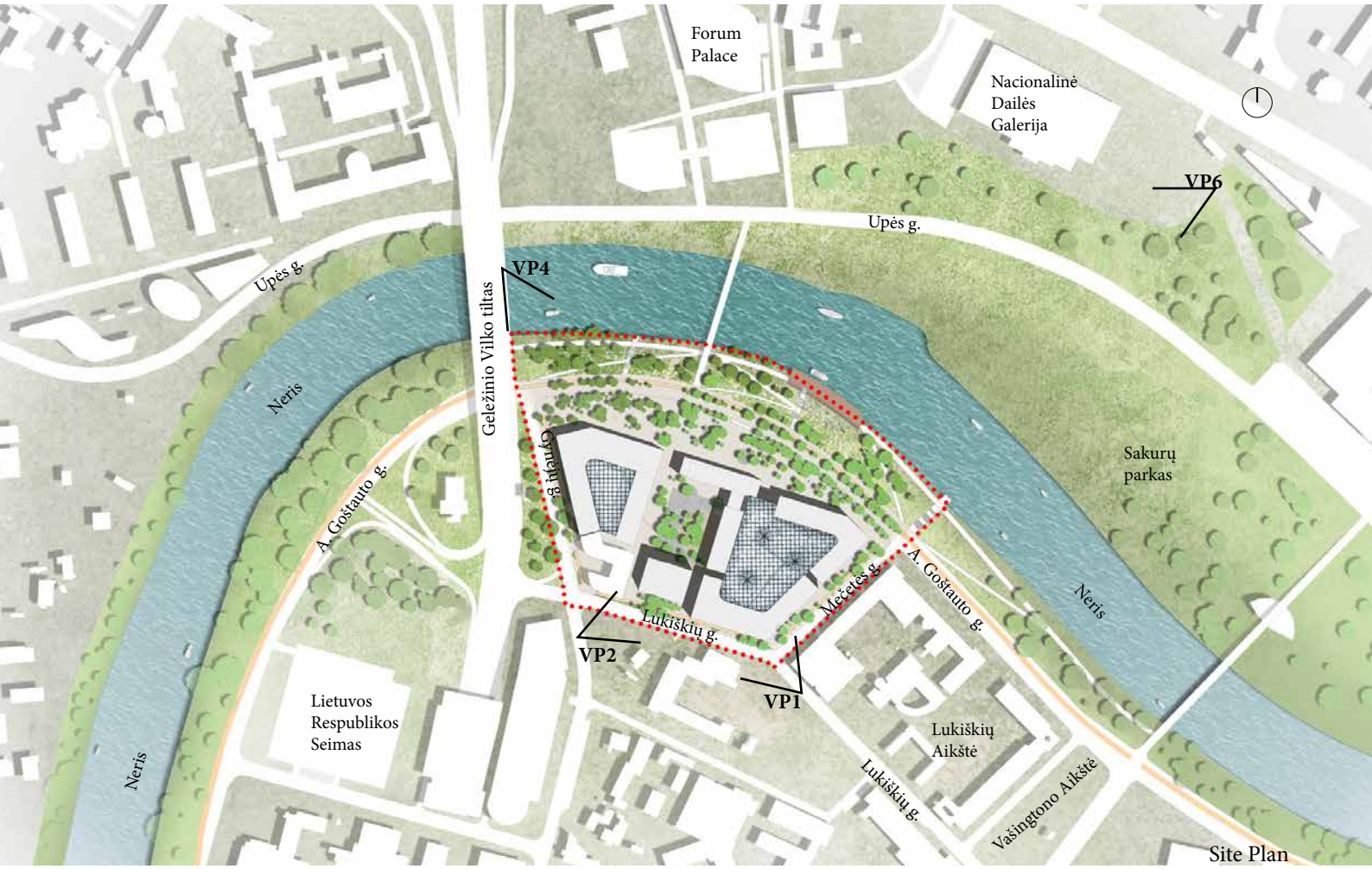
INTERNATIONAL ARCHITECTURAL DESIGN COMPETITION FOR THE MINISTRIES QUARTER

1. Urban design concept for the competition territory (3rd level of detail)

The fundamental Urban Design Concept for the Vilnius proposal was to be as sensitive as possible to the existing context, to make any intervention that is being proposed as subtle as possible and adhering to all the site constrains while incorporating historical data with respect to streets and city grids that used to be there.

Using the background of the older street network and City grid, the proposal aspires to connect to the south amenities such as the Cito Vilnius to capture the many food and beverage offerings that are there, to the Lukiškių kalėjimas and its amenities, the Vašingtono aikštė park, reducing the A. Goštauto g. boulevard from a 4 lane throughfare to a slower paced 2 lane cobbled street that is pedestrian friendly nestled within the proposed landscape solution being proposed.



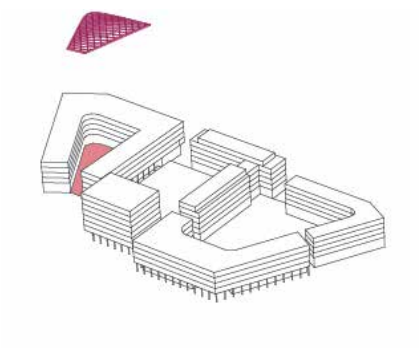
The landscape proposed in the urban design maintains as much as possible the existing trees and foliage wherever possible and enhancing it with natural selected same species as what is on the site so that the look and feel is that the old and new always existed together.
The Neris River is celebrated by enhancing the boardwalk along the river frontage, to allow for biking and pedestrians to enjoy the views of the river and beyond. The proposal also introduces a wooden trestle pedestrian and biking bridge across the Neris River to create connections between the Ministry Quarter and the Forum Palace and Nacionalinė dailės galerija to the north.

Overall, the urban design being proposed wishes to create a “meeting point” as it were between the Vilniaus kolegija, Forum Palace and Nacionalinė dailės galerija to the north with Cito Vilnius, Lukiškių kalėjimas and Vašingtono aikštė park to the south passing through the Ministry Quarters as a nexus for public gathering and interaction.

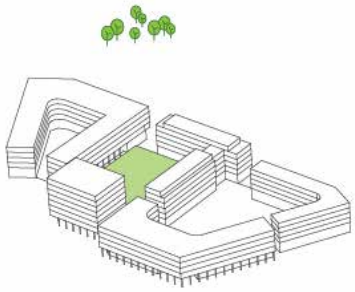
2. Architectural concept (2nd and 1st levels of detail)

The Architectural concept is centered around the existing two ministry buildings that will be refurbished plus the new additions to the south of the site. The combinations of these three buildings create three courtyards bisected by the existing new refurbished ministry building.

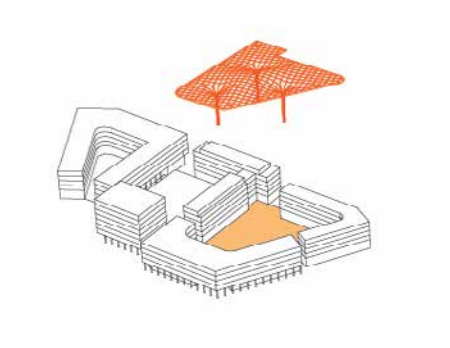
The three internal courtyards that are created were initially envisioned to be covered by one large, glazed canopy to create a winter garden during the winter months and a summer garden space during the summer months. This enclosed space was to provide an indoor-outdoor public room as it were for the public gathering nexus that was discussed in the urban design concept.



Co-Working Courtyard



Forest Courtyard



Ceremonial Courtyard

During the design process, it was decided that the one large canopy covering all three courtyards would end up being very expensive and not practical as a design solution, so it was decided to limit the canopies to two courtyards. The first courtyard to the west, being more compact, to be a Wework space with access to a library in the refurbished ministry building plus food and beverage offerings; the second courtyard would be open to the sky with the majority of the existing trees to form a forest environment where people would use this space as a throughfare connecting the two old streets from the east to west and north south. The north south throughfare connecting Cito Vilnius and Vašingtono aikštė park via the ministry quarter to the Forum Palace and Nacionalinė dailės galerija to the north. The existing Tartar Garden and spaces below the tree canopy to be utilised for public amenities, resting and leisure. The third courtyard to the east would be a covered formal hardscape plaza for major public gatherings. This large plaza could also be used for other functions as a Saturday market, or for concerts, the plaza could also be used by the adjacent Vilniaus Kunigaikščio Gedimino Progimnazija for public performances and other events.

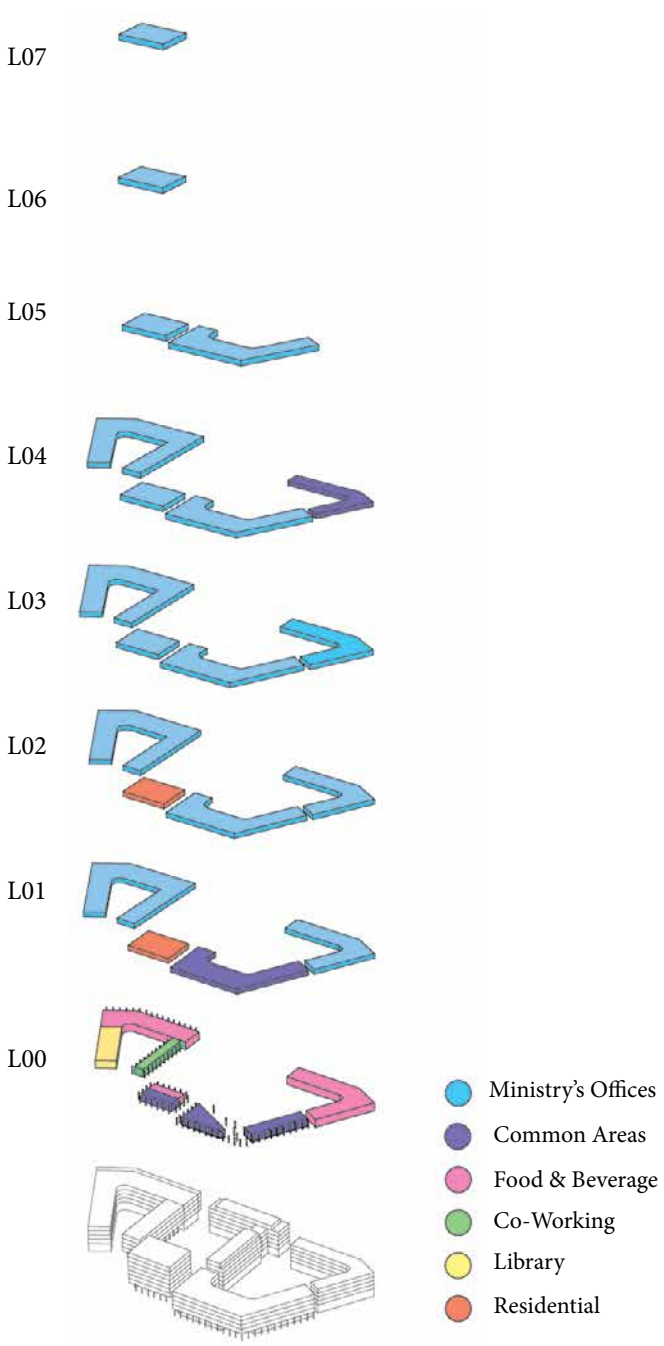
3. Description and presentation of the way how the solutions meet the terms of the competition

Functional planning of the buildings:

The planning of the ministry buildings have been left as open plan office space for now. With further discussions with all stakeholders, the various programs of the ministries could be easily incorporated at a future time.

The existing residential buildings have now been incorporated into the new addition to the south thereby creating a much clearer public realm in the second courtyard.

The two refurbished ministry buildings plus the new additions to the south would all be connected via overhead glazed connections on the first-floor level such that in the summer or winter months, ministerial staff could transverse from one building to another without the need to exit the building they are in. This reduces the number of times staff would have to go through security checks which increases efficiency in the flow of people and materials from one building to another.



Program Distribution

Materiality of the buildings:

Three main strategies have been incorporated in the design of the ministry quarters. Firstly, for the existing ministry buildings, the existing windows have been enlarged, keeping the same widths but increasing the height and by lowering the sill level to bring in more light into the interior spaces. On the ground floor, these same window openings have maintained their widths but the heights and have been extended to the slab beam level and the sill plates have been lowered to ground floor such that they now serve as doorways for the food and beverage outlets that would now occupy the ground floor. The exterior materials have been limited to the existing stone cladding system. Wherever new additions have been incorporated into existing buildings, the materials chosen have been wood and thermally insulated double glazed window systems.

Secondly, for the new buildings, wood and thermally insulated double glazed window systems were chosen. The grid for the wooden mullions in the glazing system being kept to a 1.35m grid that conforms to maximal interior office rearrangements should the need for flexibility in assigning office be required in the future.

Lastly, for the canopies over the two courtyards, the material for these would also be wood, preferably sourced locally with double glazed units withing the grid system.

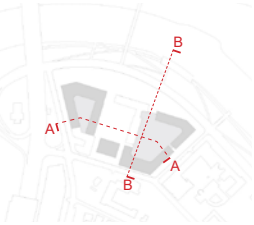
Photographic Panorama - VP1

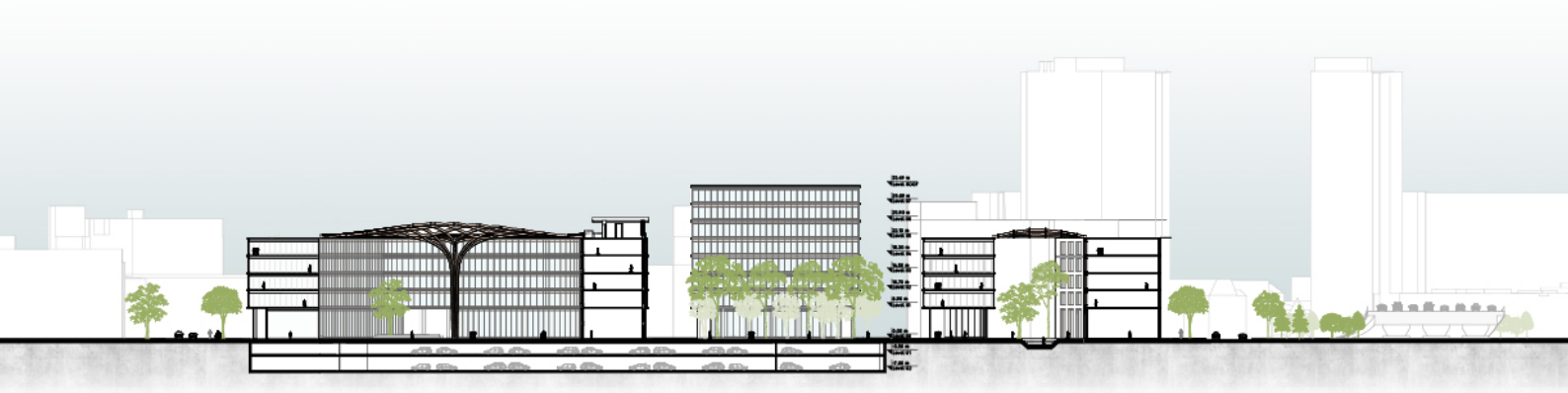
Integration of sustainable solutions and conceptual engineering solutions.

The provision of the two canopies being constructed using wood is a major sustainable initiative on a number of fronts, first the use of wood over such a large area, the creation of a winter and summer garden controlling the environment year-round maximizing the usage of these spaces would be of great benefit to the public as well as for the public sector workers.

For all new construction, the use of locally sourced wood, cross laminated wood panels for floors and walls where needed and the use of thermally insulated double glazed window systems go a long way in providing sustainable solutions.

In addition, the use of low flow washroom fixtures, storage of rainwater, selection of local species for landscape, providing maximal shade over hard surfaces to reduce heat island effects, orientating the canopies to obtain solar thermal gain in the winter and having operable openings in the summer to capture breezes from the south all achieve sustainable goals for the proposal.



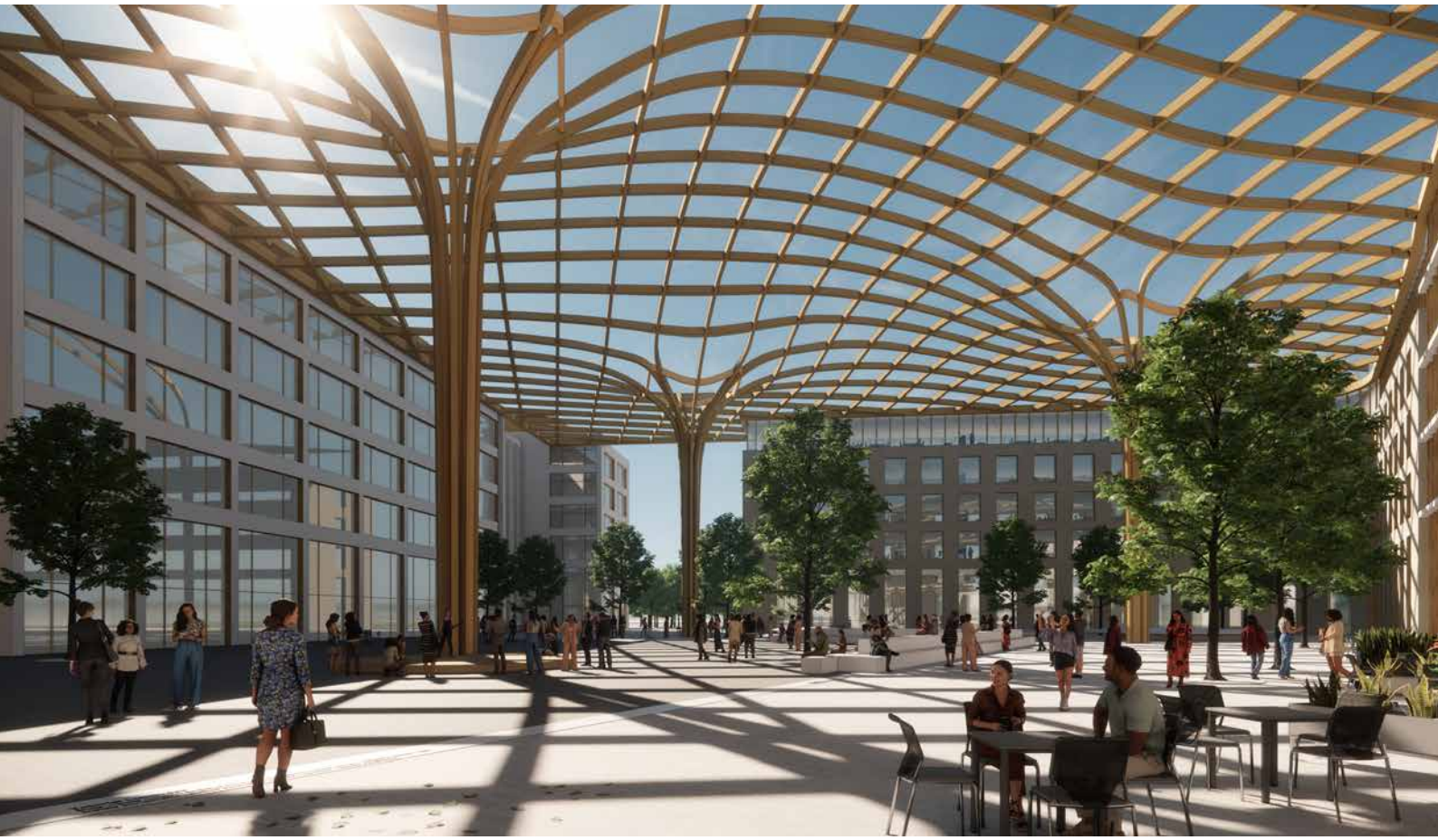


Section A-A'

Section B-B'

4. How the public spaces were planned:

The fundamental principles that were adhered to in the planning of the public spaces were on multiple levels. Firstly, the competition requested that the ground floor plane be open and accessible to the public. The proposal achieves this by creating three internal courtyards with different functions, those being, a covered Wework environment, an open-to-sky courtyard park and a formal covered plaza. These courtyards are serviced on the ground floor by including a library associated with the Wework courtyard, food and beverage outlets for the courtyard park and covered formal plaza. The formal plaza also has two large multi-functional spaces adjacent to the plaza for large meetings and gatherings or as a dining pavilion for large gatherings.



Ceremonial Courtyard Render View

Secondly, the intent is for all three courtyards to function year-round with the two covered courtyards providing shelter both in the summer and winter months for continuous habitation. Within the courtyards, the public are free to move and circulate with no security barriers. It is also expected that the public sector workers would use the amenities provided to extend their work and leisure into the courtyards during working hours thereby creating a lively meeting and communicating space outside of the ministry buildings and be able to take their work outside.

Co-Working Courtyard Render View

Thirdly, it was the intent for the formal plaza to be used by the adjacent Vilniaus Kunigaikščio Gedimino Progimnazija for school performances and other activities so that the plaza becomes animated with children and song with even classes taking place in the courtyard such that a different learning experience is achieved outside of the classrooms.

Forest Courtyard Render View

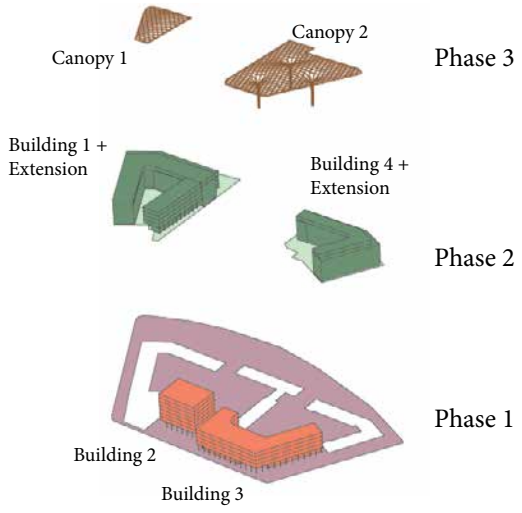
The exterior landscape and urban proposal rather than imposing a designed landscape, strive to create a very natural environment, such that it gives the impression that the trees, shrubs and foliage have always been there. This intervention was done on purpose to create a serene, calm, restful ambiance considering the panoramic views of the Neris river front and views to the north. The existing A. Goštauto g. throughfare, which is a 4-lane roadway, has been reduced to two lanes to slow down traffic and to dissuade more traffic from using this throughfare. The surface of the roadway would be treated with the same material pallet as the new hardscape being proposed for the areas adjacent to the frontage of the ministry buildings such that the A. Goštauto g. roadway becomes part of the landscape urban treatment.

Photographic Panorama - VP6

As stated in the urban design concept, it was the intent from the very beginning to thread a connection between amenities that exist between the north and south banks via the proposed bike, pedestrian wooden trestle bridge over the Neris River and through the ministry quarters. Using the ministry quarters as the Nexus or Knot where people come together in their journey from north to south bank or vice versa.

As an added value to this project, if more residential units could be incorporated into the project, this would ensure that there are people around after working hours. The food and beverage outlets could then stay open longer to provide coverage for dinner in the evening enlivening the courtyards into the evenings as well. Have the Wework space open 24/7 would attract the university student to use this space with the associated library attracting more people to stay in these courtyards for longer periods and thereby increasing the safety and security of the neighborhood.

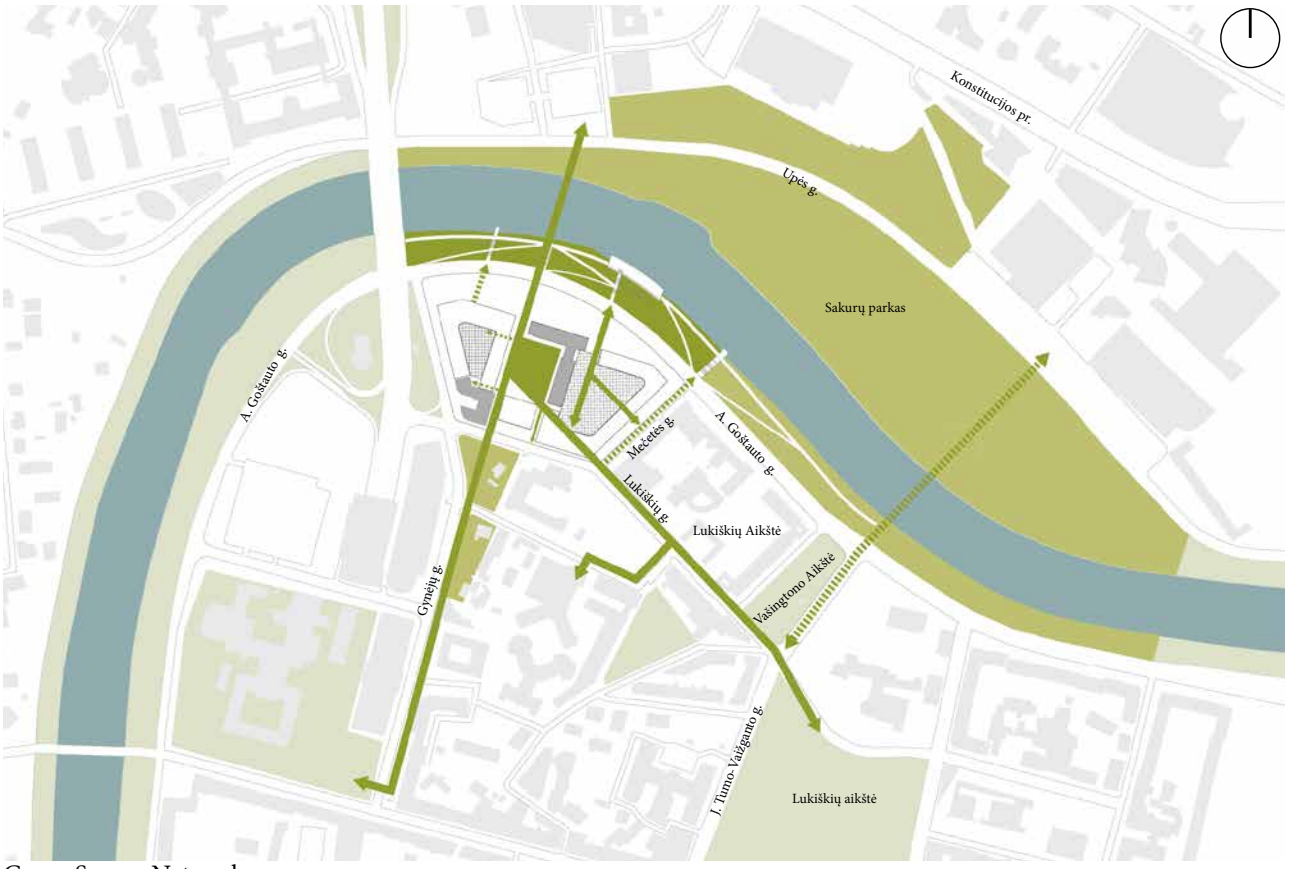
Photographic Panorama - VP4



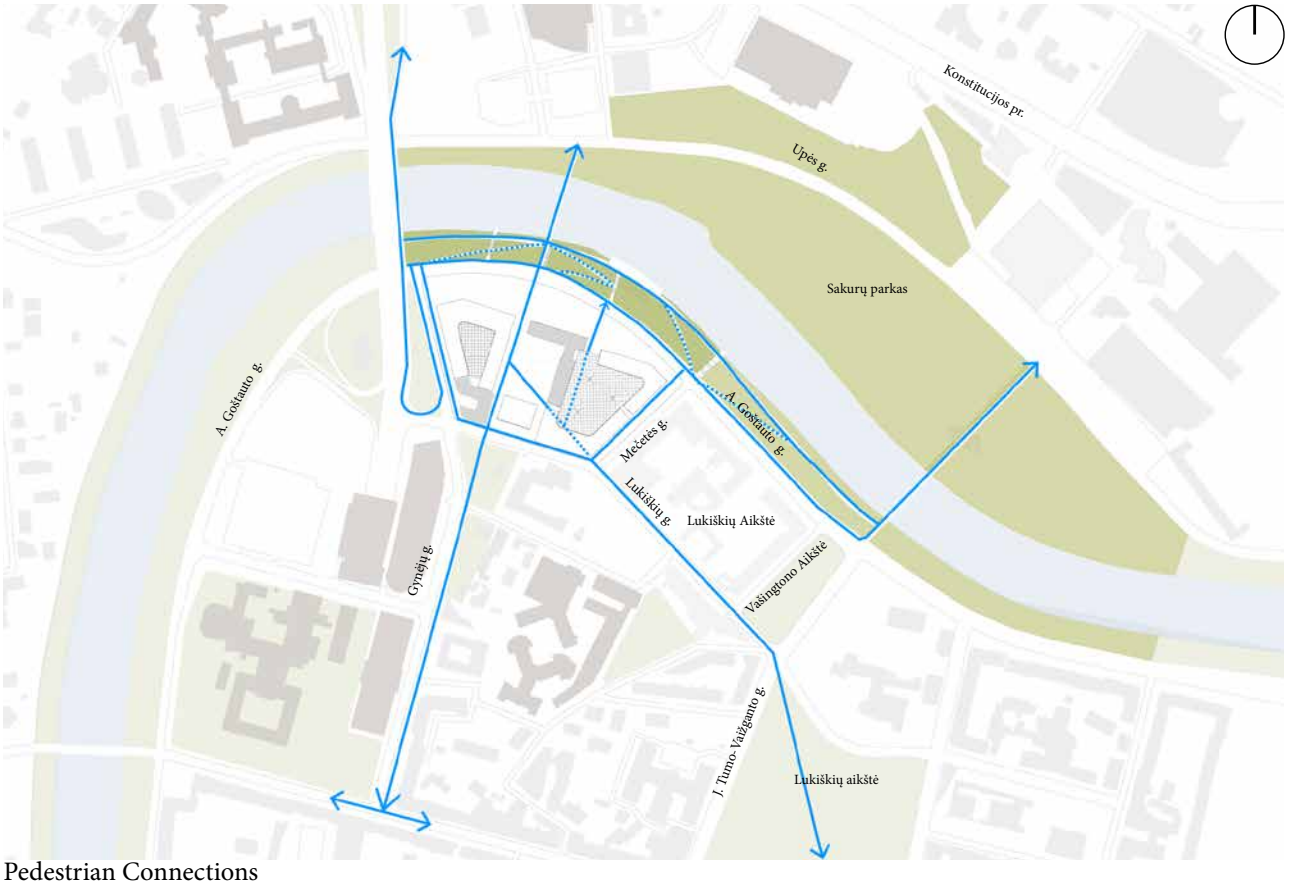
Phasing Diagram

Photographic Panorama - VP2

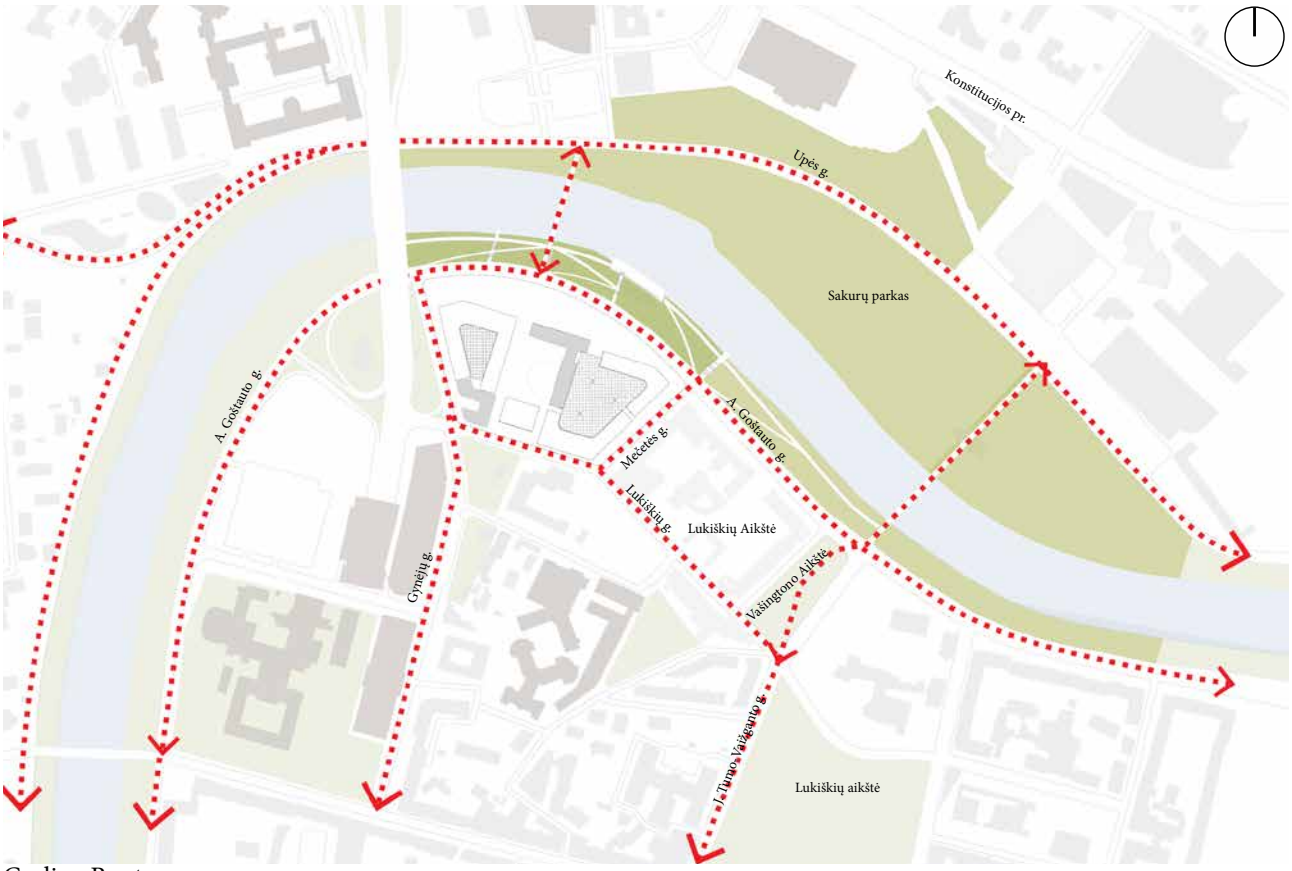
5. Diagrams for different modes of transport, cycling and pedestrian flows;



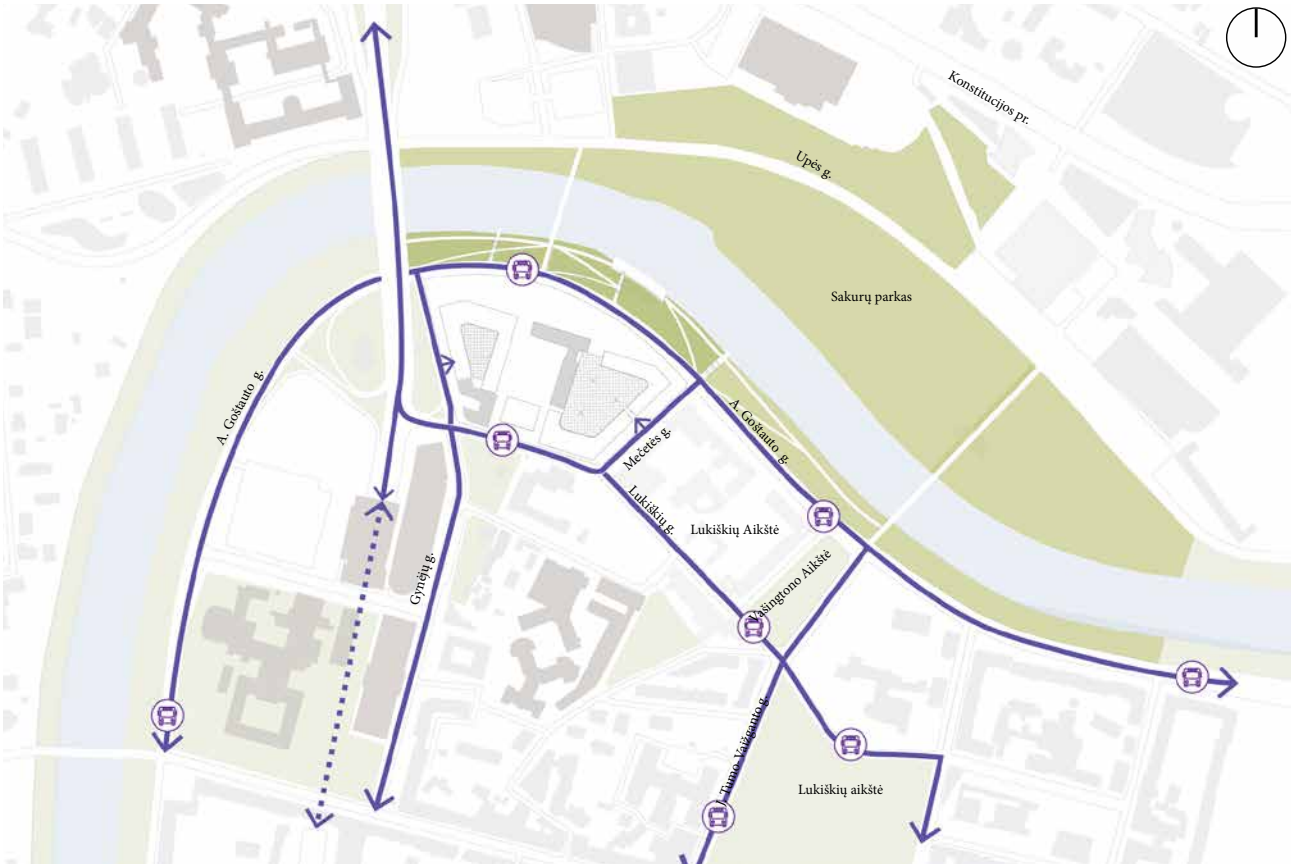
Green Spaces Network



Pedestrian Connections



Cycling Routes



Traffic Flow and Public Transport

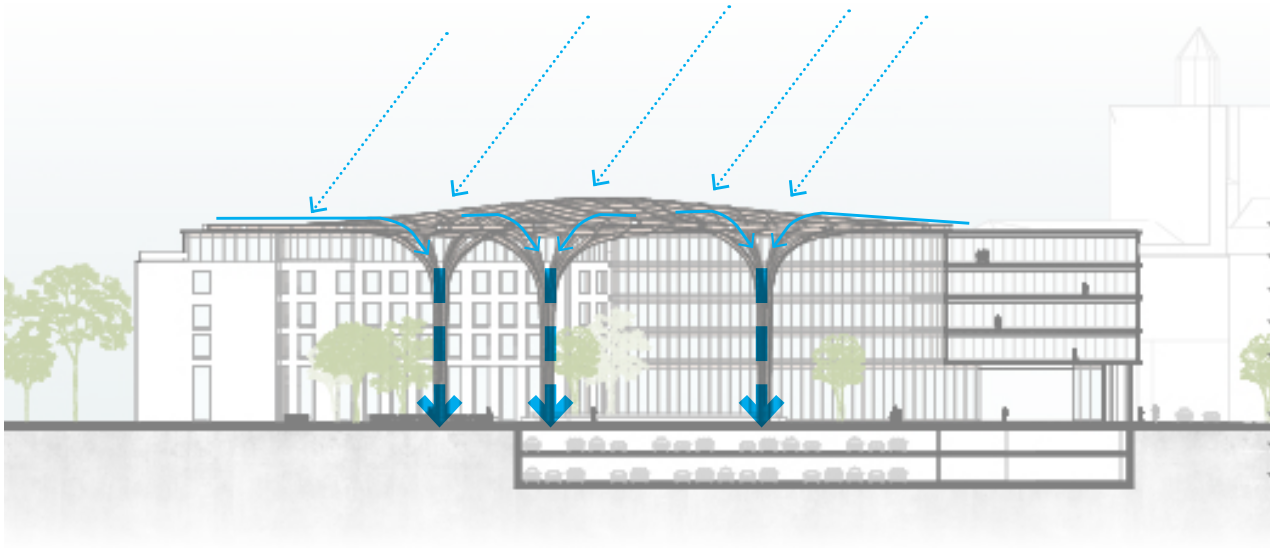
6. Use of energy-saving solutions, renewable energy sources and green/sustainable solutions;

Timber Construction and Sustainability

At the heart of this sustainable ministry building is the choice of construction material: timber. Timber is not only aesthetically pleasing, with its natural warmth and beauty, but it is also an environmentally friendly alternative to traditional building materials. Sourced from sustainable forests, timber has a significantly lower carbon footprint than concrete or steel. By using timber for both the structural framework and interior finishes, this building aims to make a bold statement about the importance of sustainable sourcing and eco-friendly materials in modern architecture.

Harnessing Rainwater and Green Roofs

One of the most innovative features of this ministry building is its commitment to water conservation. The structure incorporates glass roofs serving a unique purpose. The glass roof is designed to collect rainwater, which is carefully filtered and stored for reuse in non-potable applications such as landscape irrigation and toilet flushing. This harvested rainwater is a valuable resource for the building's sustainable water management.



Enclosed Public Plaza and Sustainable Landscaping

At ground level, the ministry building boasts an enclosed public plaza. This welcoming space is climate-controlled, ensuring comfort for visitors year-round. Advanced HVAC systems maintain an ideal atmosphere while minimizing energy consumption. Surrounding the building, sustainable landscaping practices are employed. Native, drought-resistant plants are selected to reduce water usage, while permeable paving and xeriscaping techniques help minimize runoff and promote soil health.

Smart Building Management and Education

A cutting-edge building management system is in place to monitor and optimize energy usage, temperature, and lighting based on occupancy and outdoor conditions. This smart technology ensures that resources are used efficiently, aligning with the building's commitment to sustainability.

Moreover, the ministry building serves as an educational hub for sustainable building practices. Interactive exhibits and informative displays engage visitors, fostering awareness and encouraging environmentally responsible behavior.

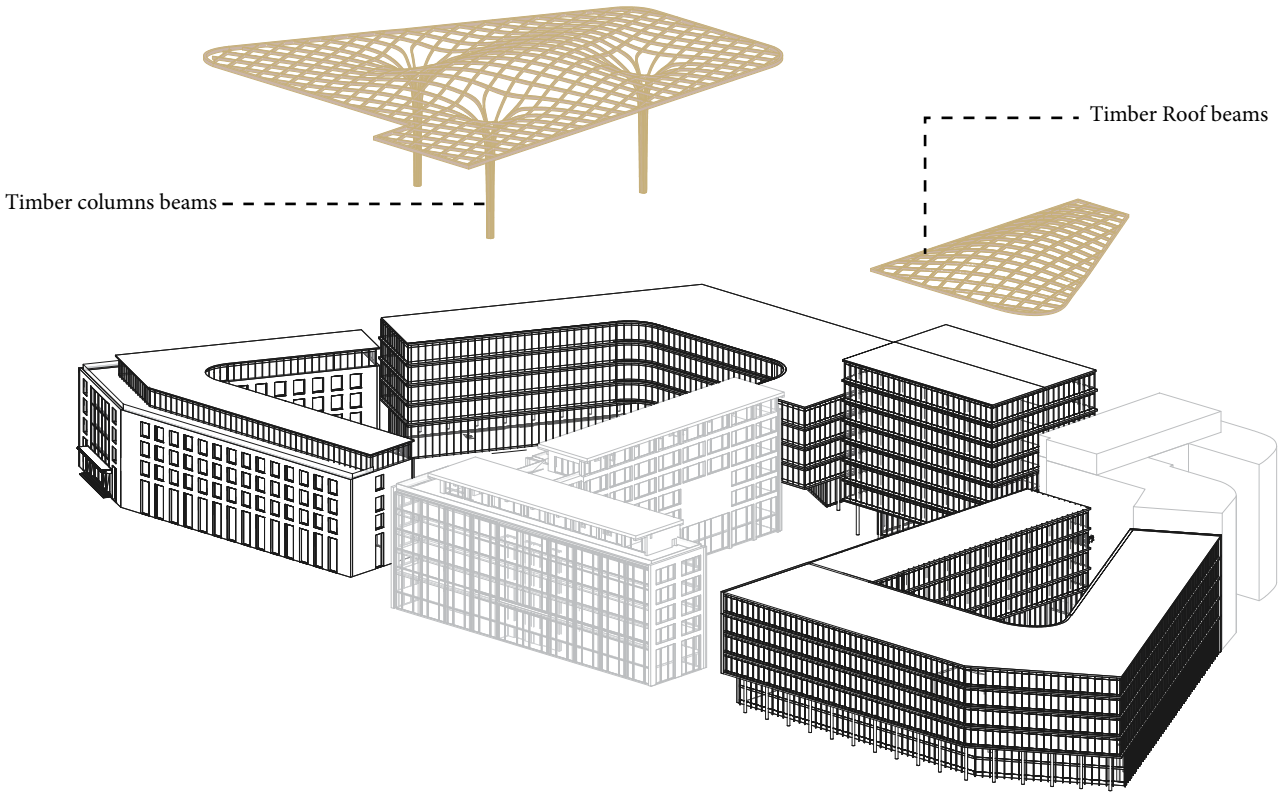
7. Essential structural solutions for the buildings under design and reconstruction;

In the pursuit of creating a Ministry Building that embodies sustainability and modernity, it is crucial to consider innovative structural solutions for both new construction and the reconstruction of existing buildings. This essay delves into the essential structural solutions for the Ministry Building, including the incorporation of a large glazed roof supported by heavy timber structures, the reuse of existing building structures, and the construction of new buildings featuring reinforced concrete frames and wooden facades.

Large Glazed Roof with Heavy Timber Structures

A hallmark of this Ministry Building's design is the integration of a large glazed roof supported by heavy timber structures. This architectural feat combines aesthetics with sustainability in a seamless manner. The vast expanse of glass in the roof design allows for ample natural light to illuminate the building's interior, reducing the dependence on artificial lighting during daylight hours. This, in turn, significantly lowers energy consumption and enhances the building's energy efficiency.

The choice of heavy timber structures is both practical and environmentally responsible. Timber, sourced from sustainably managed forests, boasts impressive strength properties while offering a warm and inviting aesthetic. Furthermore, timber's natural insulating properties can enhance the building's thermal efficiency, reducing heating and cooling requirements and further minimizing its environmental impact.



Reuse of Existing Building Structures

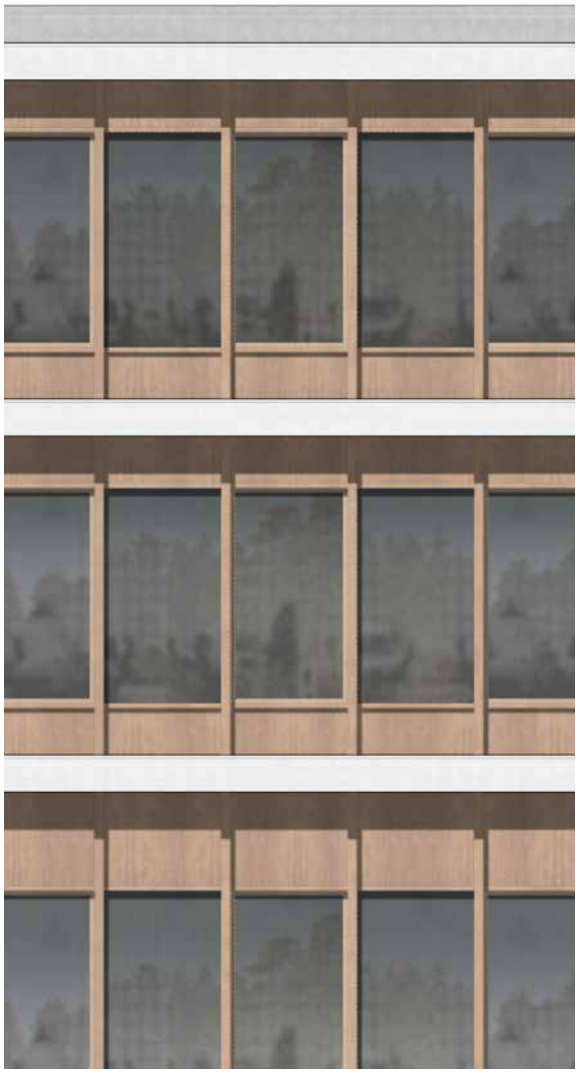
An equally vital element of the reconstruction process involves the judicious reuse of existing building structures. By repurposing and renovating the existing structural elements, such as foundations, load-bearing walls, and floor slabs, the Ministry Building project minimizes the wastefulness associated with demolition and disposal of construction materials.

This approach not only conserves valuable resources but also preserves the architectural heritage and character of the area. It presents an opportunity to merge historical significance with contemporary design, creating a harmonious blend of the old and the new.

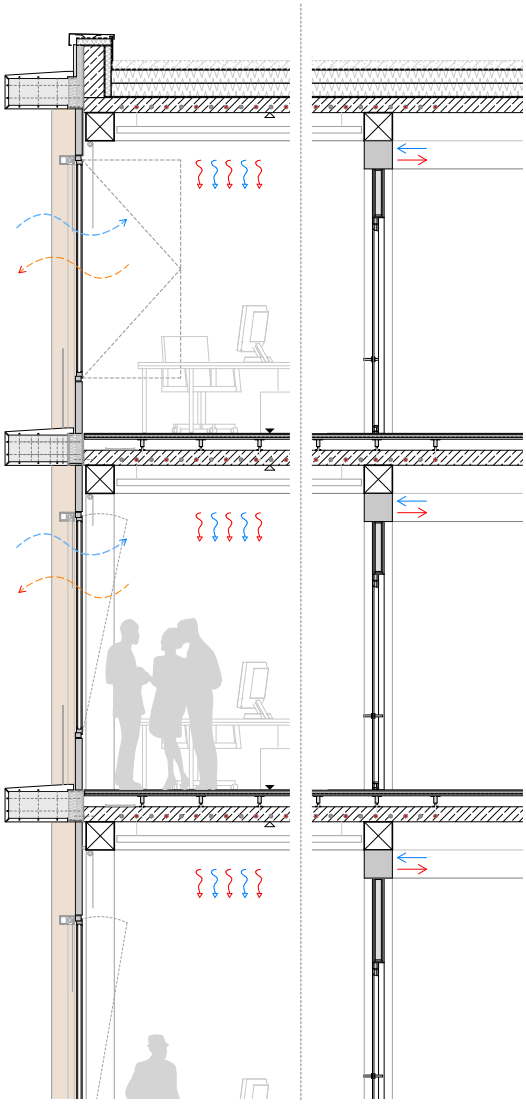
New Buildings with Reinforced Concrete Frames and Wooden Facades

In the development of new buildings within the Ministry complex, a combination of reinforced concrete frames and wooden facades offers a balanced structural solution that prioritizes both strength and sustainability.

The incorporation of wooden facades in the new buildings not only adds a visually pleasing aspect but also aligns with sustainable building practices. Wood is a renewable and eco-friendly material that, when responsibly sourced, reduces the overall carbon footprint of construction. The wooden facades can be designed to create an appealing contrast to the concrete frame, adding warmth and texture to the overall architectural design.

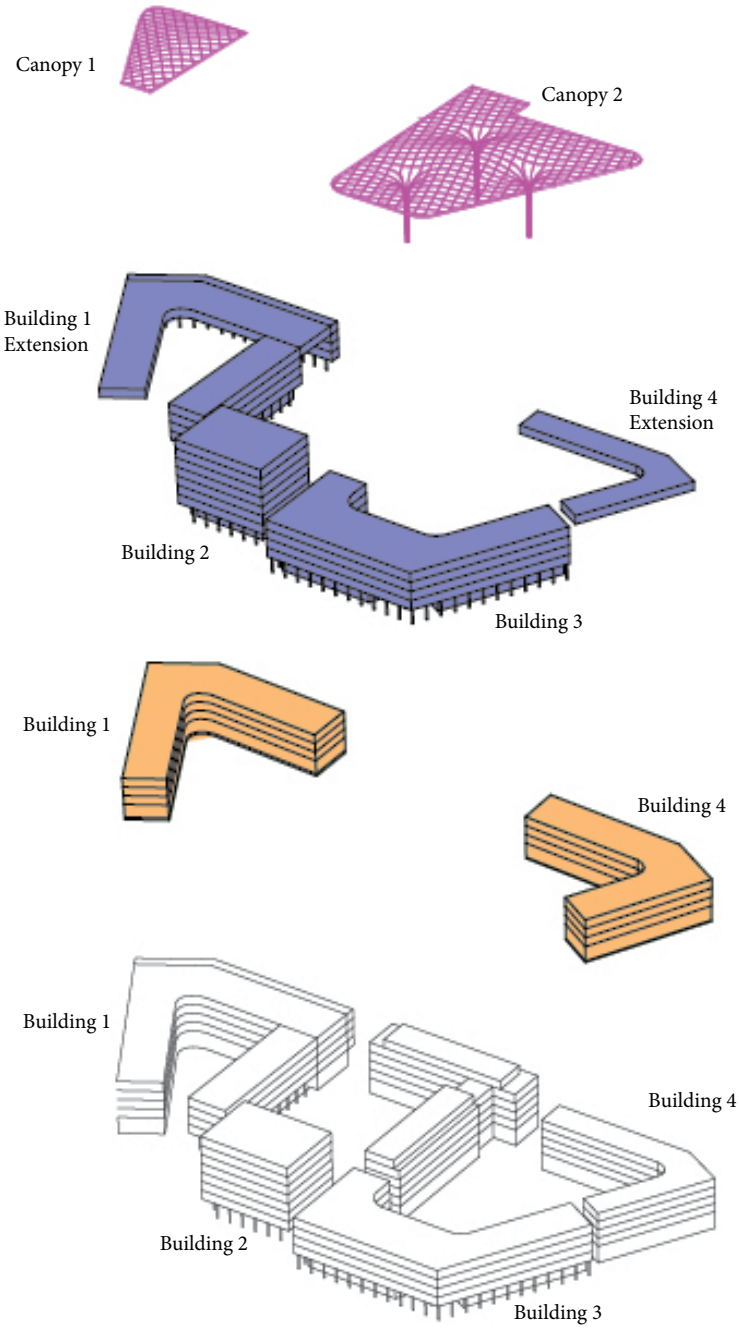


Facade Detailed Elevation



Facade Detailed Section

8. General Building Details and Area Calculation:



New vs. Existing Diagram

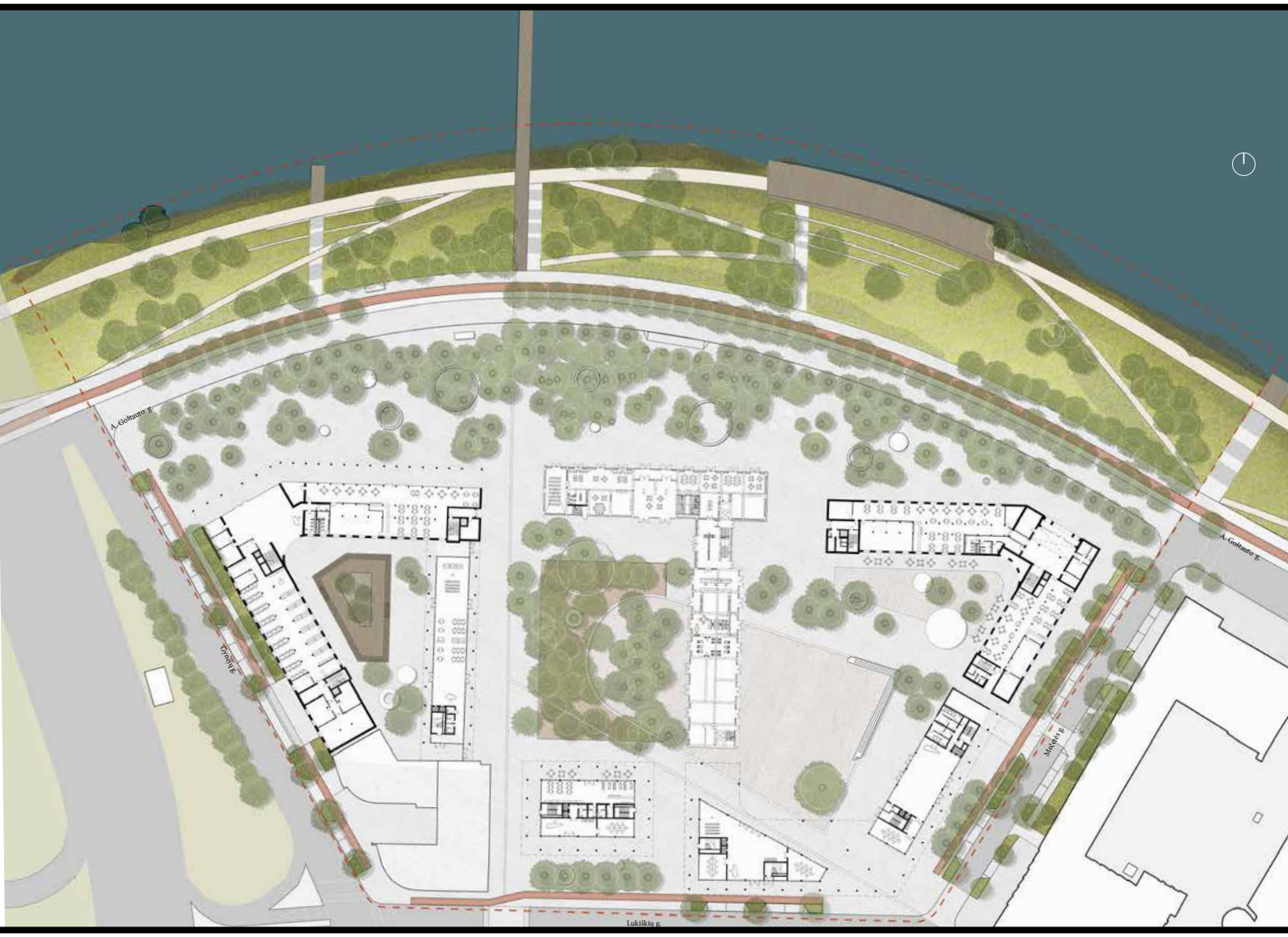
		PLOT G12	PLOT G11		PLOT G9
		Plot Area	Plot Area		Plot Area
		8100 m2	14520 m2		4520 m2
		BUILDING 1	BUILDING 2	BUILDING 3	BUILDING 4
		Built Area	Built Area	Built Area	Built Area
EXISTING	L00	2370 m2			1350 m2
	L01	2370 m2			1350 m2
	L02	2370 m2			1350 m2
	L03	2370 m2			1350 m2
	L04	2370 m2			1350 m2
	L05				
	L06				
	Total	11850 m2			6750 m2
EXTENSION TO EXISTING BUILDING	L00	1370 m2			
	L01	1370 m2			
	L02	1370 m2			
	L03	1370 m2			
	L04	1370 m2			
	L05	3740 m2			750 m2
	L06				
	Total	10590 m2			750 m2
NEW BUILDING	L00		2580 m2	540 m2	
	L01		2580 m2	810 m2	
	L02		2580 m2	810 m2	
	L03		2580 m2	810 m2	
	L04		2580 m2	810 m2	
	L05		2580 m2	810 m2	
	L06			810	
	L07			810	
	Total		15480 m2	6210 m2	
	TOTAL	22440 m2		21690 m2	7500 m2

	CANOPY 1	CANOPY 2
TOTAL	1500 m2	5000 m2

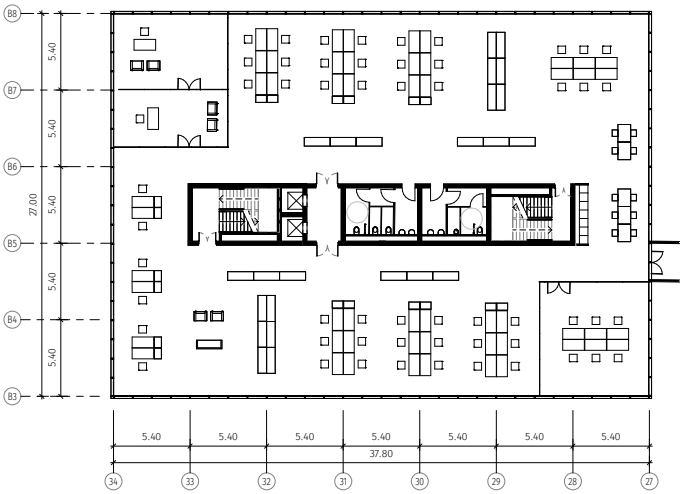
9. Drawings:

Plans

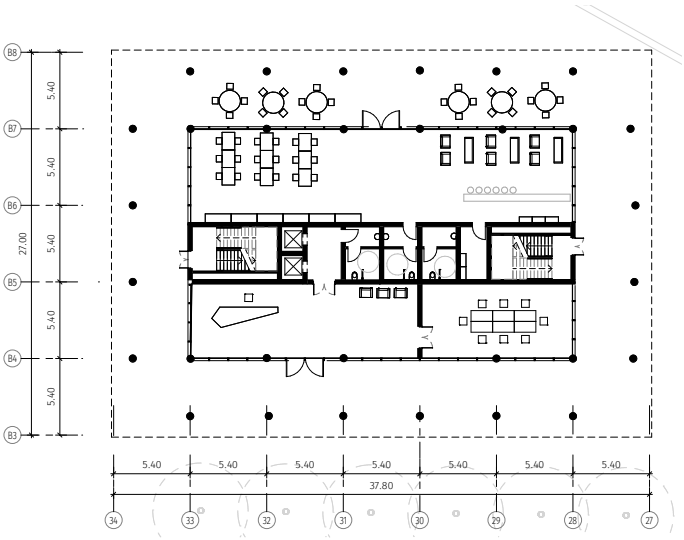
Roof Plan



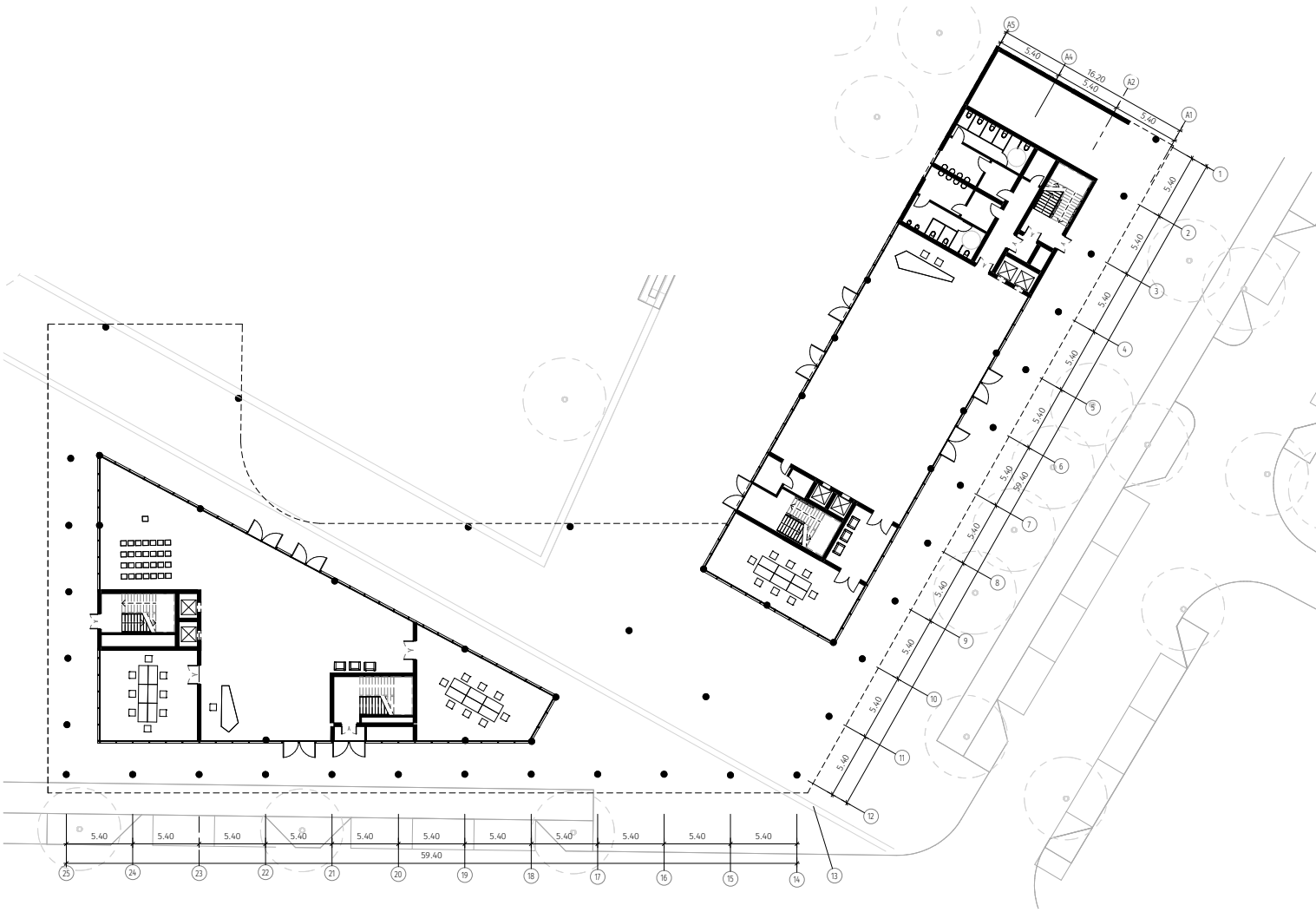
Ground Floor Plan



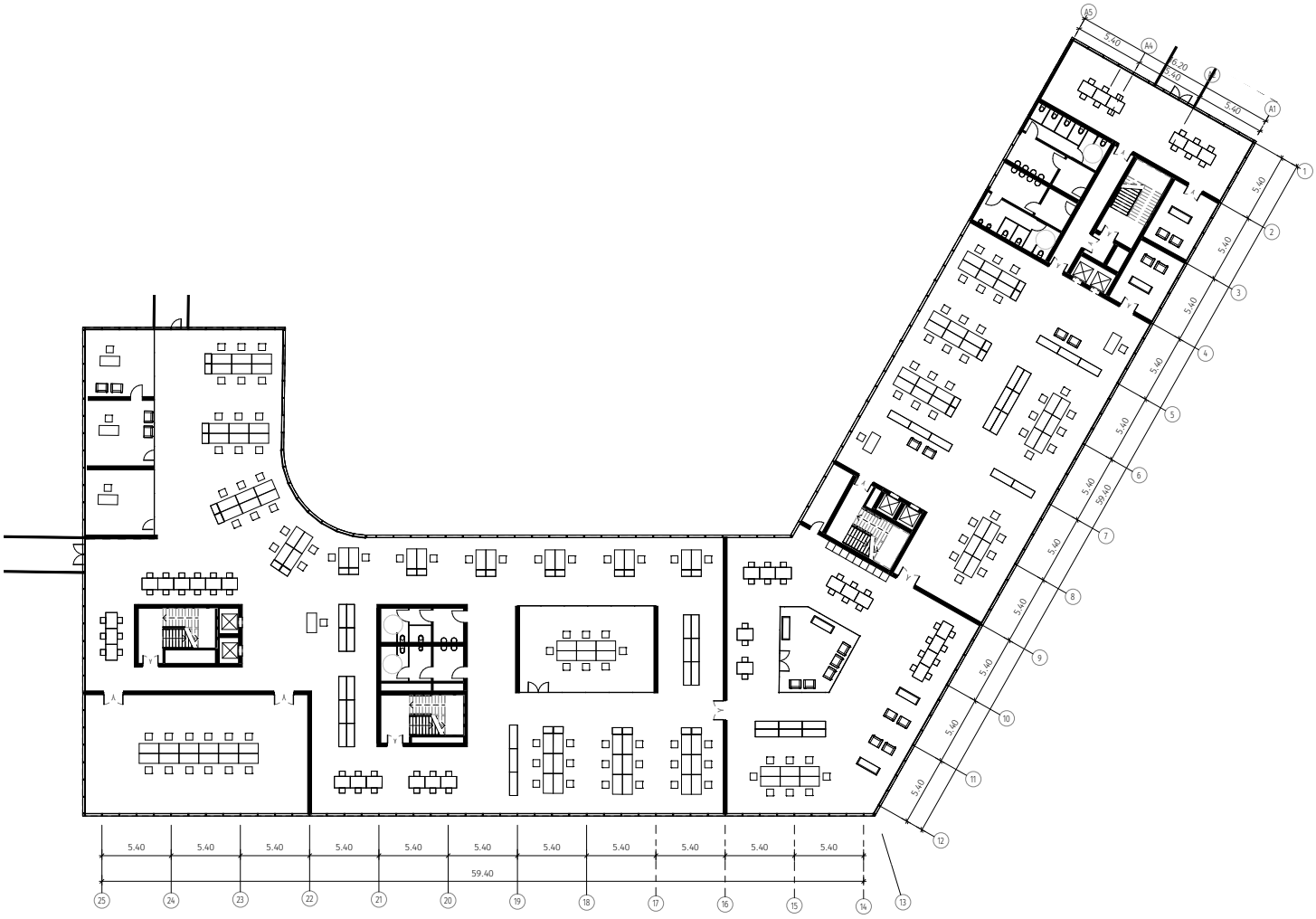
Building 2 Plot G11 - Typical Floor Plan



Building 2 Plot G11 - Ground Floor Plan



Building 3 Plot G11 - Ground Floor Plan



Building 3 Plot G11 - Typical Floor Plan

9. Drawings:

Elevations

Ceremonial Courtyard Internal Elevation (Building 4 & 3)

Building 3 & 4 Exterior Elevation