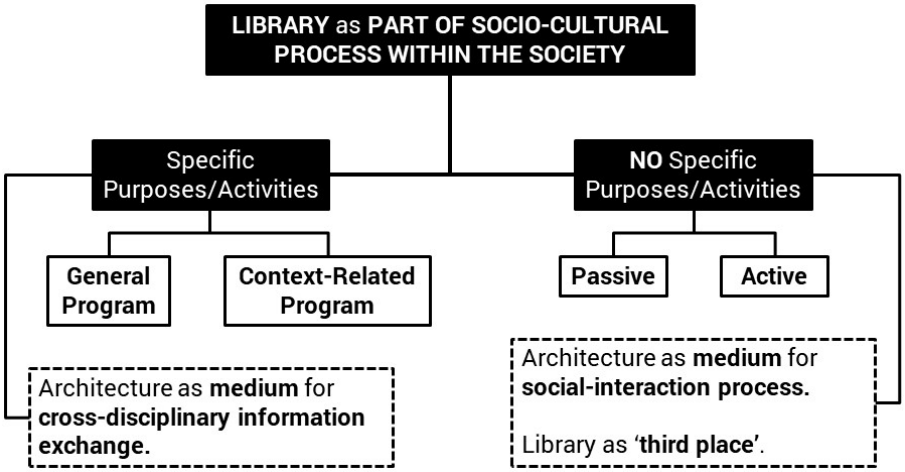

Figure 3.6. Basic programming guideline.

The base programmatic organization is achieved through the method of exploring solid-void definitions and its possibilities of creating a relationship of specific and non-specific space functions. Throughout the process, the author finds a relevant precedent for studying the possibilities of solid-void definitions in SANAA's Rolex Learning Centre.

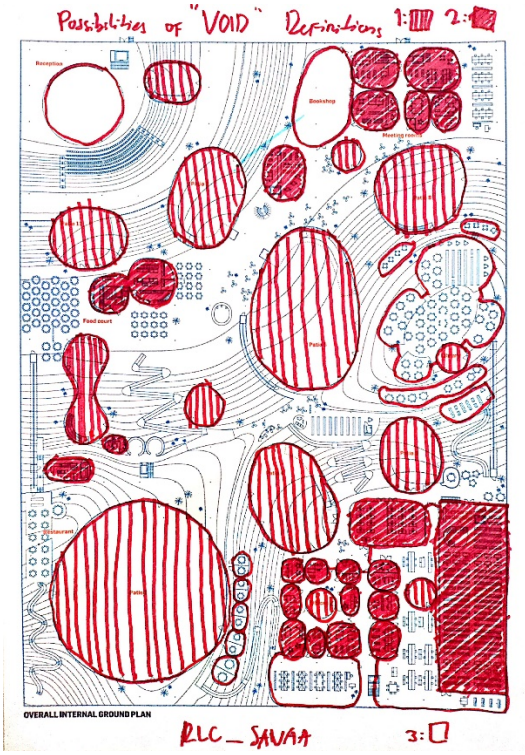

Figure 3.7. Precedent Study: Possibilities of solid-void definitions in Rolex Learning Centre by SANAA

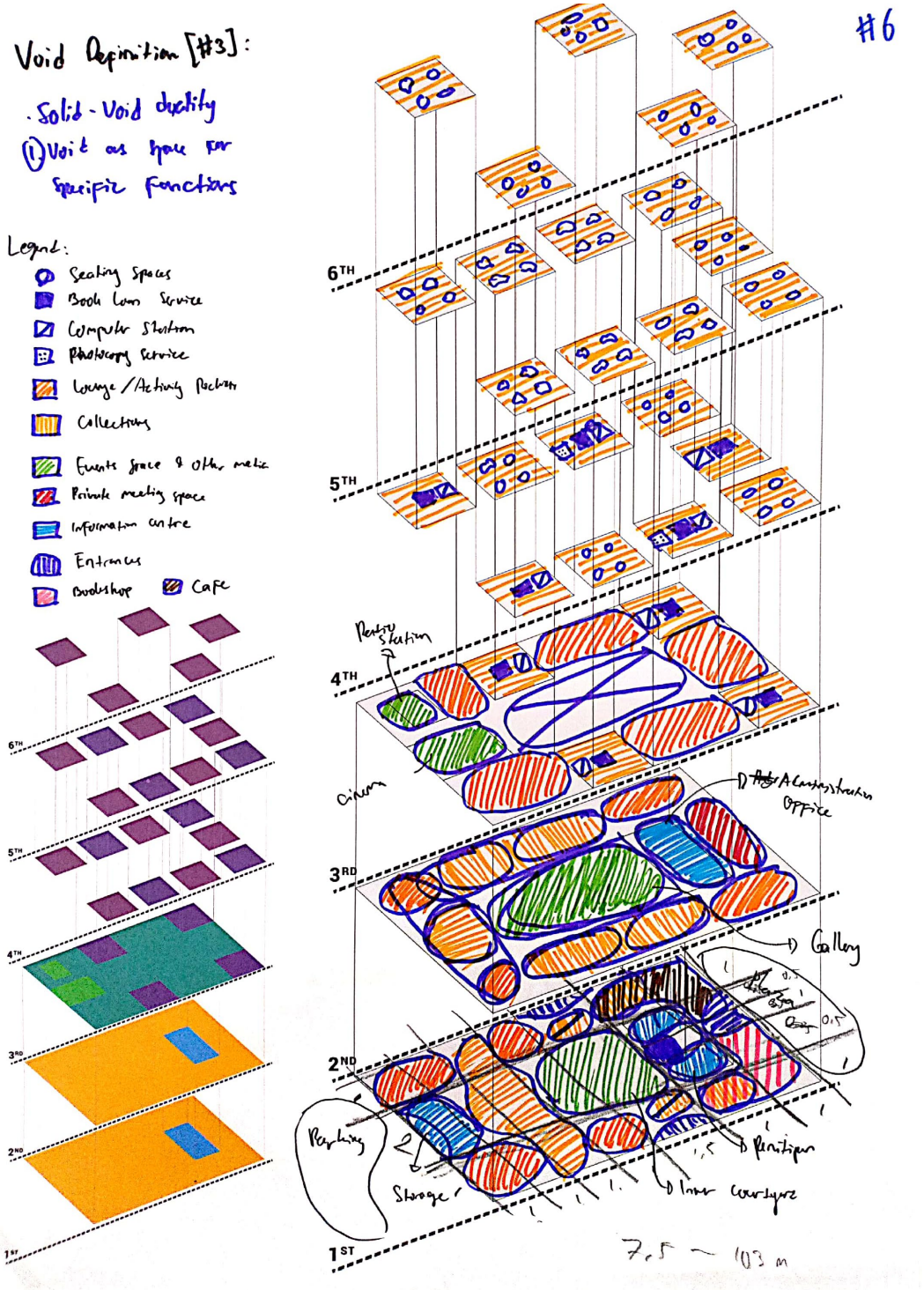

Figure 3.8. Horizontal solid-void exploration for the specific and non-specific interior space functions.

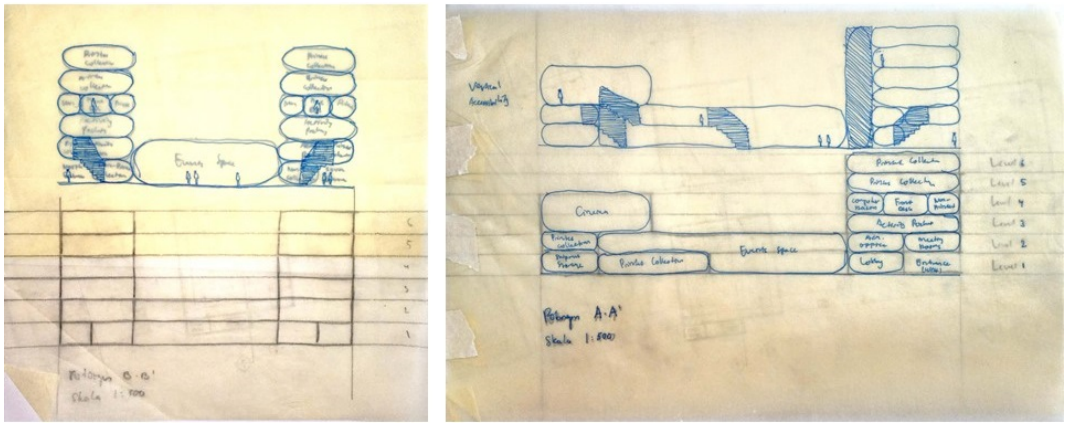

Figure 3.9. Vertical solid-void exploration.

The solid-void definitions are then become identifiable after exploring the potential implementation through horizontal and vertical space relationship iterations. Basically, the solid-void definitions are the existence specific and non-specific space, a courtyard or atrium for viewing platforms, presence of vertical circulation transport system, and language of entrances.

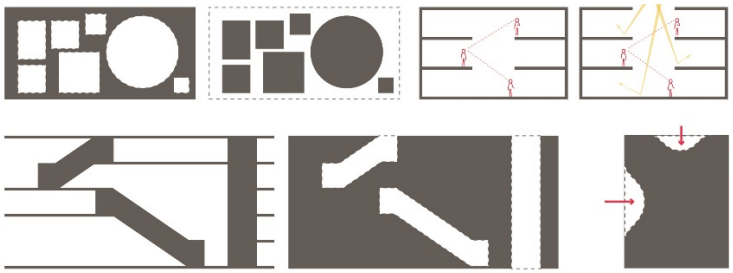

Figure 3.10. Solid-void definitions.

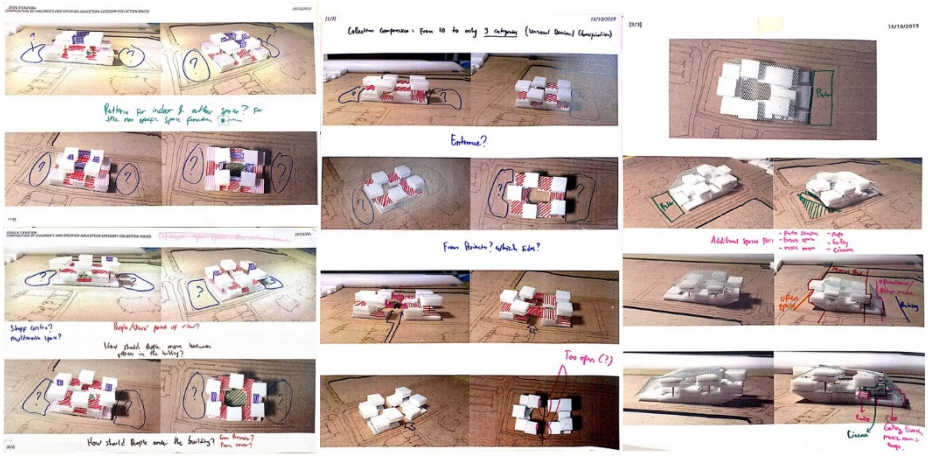

Figure 3.11. Model study for the programmatic configuration.

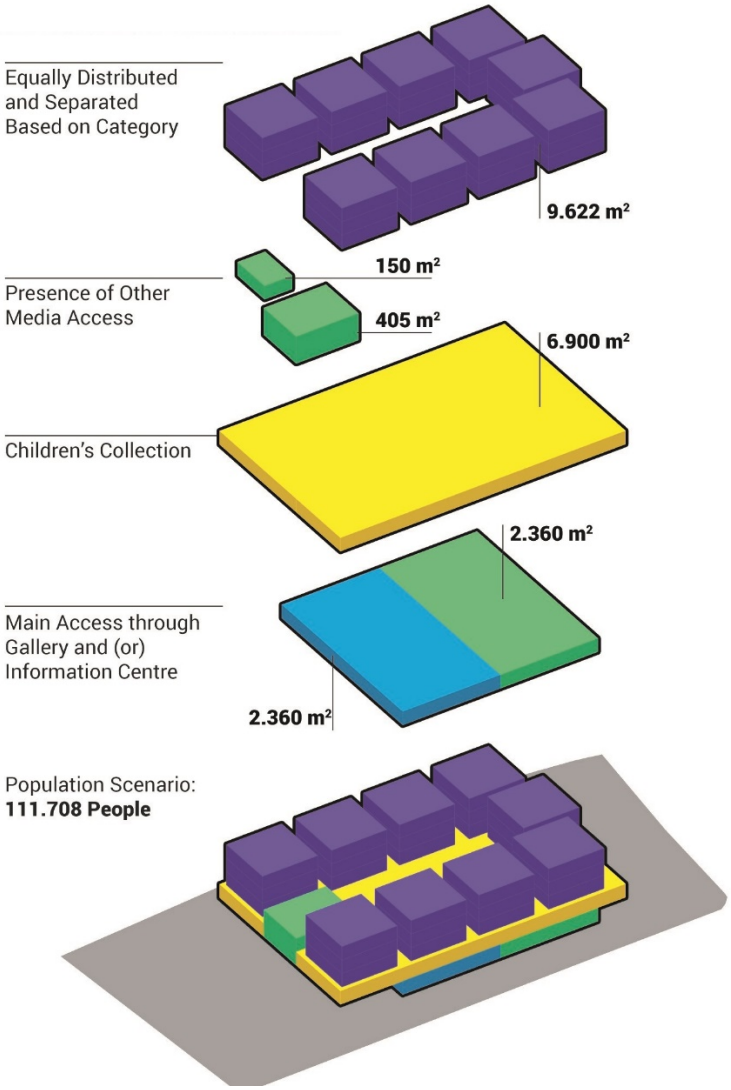

Figure 3.12. Base programmatic organization.

3.2.2. Structuring the Programs

The main challenge of using patterns as the design framework lies in the process of arranging and organizing spaces and patterns that have already established and limited. There should be some rulesets to be defined in order to assist the design process. In relation to the digital media culture phenomenon, another important aspect about the process of information exchange is how such information are being controlled. The role of 'control' in information exchange is understood in which the contents of each information should have clear definition about the content itself, also to whom the content was supposed to be delivered to.

As a rational approach of composing each program, this project would like to explore the main design principle that should clearly structure each program. Such design principle are basically the principle of order and scale.

1. Order

   In this case, the idea of creating order as part of the design method is to represent the designer's role of controlling the design elements as a whole piece of architectural design. The goal of ordering in the design process is to create a clear definition of spaces or programs that is going to be accommodated later. As in relation to the site properties, the possibilities of the grid formulation regardless of the size is built in accordance to dominant orientations. After the initial program organization above, the next step is to create a detailed version of it in form a space configuration between detailed specific spaces.

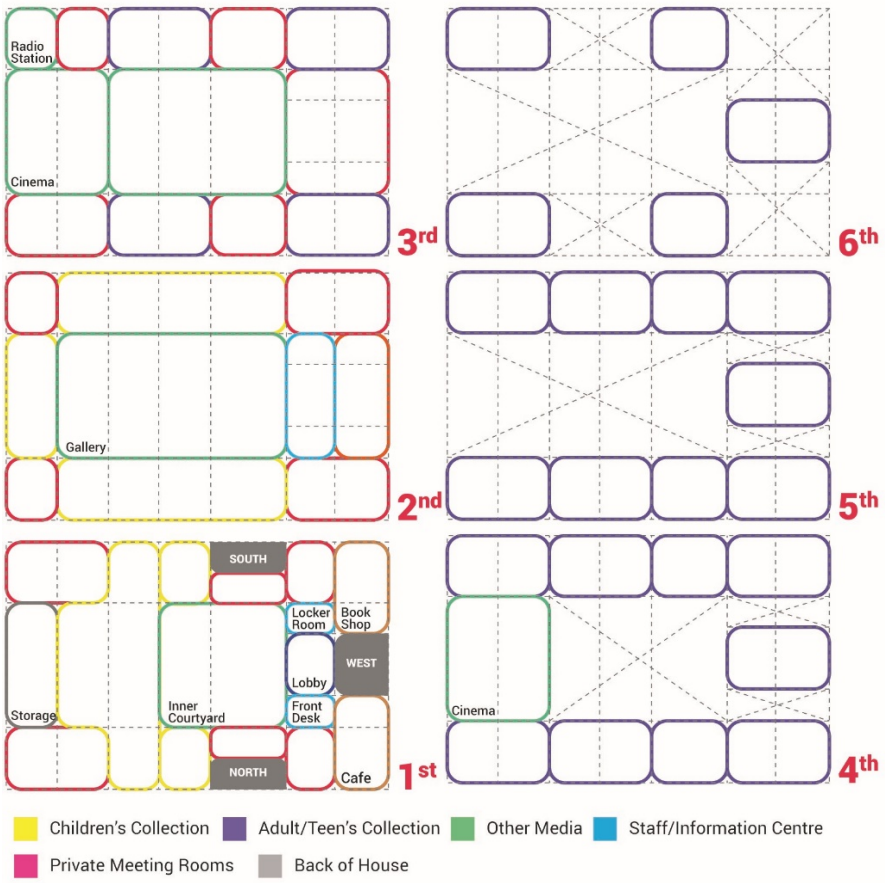

Figure 3.13. Space configuration logic.

Aside from the rational approach, in order to create a contextual response for a design, one should not disregard the importance of the designed building in its relation to the site and the surroundings. In this case, the exploration leads to the simplifying the site form to determine the main axes for the building.

Figure 3.14. Grid as ordering tool.

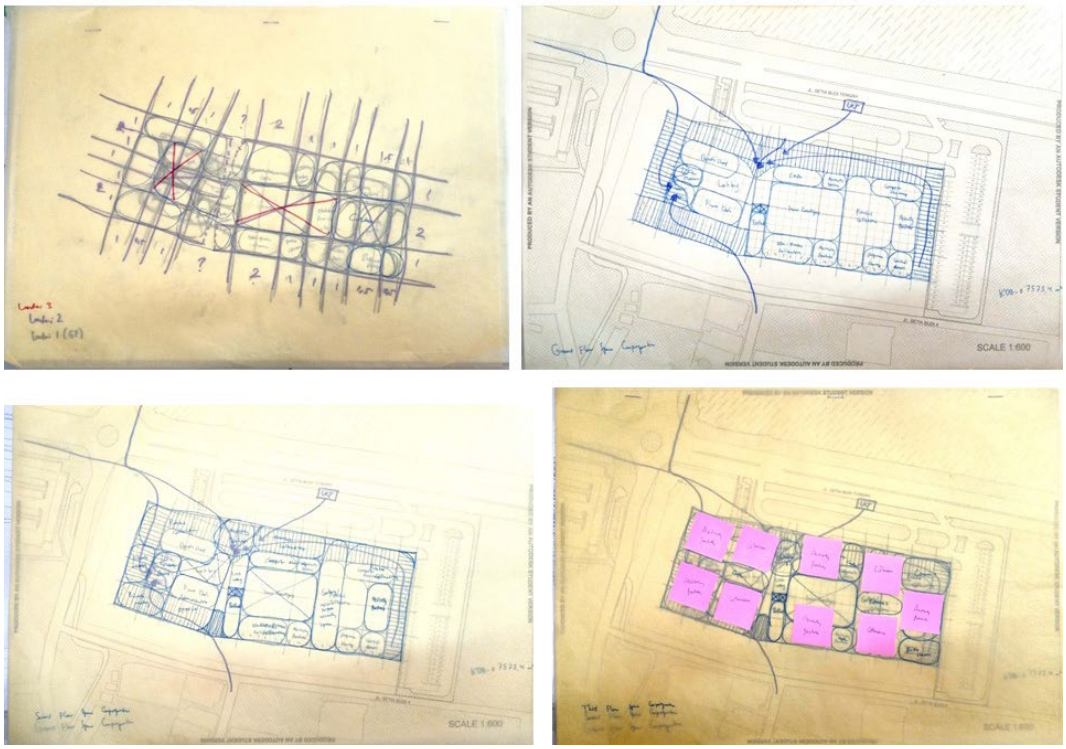

Figure 3.15. Implementation of the ordering system.

2. Scale

Beside using the order of grids and proportional consideration for exploring horizontal space relationship, another very basic principle that should be considered is also in the means of exploring vertical space relationship. The common purpose of scaling principles is mostly related to how may spaces construct meaning in user perceptions throughout space experiences. In this case, we may be familiar to the perception of intimacy or monumentality of a certain space.

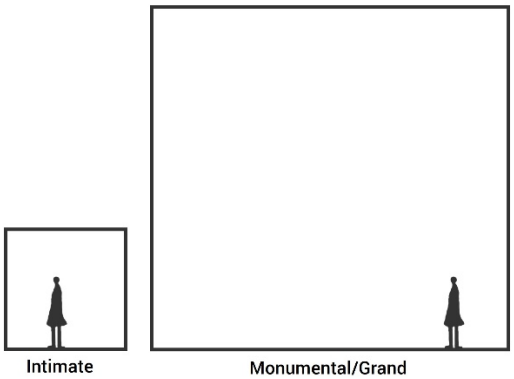

Figure 3.16. Example of scaling effects in relation to space experience.

From the two examples above, it is possible to use each type of scaling in relation to the activity or functions of the spaces in the project. We may for instance, apply the monumental experience of space for the main hall of a building or any function of space with collective events/activities within. And for the more intimate scale, it may be applied to spaces where it is more preferably to create the sense of private zones in a building.

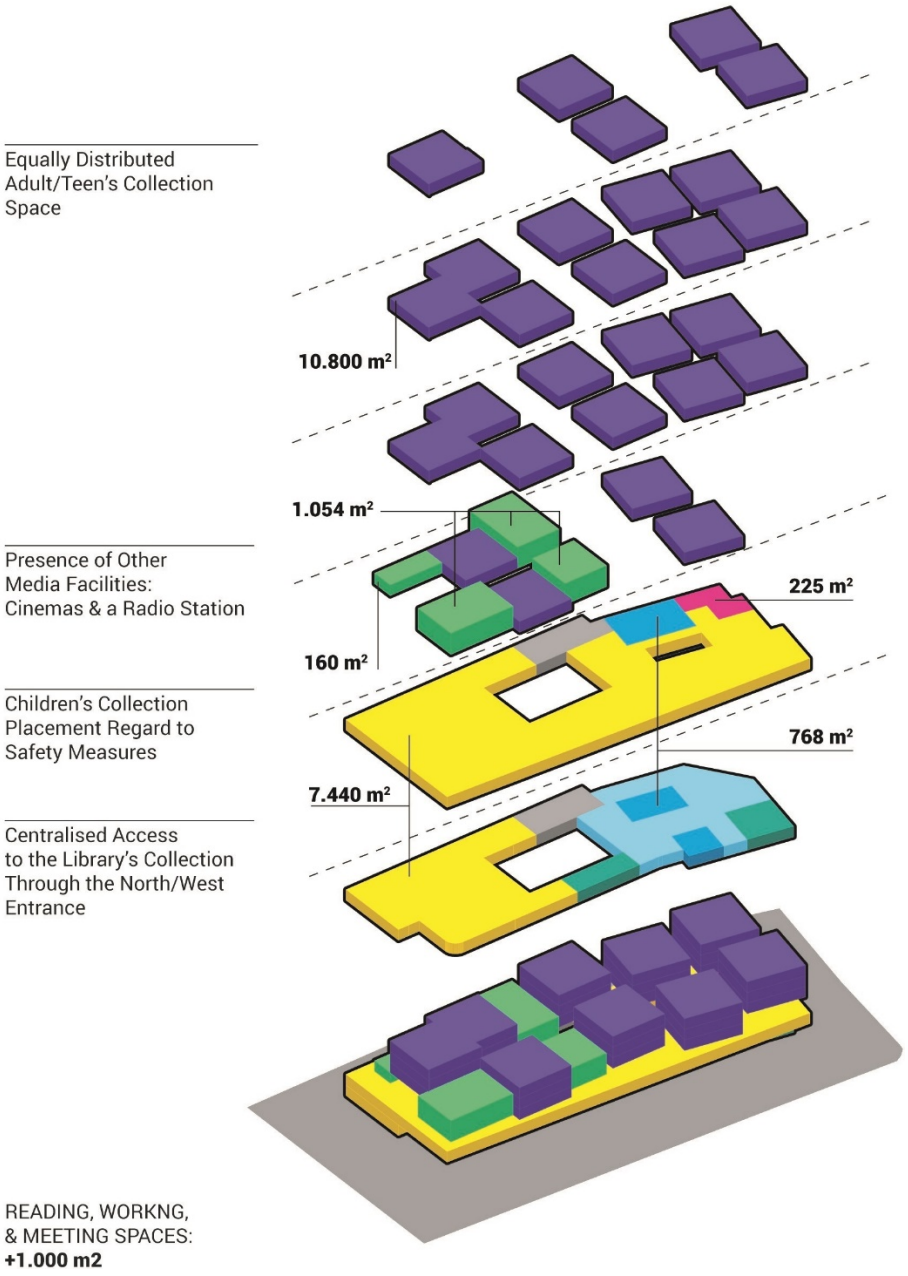

Figure 3.17. Developed programs massing configuration.

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CHAPTER IV
DESIGN CONCEPT

4.1. Formal Exploration

Based on the design criteria of creating series of interruptions, the idea can be translated basically to two main concepts. The first one is to create a space where specific attraction can occur in form of group activity, or any activity that allows audio-visual interference to the surrounding activities. The second one is on a condition where there is not much space to walk, people basically need to share. And thus, each individual's content-exploration paths may collide with others.

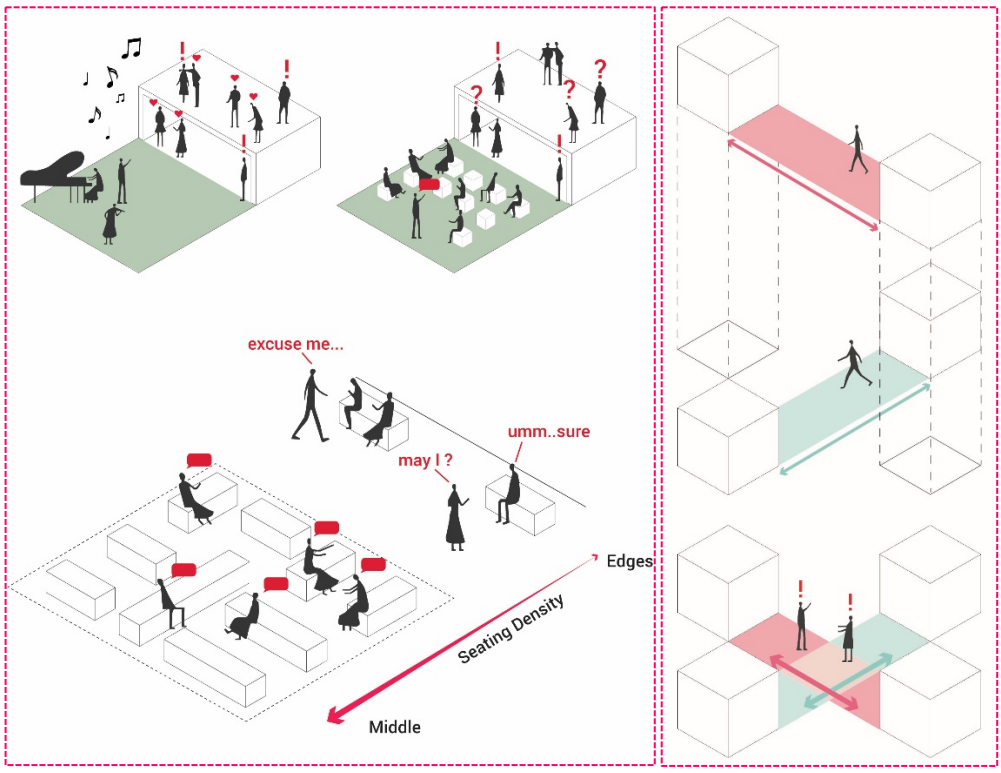

Figure 4.1. Forms of interruptions as concepts: [left] specific attractions and [right] intersecting paths.

Following the particular idea of creating intersecting paths, the author implements it by applying the concept to the typical general (adult or teenager's) collection spaces with three layers of floors connected ramps equipped with shelving.

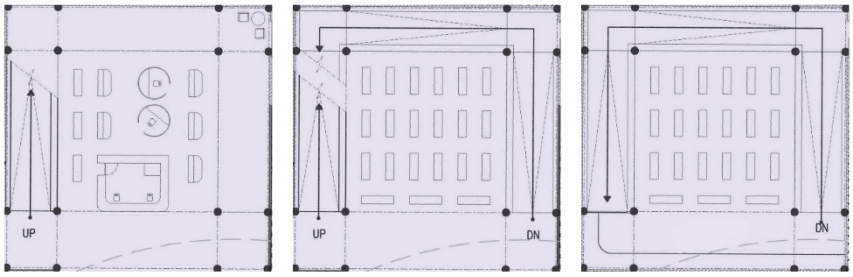

Figure 4.2. Three layers of general collection's space.

Each aspect should be considered in order to enhance the space qualities for social interaction. In this case, there are few patterns that proven to be potential in achieving such space qualities which may be found in Christoper Alexander's *A Pattern Language*. The idea of creating such spaces allows to create the spaces-in-betweens as clearly shown in pattern number 106 about postive outdoor spaces and pattern number 124 about activity pockets.

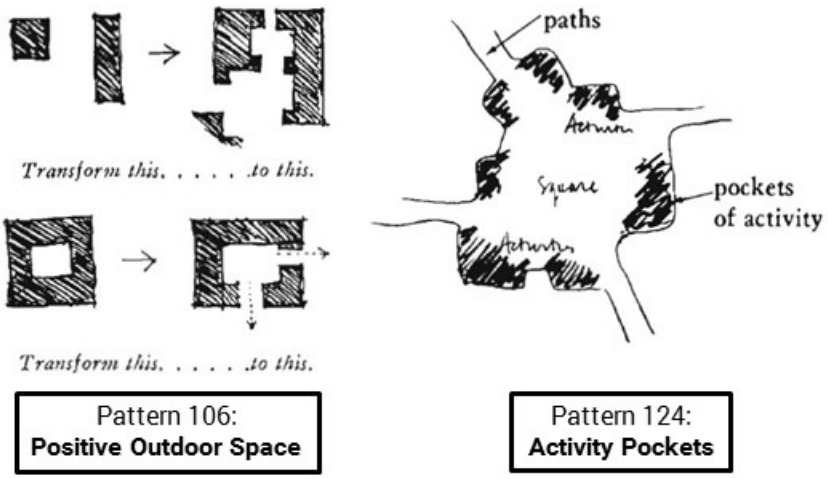

Figure 4.3. Few pattern languages for enhancing social interaction. (Alexander, et Al, 1977)

Also to build a stronger relationship with its surroundins, the book suggests that each 'pocket' spaces should have a visual connection to a larger space around it, whether to a outdoor open space or to the main hall with high ceilings in the building. Hence, pattern languages must evolve and always be adjusted to the

relevant, specific context of a situation (Alexander, et al, 1979). As showed in several parts in this project, the author finds that there are possibilities for other patterns for a library. For example, the activity pockets coined by Alexander which specifically stated that it is preferable for such spaces to be on the edges that allows covering for people's back. In the digital media culture, that argument may not be truly relevant because people may not need any 'cover' because they may already find themselves being covered within their personal spaces while accessing any specific information that requires their full attention. Their surroundings may then be perceived as negative space that doesn't require their attention, unless, until someone interrupts them. This shows that the activity pockets don't have to be on the edges and can be placed in the centre of the building's circulation spaces.

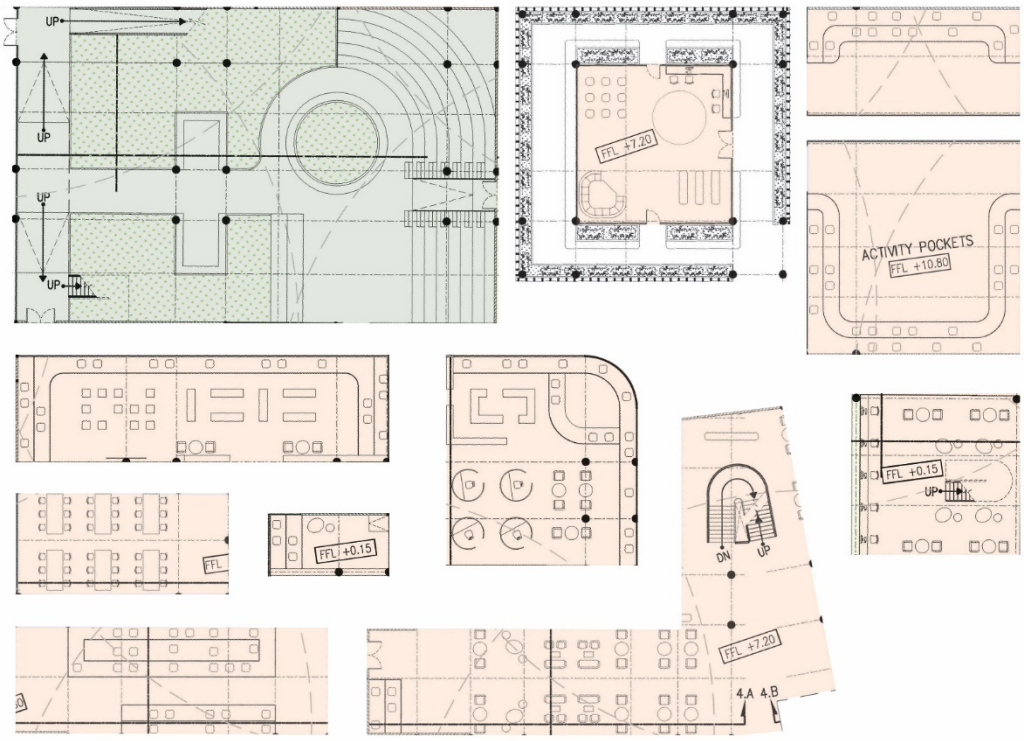

Figure 4.4. Updated patterns for activity pockets as specific attractions.

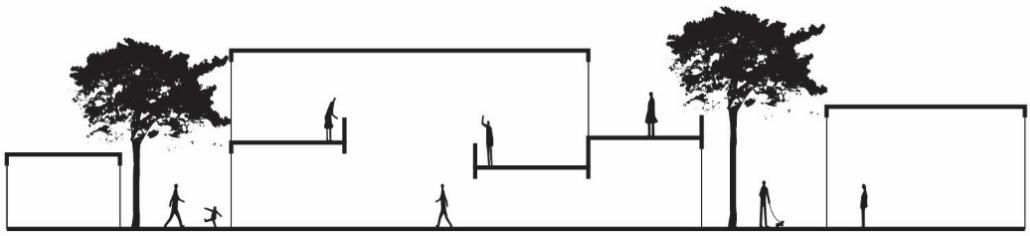

Figure 4.5. Vertical Space Relationship.

To enhance the space qualities for this library, can be achieved through understanding the library as a “third place”, in order to explore the possibilities of vertical space relationship, the library should maintain a low-profile manner. In this case, the scale of the spaces is important to consider creating the perception of a more humane structure.

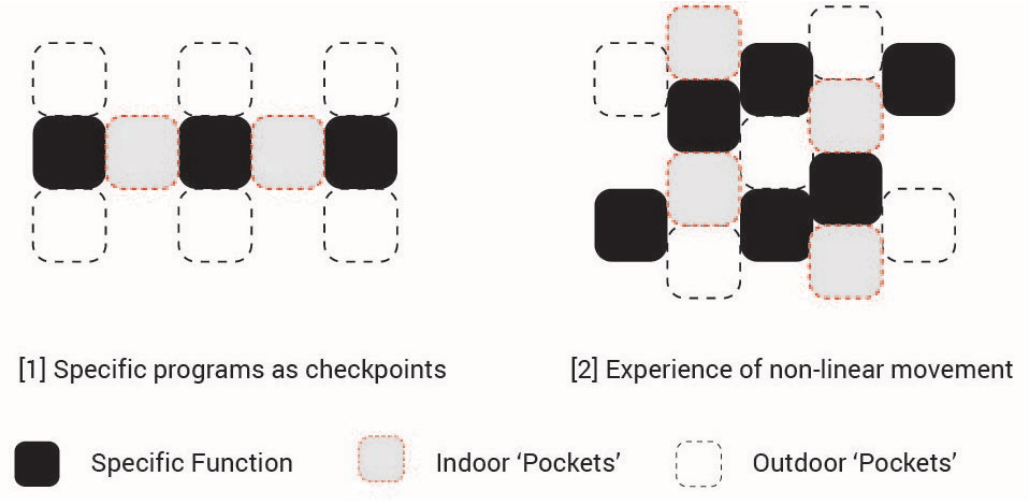

Figure 4.6. Horizontal space relationship.

The space arrangement logic and specific program’s space proportion here are the early studies upon the application of ordering methods in the design process. The result is that it is useful in exploring the horizontal space organisation ideas for the library.

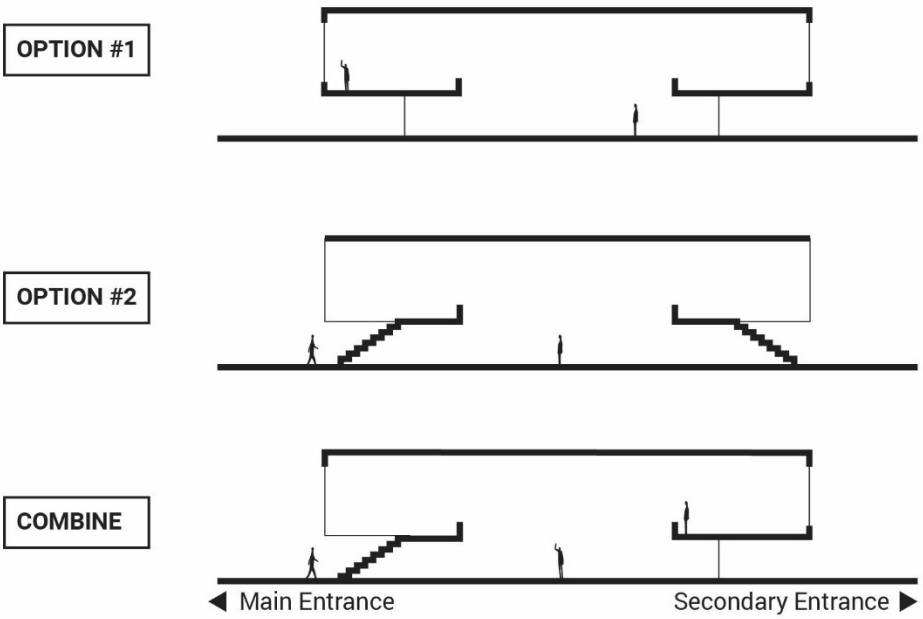

Figure 4.7. Language of Building Entrances Exploration.

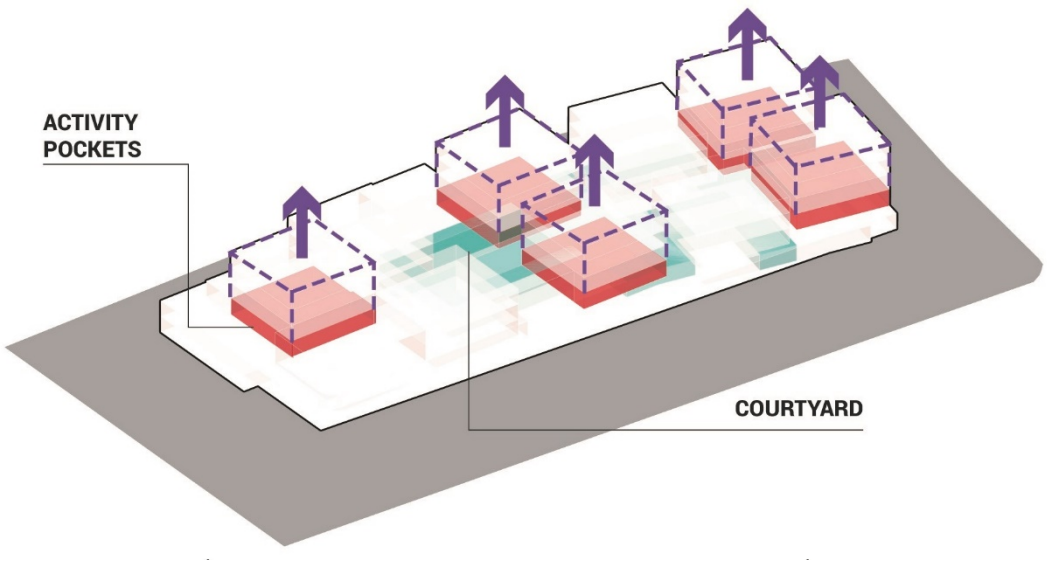

Figure 4.8. Implementation of in-between spaces ideas.

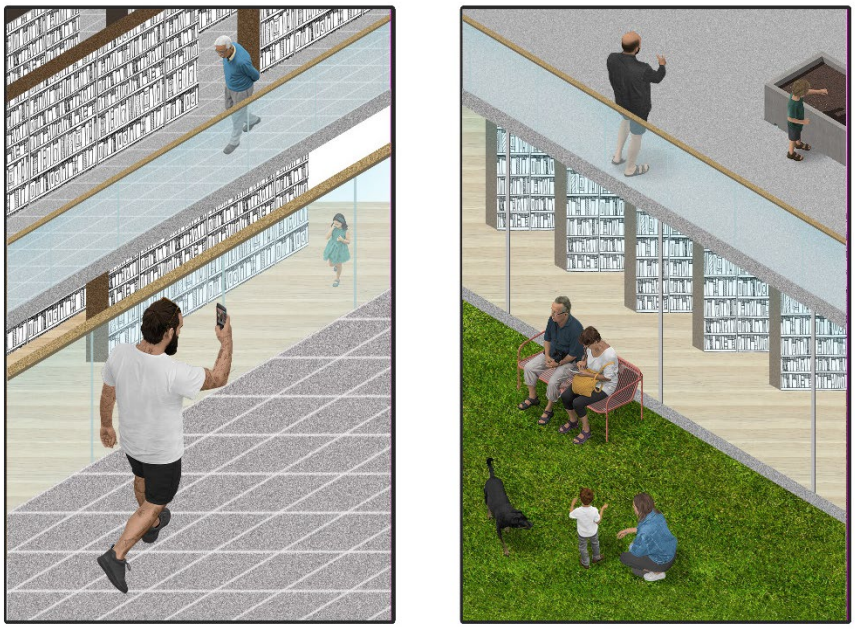

Figure 4.9. Concept Illustration: Indoor Split-Level and Outdoor Terraces.

Figure 4.10. Concept Illustration: Activity Pockets.

4.2. Technical Exploration

Most of the technical ideas for this project are derived basically from the concept ‘specific attractions’ where the idea is about filtering information and guiding people to react on a specific information or events. The exploration leads to the chosen wall material finishes which range from the transparent glass wall, to the visually impenetrable solid walls. The glass walls are to show specific activities occurring throughout the building. The solid walls are a simple solution to conceal all the building utility and service apparatus. Meanwhile in the middle, this projects also finds that some spaces especially the librarian quarters or the administration office and the meeting rooms need more privacy. The design response is then to choose polycarbonate wall as a material that may show what might occur in those spaces without fully giving clear visual access due to privacy.

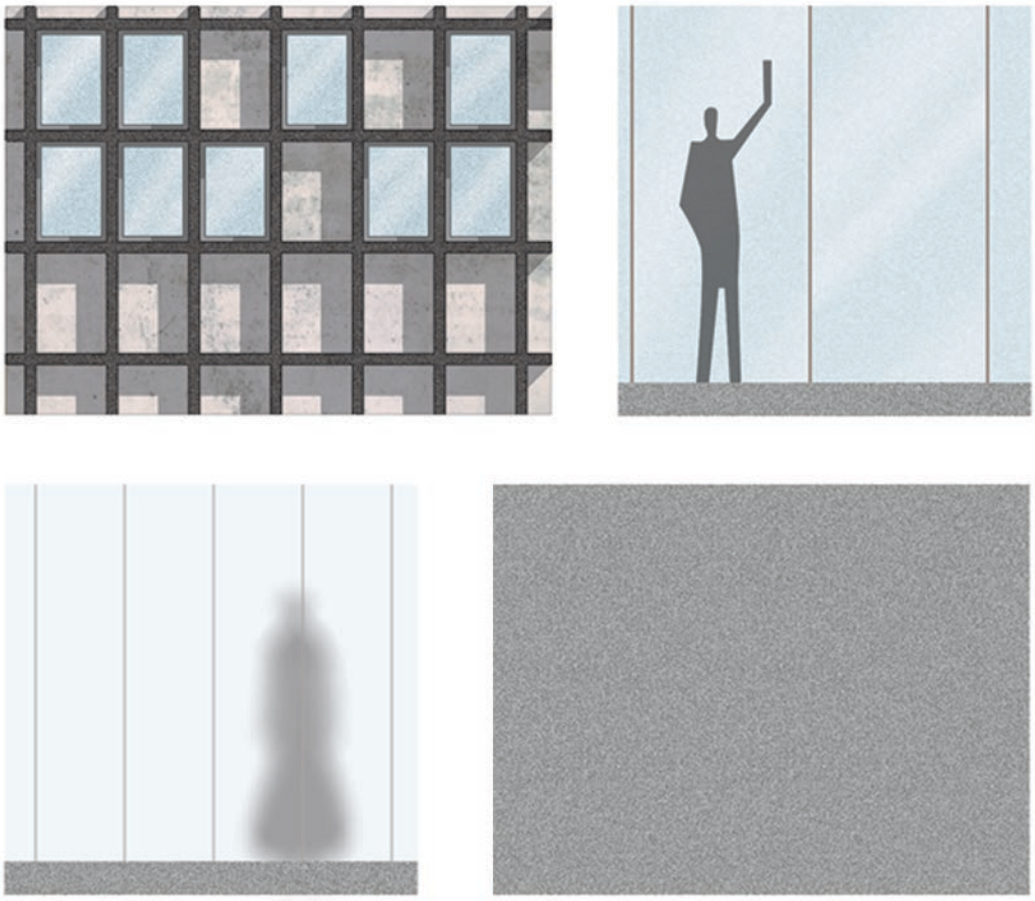

Figure 4.11. Wall finishes exploration as information-filtering strategy: [upper left] GRC Panel Façade [upper right] Transparent glass wall, [lower left] Semi-transparent polycarbonate wall, and [lower right] solid wall.

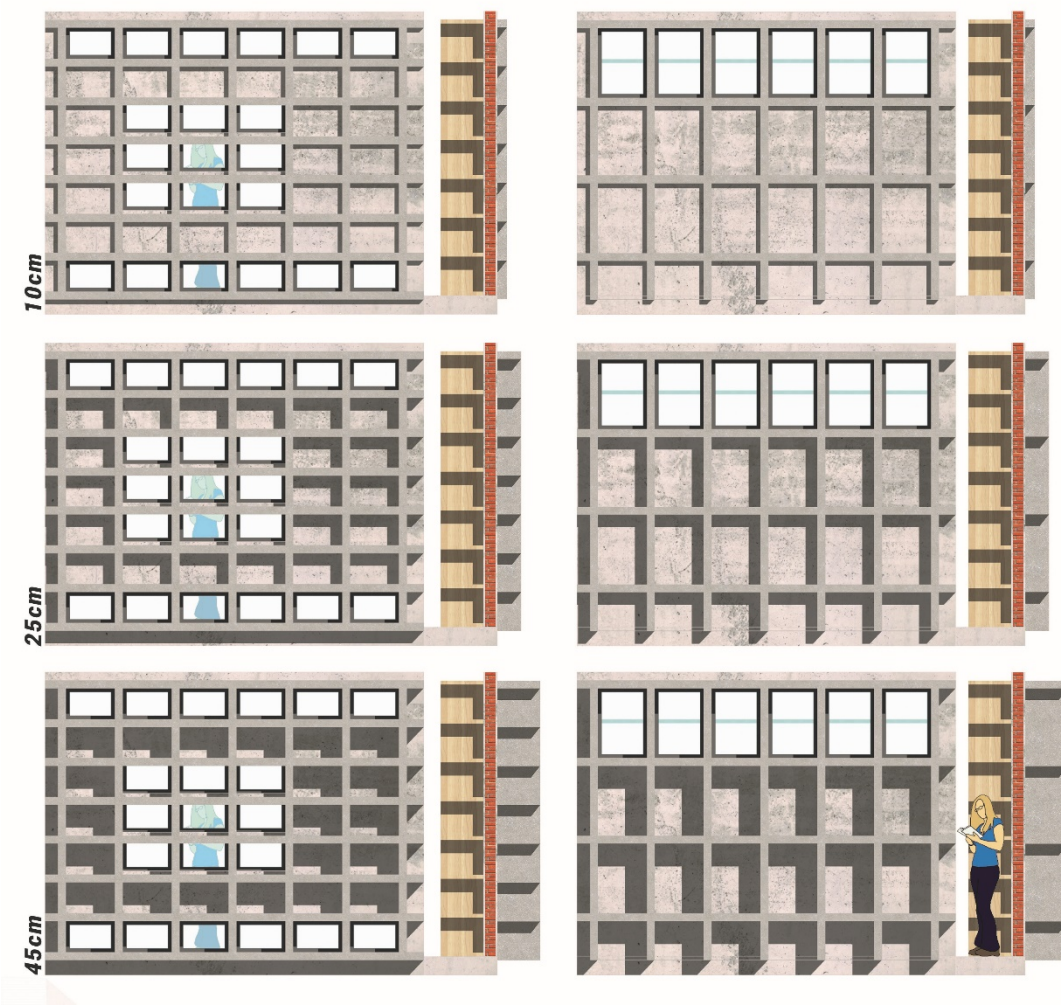

Figure 4.12. Façade exploration.

The façade design of this library building is derived from the idea of representing the essential activity that occurs within the library, the act of browsing. The author then selects the dimension of the shelving as the element to develop into the Glass Reinforced Concrete (GRC) façade panels. The exploration resulted in two options of façade patterns consist of the small and the larger openings with varying depths. The larger one is basically a combination of 2 small openings stacked vertically. The author chooses the second option which is the larger opening because the verticality of the opening may create a sense of balance due to the dominance of the whole building's horizontality.

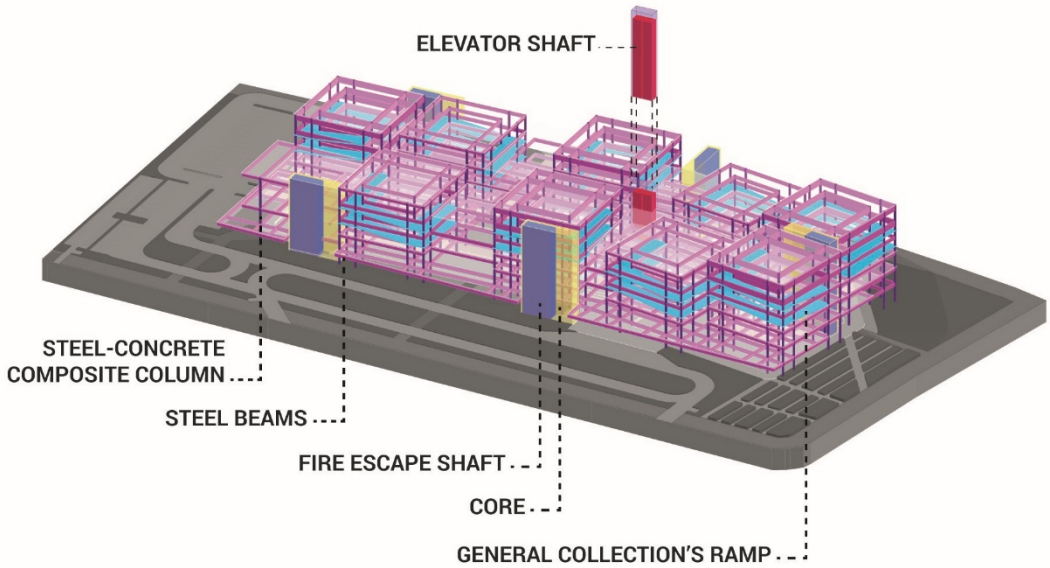

Figure 4.13. Structural diagram.

The structural system used in this project is the rigid-frame structure with steel construction system. The idea of using this system is basically to support the specified program configuration. Firstly, the column positions are placed based on the upper floor building masses and followed by the floors underneath them. After placing all the columns, the author find that such placement has the potential in further defining the interior space layouts. The author then able to define which space might be filled for activity pockets, collection spaces, circulation, etc. With the varying range of column distances, the user may experience the variation in spatial distance qualities from the intimate, personal, social, to the public distances.

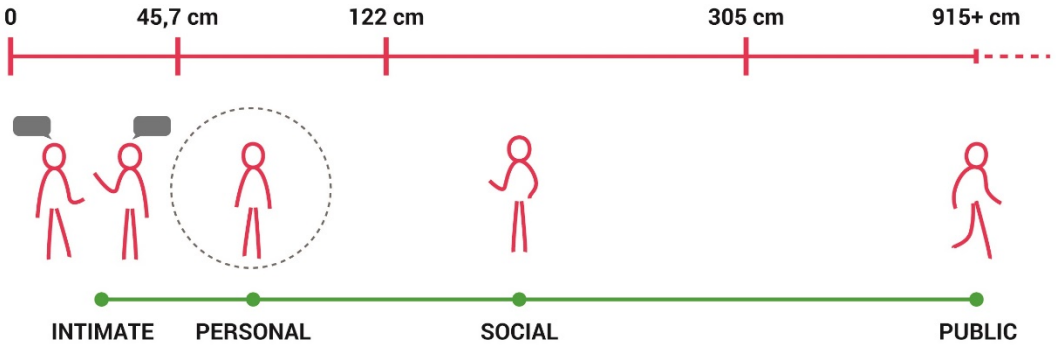

Figure 4.14. Distances in Man. (Hall, 1982)

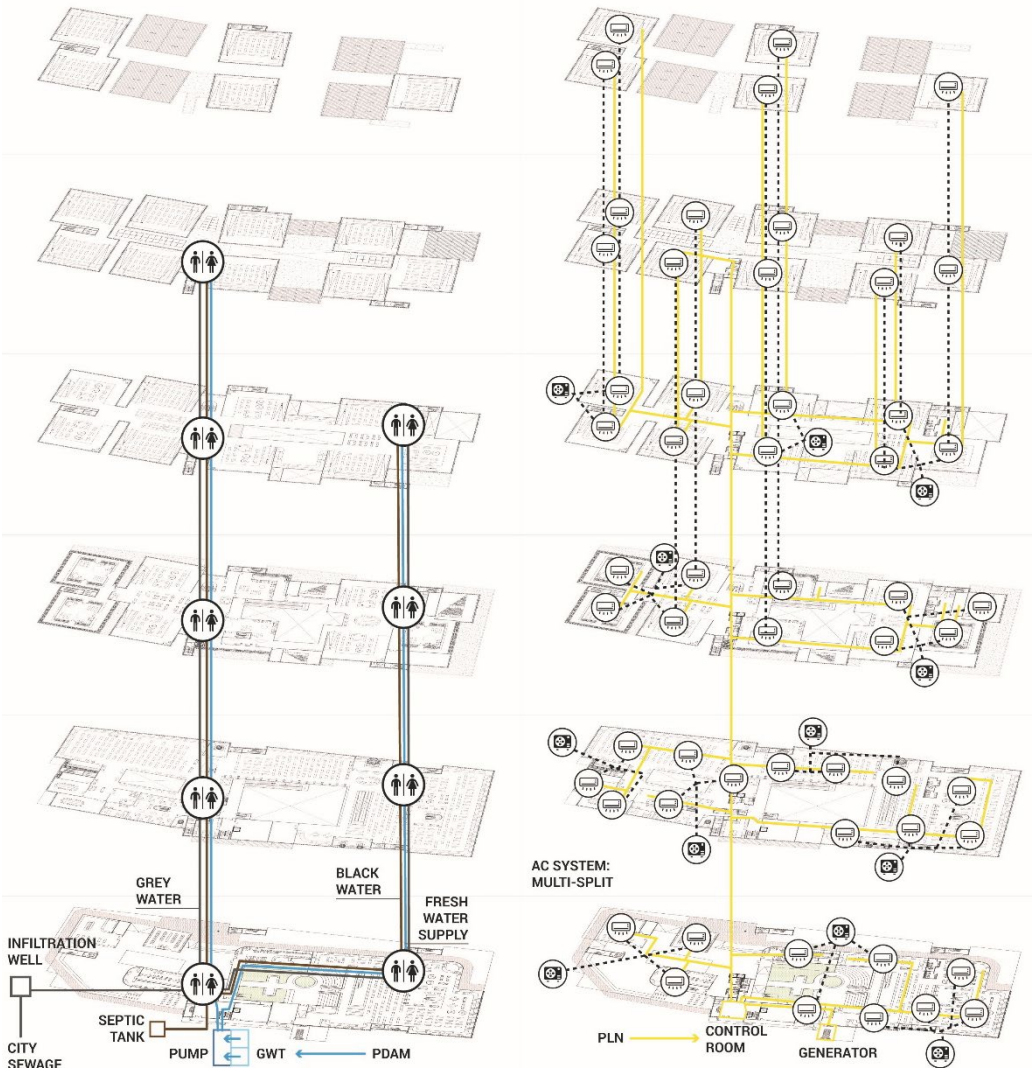

Figure 4.15. Utility diagram: [left] Water treatment plan and [right] electrical system plan.

The main utility system considered for this library building is the air conditioning system for containing the specific temperature and humidity for maintaining the printed collection's durability. There are basically two AC system which consist of the centralized chiller with ducting system for the collection spaces and the multi-split VRV system for specific activity spaces such as the meeting rooms, librarian's quarters, bookshop, café, etc.

CHAPTER V
DESIGN

5.1. Formal Exploration

5.1.1. Siteplan and Layout

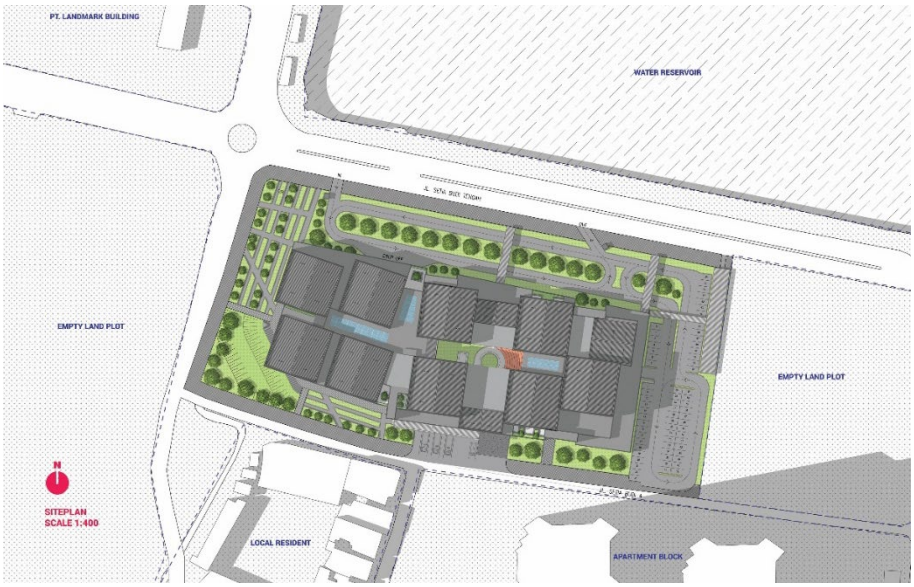

Figure 5.1. Siteplan.

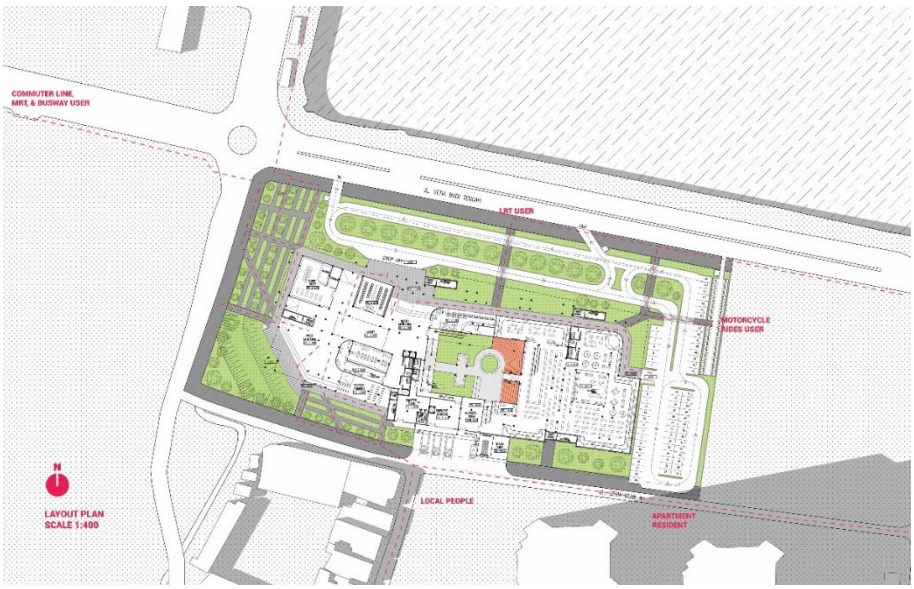

Figure 5.2. Layout Plan.

5.1.2. Floorplan

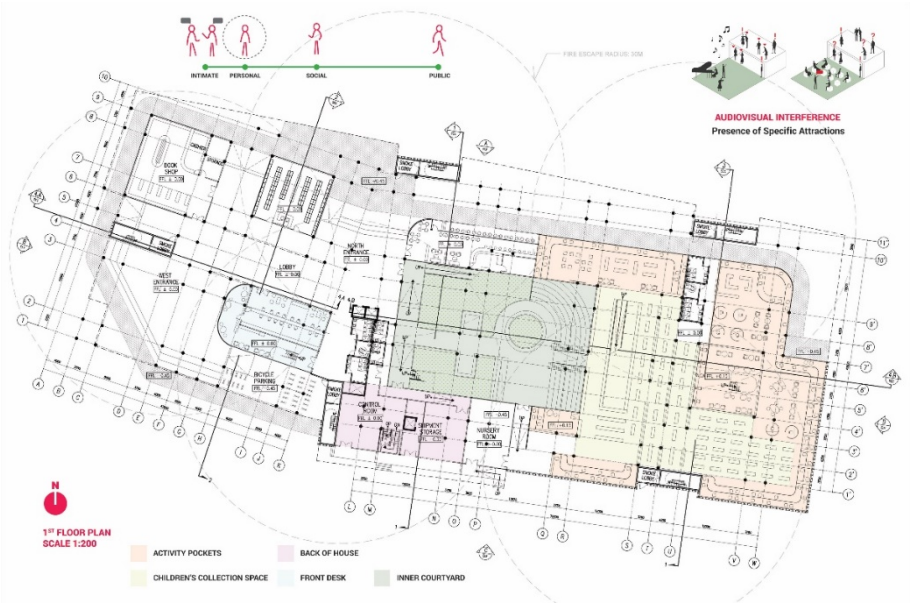

Figure 5.3. First-Floor Plan.

Figure 5.4. Second-Floor Plan.

Figure 5.5. Third-Floor Plan.

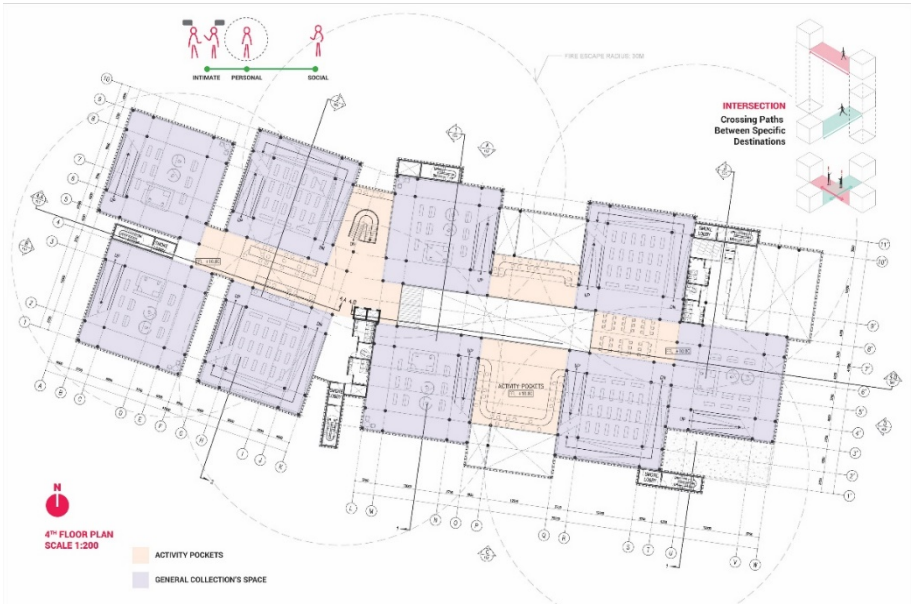

Figure 5.6. Fourth-Floor Plan.

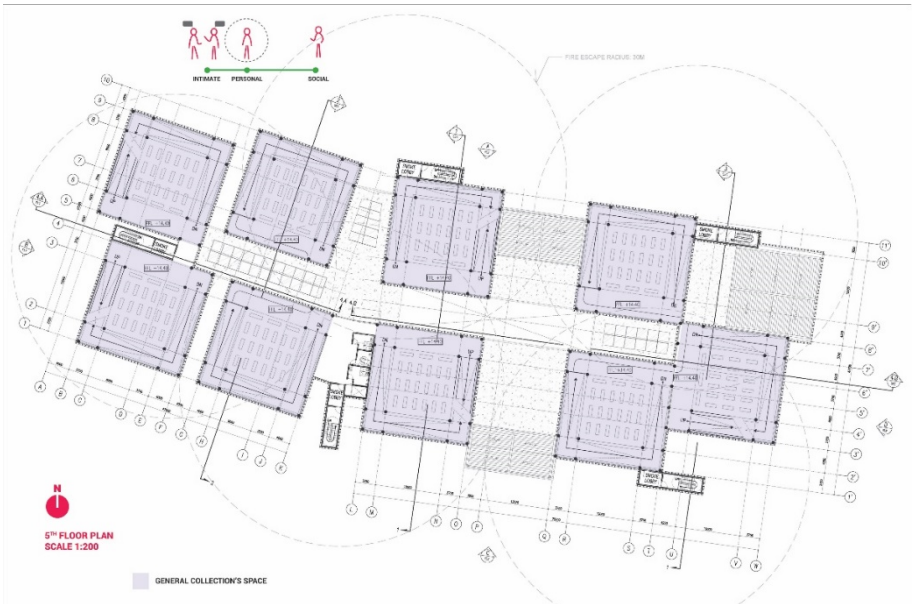

Figure 5.7. Fifth-Floor Plan.

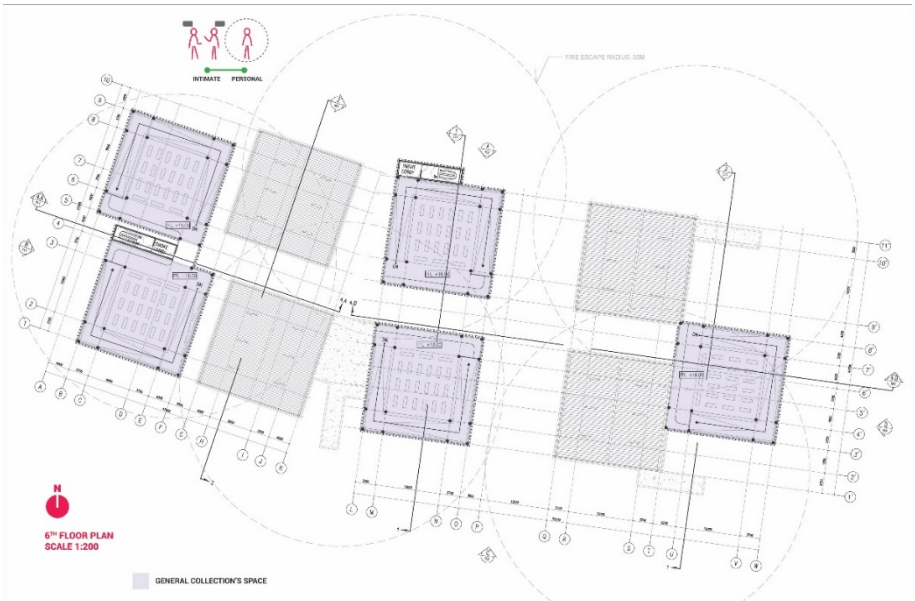

Figure 5.8. Sixth-Floor Plan.

5.1.3. Elevation

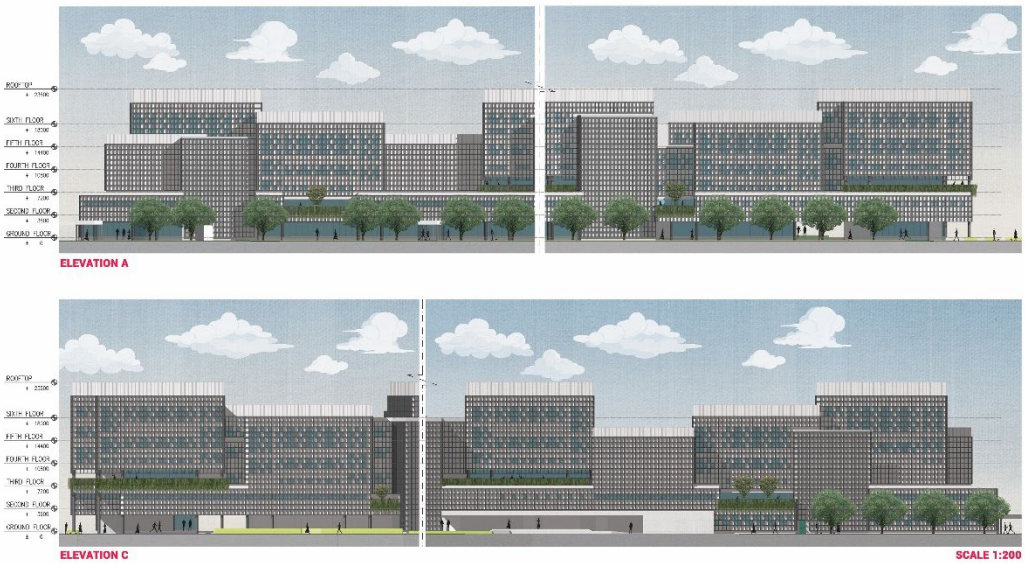

Figure 5.9. Elevation A and C.

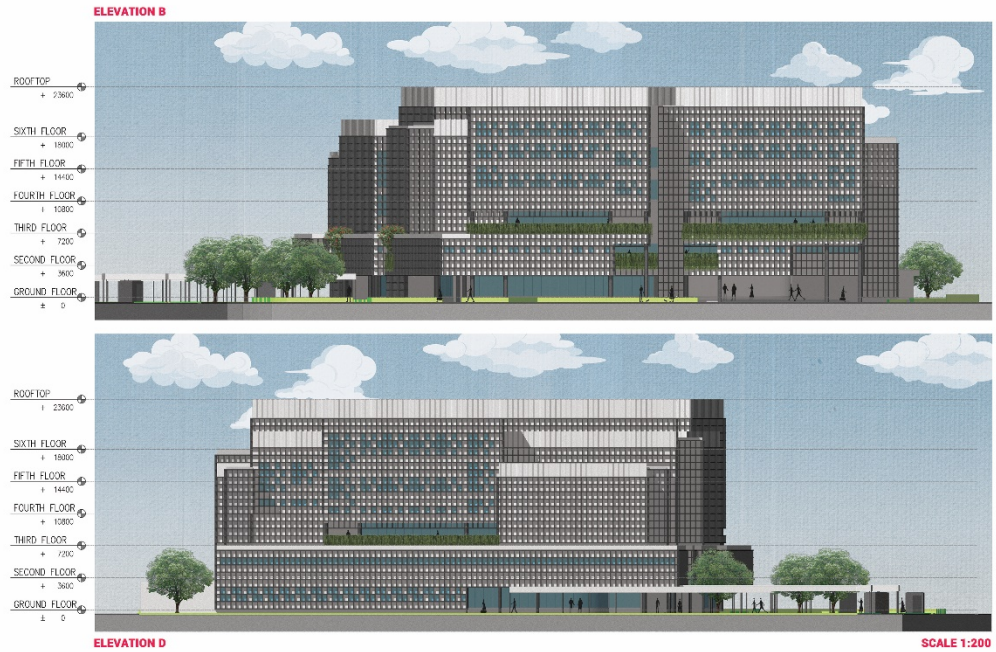

Figure 5.10. Elevation B and D.

5.1.4. Section

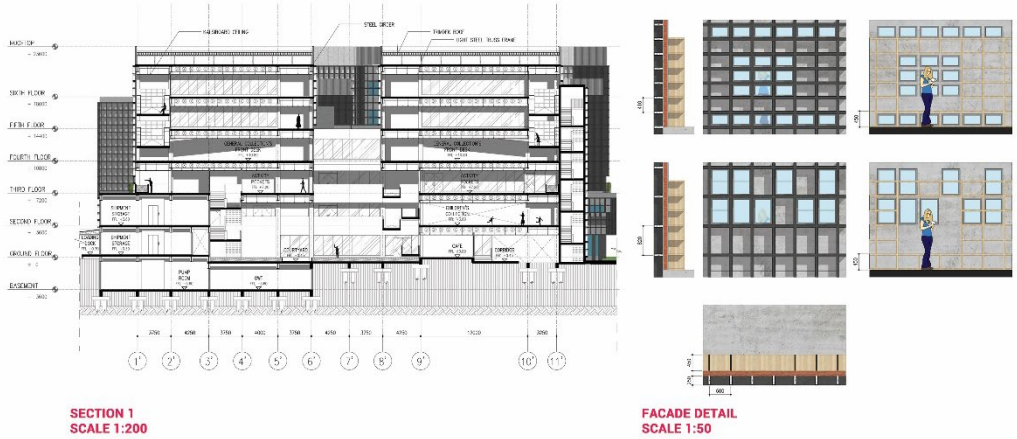

Figure 5.11. Section 1 and Façade Detail.

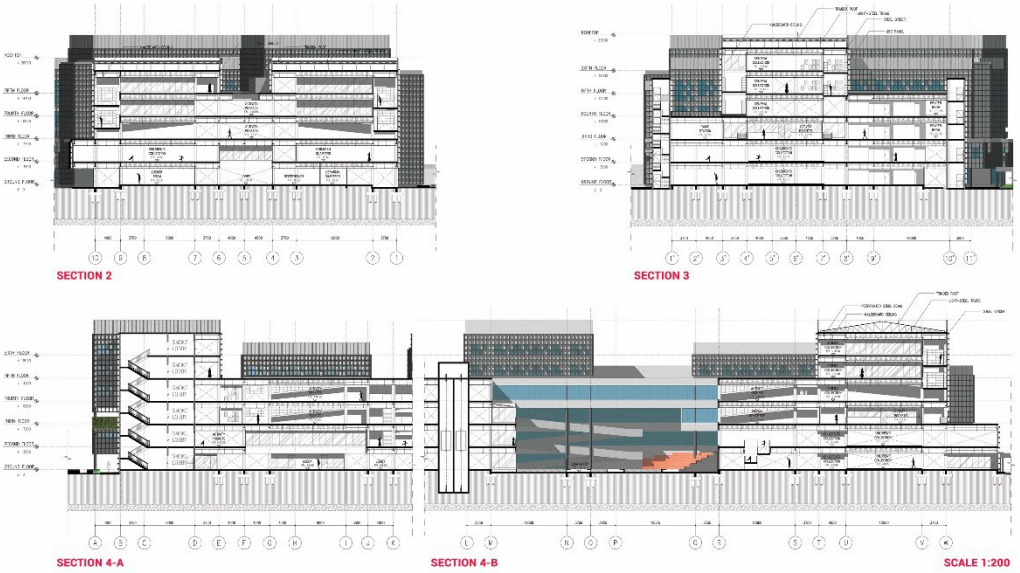

Figure 5.12. Section 2, 3, and 4.

5.1.5. Illustrations

Figure 5.13. Axonometric design illustration.

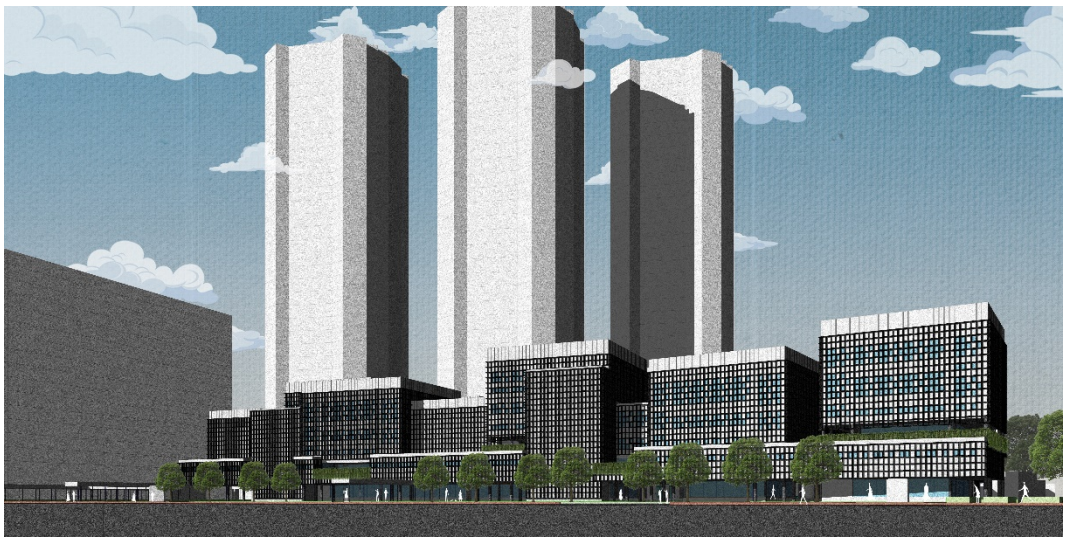

Figure 5.14. Normal-eye view.

Figure 5.15. Main lobby illustration.

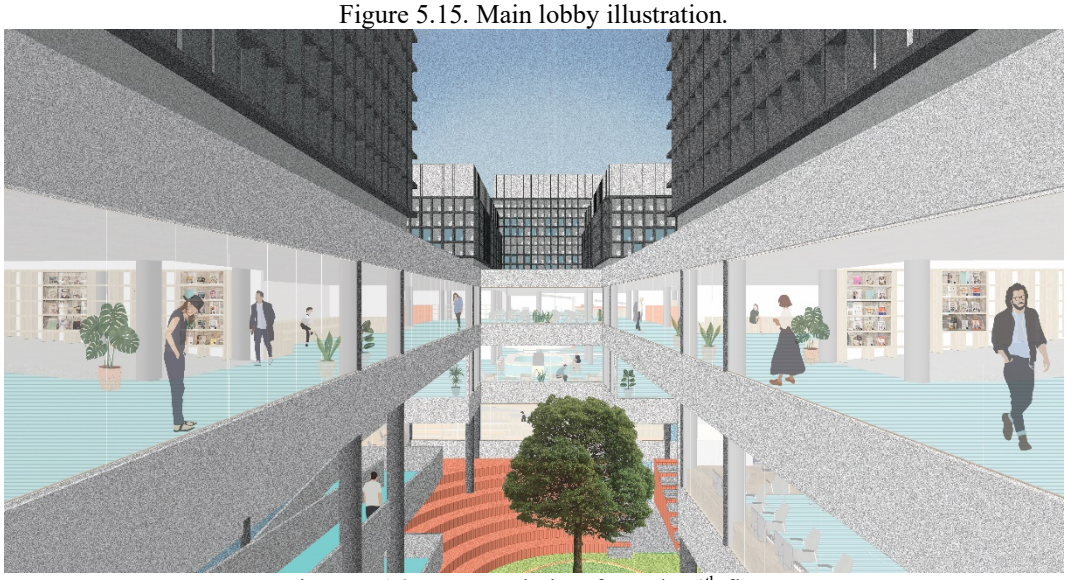

Figure 5.16. Courtyard view from the 4th floor.

Figure 5.17. Courtyard illustration.

Figure 5.18. West Entrance area.

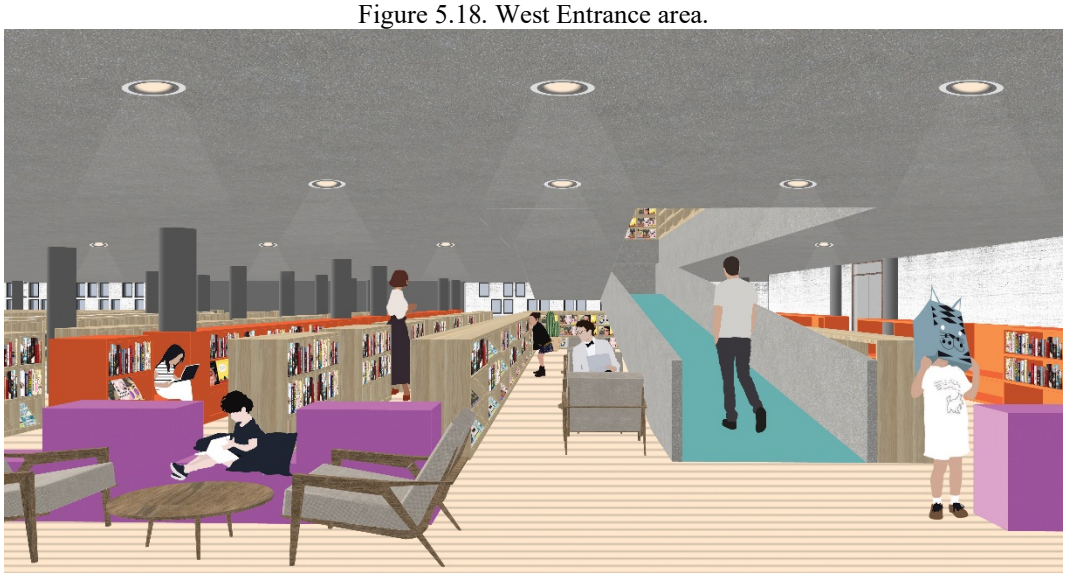

Figure 5.19. Children's collection area.

Figure 5.20. Possibility of exhibition setting in children's collection area.

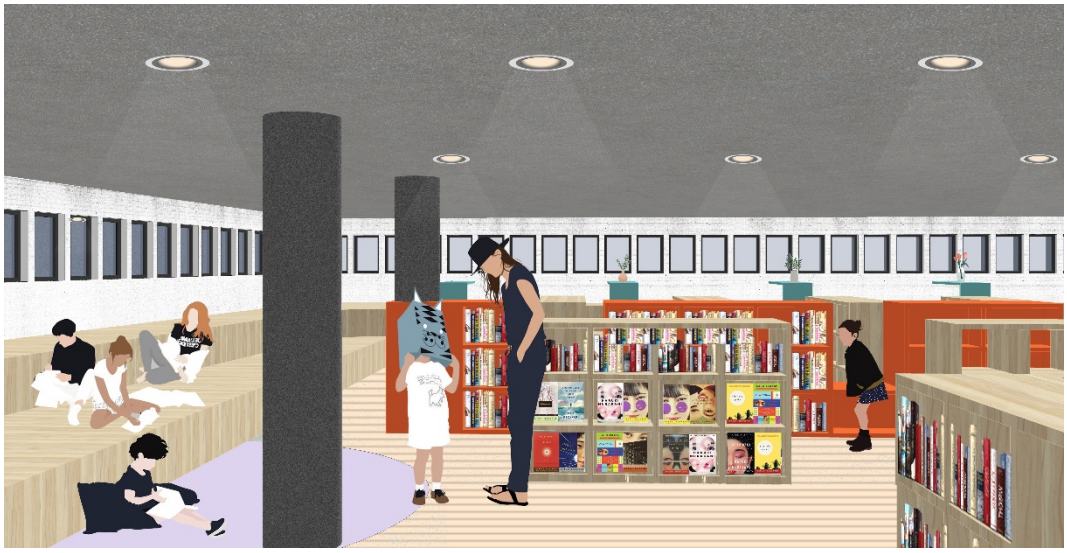

Figure 5.21. Another vibe for the children's collection area.

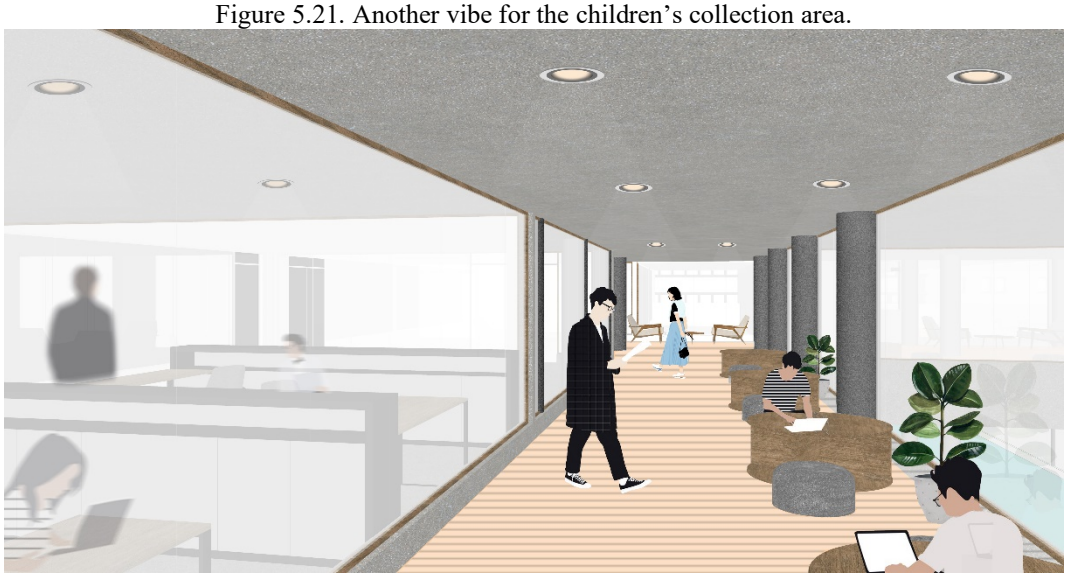

Figure 5.22. Librarian's quarter.

Figure 5.23. Cinema concierge.

Figure 5.24. Activity pocket.

Figure 5.25. Versatility of general collection's activity pockets.

Figure 5.26. Co-working space and potential exhibition setting.

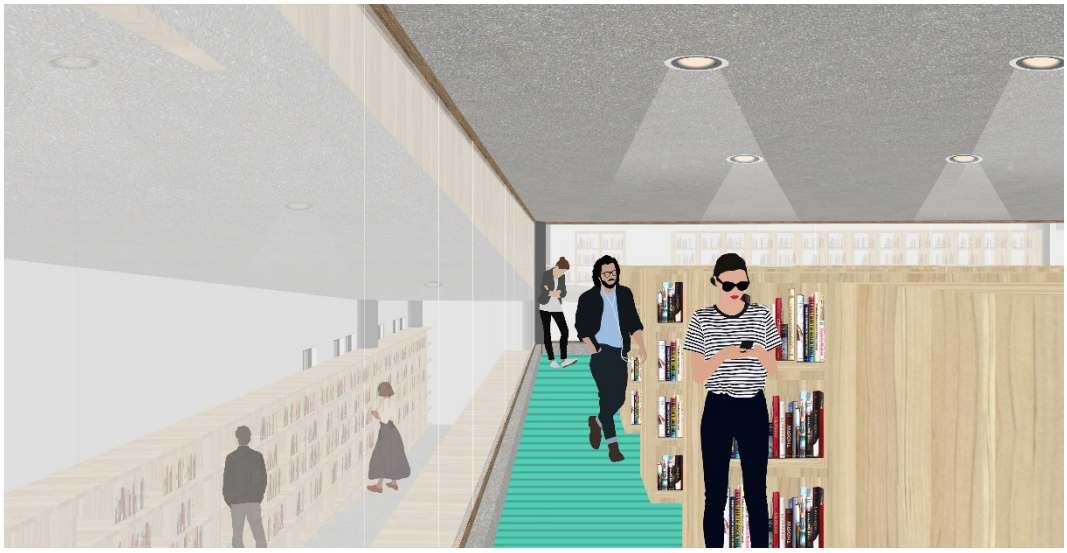

Figure 5.27. General collection's area.

Figure 5.28. Flexibility of general collection's access ramp with seating stops.

5.2. Technical Exploration

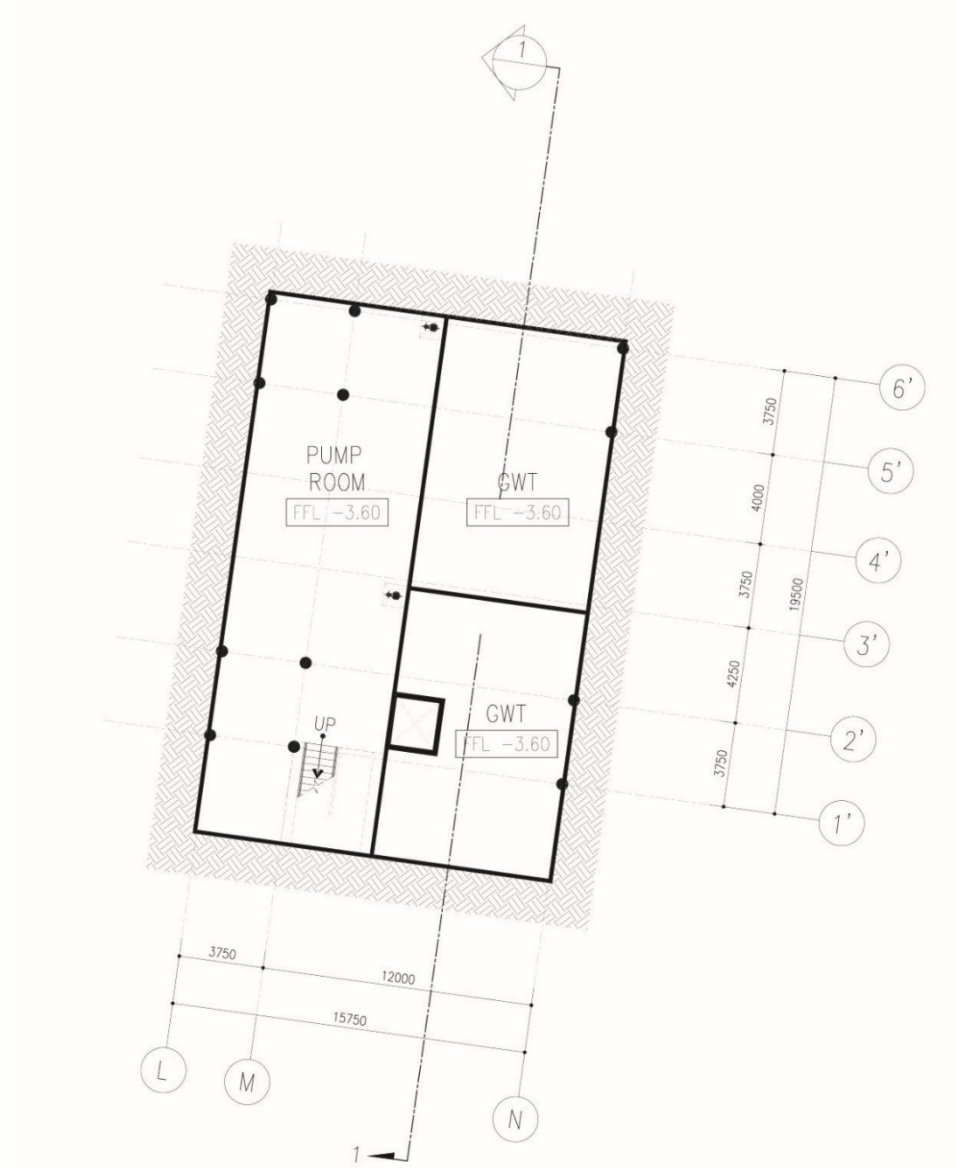

Figure 5.29. Basement water-treatment spaces.

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CHPAPTER VI
CONCLUSION

The challenge we faced in architecture design practice within the age of information abundance forces us to perpetually find ways to react to information abundance by developing the attitude of filtering out the insignificant or irrelevant ones. In the case of this project, by assessing the possibilities of action through the affordance approach, can be a proper tool to enhance social interaction for people to stay relevant to their personal background and interests by creating a series of interruptions in forms of specific attractions and intersecting paths where information exchange potentially may occur. The further development of this idea may be represented in the design with the range of material transparency to expose or conceal specific activities or information also by allowing every user's content-discovery path to collide with others.

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