

GEORGE BROWN COLLEGE

Toronto | Winter 2017



"Multiculturalism is at the heart of Canada's heritage and identity – and as Canadians, we recognize that our differences make us strong."(Trudeau, 2017)

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1. Introduction

After embracing the adventure to move out to Denmark and studying in an international environment as the one we have at KEA. The wish to taste more of this cultural and knowledge exchange, and to discover more about the teaching/learning possibilities of our study field inspired us to apply to a new experience and be an exchange student at our 5th semester. I mention "us" or "we" many times, because I wasn't alone on this adventure, this wish and will, was also shared by my boyfriend, that is also a student at KEA at the same semester/class as me - we enrolled and lived together all this experience.

Canada was for us a natural choice.

Besides the adventure and all the challenges of traveling to another continent, Canada also offers a lot of new opportunities that are relevant to my study, my interests and my future career.

First, the quality of the school system in Canada is internationally recognized, Canada is one of the world's 10th largest economy and is responsible for a large percentage of world exports of natural resources, including building materials. In addition, Canada is known worldwide for their high quality of life, beautiful scenery, and I am deeply fascinated by the multiculturalism seen in the country and the deep respect in their culture/respect for the nature.

A decisive point for us while choosing GBC/Toronto, was that like as KEA, GBC offers a similar education, focusing on the same software, same construction learning goals and with the same approach towards the construction industry. We would have the possibility to learn more about construction in a different environment and to learn different construction methods. In addition, GBC performance as a highly innovative, future-oriented and industry-needs college, with several workshops and high-quality facilities that students have access to and can enjoy.

Another aspect of which I would benefit from my staying is that my English skills would improve. I want to work internationally in the future and there is a lot of building terminology that I need to learn in English. These months in Toronto I really believe it was a big help, and linguistic flexibility and fluency is always highly rated.

2. Experiences at the host university

GBC have some similarities, but also some differences from KEA teaching/learning system. The education content is the same, but teacher's action and evaluation system is completely different. Most of the teachers related with construction are part-time teachers. This was really good because they would bring up to class daily examples and the most updated solutions/discussions about constructions methods to the class.

Everything in your performance along the semester counts for the final grade and everything need to be done by the book: we need to assist all the classes; we have exams on the theoretical courses; and several assignments and deliveries (some of them weekly) in the practical subjects, for example.

In the college facilities have free access to all material and tools that you need to perform any task requested, from computers with all the software's needed, to a library with all the reference books to all subjects, to laptops that can be rented for 8hours period, and even to a gym facility.

Is also important to warn you that GBC only offers a "Technologist Architect" education, so all the construction management subjects are only refer in a simple or as introduction – not a part of their program – and that there is only one intake each year, so this means that you have all the impairs semesters at summer intake and all pars semesters at winter intake – this meant that we were placed in a 4th semester class, instead of a 5th semester as would be expected.

2.1 About the subjects:

Architectural Technology & Sustainable Design 4 – Commercial

5 (1-5 scale)

It was the main course of the semester and all the other courses were prepared according and to complement this course needs. The assignments were made by groups of two persons.

The way it was structured really prepares and upgrades us to another level. For example: handling different tasks that may be required in a more productive and much more professional way, and knowing more about the why's and how's of doing something and improving it.

There was a theoretical and a practical (studio) class every week, 3hours each. The theoretical would prepare and inform you for the task that would perform that week and during studio class. On the studio class we would receive feedback on our deliver assignments and would have a chance to ask about the going on assignments. Besides this, there was a consultation time at the teacher office once a week.

We had two semester assignments: the first with technical project with a prefabricated steel structure for a warehouse where everything had to be build and draw by the book, and the second with a design project where we had to create a program, design all the building features, and structural drawings.

Sustainable Materials & Methods 2

5 (1-5 scale)

We were introduced to the characteristics of the basic building materials, methods, components, properties, application, performance and sequences associated with steel frame construction and we learned so much. The course had 2 practical assignments and 2 multiple choice exams. Teacher was really good, would grab your attention from the beginning to the end of the class and would show you several super interesting examples from constructions sites and her own projects.

BIM for Arch. Tech. 2

5 (1-5 scale)

The course was a second level of Revit course and the teacher was certificated by Autodesk. We learned how to perform a better and cleaner Revit model, from modeling the site, modeling structural steel framing, mass studies, and drawings standards, to Revit families with parameters. The course was broad and would always teach the right tools to perform the work need to project assignments.

It was super interesting to know better the basis of a known software and it tools/potential. The evaluation was through exams and hand in assignments.

Portfolio Development

5 (1-5 scale)

The course provided us with the necessary tools and skills required to create a academic portfolio of professional standards, from written and graphic representation, to ways of performing a better CV and how to build a presentation letter from scratch and in a correct way, for example.

Super useful course - we learned so much about representations techniques and how to reach something/someone in a graphical and written manner. This course was especially useful because we had to apply to internships for 6th semester. So it was a great way to accomplish it with the proper preparation/backup.

** Find at the end of the Report – Annex - an example of the work performed at Portfolio course with the projects done at Architectural Technology & Sustainable Design 4 course*

Professional Communication

4 (1-5 scale)

The courses teach us communication skills and tools – written and oral - that would reflect the professional standards and practices need within the construction industry. From technical descriptions, technical instructions, workplace correspondence, to a company report, for example.

We had weekly assignments and most of them were done in class. My in satisfaction about this course is about the amount of information that we had to prepare and read to each class and the classes that were too confusing, and, in my opinion, not the best for a “communication” subject.

Law & Construction contracts

4 (1-5 scale)

The course was an introduction to the Canadian legal system and relevant legal issues to students in architecture, construction management and related fields, such as: legal principles of contract law, tort law, tendering, construction liens, insurance, bonds, risk avoidance, employment law and dispute resolution, for example.

The evaluation was made through two multiple choice exams.

Structural Systems: Steel

3 (1-5 scale)

The course explores the use of structural steel frames in the Canadian construction Industry. We learn from structural framing components, techniques, erection processes, inspection during construction, to calculate loading on structural steel members and construction schedules diagrams.

The course was interesting, but the teacher performance was confusing, it was difficult to follow and perform the assignments requested. The evaluations was made through multiple choice exams, quizzes and a semester assignments.

Zoning & Building Regulations

2 (1-5 scale)

We only had to audit this course and it was a second semester course.

Let's say that for a course that you are supposed to audit this wasn't the most interesting or enthusiastic subject. This was actually a big surprised for us, when we understand in Toronto that we had to audit this second semester course and that we weren't doing the normal "electives" as our fellow fourth semester colleagues.

Any way, we also learned a lot about building regulations in Canada and many interesting details that can also be applied worldwide. Unfortunately, the teacher wasn't the best and it was really confusing to follow and understand many of the subjects.

3. Social and cultural experiences

The temperatures were insanely low until the end of March. The winter is long but it is beautiful to live and experience a city that still runs and makes it strengths off from this condition.

From beautiful snow falls of over half a meter, to ice rain or to uce rinks that are spread all over the city where you can freely use, to a group of underground tunnels PATH that connects the center of the city with all the needed facilities – shopping's, supermarkets, bakeries, restaurants, etc. Everything is possible even during the coldest season.

When it was possible we would enjoy all the nature, sightseeing and outdoors of Toronto - as the distillery district, Chinatown, the trend Kensington Market, the down town area or the harbor- and on the hardest cold days there was many interesting museums spread all over the

city - as the Royal Ontario Museum, Casa Loma or AGO Art gallery of Ontario, for example (all have special prices for students).

When the weather got warmer in April was when we did most of the sightseeing and trips, from experiencing the CN tower views of mega Toronto, Cherry blossoms in High park, to visit the amazing and unforgettable Niagara Falls and its natural strength, or to travelling a bit more far in a 6 hours bus trip to Montreal city and experience a completely different and more European city.

Socially is super easy to connect with any of the fellows Canadians and class/school colleagues. People are super friendly and are always willing to help.

At the college a good way to start having a network was to use the campus facilities to do the need assignments instead of going home. The class would gather on the common areas or learning centers, and we would switch impressions and experiences often with our semester or other semester's colleagues, for example.

4. Practical experiences

We travelled through plain with WoW, an islandic low-cost company, from Copenhagen we stopover in Island and proceed to Toronto. The ticket Copenhagen-Toronto, bought one month previously and with baggage were 1650dkk. As a kick reminder, for less than 6 months you can stay in Toronto as tourist - without needing a Visa – and to travel to there you need an ETA – Electronic Travel Authorization.

Due to the partnership with KEA we don't pay any fees to GBC. The only payment that is required is to pay insurance for the period that we would be students at GBC – it ends up being around 250 CAD for the 4 months and this was the only insurance I used (it even covered travelling to the USA).

We use home staying agencies to help us find a place, of course they charge their fees to help you and is always a risk. Before we left we had already a room at "Catherine's Homestay" with a rent of 1000 CAD for the couple (per person a room rent is around 750-850CAD) and 15min from school by bus. On this matter, I would advise you to contact the contact person at GBC and ask them which agencies or websites they recommend or work with – the school has special contacts with trustful home staying agencies that can help you and speed up the process.

In general, life costs are quite similar Denmark, from a single rental to the food price in a supermarket or transportation.

Eating at GBC is always a challenge. In their facilities, most of the food they sell are sandwiches, hamburgers, pizzas, sushi and Thai food that costs around 10-15 CAD. An alternative is to cook previously at home, much cheaper and healthy, and warm the food at GBC – in their facilities they have this commodity and drinkable water dispensers.

To move around the city and go to school the easier way is to use tokens or to buy the monthly pass. A tokens cost 3 CAD and you can purchase them in almost all convenience stores around the city and some metro stations. But Toronto is a mega city, so it's worth every dollar to purchase the monthly pass – 116 CAD per month for students – and have full bus and metro access to all the GTA area with no restrictions.



Figure1. View from CNC tower. April 2017.

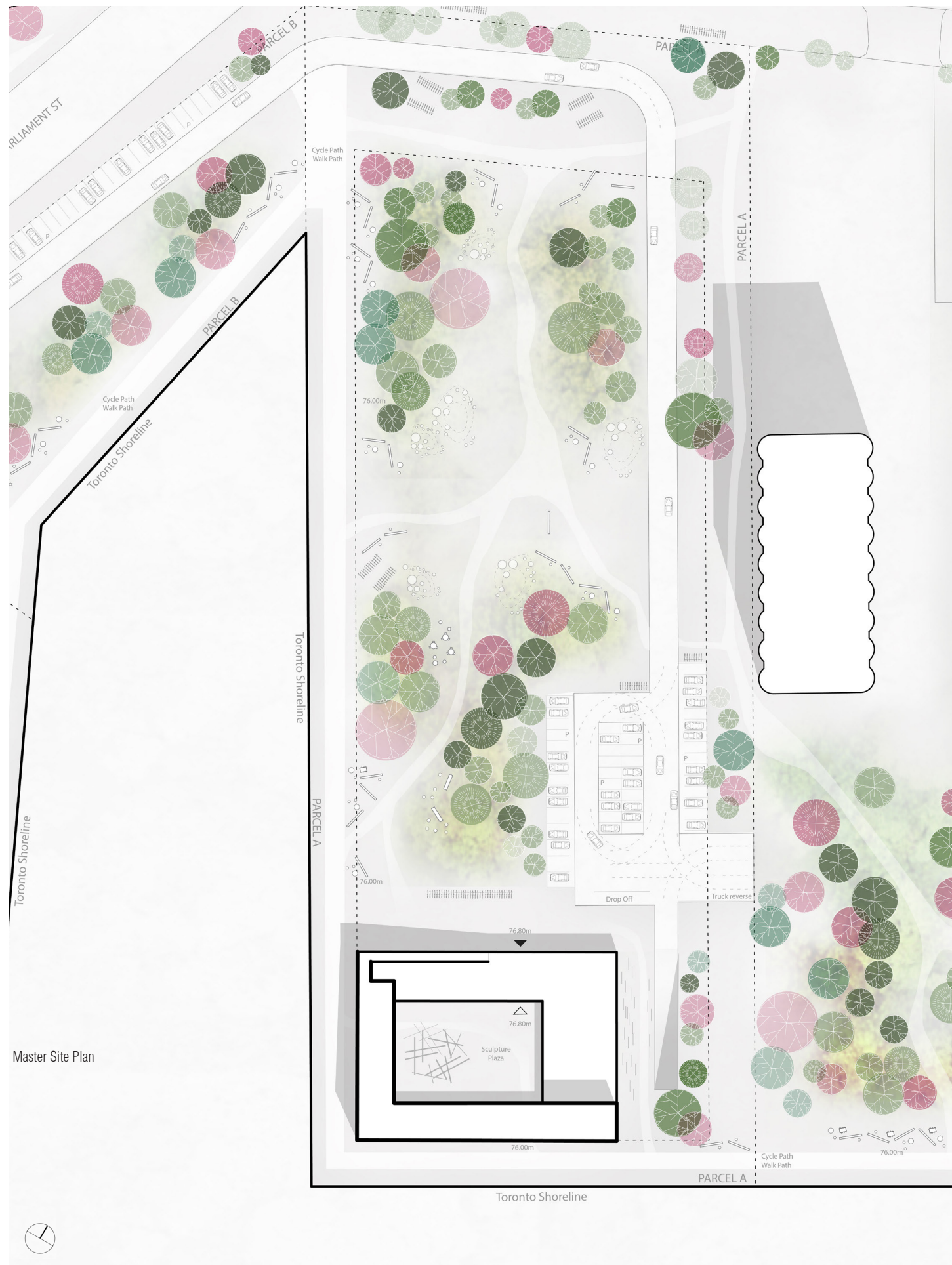
5. Conclusion

My expectations were reached in an extreme way, I learned so much in the academic and professional manner, but also have experienced a completely different society and city from the ones I know.

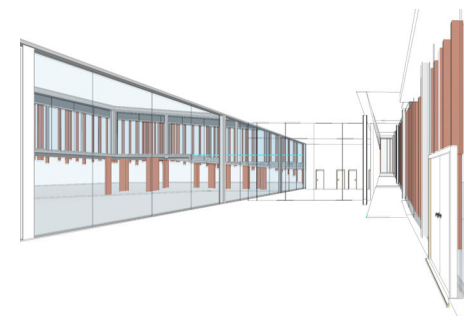
In many ways I had time for everything: to learn more about what it is to be a technology architect in another part of the world; to enjoy/know a “new” huge and vibrant cultural and multicultural city; to make some friends; to exchange/mix my experience/background with in all this multiculturalism and diversity; and becoming a part of it, as well.

6. Annex:

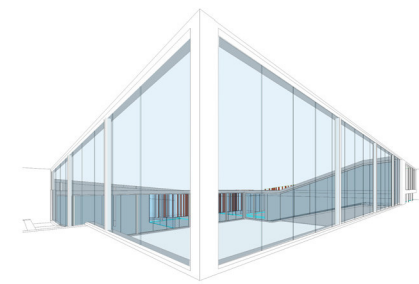
Architectural Technology & Sustainable Design 4 course projects arranged at the portfolio produced for the Portfolio course



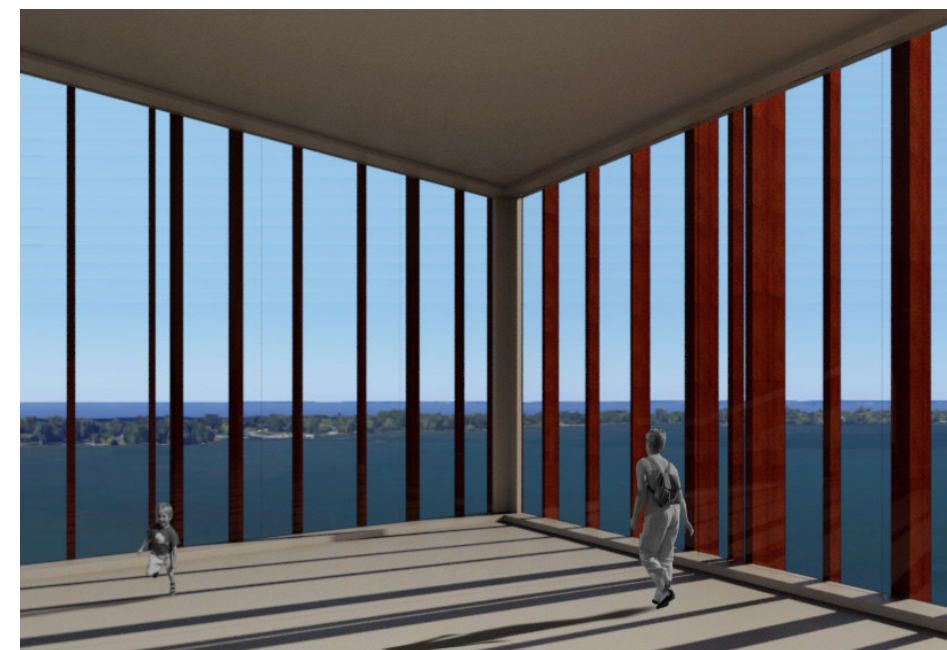
Master Site Plan



Gallery entrance vs sculpture plaza
Connections vs exterior presence



Gallery vs Sculpture plaza
Exterior Sculpture Plaza is a part of the exhibition



Exhibition Gallery
View over the harbor and Toronto Islands

Winter 2017 | George Brown College, Toronto
Fifth Semester Project
Contributors: Cristina Matos and Joao Sá

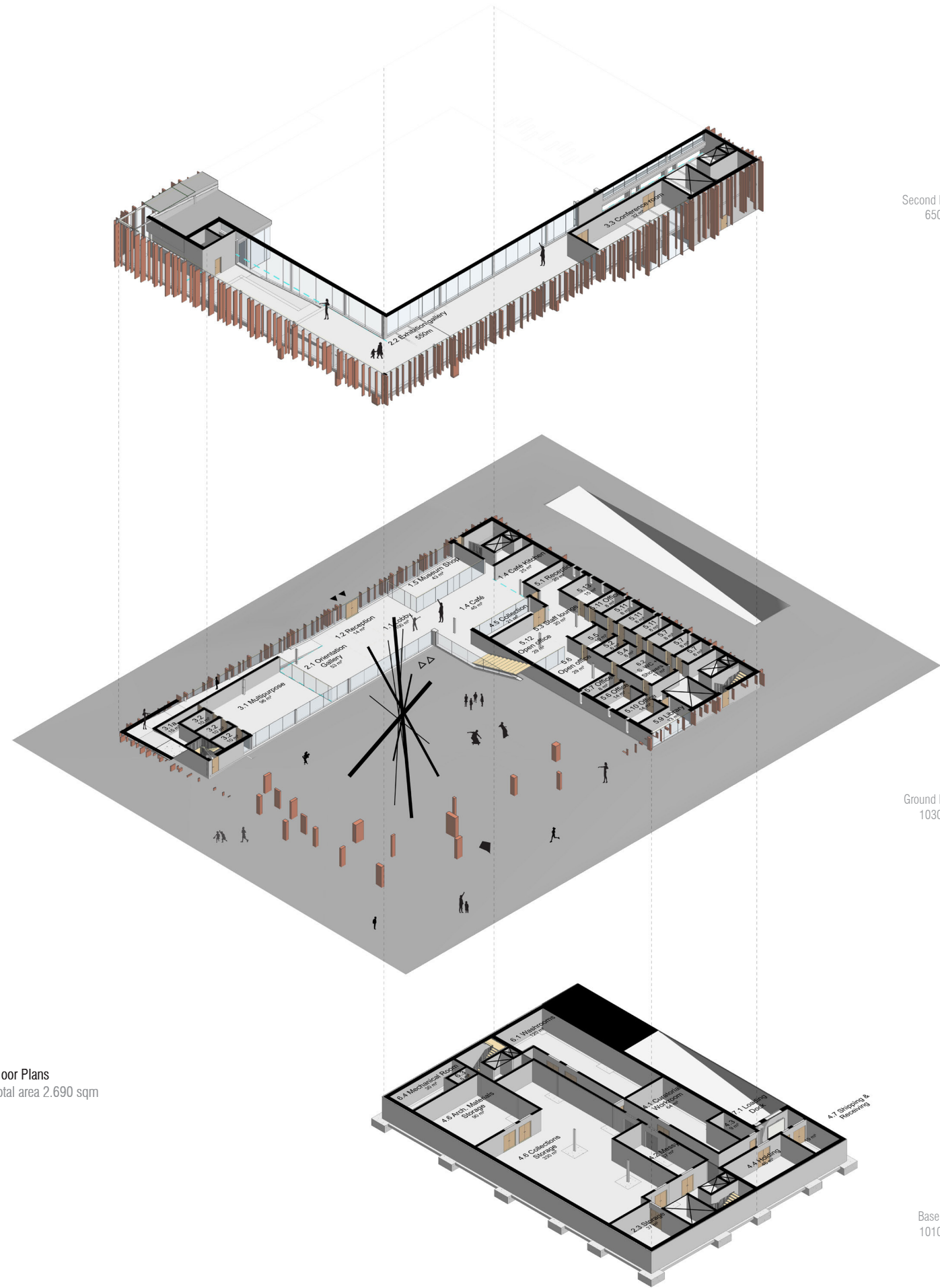
The museum is a journey.
A journey through the exhibition gallery and through the museum natural surroundings - the harbor and its nature.

The museum has an exhibition program that allows open facades and unidirectional light.
For this reason and because of the particular site, the walk through the exhibition gallery will also allow us to explore the site surroundings, landscape, panoramas and its different views.

The journey starts and ends at the entrance / lobby.
The museum's programme distributes itself in a loop.
From the entrance the visitor is forwarded to a ramp that slopes with the building and allows/opens different views/perspectives of the site in each moment/step of the way - always together with the architecture and design exhibition.
At the same time, at the upper levels, the gallery opens thoughts of the plaza/courtyard and this museum element also becomes a part of the gallery journey experience.
The museum is for the visitor to experience the exhibition pieces and the site nature.
The museum lives from the site views, its exhibitions, and the architectural experience of walking through this building moments/platforms.

6. Design Museum

Toronto City | CA

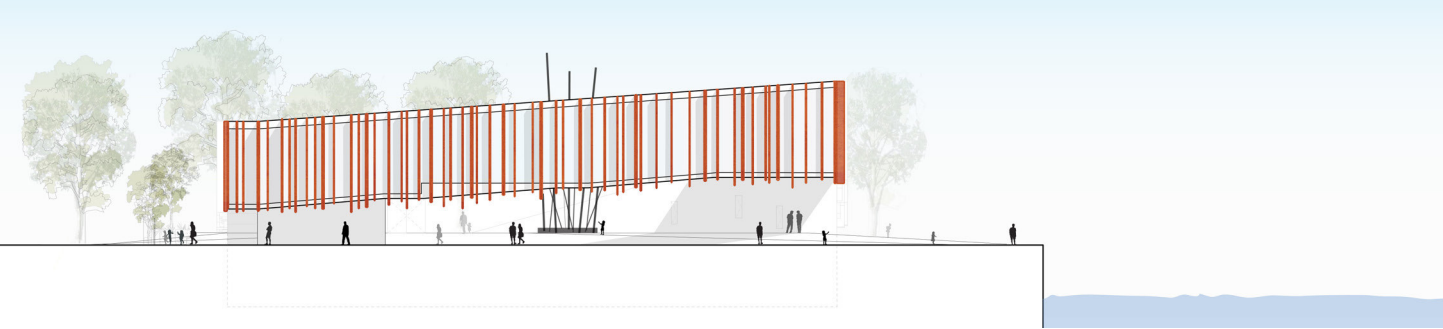


Floor Plans
Total area 2.690 sqm

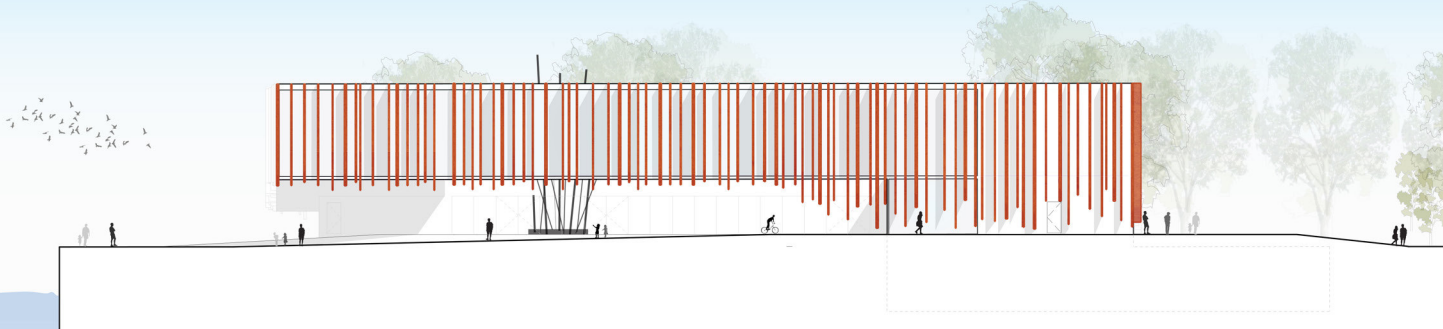
Second Floor
650sqm

Ground Floor
1030sqm

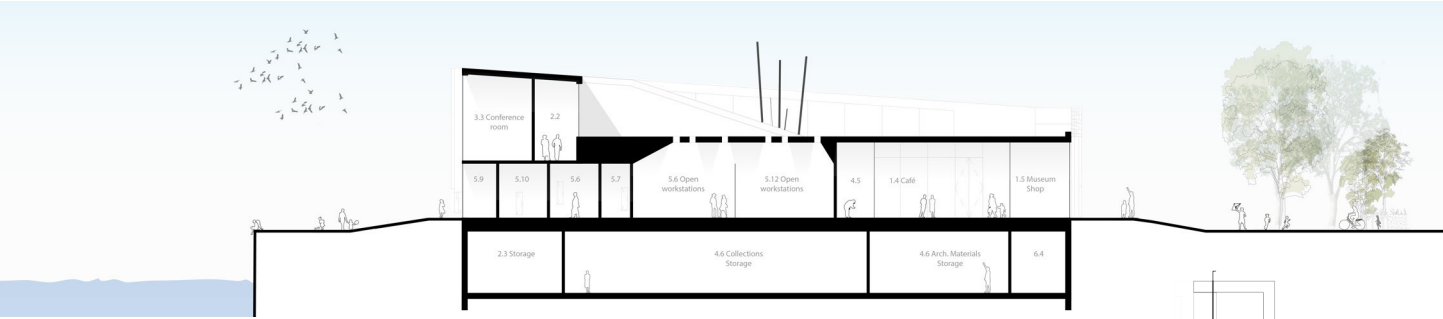
Basement
1010sqm



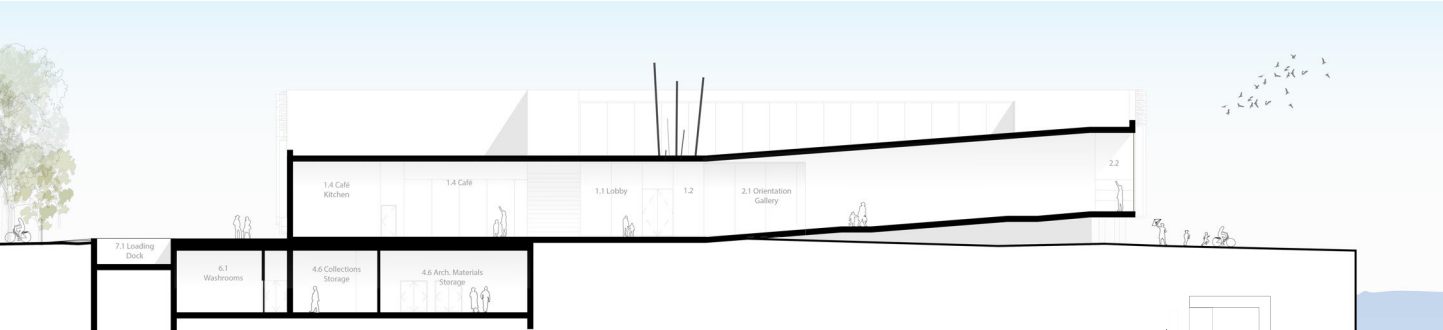
West elevation



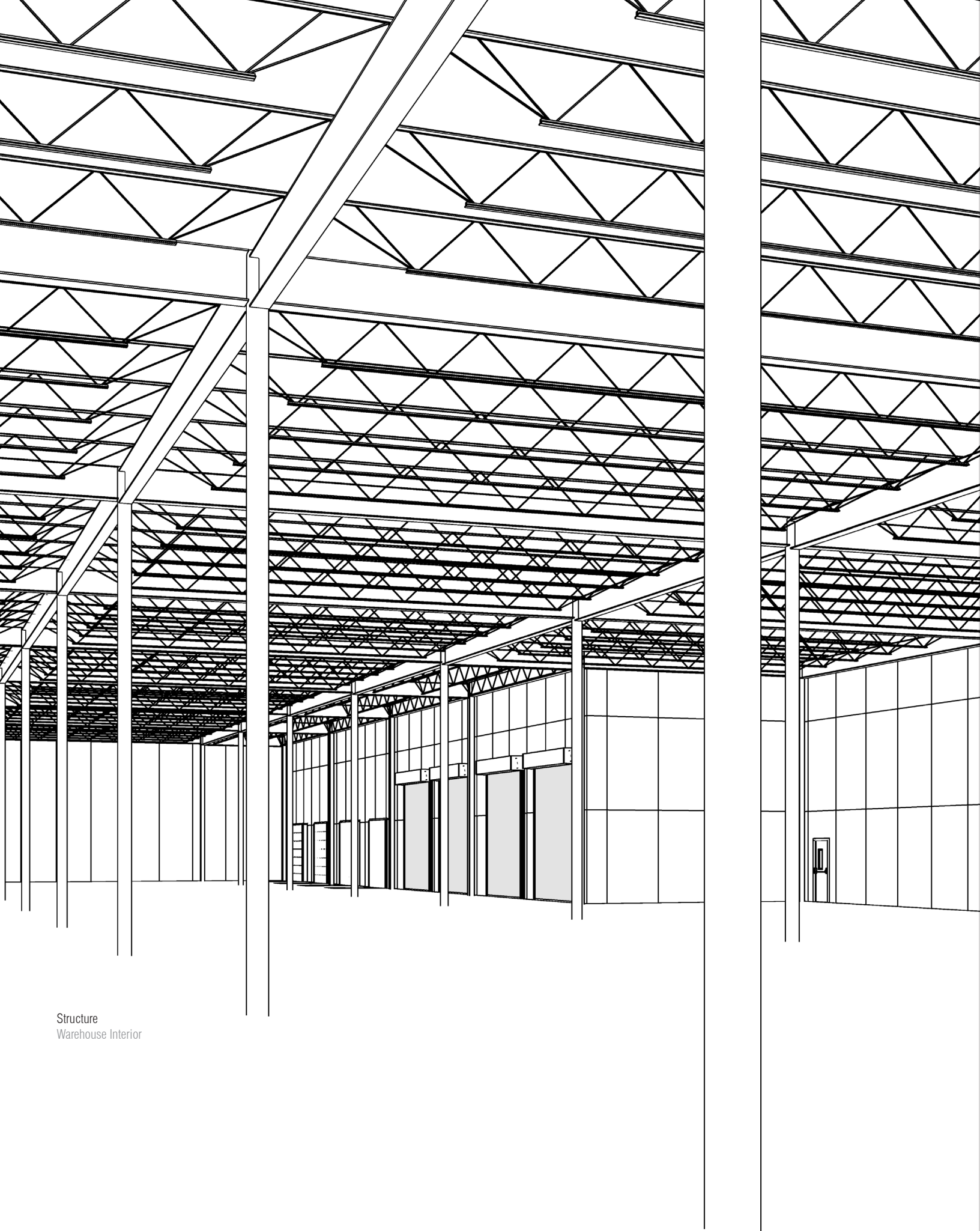
South elevation



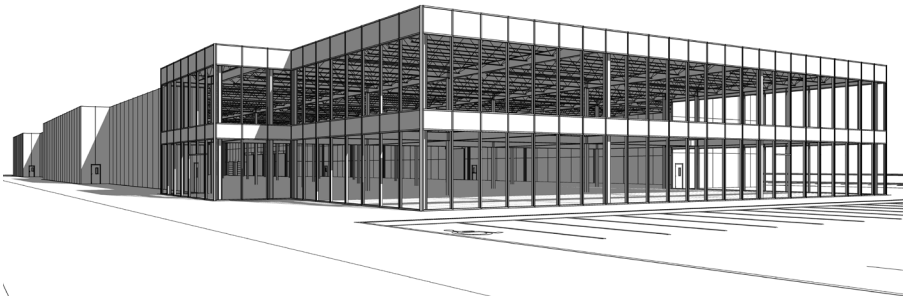
Section AA



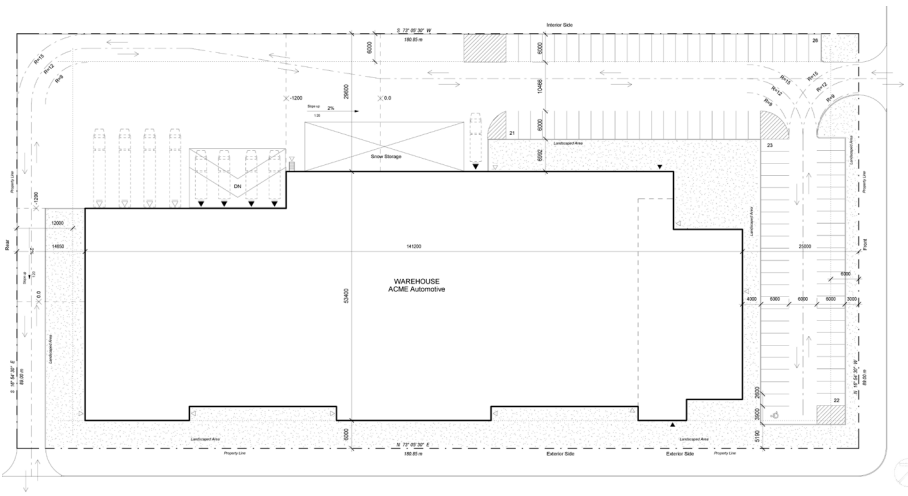
Section BB



Structure
Warehouse Interior



Street View
Warehouse Entrance



Localization Plan
ACME Automotive

Winter 2017 | George Brown College, Toronto
Fifth Semester Project
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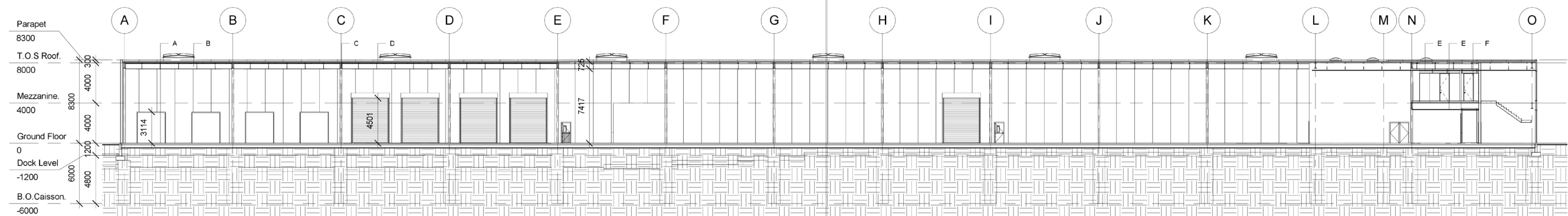
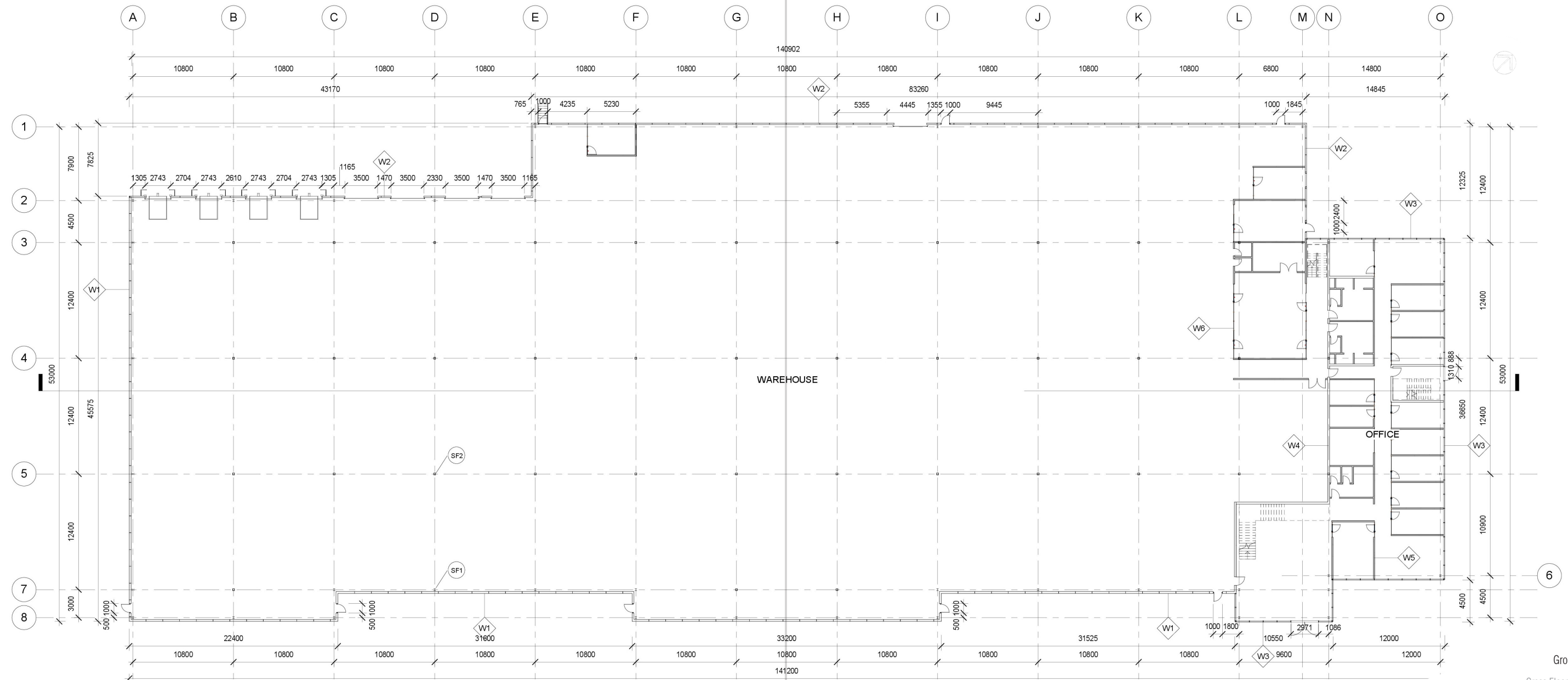
The building is located in the City of Vaughan, just north of Toronto.
The assignment was to develop a warehouse-type building for lease to a perspective tenant and the production of a set of Construction Drawings & Documentation according to the municipal zoning regulations. The building have a warehouse area and a small office area mainly to run/manage the warehouse activities.

The warehouse overall struture is builded with a conventional Steel Frame: with 8"x8" wide flange columns at perimeter wall of building ("I" columns), 8"x8" HSS internal columns and Open web steel joists 24" deep. From the top of ground floor slab to top of structural steel at roof = 26', and from top of slab at ground slab to top of steel at future second floor 13'-0" of height and 8" of parapet.

Exterior Materials are 3 different types of curtain wall systems used on the exterior of the building: 9" thick precast concrete panel curtain wall at warehouse walls, Glazed curtain wall at office area walls and Insulated metal siding curtain wall at rear wall of warehouse.

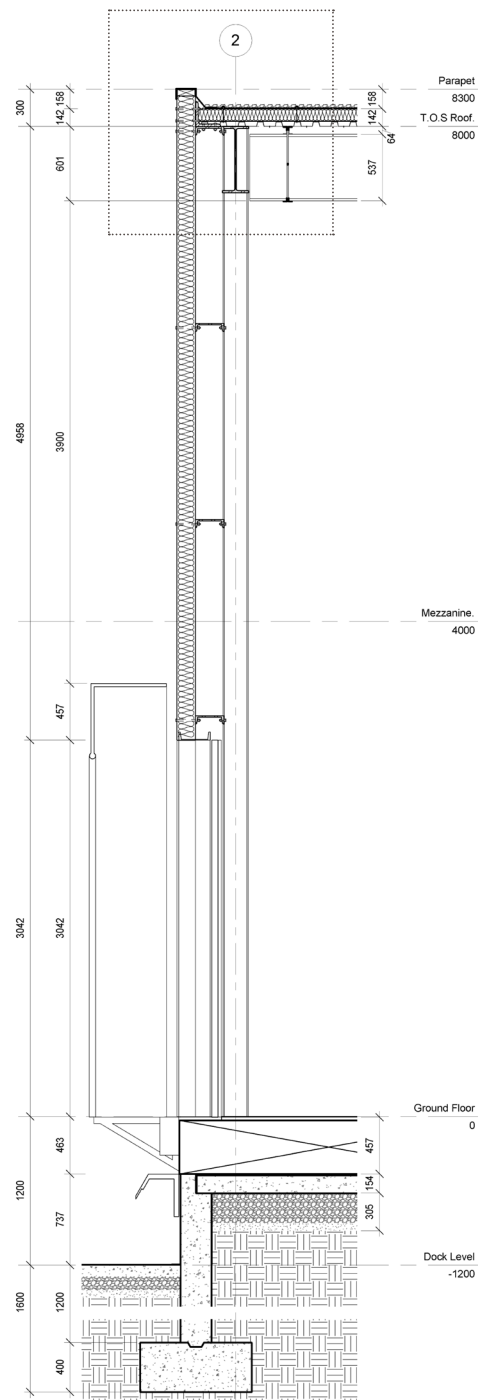
7. Warehouse

Vaughan City | CA

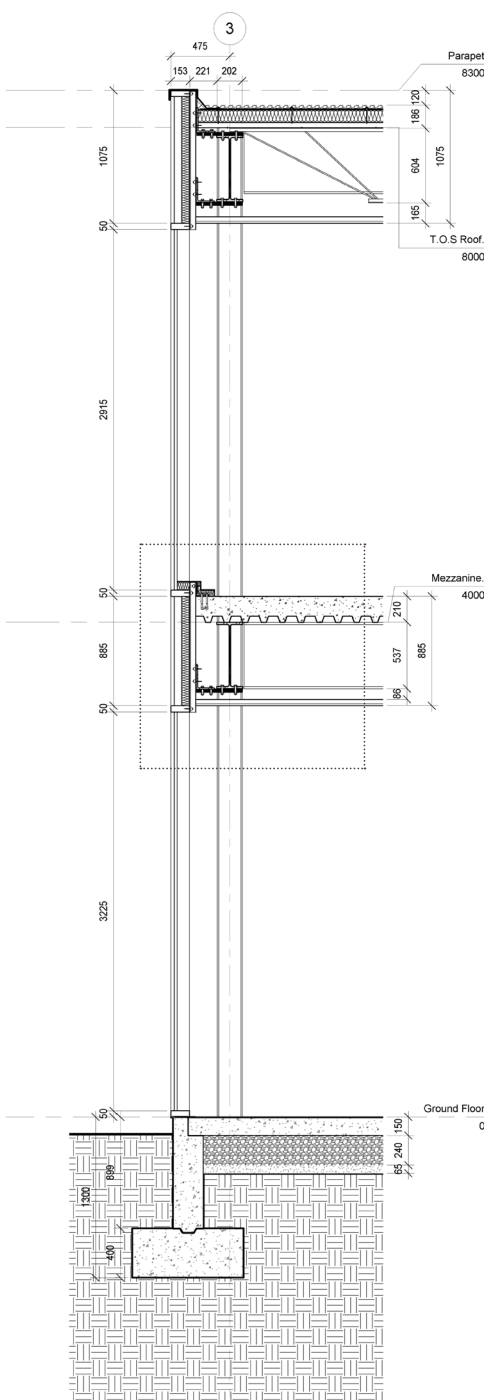


Materials

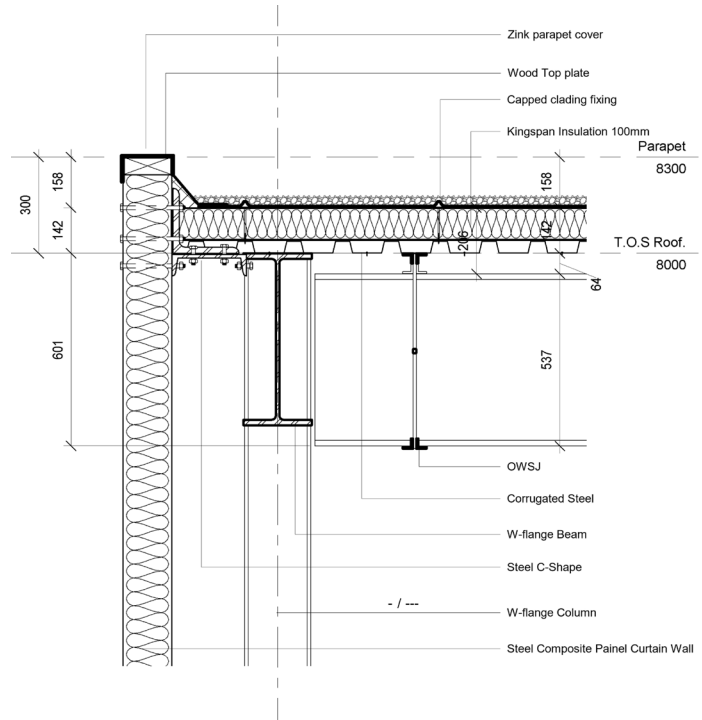
- A - Ground Floor Slab: Concrete;
- B - Open Web Steel Joist;
- C - Wide Flange Beam;
- D - Roof: Corrugated Steel Deck, insulation, Gravel;
- E - Ceiling;
- F - Second Floor Slab: Corrugated Steel, Concrete.



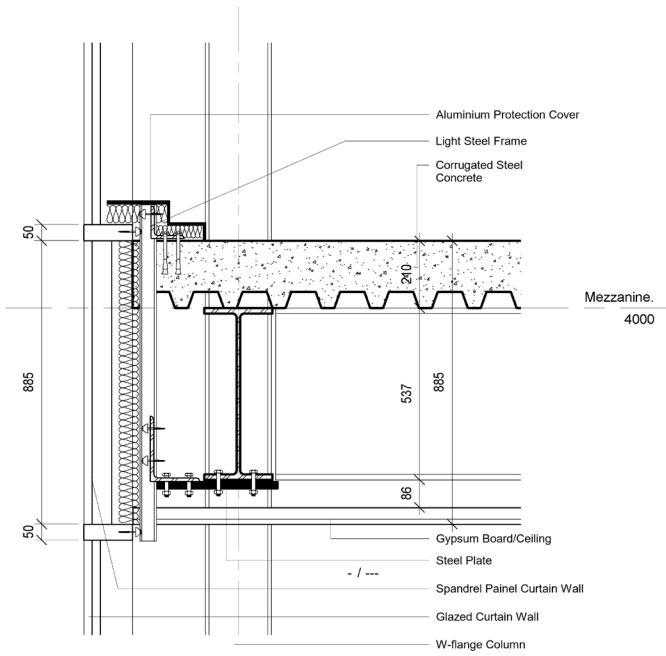
Wall Section W1
Insulated Steel Composite Panel Curtain Wall 150mm
Loading Dock Gate



Wall Section W2
Glazed Curtain Wall 150mm
Offices Area



Section Detail W1
Warehouse Area: Pre Fabricated
Insulated Steel Composite Wall Exterior x Roof



Section Detail W2
Office Area
Glazed Curtain Wall x Second Floor Slab