

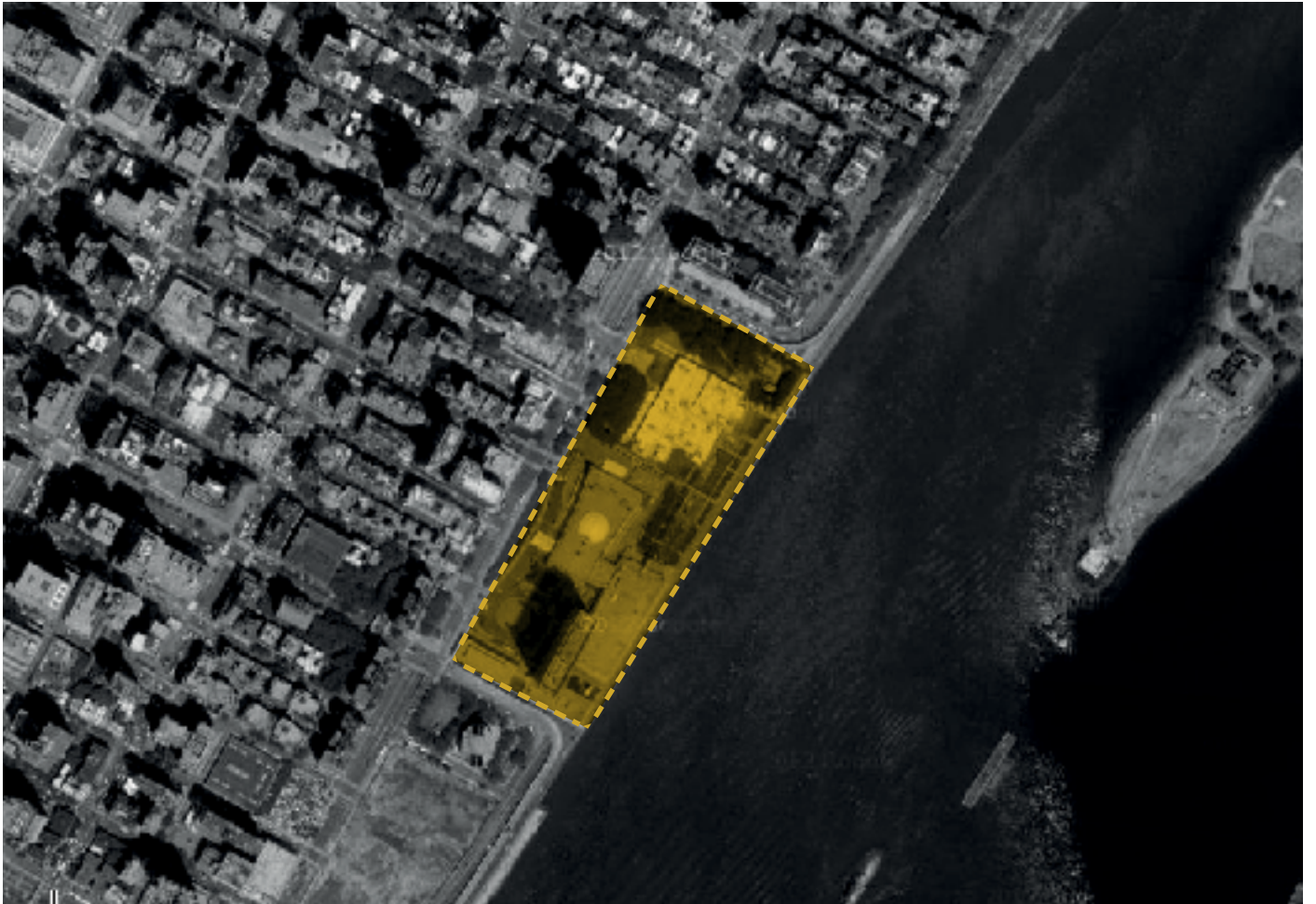


UN-HQ

DESIGNING FOR DIPLOMACY - PROCESS

North Lawn Building, NYC

Veronica Dubourgh Hellebergshaugen NTNU 2015



Advisor: Steffen Wellinger



ACRONYMS

FDR	Franklin D. Roosevelt East River Drive
GA	General Assembly
HQ	Head Quarters
NYC	New York City
NLB	North Lawn Building
ODMU	Oversesas Development Management Unit
SG	Secretary-General
UN	United Nations
UNDC1	United Nations development programme

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PROCESS

The process book contains selected work from the whole process after delivering the Pre-Work up until submitting the project.

It tries to keep an order relating to the timeline of the work but jumps around at times.



WATERFRONT DEVELOPMENT

Seeking to be a healthier city the NYC planning department released A Greener Greater New York. The main contence of the document is that the city will focus on the environmental development both for the city and it's inhabitants.

The city is working towards reducing carbon emissions 80% by 2050.

When Sandy hit Manhattan in 2012 the lower parts of the city was completly flooded and the work started towards planning a waterfront system to prepare for a simliar event happening again. The idea of a green border around the whole of Manhattan started emerging. BIG has been given the task to develop further on the project as you can see in the illustrations below.

The main goals relating to the North Lawn project is:

- ACCESS TO PARK WITHIN A 10 MINUT WALK ALL OVER MANHATTAN
- CONNECT FRAGMENTED EXISTIN PARKS
- BICYCLE ROADS
- WATERTAXI
- INCREASE FACILITIES
- INCREASE RECREATIONAL ZONES

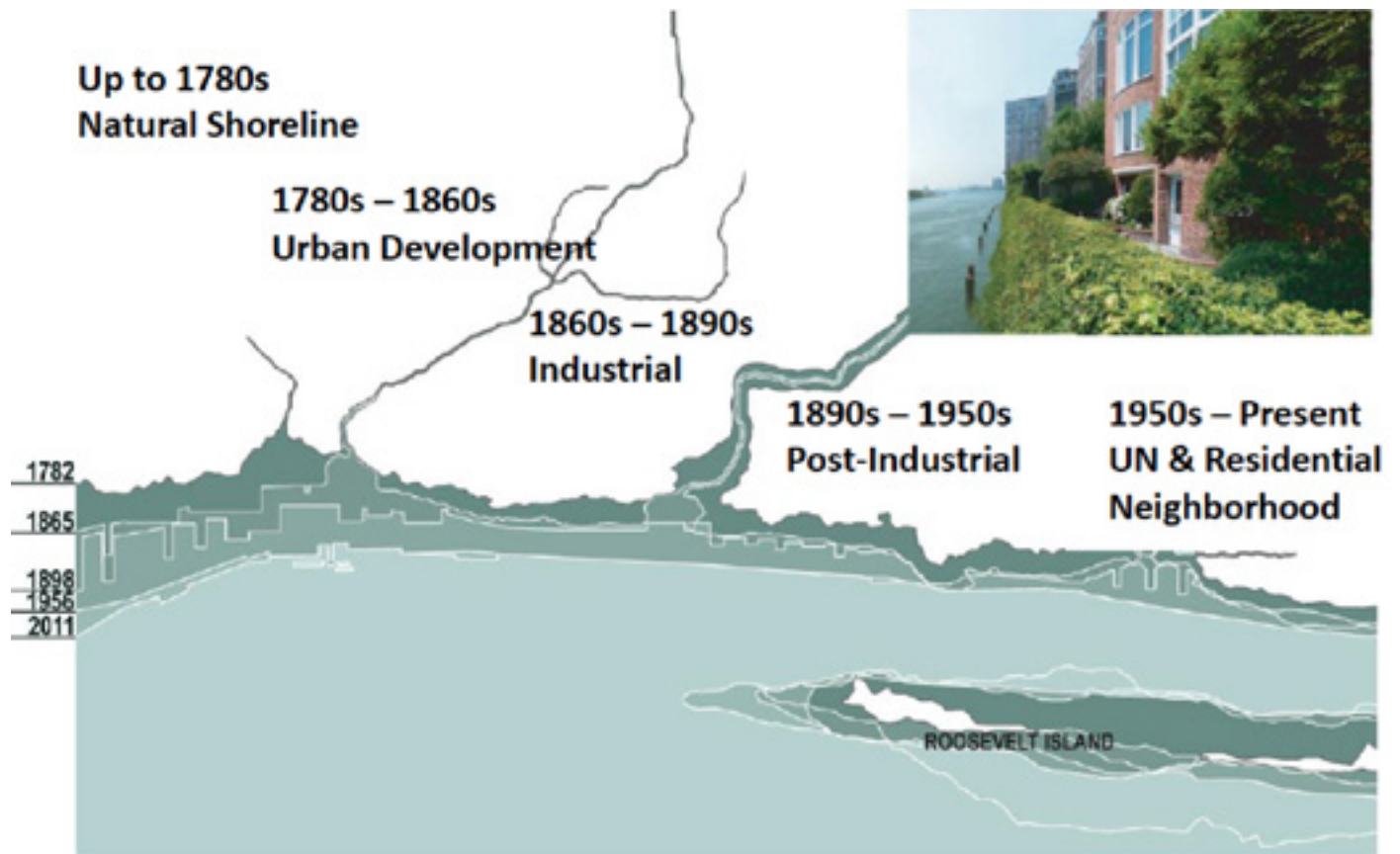


III. BIG, Manhattan Waterfont project

VISION PLAN EAST RIVER WATERFRONT








SHORELINE HISTORICAL DEVELOPMENT



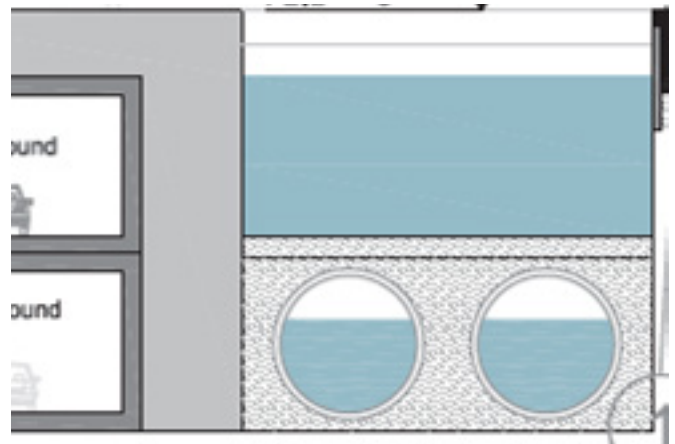
Excerpted from waterfront development presentation, see link.

WATERFRONT PLAN



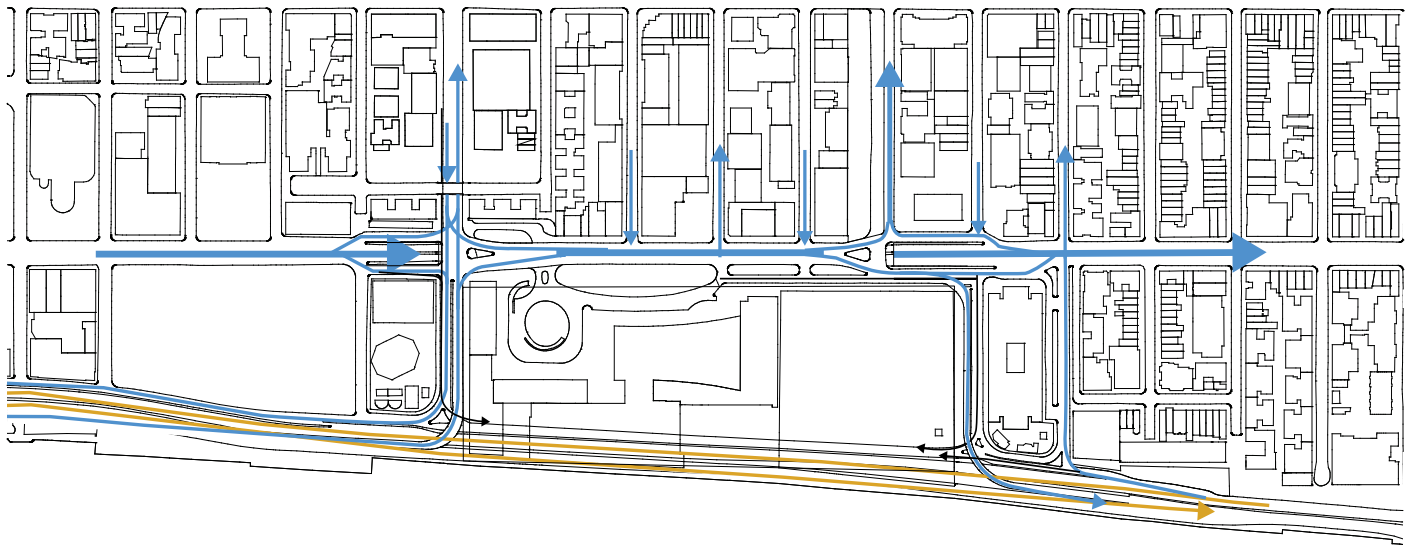
-  Subway station
-  Waterbus
-  Bike lane
-  Restaurants & Bars
-  Sport Facilities

Waterfront connection plans.
From a Greener Greater New York



Water redirection in front of the UN structure, relating to the waterfront walkway

FURTHER PLOT ASSESSMENT



Traffic Flow

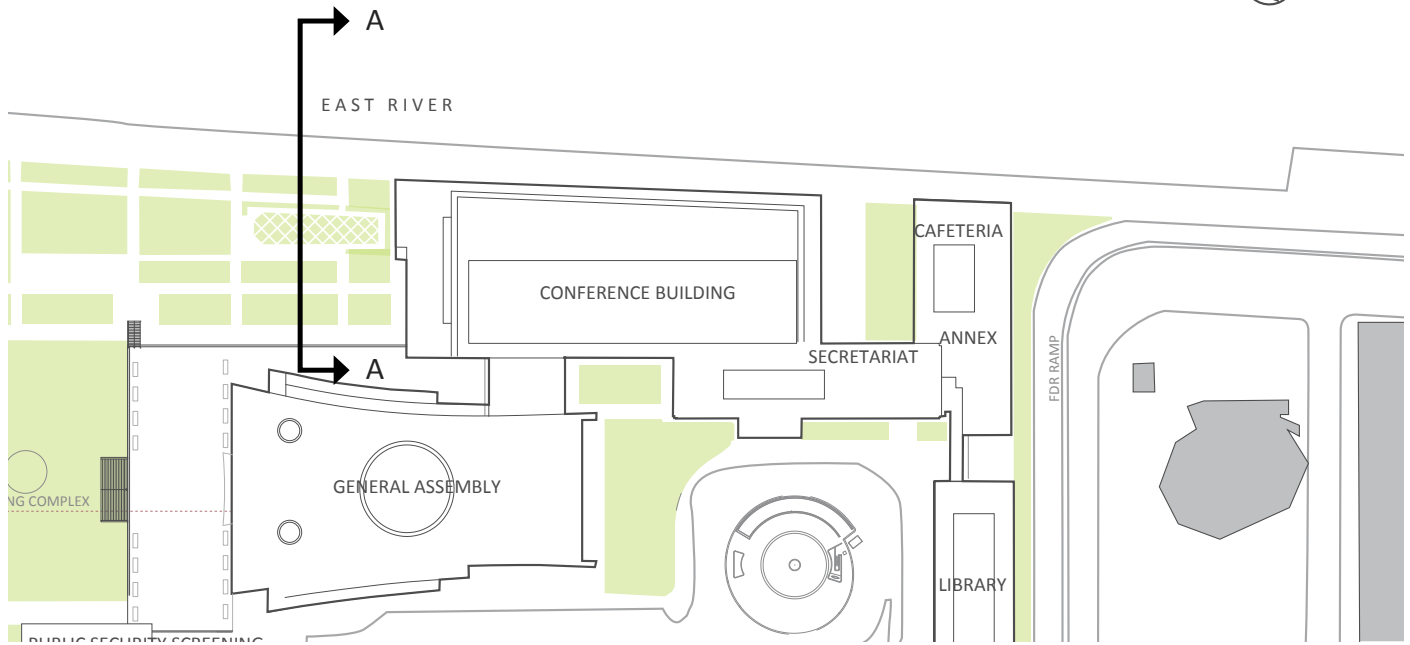


Current FDR

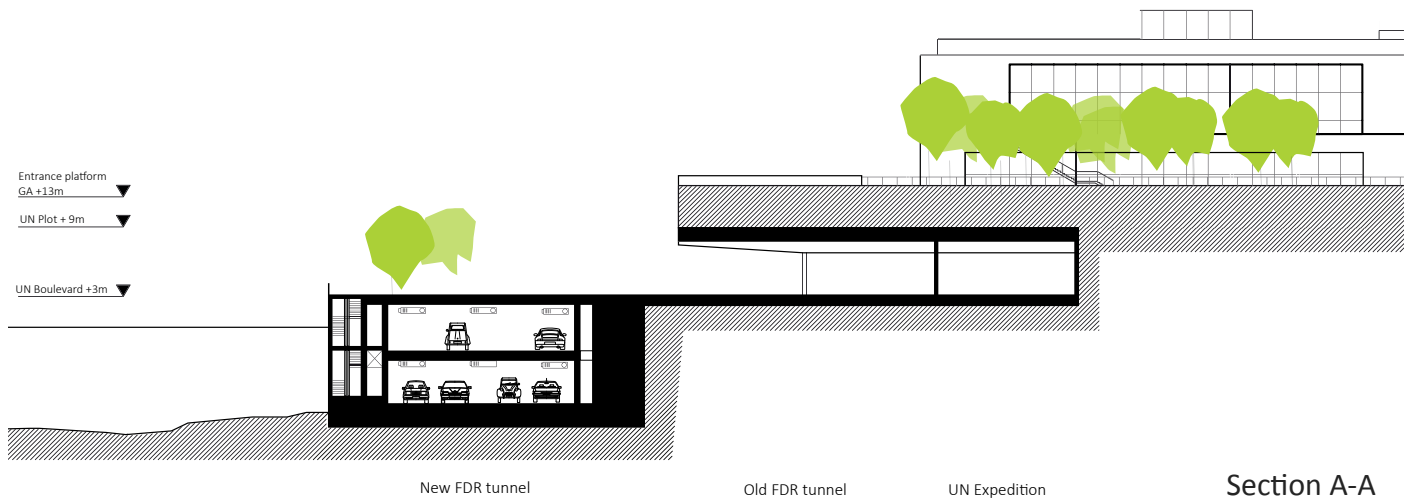


FDR view from North access

FDR RELOCATION

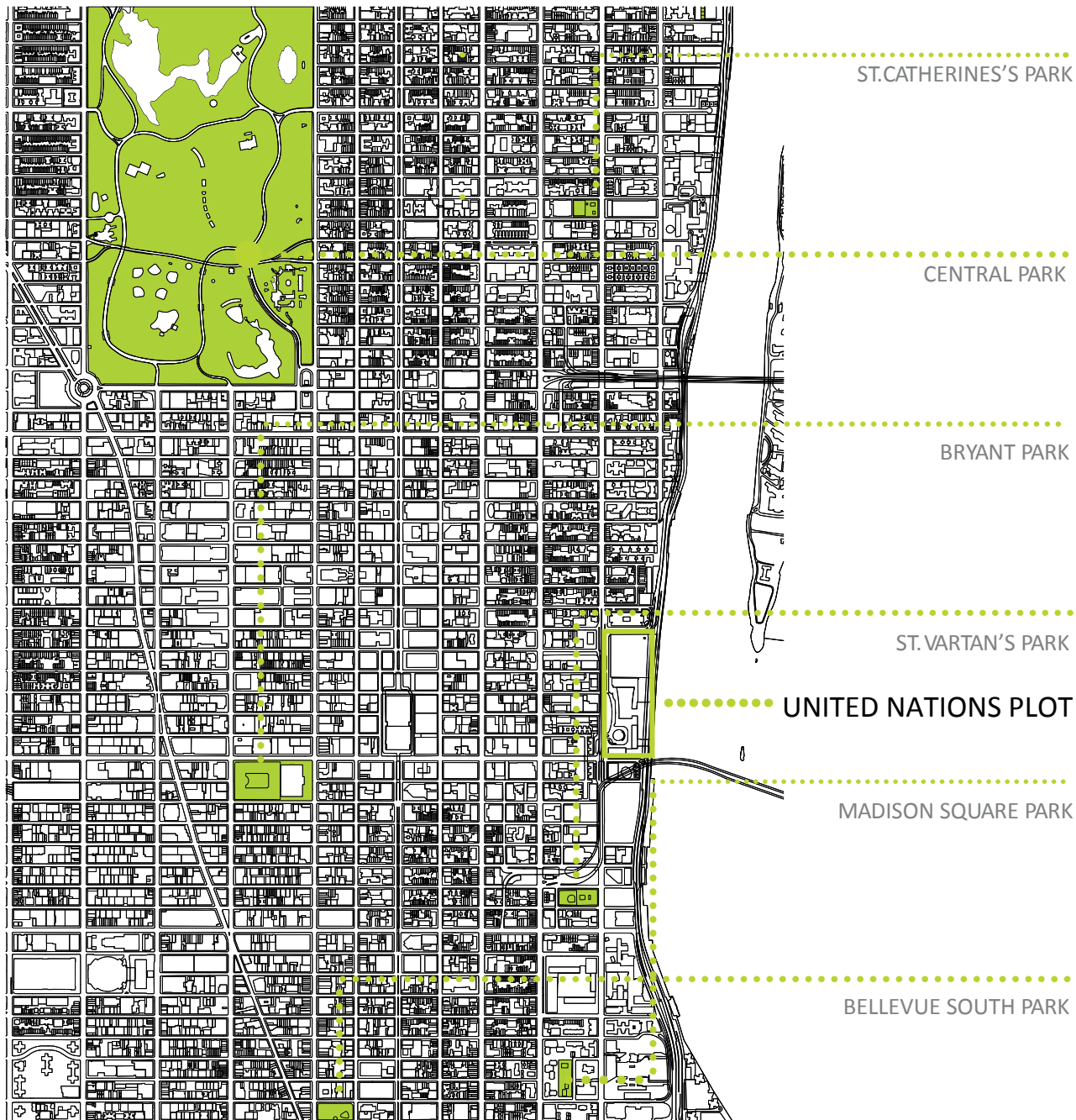


Plan FDR

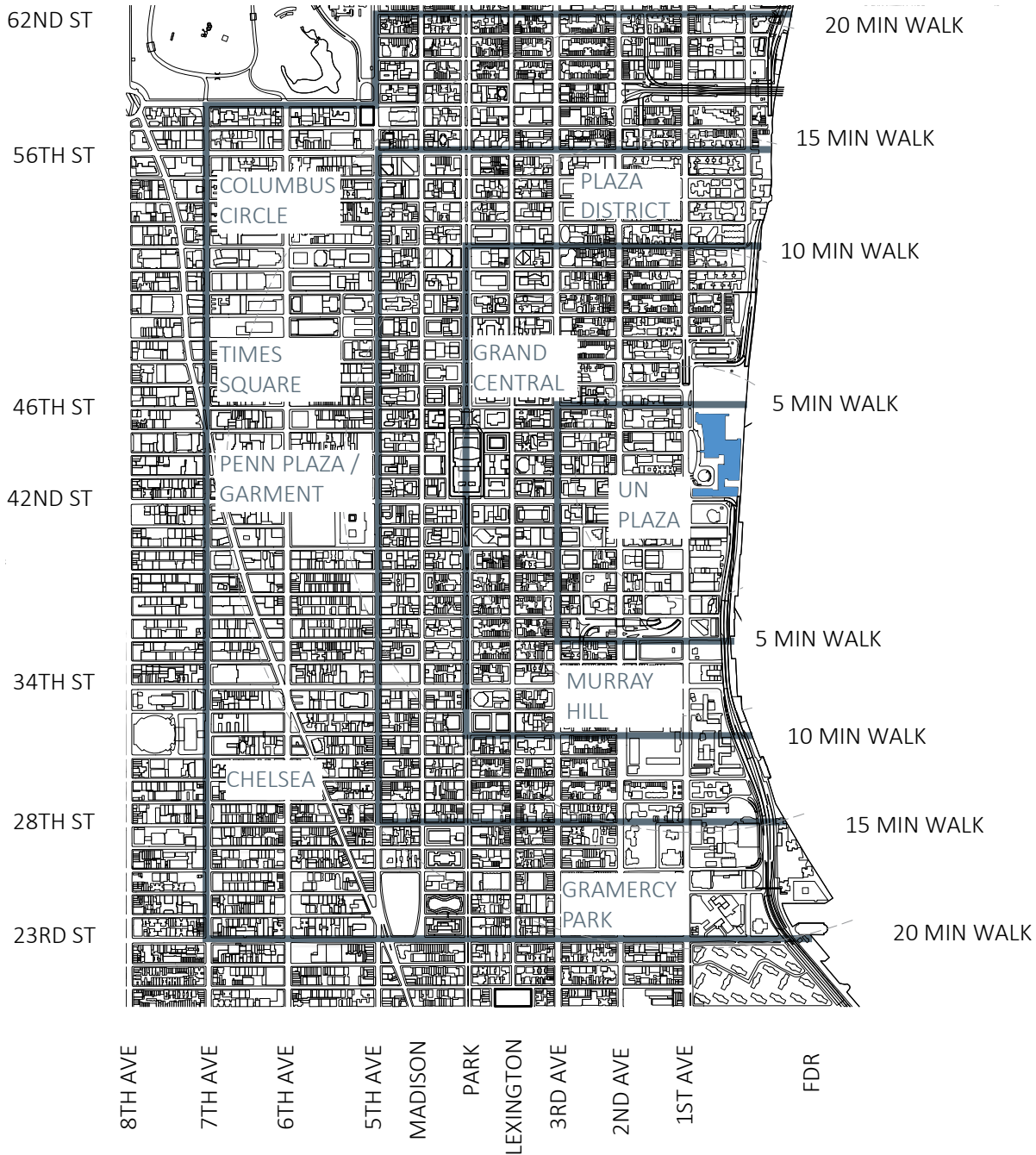


Section A-A

GREEN PLAN MID-MANHATTAN

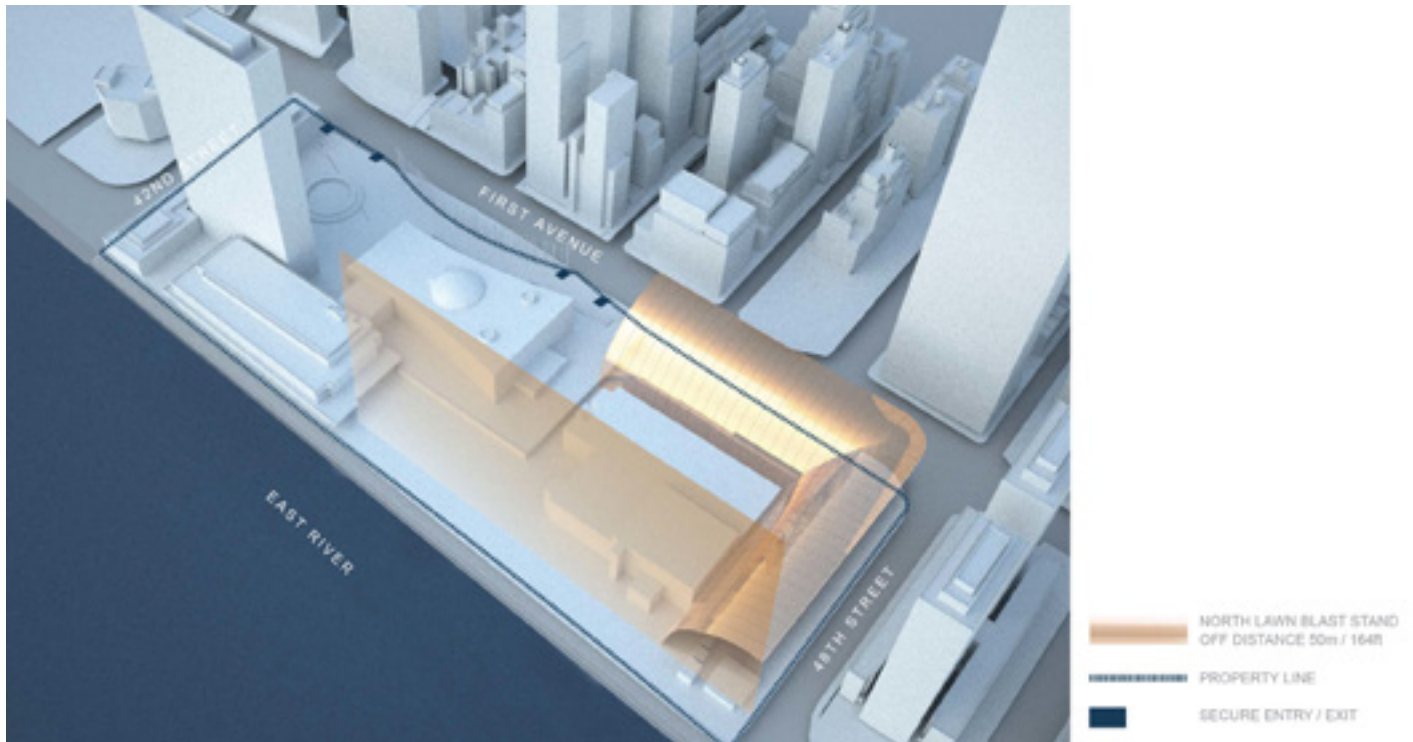


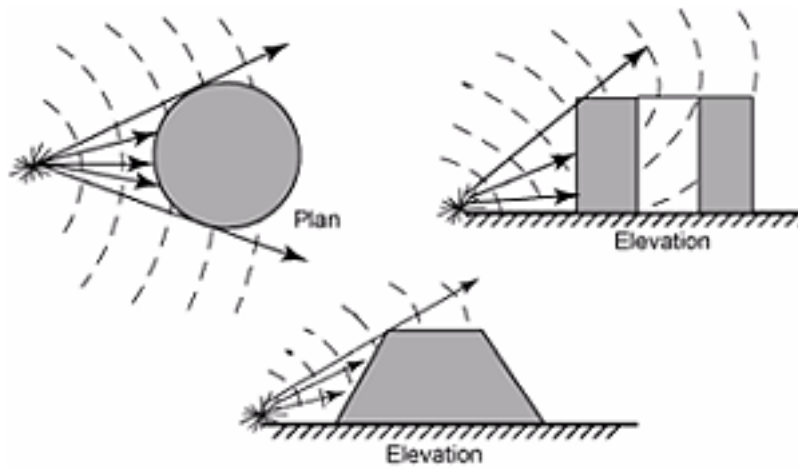
WALKING DISTANCE NYC



BLAST ISSUES FURTHER STUDIES

The diagram shows the pressure wave from a car bomb if it would be blown up by the border of the plot. The UN only relates to car bomb issues because of the stronger force that would be applied by a larger bomb.





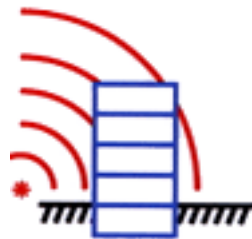
SHAPES THAT DISSIPATE AIR BLAST



SHAPES THAT ACCENTUATE AIR BLAST

BLAST

SEISMIC



ABOVE GROUND

BELOW GROUND

LOADS ON STRUCTURES

SOLAR STUDIES

The United Nations North Lawn Site is generally exposed to direct sunlight throughout the year in the morning and noon hours throughout the year. However the low winter noon sun position casts long shadows of the Secretariat Tower onto the North Lawn. As the sun sets in the evening, neighboring buildings cast shadows onto the UN campus and North Lawn throughout the year.

Spring / Fall

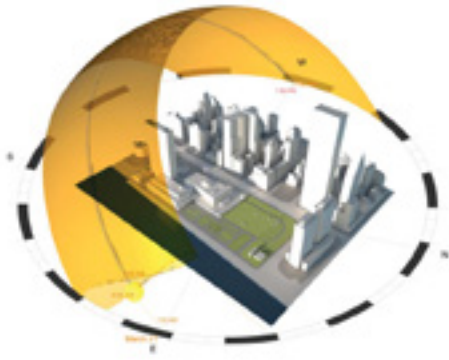
The spring and fall seasons expose the north lawn to unobstructed direct light during the morning and noon hours. There are moderate shadows from the secretariat and surrounding buildings until the evening, where the North Lawn is cast in raking shadows by neighboring buildings to the west.

Summer

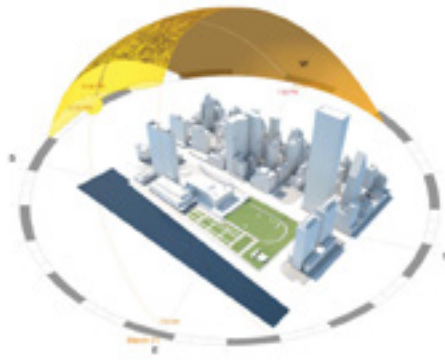
The summer season exposes the North Lawn to the most dynamic range of lighting conditions. At noon, the high sun position produces minimal shadows. While during early morning and late evening hours, the summer sun position can throw light onto even north facing surfaces.

Winter

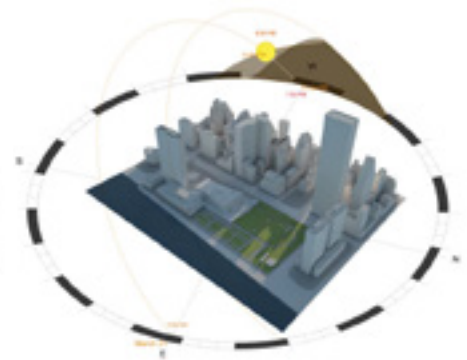
The winter season exposes the North Lawn to low light angles and the shortest number of sun hours. At noon, the low sun position casts long shadows of the Secretariat tower onto the North Lawn. During the early morning and late evening hours, the sun position does not throw any direct light onto north facing surfaces.



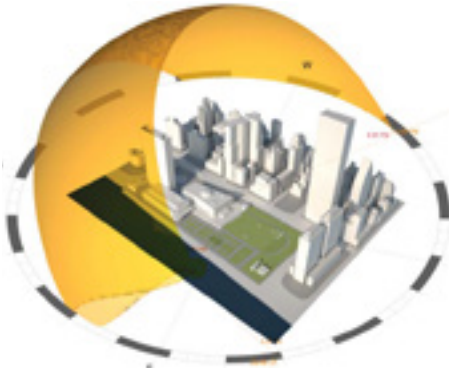
Spring / Fall Morning



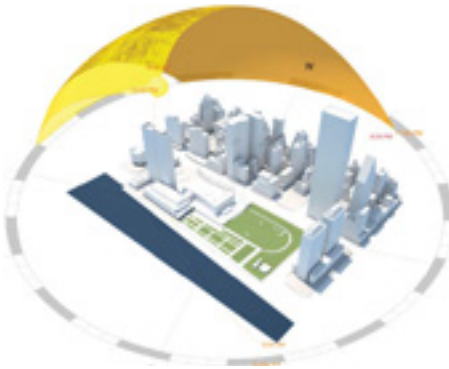
Spring / Fall Noon



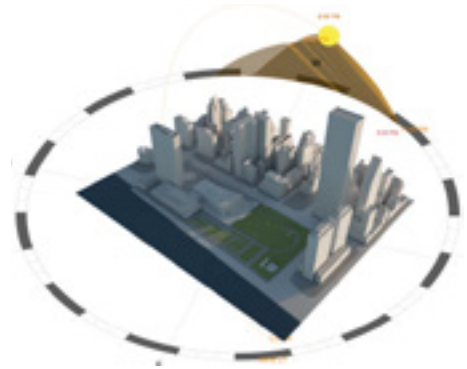
Spring / Fall Evening



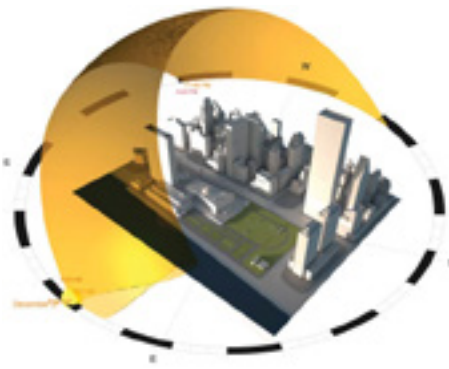
Summer Morning



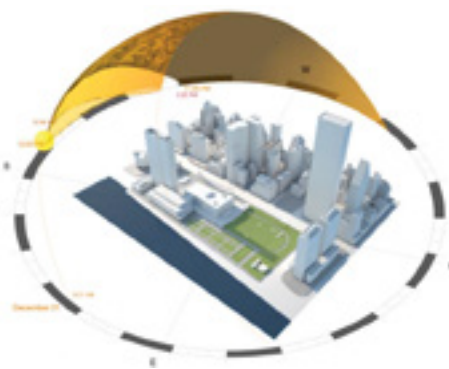
Summer Noon



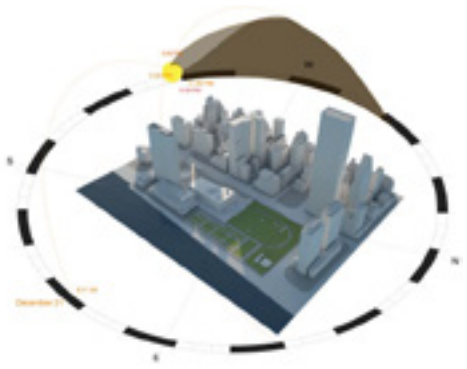
Summer Evening



Winter Morning

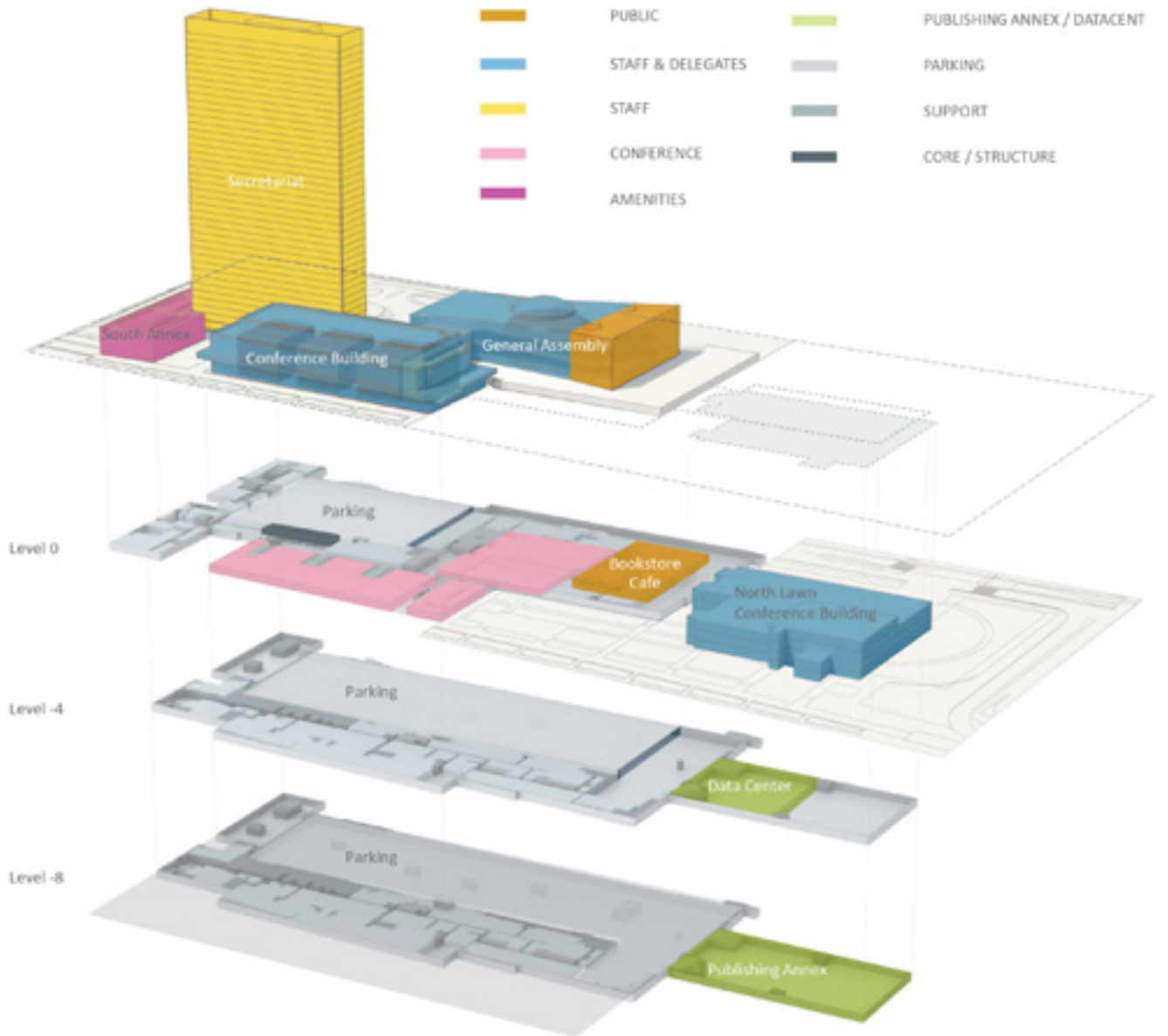


Winter Noon

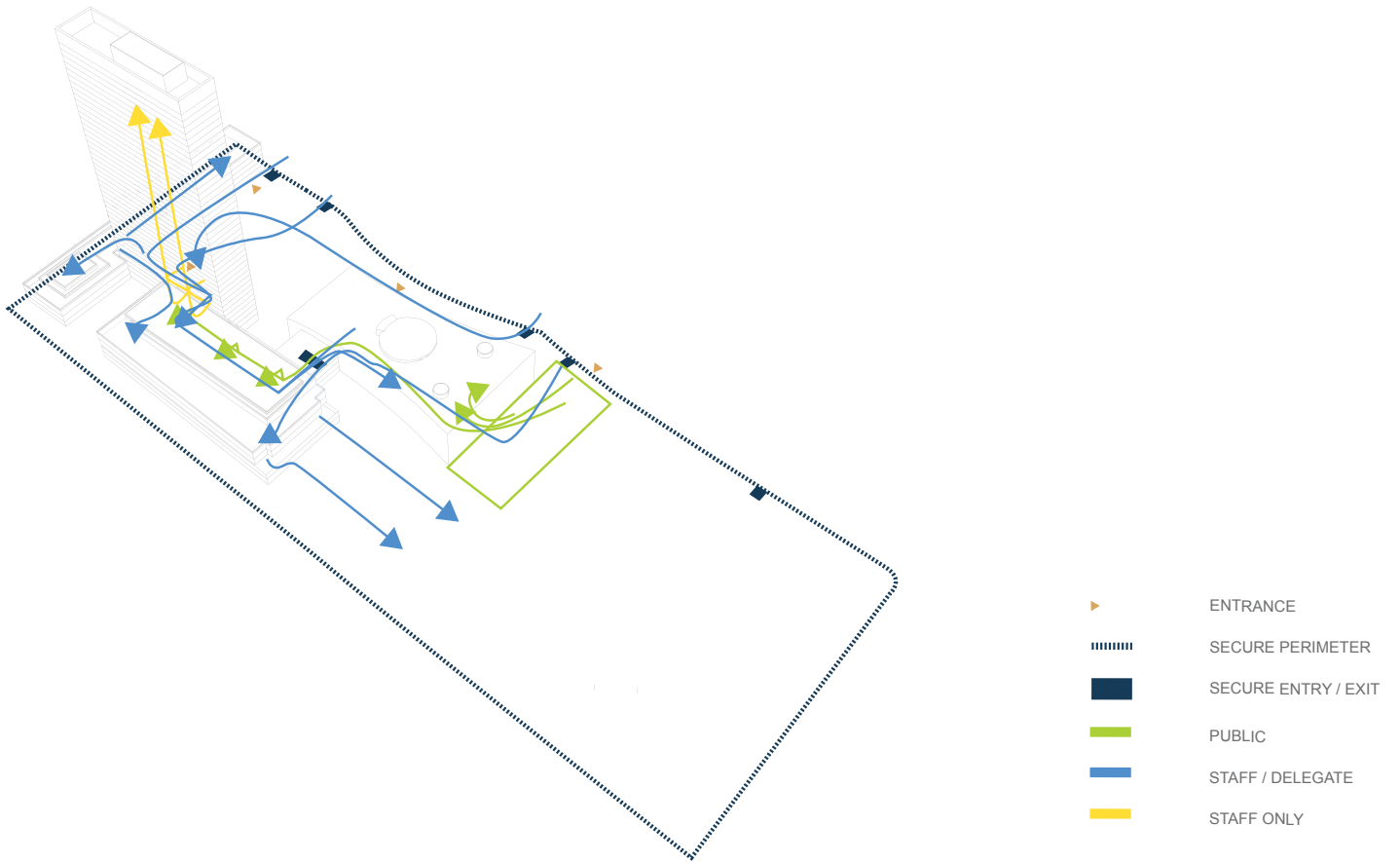


Winter Evening

CONNECTION UN STRUCTURES



CURRENT FLOW UN



GREEN PROJECTS AT THE UN

The UN is currently engaged in a urban garden project at the moment situated between the conference building and the Canteen/Library. This project will be moved to the roof of the new office structure. Relating to the UN's engagement in the sustainable goals.





FINAL PROGRAM

OFFICE SPACES	50 000 SQM
ENTRANCE	2400 SQM
VISITOR AREA/EXHIBITION SPACE	5000 SQM
LOBBY/AUDITORIUM	2000 SQM
LIBRARY/ RESOURCES	4000 SQM
LANGUAGE TRAINING	2000 SQM
CONFERENCE ROOMS	4600 SQM
CAFETERIA	2400 SQM
IT/ BUILDING SUPPORT	2400 SQM
MECHANICAL ELECTRICAL PLUMBING	5000 SQM
TOTAL BUILDING	80 000 SQM

USERS



PUBLIC

SEMI-PUBLIC



PRESS BUSINESS +



DELEGATES +



EMPLOYEES

ROUGH PROGRAM DEVELOPMENT

PUBLIC



Public
unsecured

PRESS & BUSINESS

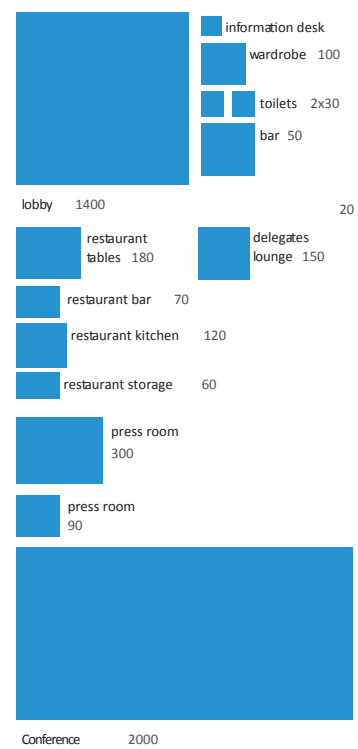
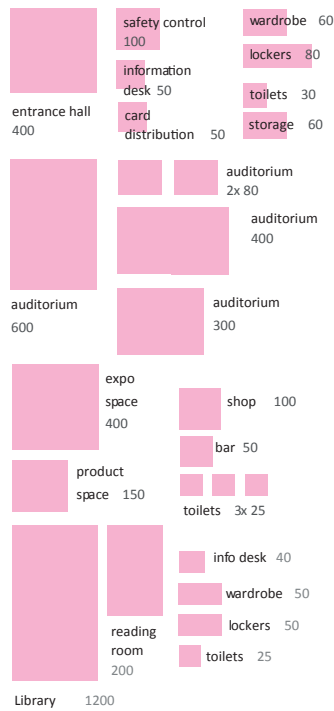
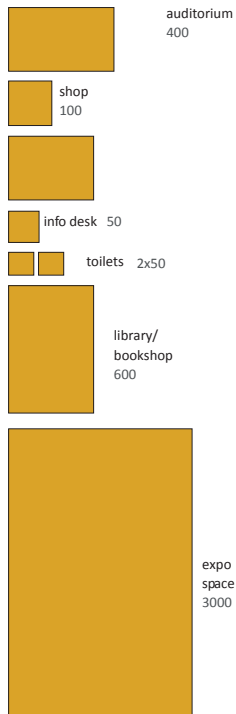


semi public
secured, full check

DELEGATES



semi public
secured, invite only



EMPLOYEES/RESEARCHERS

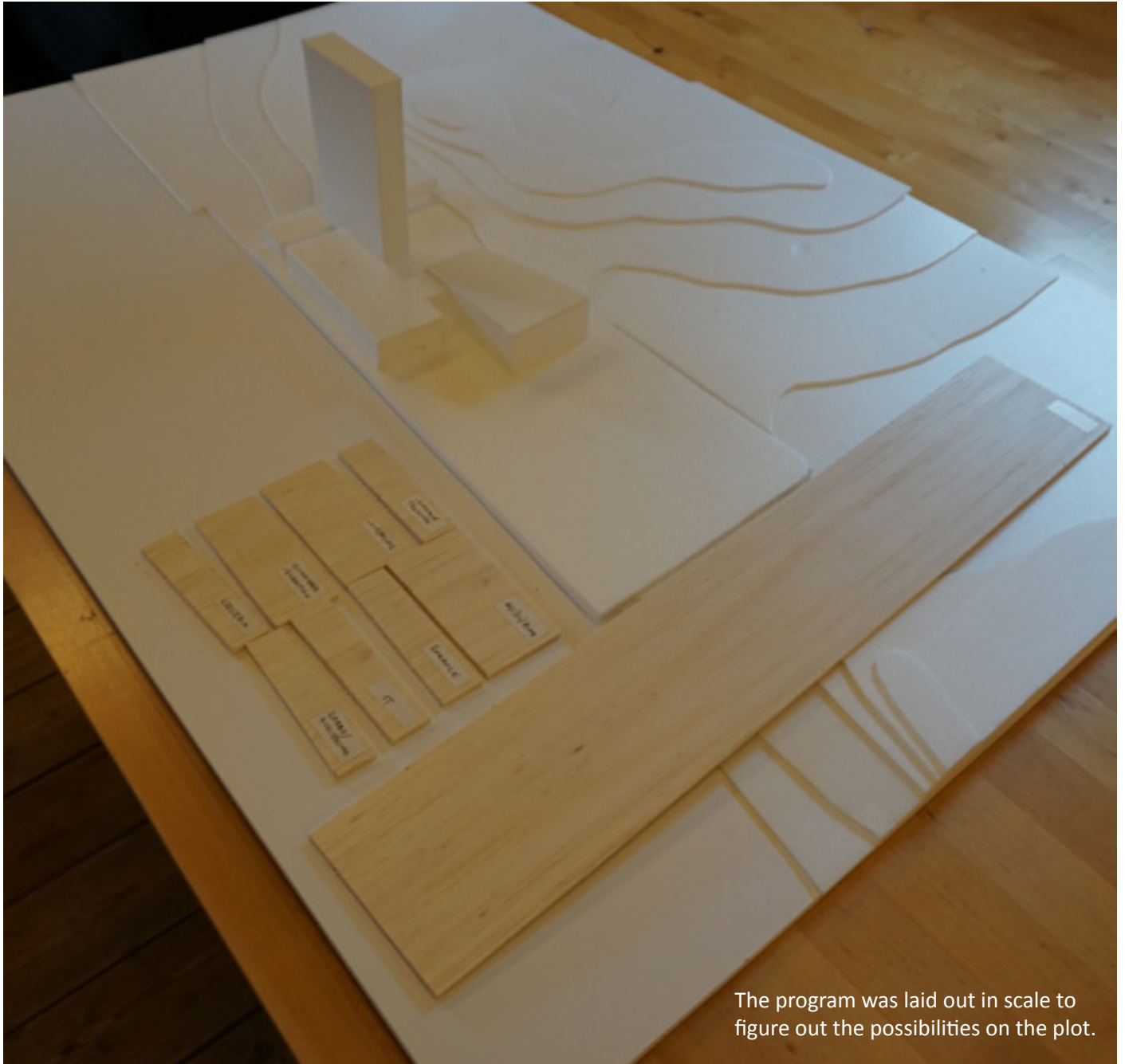


private
secured, card check

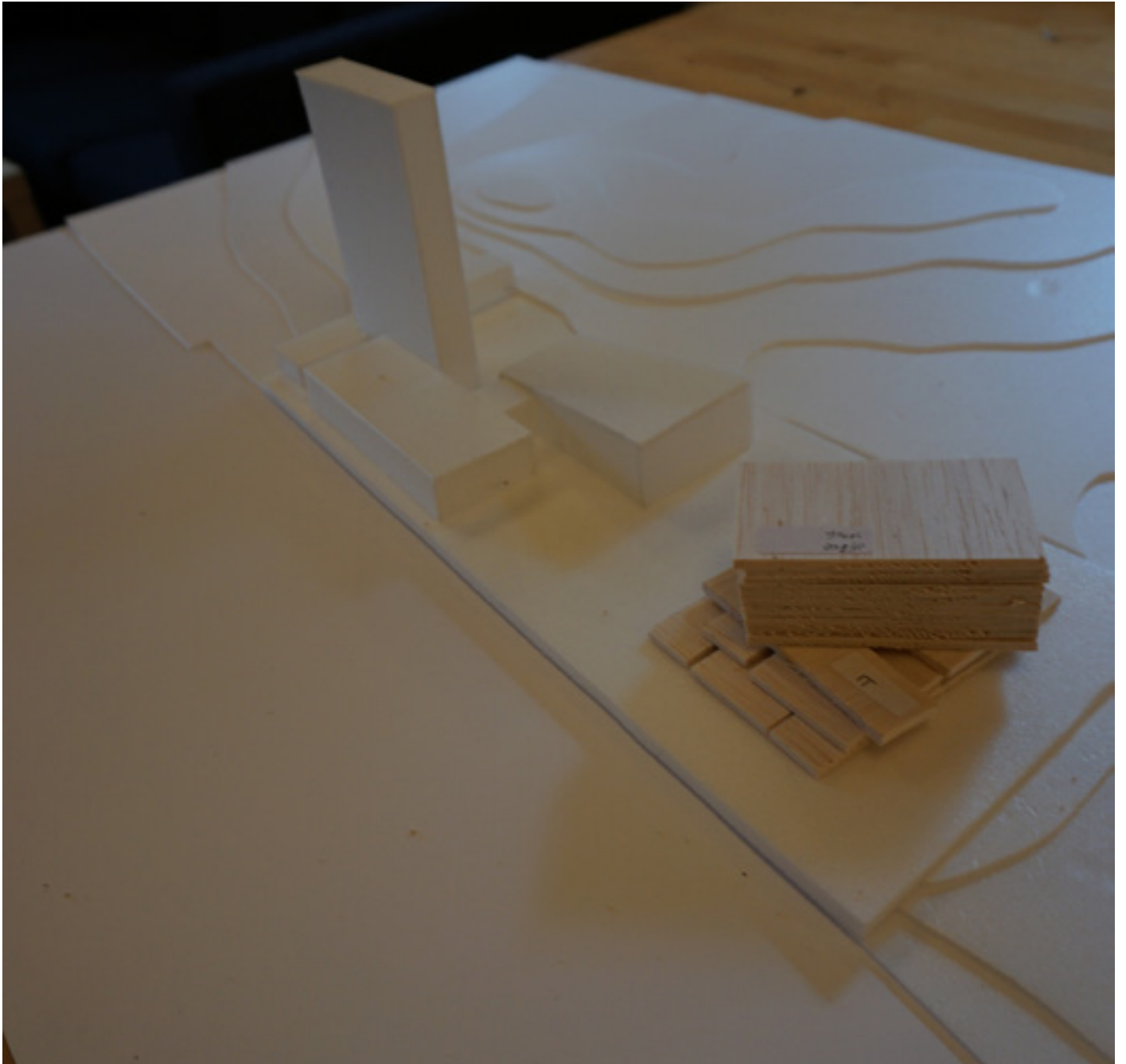


X6

PROGRAM SCALE 1.1000



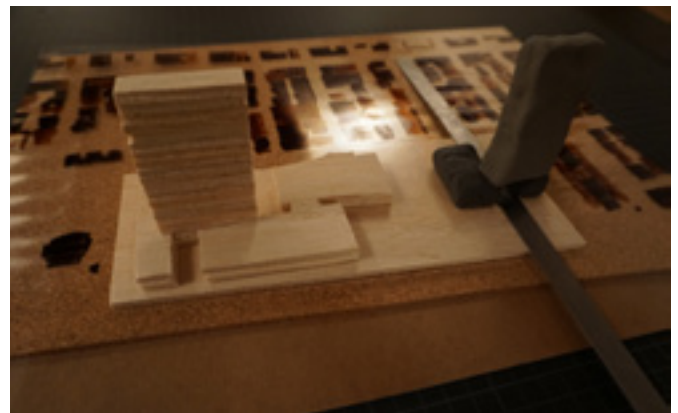
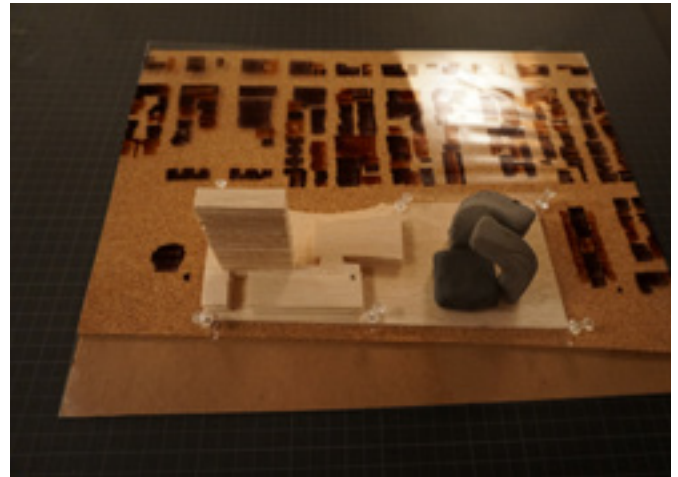
The program was laid out in scale to figure out the possibilities on the plot.

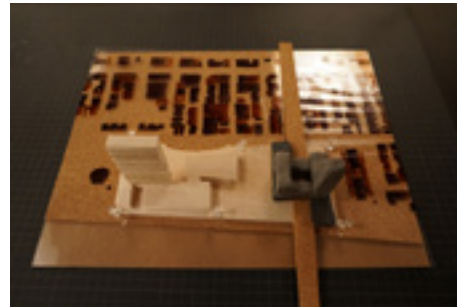
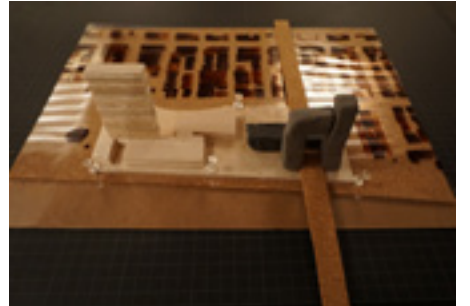
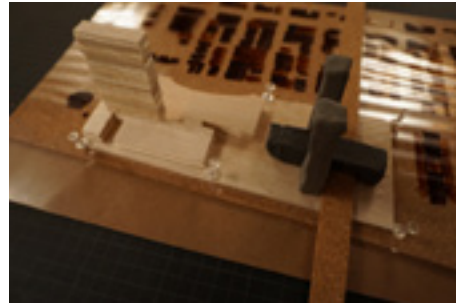
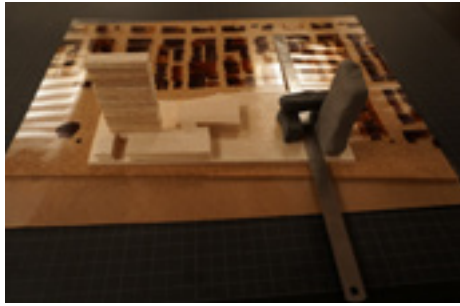


VOLUME EXPERIMENTATION

A volume experimentation was conducted in a scale of 1:2000 relating to the plot and a 47th street axis. Dividing the clay into two parts, the grey containing the office volume the other the rest of the program.

The main focus of the exercise was relating to the existing scale of the UN compound to start creating a shape.



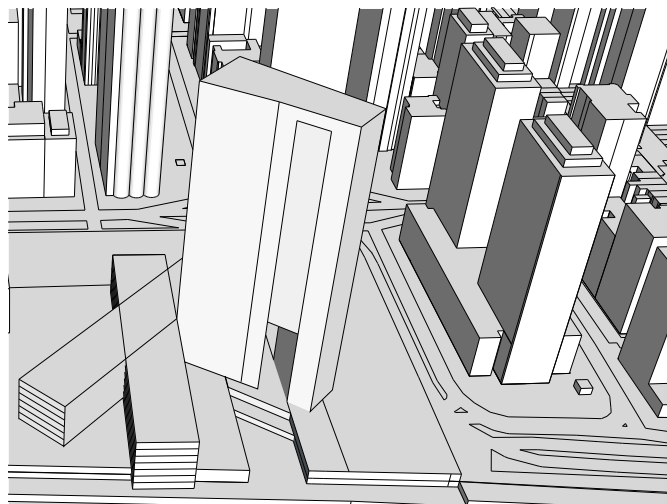
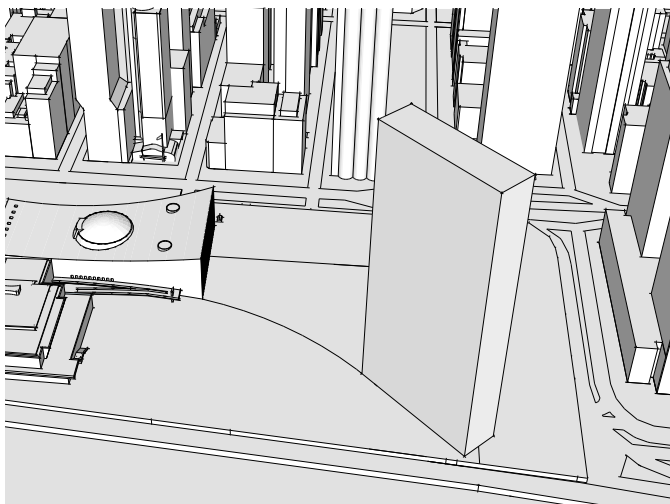
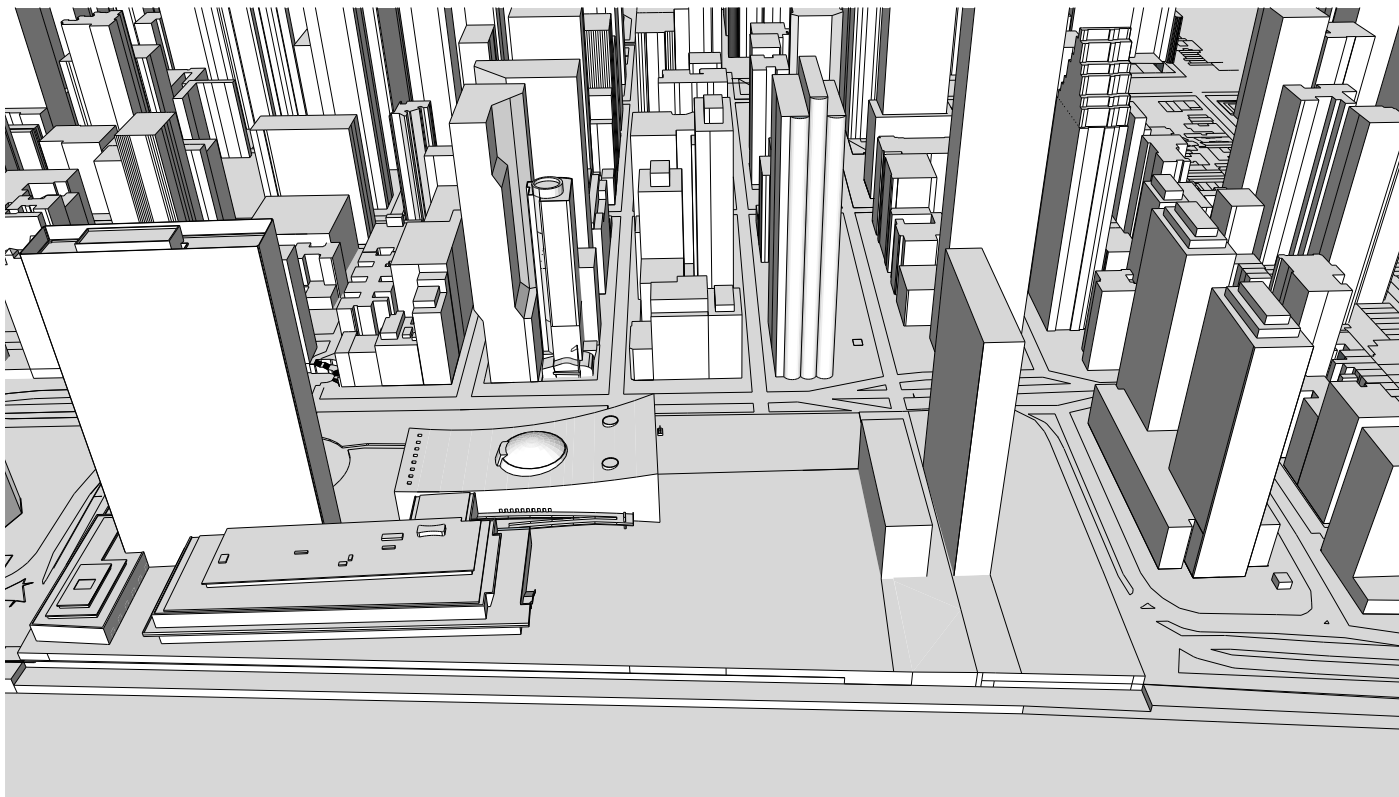


VOLUME EXPERIMENTATION PART TWO

The studies was translated into a 3D model to compare with the exact size and relations to the platou.
I decided to continue on a tower shape



47ST STREET AXIS



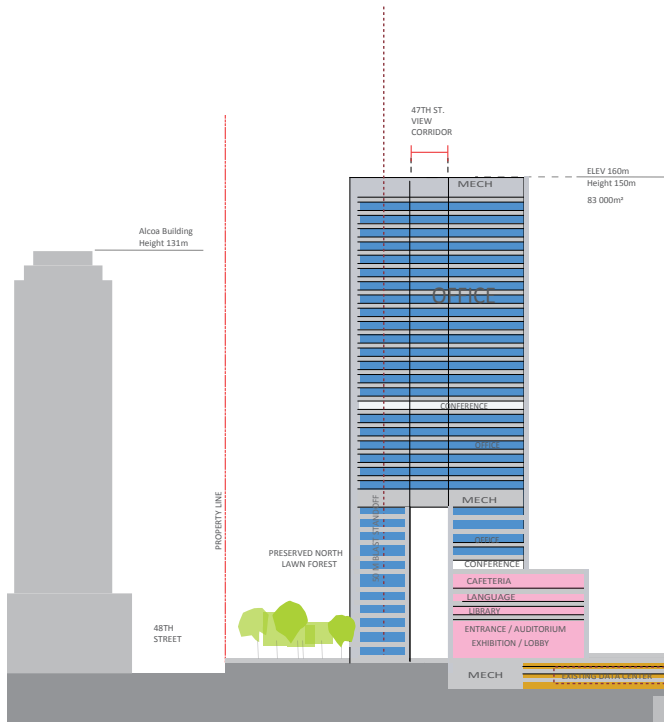
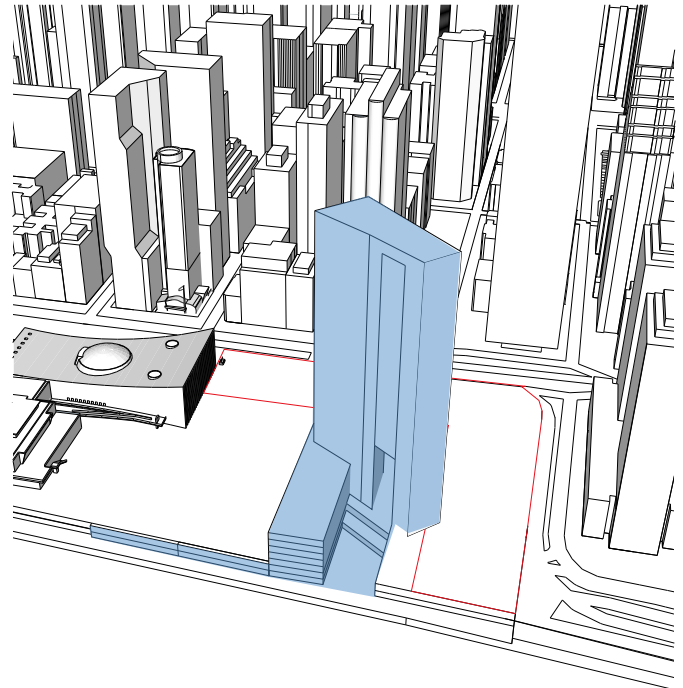
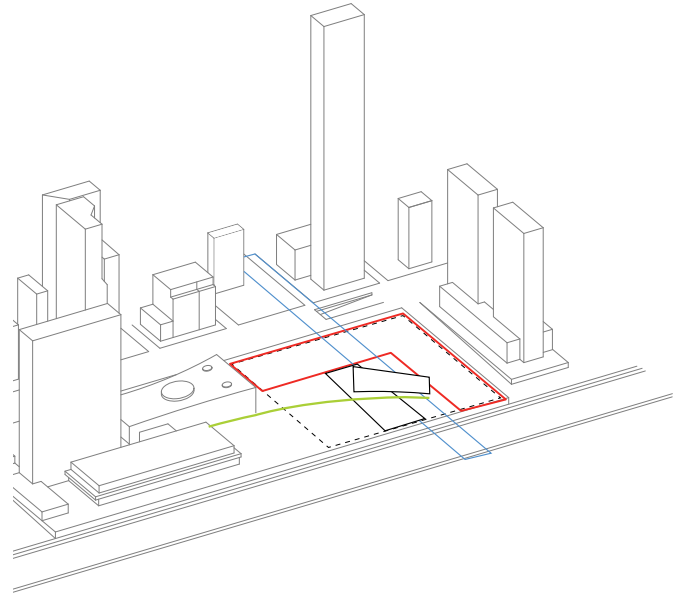
MID SEMESTER REVIEWS

For the mid-semester review I continued with a shape relating to some guidelines given from the plot, also challenging the Blast Zone. The criteria developed were:

MAINTAIN THE CONNECTION BETWEEN
MANHATTAN AND EAST RIVER

USE EXISTING LINES FROM THE UN
COMPLEX

CHALLENGING THE 50 M PERIMETER



FEEDBACK

The main feedback received at the mid semester related to the aspect of the Blast issue, up until that point I was struggling how work my design around this criteria. Fighting against the idea of having to build a 30 meter solid wall. Advice was given to embrace this criteria as a design guideline to use as an opportunity to actually be allowed to make a closed facade to the road and put all the functions in this part of the structure.

The relations to the iconic structure was discussed and the importance of respecting the existing compound.

BACK TO THE DRAWING BOARD

After the Mid-semester, I threw away the proposed project and started over to define the main principles of the project. The following aspects were defined:

47th street axis through the plot

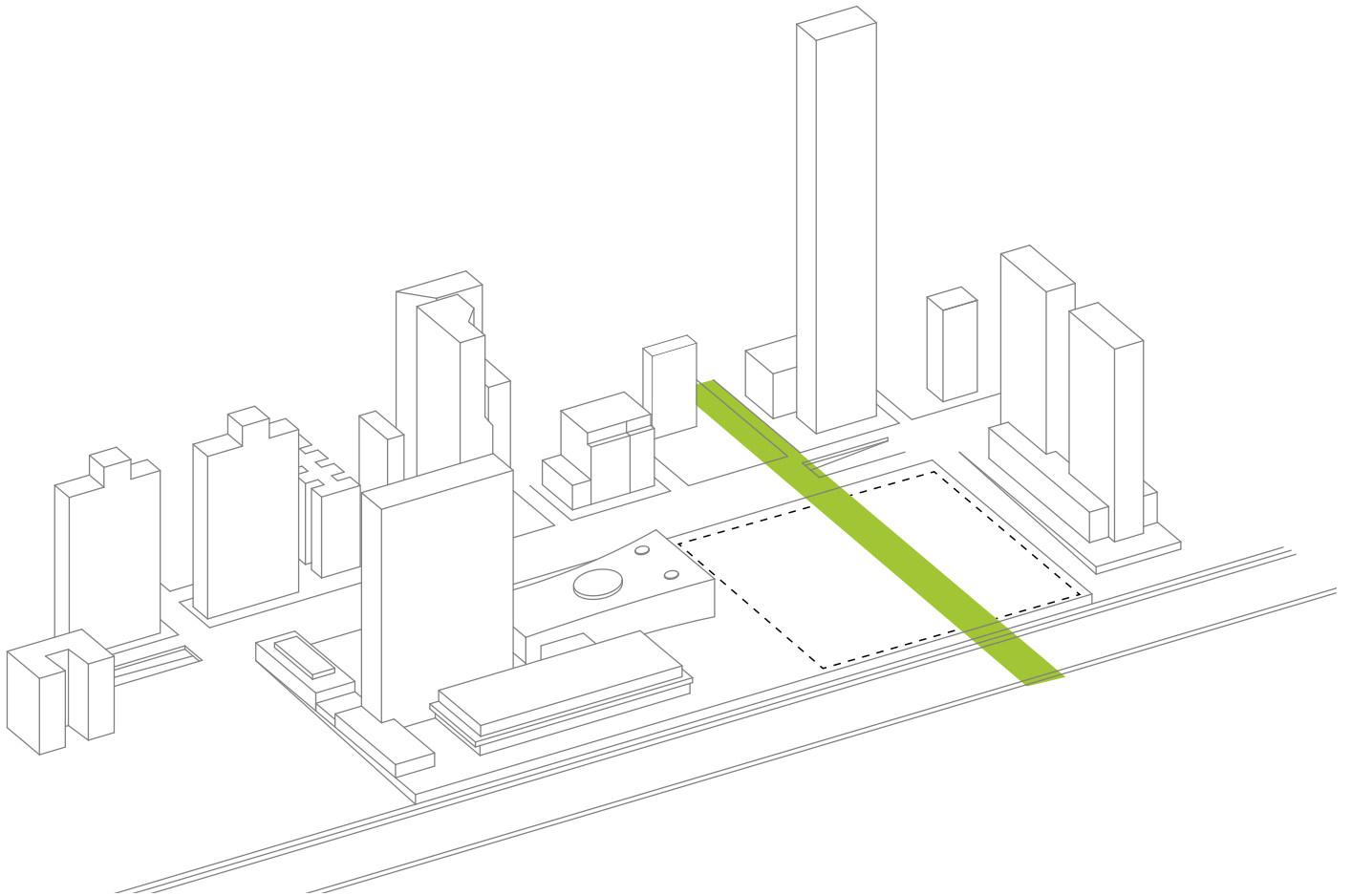
Creating UN Plaza

Relating to the future green waterfront

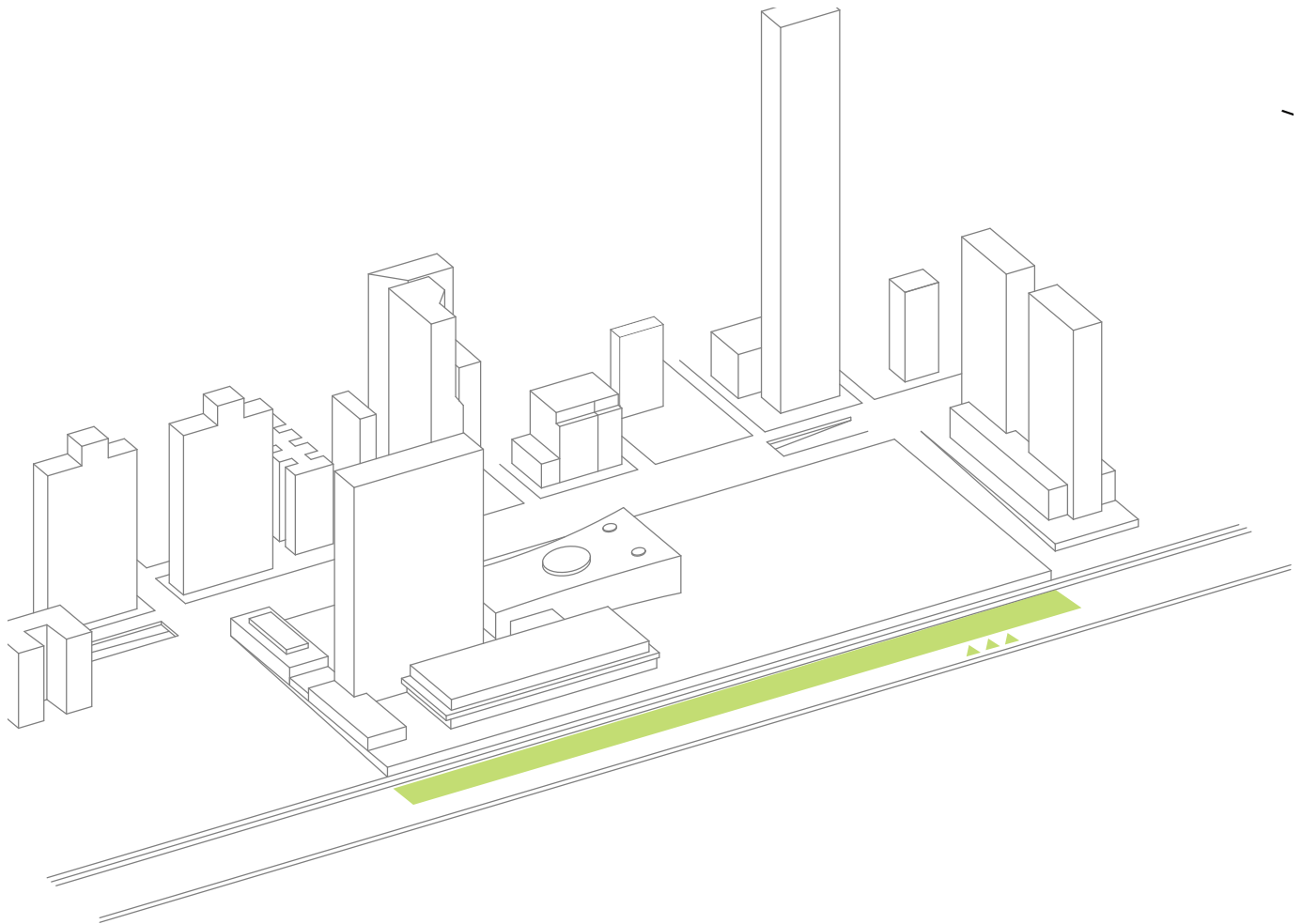
Re-Use the old FDR space

MAIN GUIDELINE ASPECTS FOR THE DESIGN

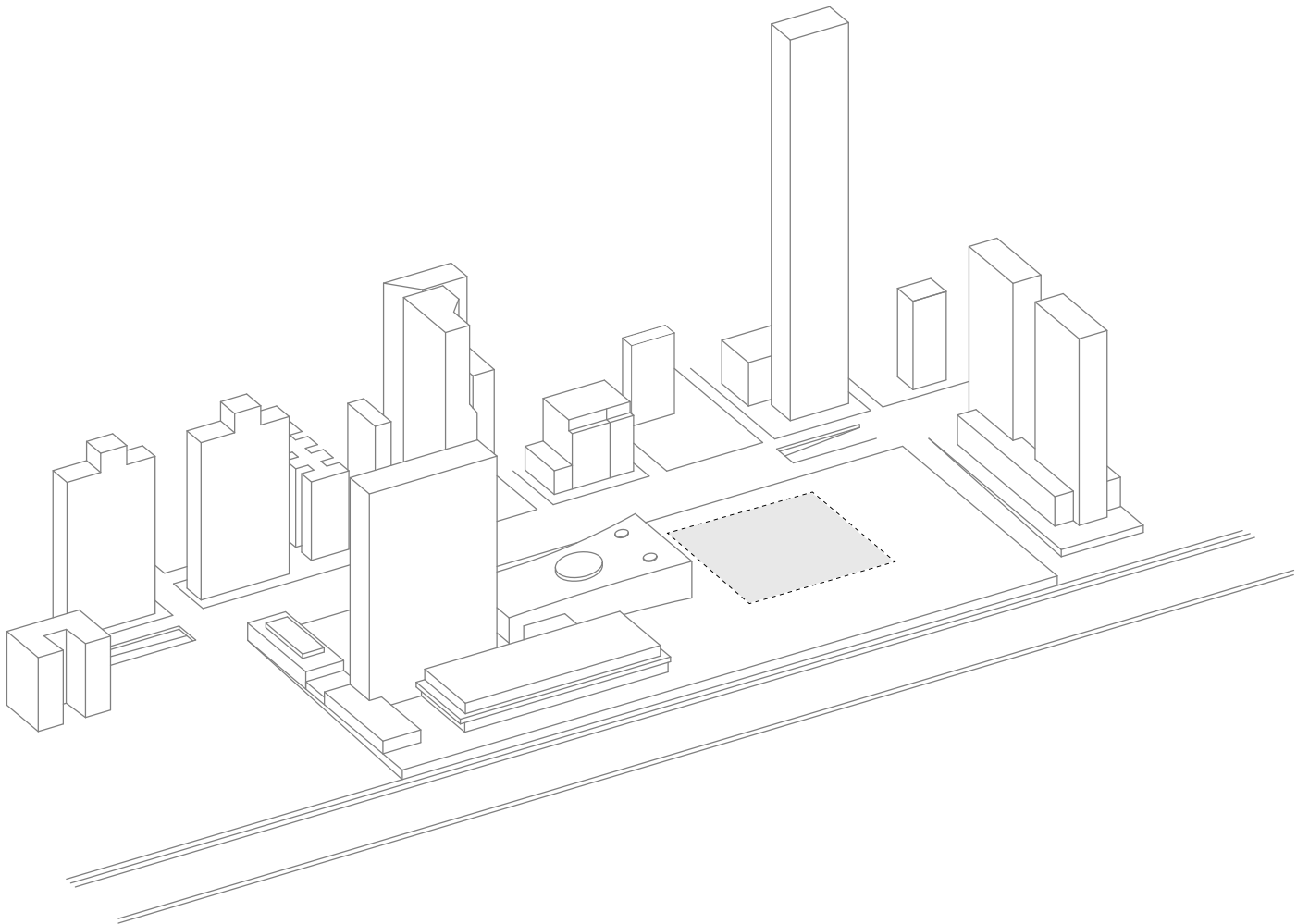
PRESERVING 47ST STREET VIEW LINE & GREEN PASSAGE



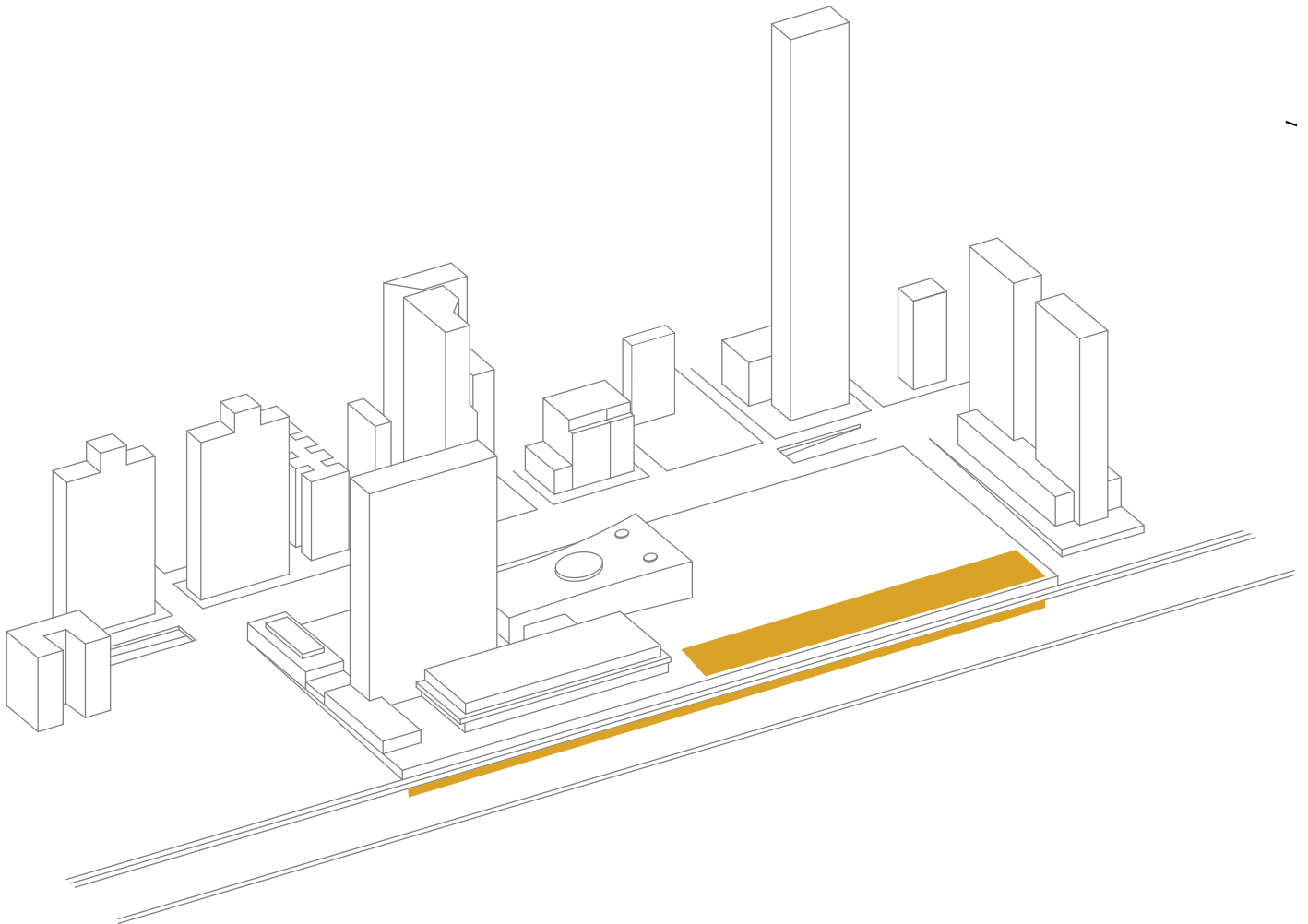
CREATE WATERFRONT ACCESS



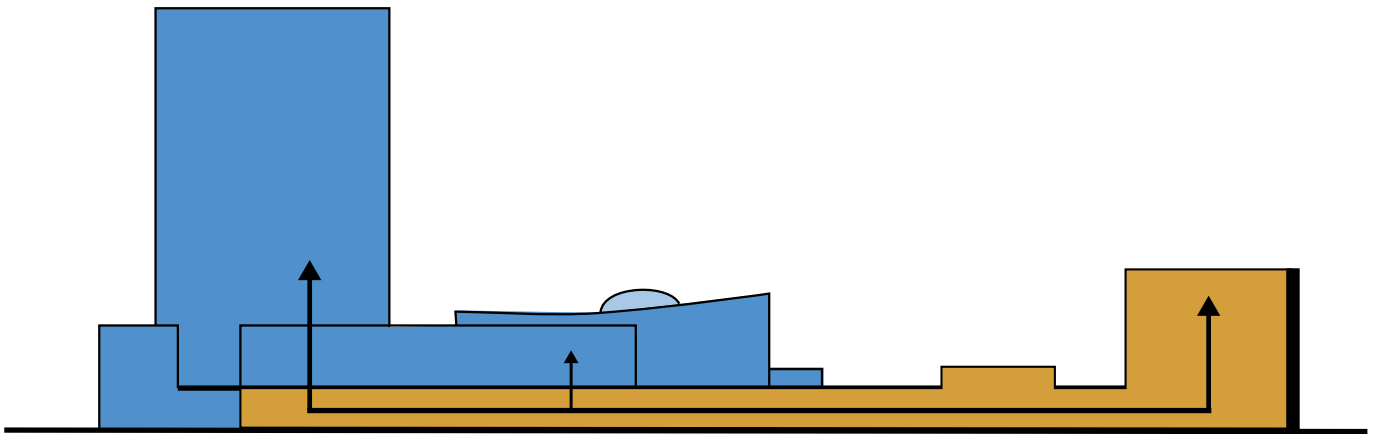
WORK WITH UN PLAZA



RE-USE OLD FDR SPACE



RELATIONS TO EXCISTING STRUCTURE

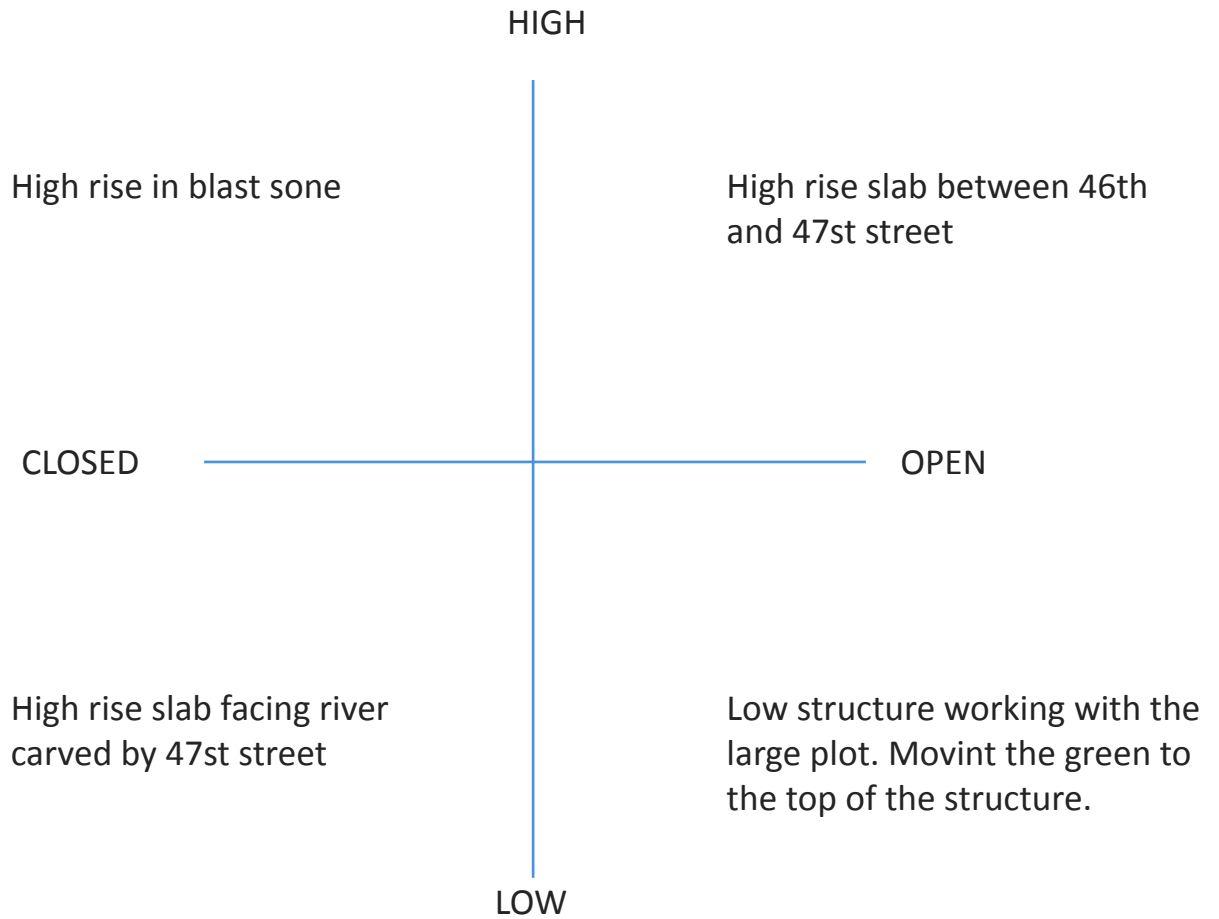


SCENARIOS

BACKGROUND

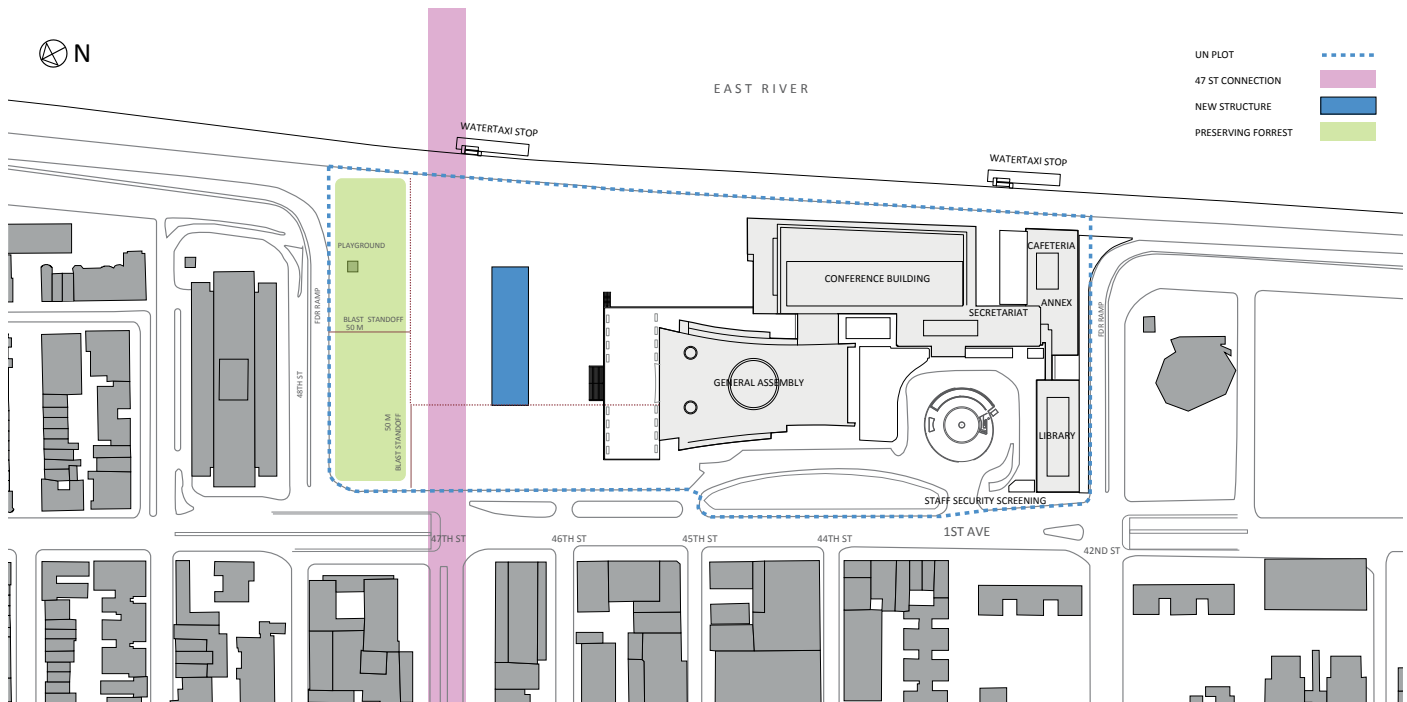
To more concrete decide what kind of structure is suitable for the site four scenarios are drawn up to explore the possibilities and restraints also creating a boundary for the project.

The scenarios explore the relations to the 47ST connection, green spaces on the plot, relations to the existing structure + original design, blast issues and connection to the surrounding buildings on Manhattan.



SCENARIO ONE

This scenario explores a high rise slab between 46st and 47st street relating to the original design from Le Corbusier and Niemeyer moved from it's original position to keep the 47st street line open and move away from the blast zone issues.

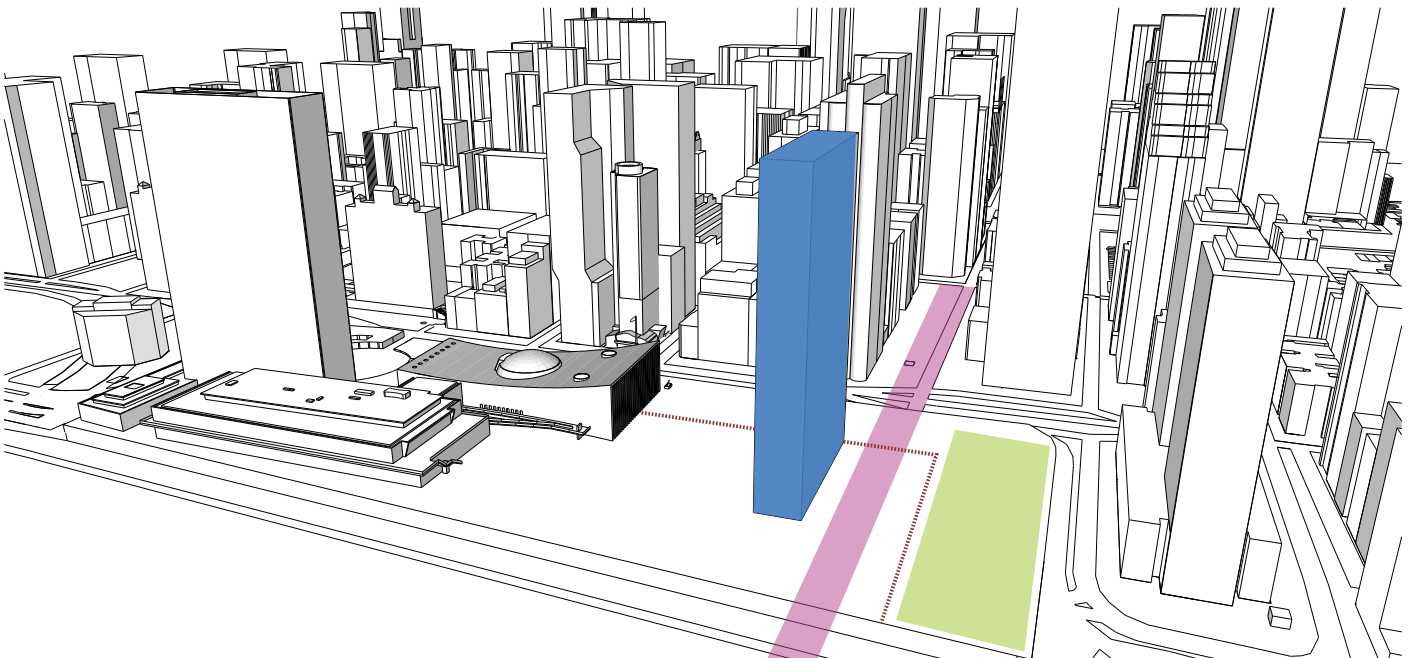


POTENTIAL

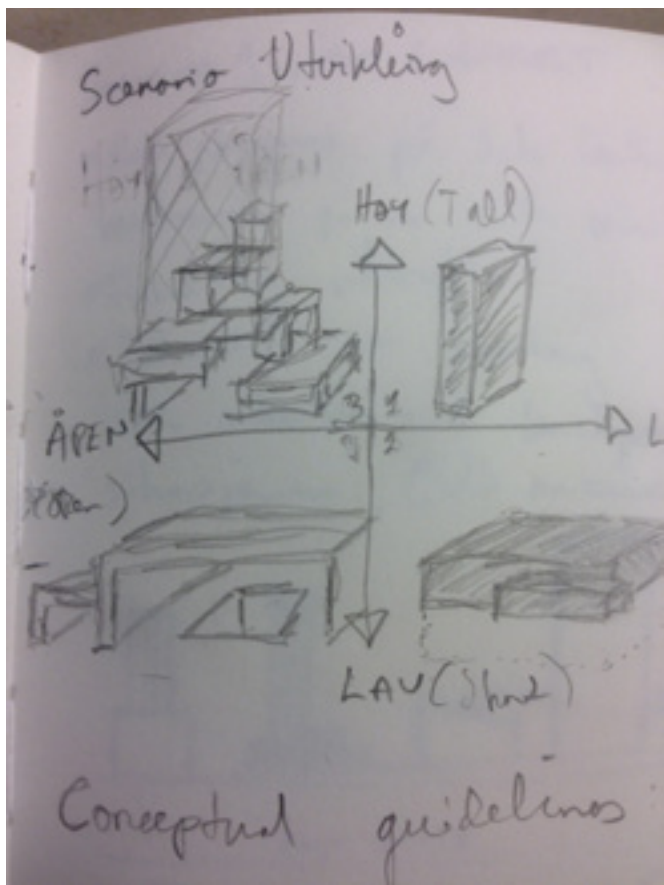
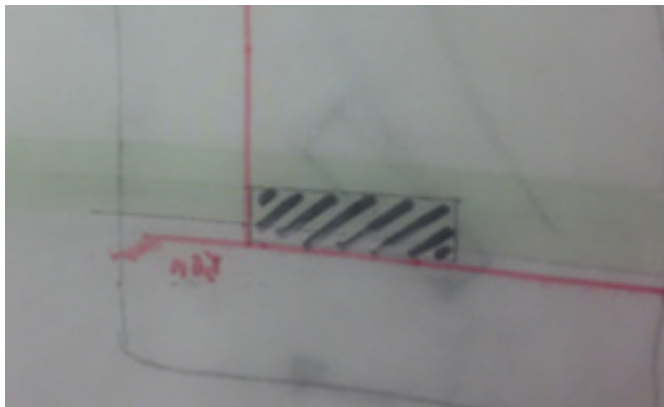
- Stays inside the 50m blast zone
- Preserving the forest and green space.
- Creating a plaza between the structures as proposed in the original design.
- The narrow slab will create good daylight conditions for the office spaces inside the building.
- Relates to the current compound and embraces the existing design.
- Relates to the Manhattan grid.
- Doesn't block too much of the view.
- Possibilities to play with the facade both in patterns and materials. Creating a flagship building highly visible from the East River.

CONSTRAINTS

- It's situated close to the current compound.
- Creating a tight space between the new structure and the entrance to the GA.
- Too similar to the original design, doesn't challenge the possibilities of the site.
- Gives little back to the public.
- Has to relate to air rights.
- Blocks the view for the building on the corner of 47th street.



STRUCTURE AND FACADE SKETCHING

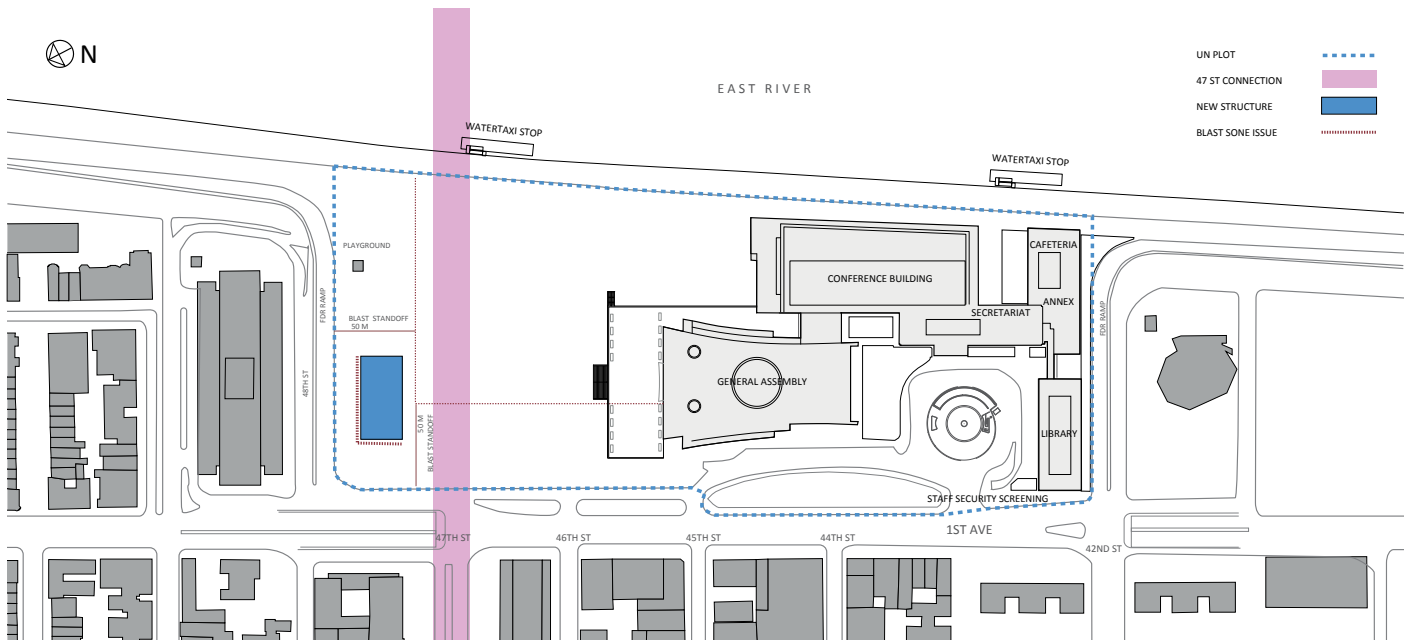


INSPIRATION/REFERENCE



SCENARIO TWO

High rise situated in the blast zone with closed facades the first 30 meters facing the roads.
Challenging the blast zone and using the restriction as a design aspect

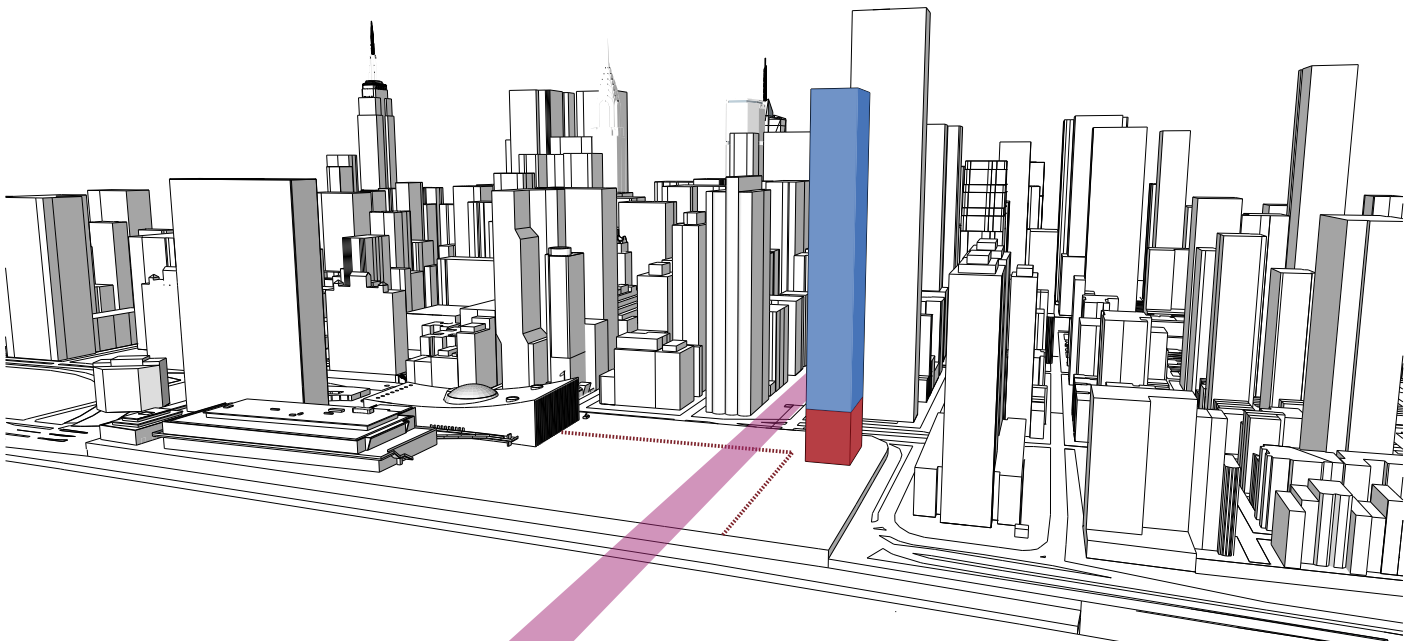


POTENTIAL

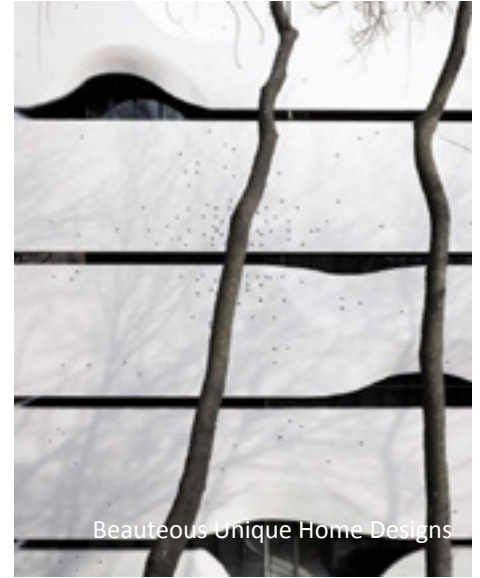
- Preserves the plaza and gives way to a massive amount of green space on the plot.
 - Interesting to explore the opportunities given by using the blast zone as a design criteria.
- Possibilities to explore different design options for a closed facade.
- Keeps the 47th street path free.
 - Relates to the high rise trend on Manhattan.
 - Gives way for future development on the plot.
 - Challenges the original design.

CONSTRAINTS

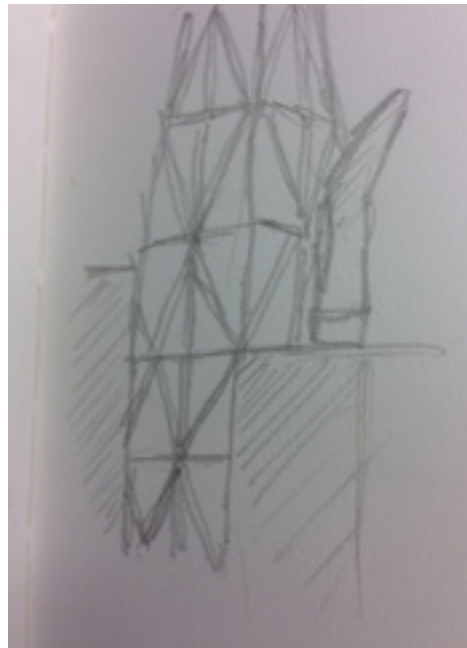
- Blocks the view of the residential Trump Tower.
- Air right issues.
- Large distance to the HQ.
- Gives little back to the public.
- Difficult to connect to the existing underground system of the current HQ.
- Stands alone.
-



CLOSED FACADE OPPORTUNITIES



TOWER SKETCHES

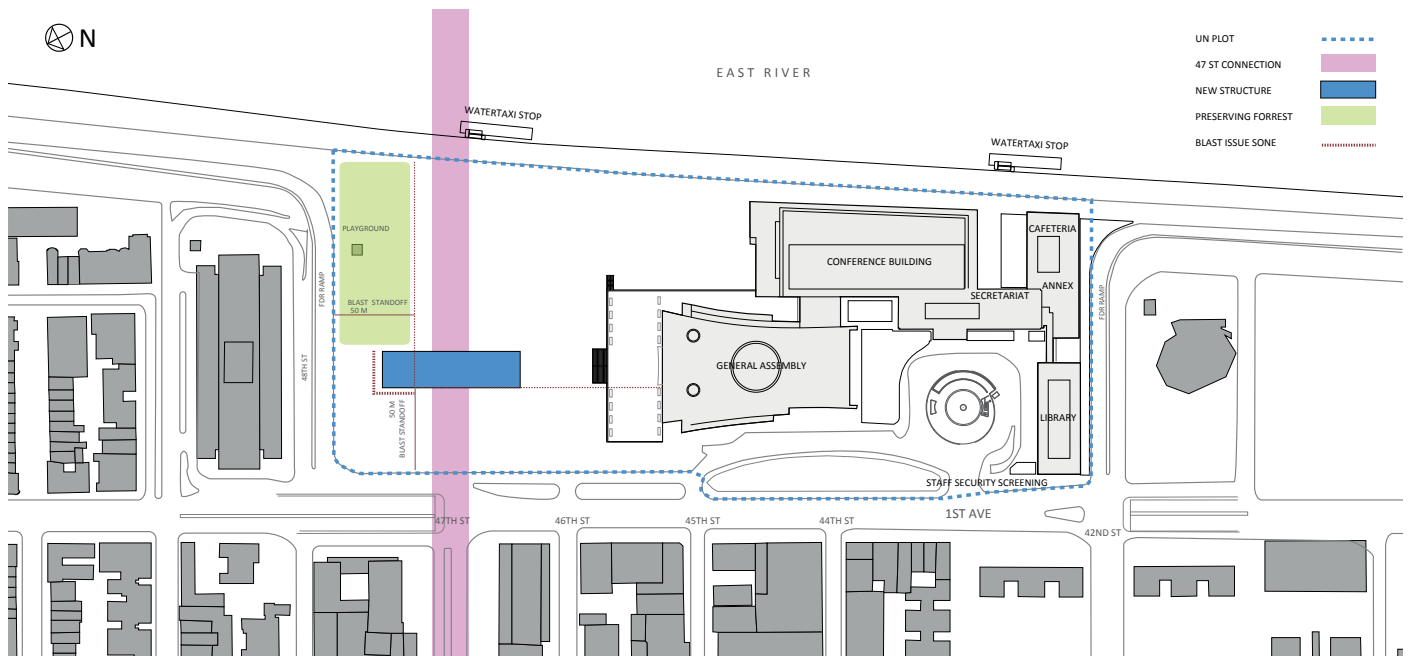


INSPIRATION/REFERENCE



SCENARIO THREE

High rise slab facing the East River, pierced by 47 street creating a sea side connection through the platform. Staying inside the blast zone challenging the existing slab in the current UN complex.

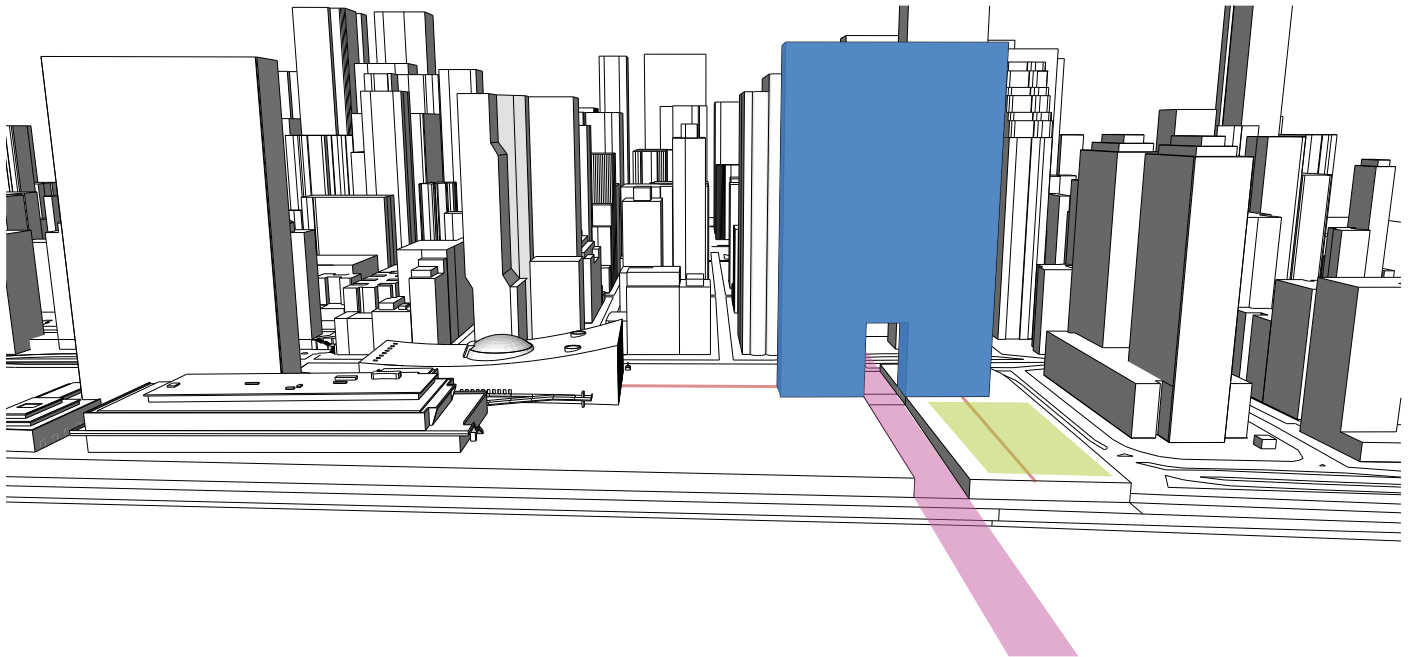


POTENTIAL

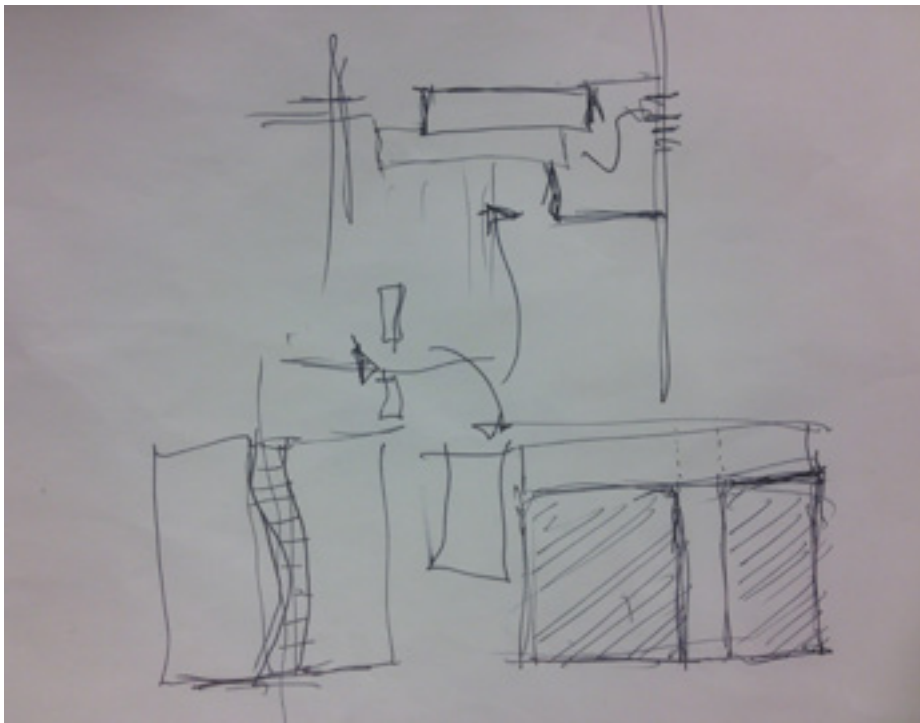
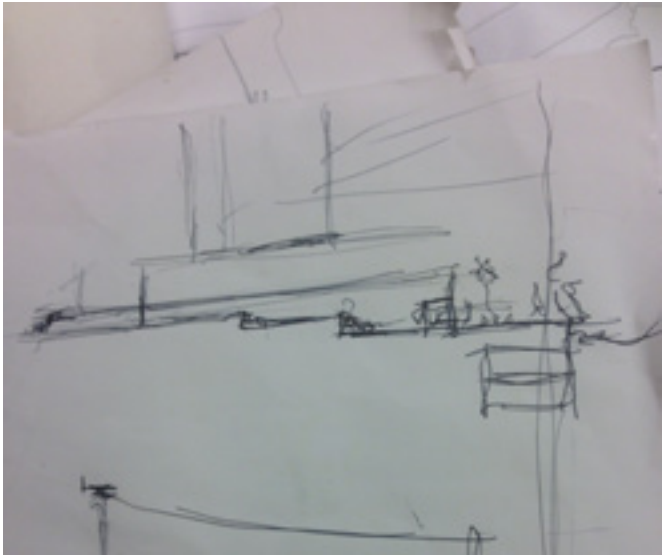
- Faces the river creating a new East River facade.
- Relates to the 47th street connection.
- Preserves a large amount of green space on the plot.

CONSTRAINTS

- Enters the blast zone.
- Might give a massive amount of glare to 47th street.
- Blocks the view of several buildings and 47th street.
- Does not converse with the existing HQ.
- Doesn't create a common plaza.
- Diverges from the Manhattan grid.
- Creates structural issues.



STRUCTURAL SKETCHES / PASSAGEWAYS



Naoshima Art Museum, Tadao Ando

INSPIRATION/REFERENCE



AROS Art museum , Smidht Hammer Lassen, Århus



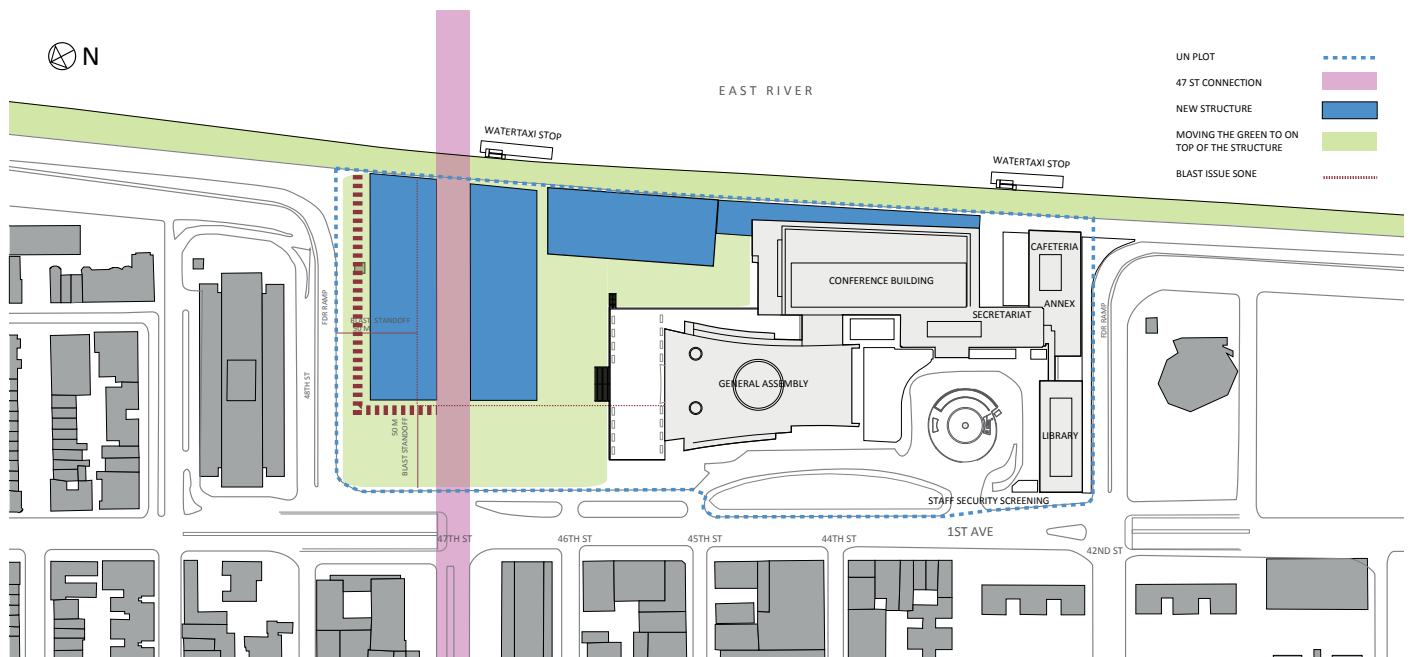
Ole Scheeren-The Axel Springer HQ



BIG Architecture Technology centre Taiwan

SCENARIO FOUR

Low structure preserving a large amount of the platform, re-using old space FDR space and connecting to the existing UN complex. Focus on getting light into the area. The platform is cut through by 47th street to create a connection between the city and the East River.

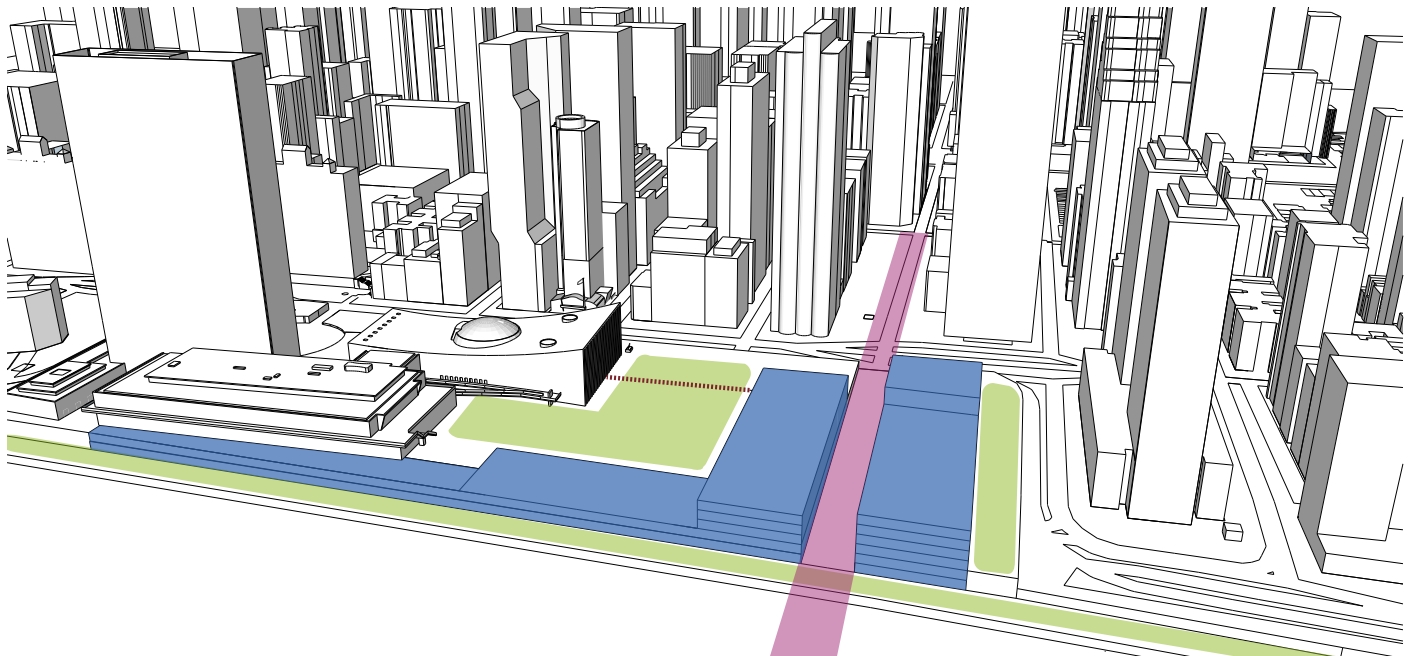


POTENTIAL

- Digg the structure down to work around the blast zone.
- Create green roofs.
- Does not disturb the surrounding buildings.
- Relates to the public.
- Enhances the 47th street axis and opens the Manhattan grid.
- Connects the UN to the city.
- Opens up the facility and creates a transparency.
- Challenges the original design.
- Work with creating atriums to preserving good lighting option.
- Preserves the UN plaza.
- Integrates into the existing structure.
- Re-uses old FDR space.

CONSTRAINTS

- Flood issues
- Daylight struggles.
- Moves into parts of the blast zone.
-



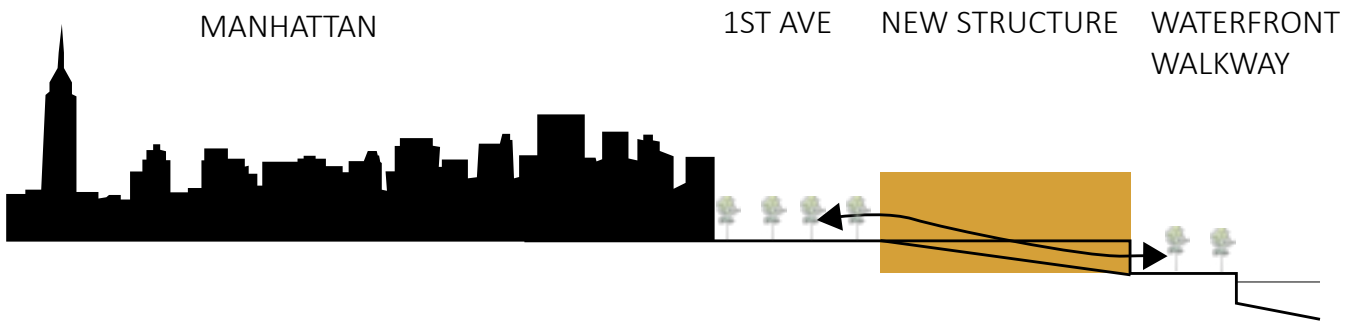
CLOSED WALLS / DAYLIGHT INTEGRATIONS OPTIONS



INSPIRATION / GREEN SPACE / CLOSED WALLS



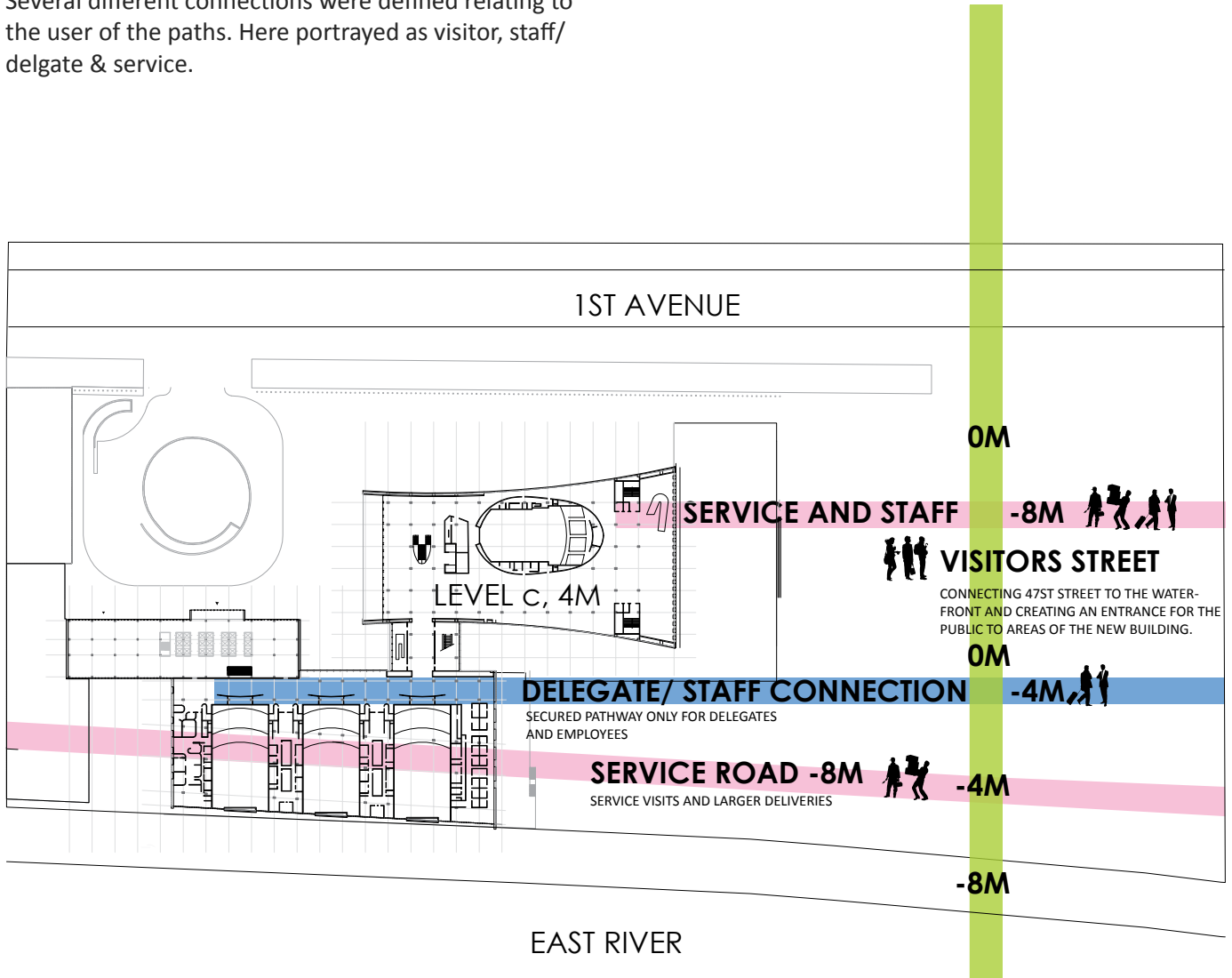
SCENARIO 4- FURTHER STUDIES



CONNECTIONS TO EXISTING STRUCTURE

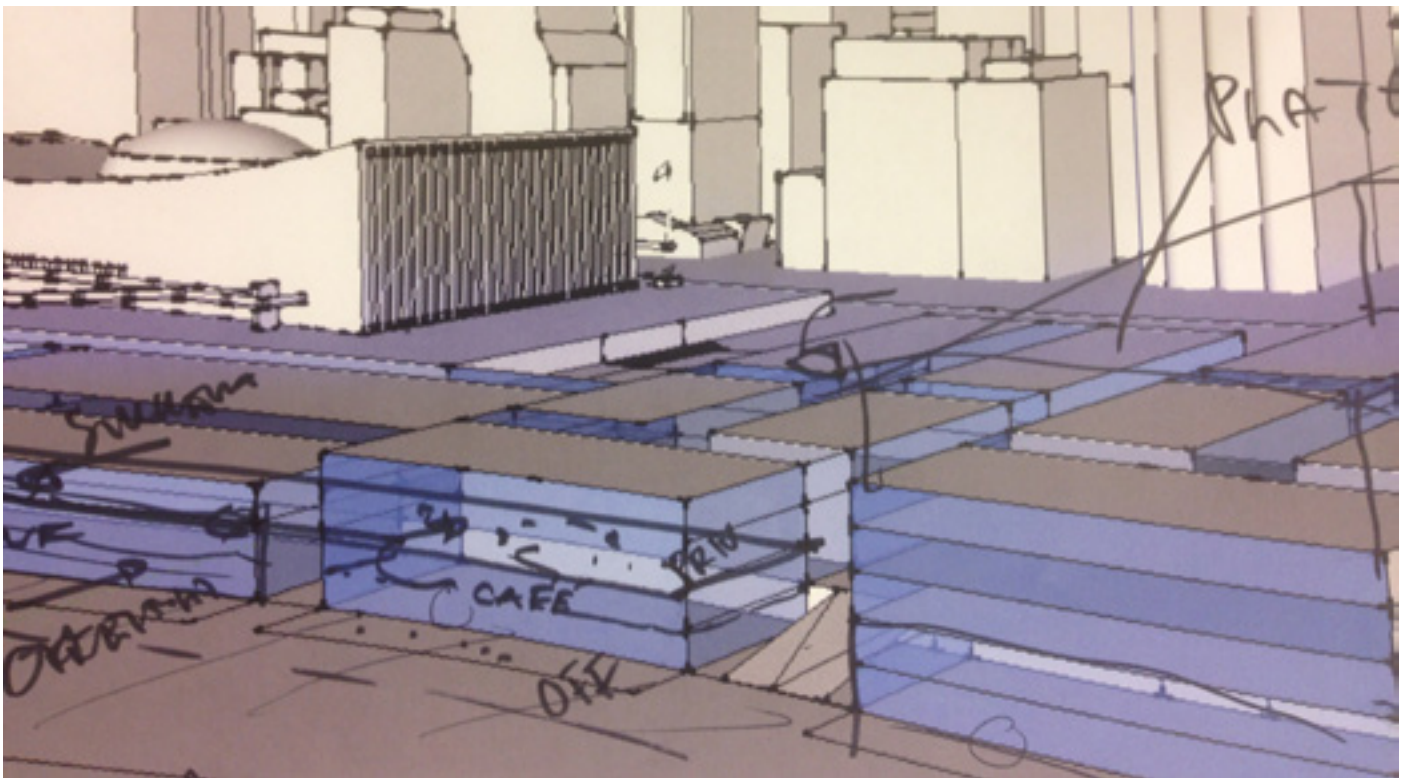
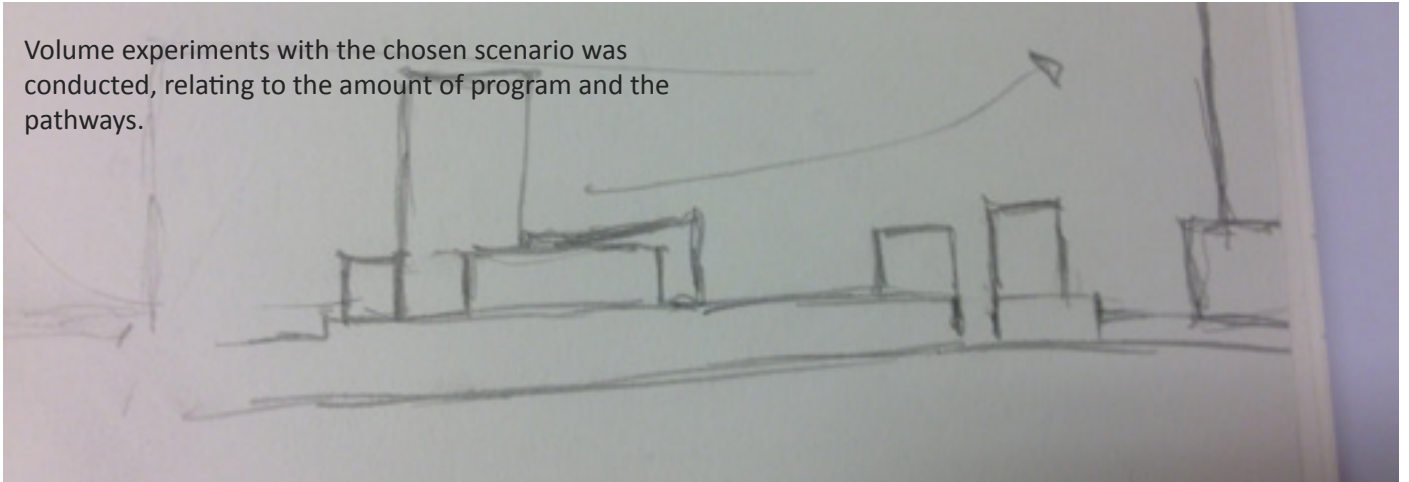
In order to connect the new north lawn building to the existing compound studies for the connections were made. This to be able to use the new building in a design to restructure the existing relations.

Several different connections were defined relating to the user of the paths. Here portrayed as visitor, staff/ delegate & service.

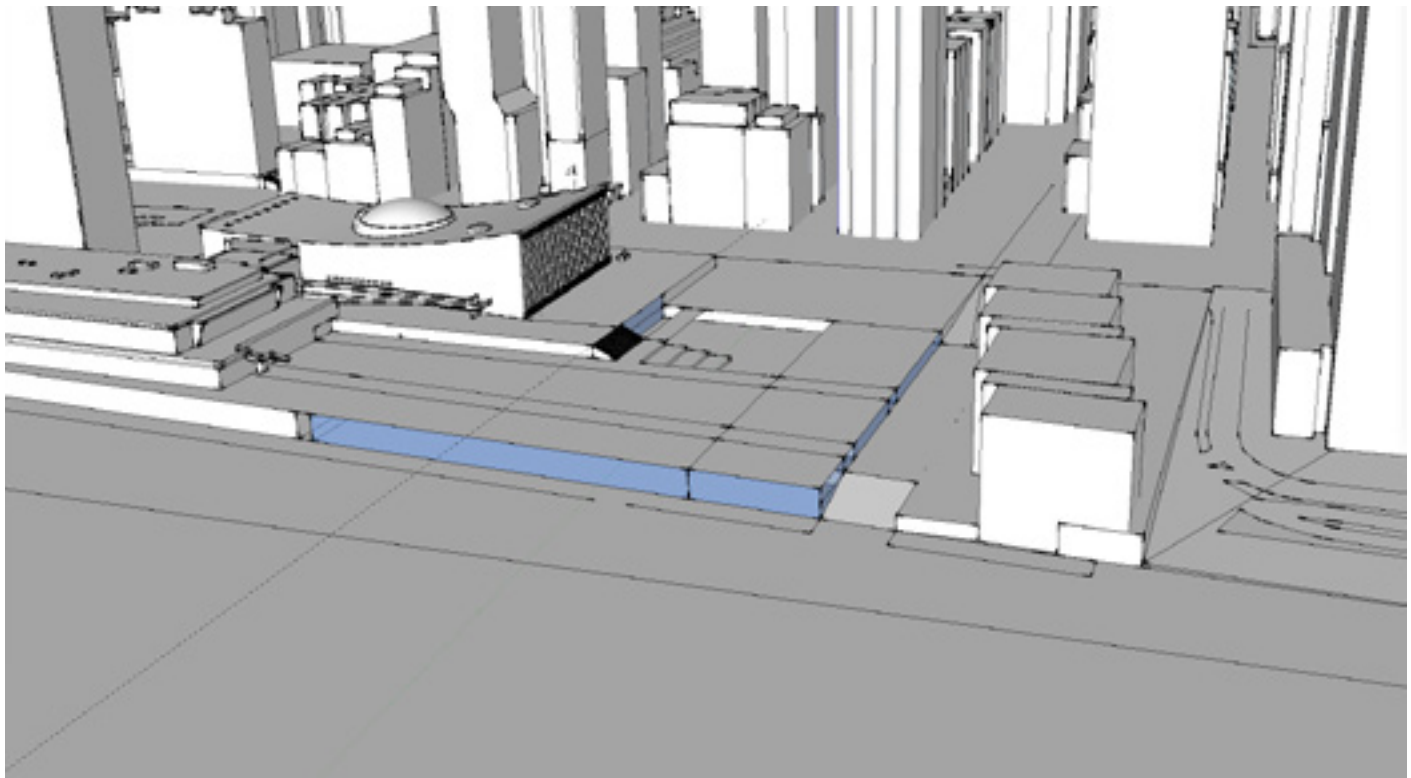
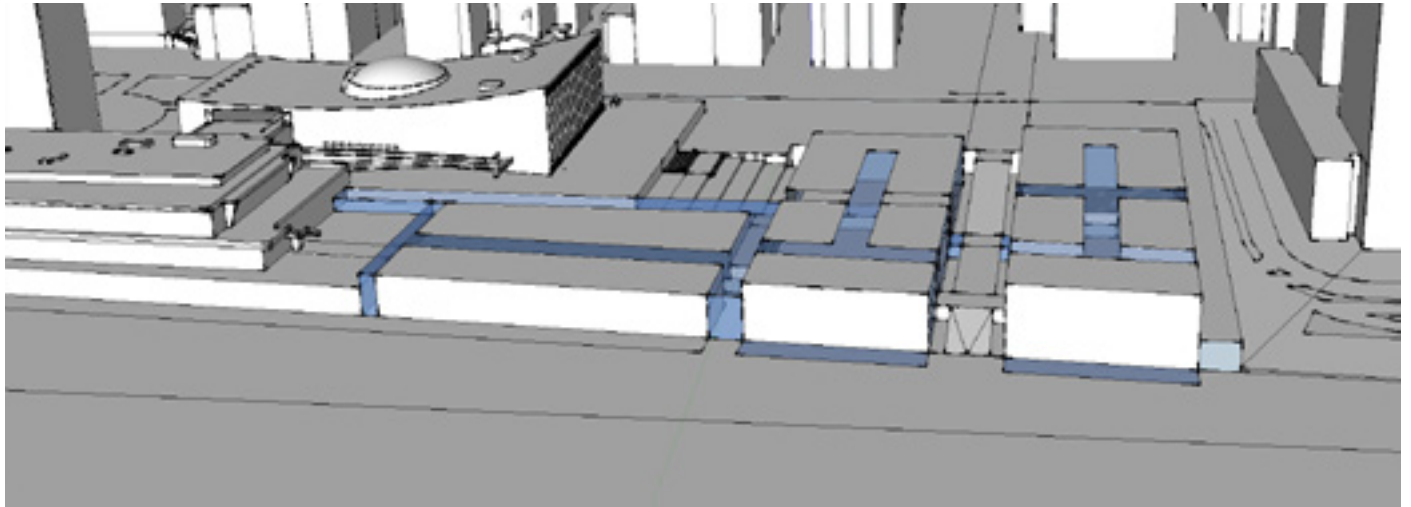


VOLUME TESTS

Volume experiments with the chosen scenario was conducted, relating to the amount of program and the pathways.



GLASS FOLLOWING PATHWAYS



RELATIONS TO ORIGINAL DESIGN

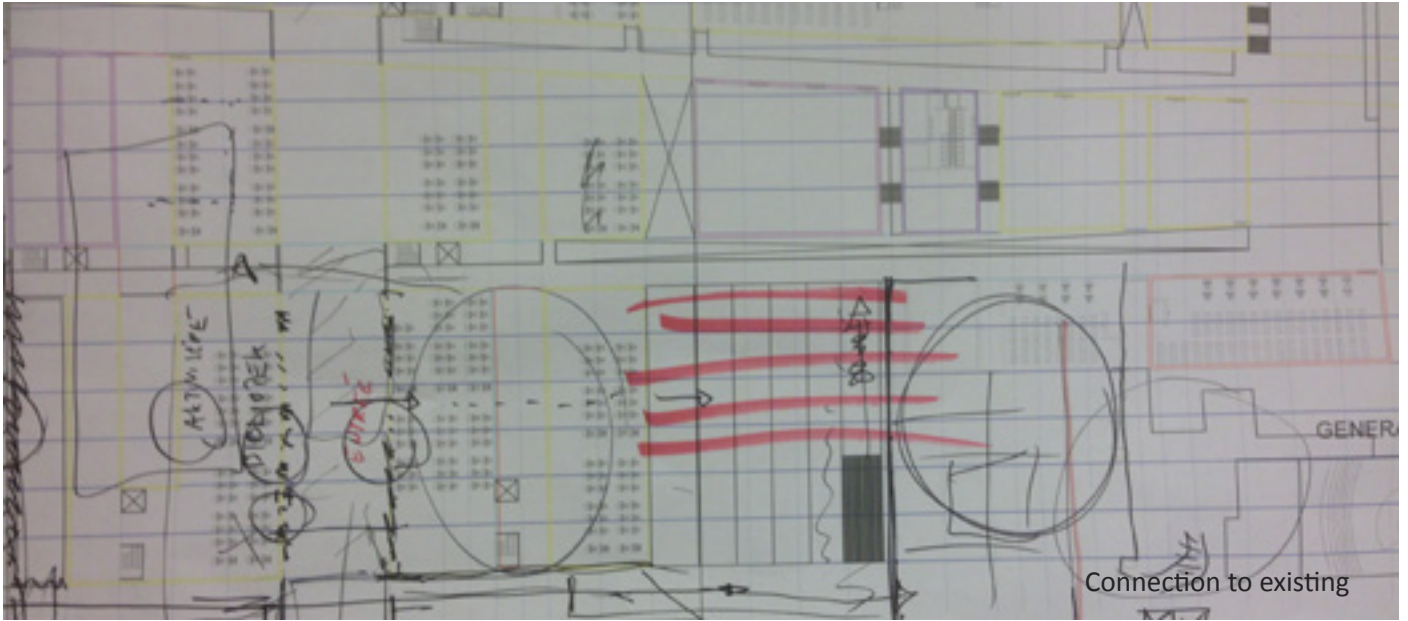
Looking at the original design it was clear that it intended the podium to connect with the waterfront in order to create a public plaza.

Le Corbusiers original plan also layed out a public garden on the roof of the General Assembly

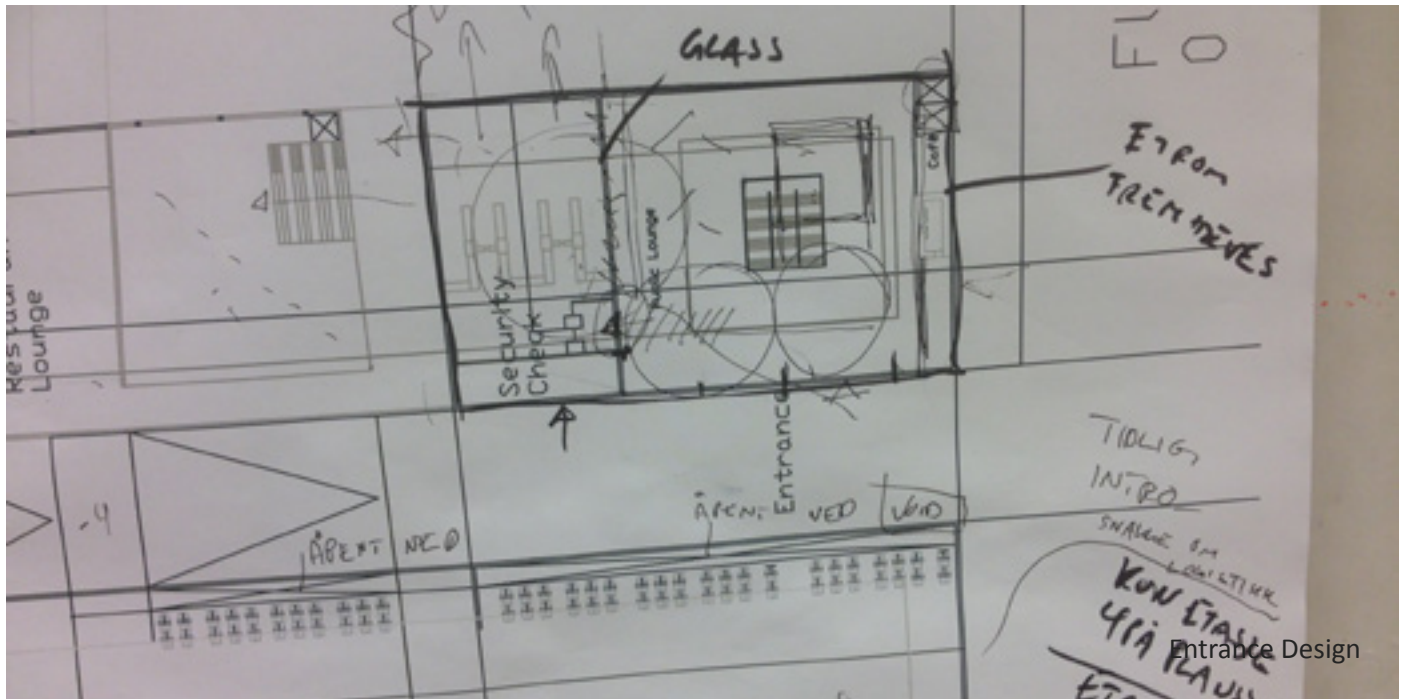


Original sketch, UN Historical Archive

SKETCHING CONNECTIONS WITH PLAZA



Connection to existing

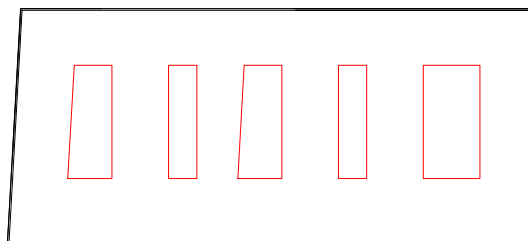
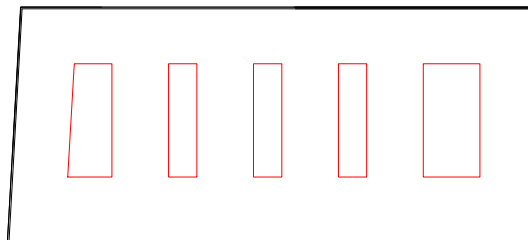
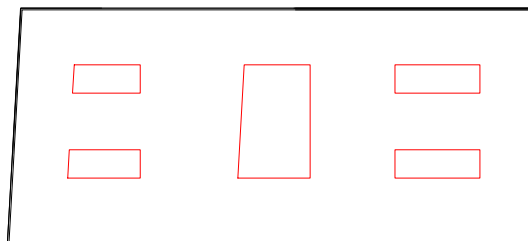
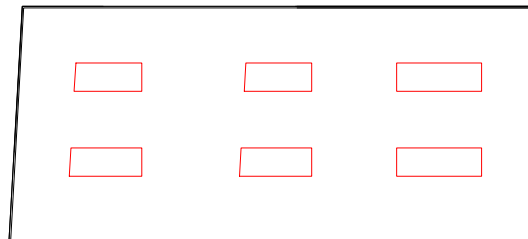
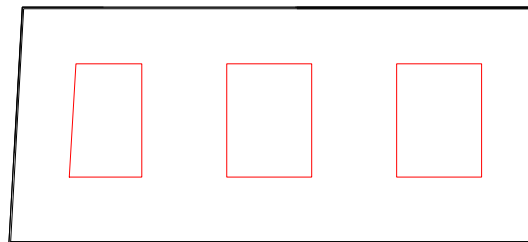


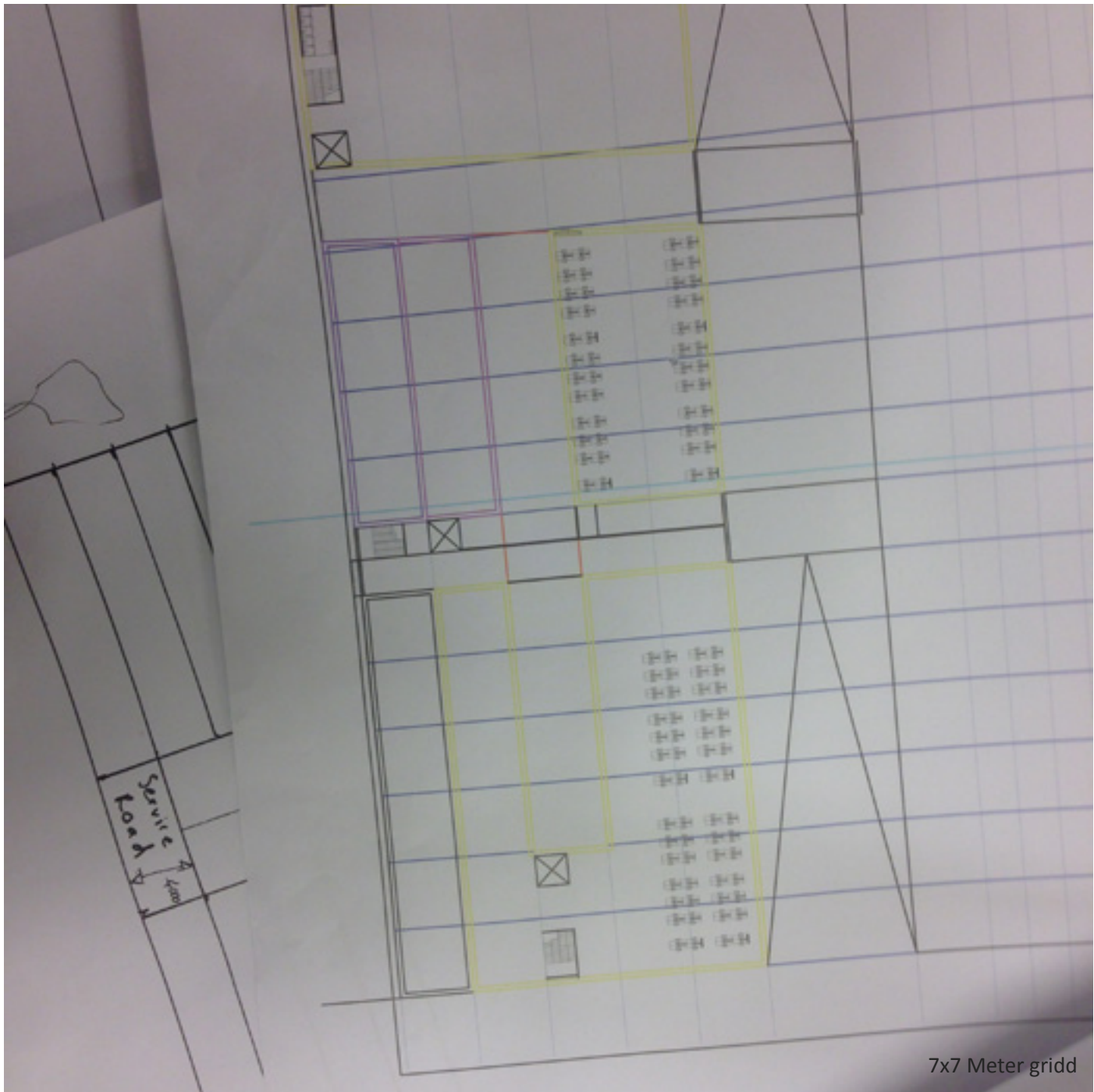
Entrance Design

ATRIUM DESIGN TEST

The volume connected to the Blast zone area has a North wall that's completely closed. This creates a need for daylight. Studies were made using 7m lines to punch out different holes in the roof.

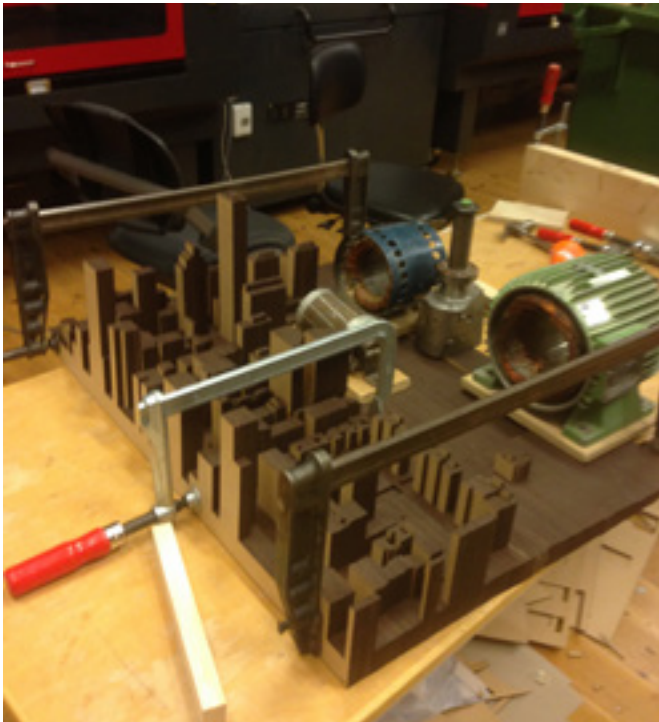
After testing out different design and floor plans, the version with three atriums was selected to optimize the use of the plans in accordance with the daylight testings.



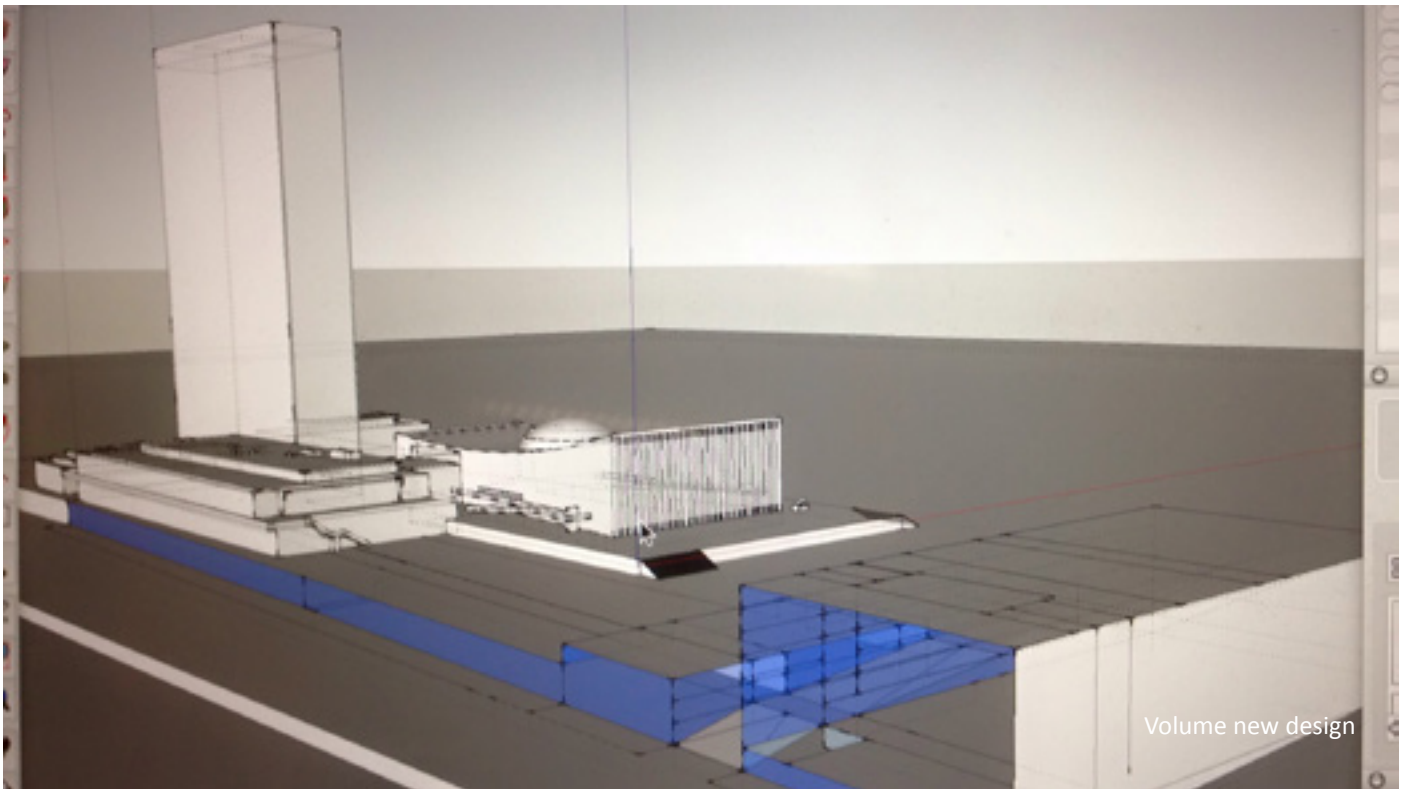


MODEL DEVELOPMENT

Making the site model in 1:1000. To see the



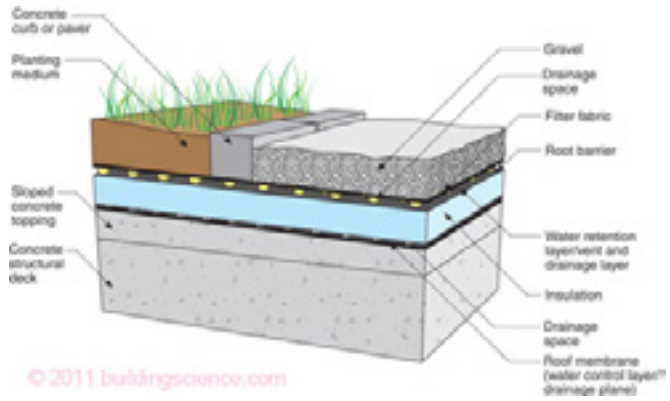
Water diversion



REFERENCES



GREEN ROOF



Green Roof Detail

GREEN WALL



MAIN STAIRCASE ATRIUM



ATRIUM



PRINT RESOURCES

The Architecture of Diplomacy:

Building America's Embassies (ADST-DACOR Diplomats & Diplomacy)

-July 1, 1998, Jane C. Loeffler

INTERNET RESOURCES:

Manhattan waterfront development

<http://www.nyc.gov/html/dcp/html/cwp/index.shtml>

East midtown Waterfront

<http://www.nycedc.com/project/east-midtown-waterfront>

Blast Issues information

https://www.wbdg.org/resources/env_blast.php#funda

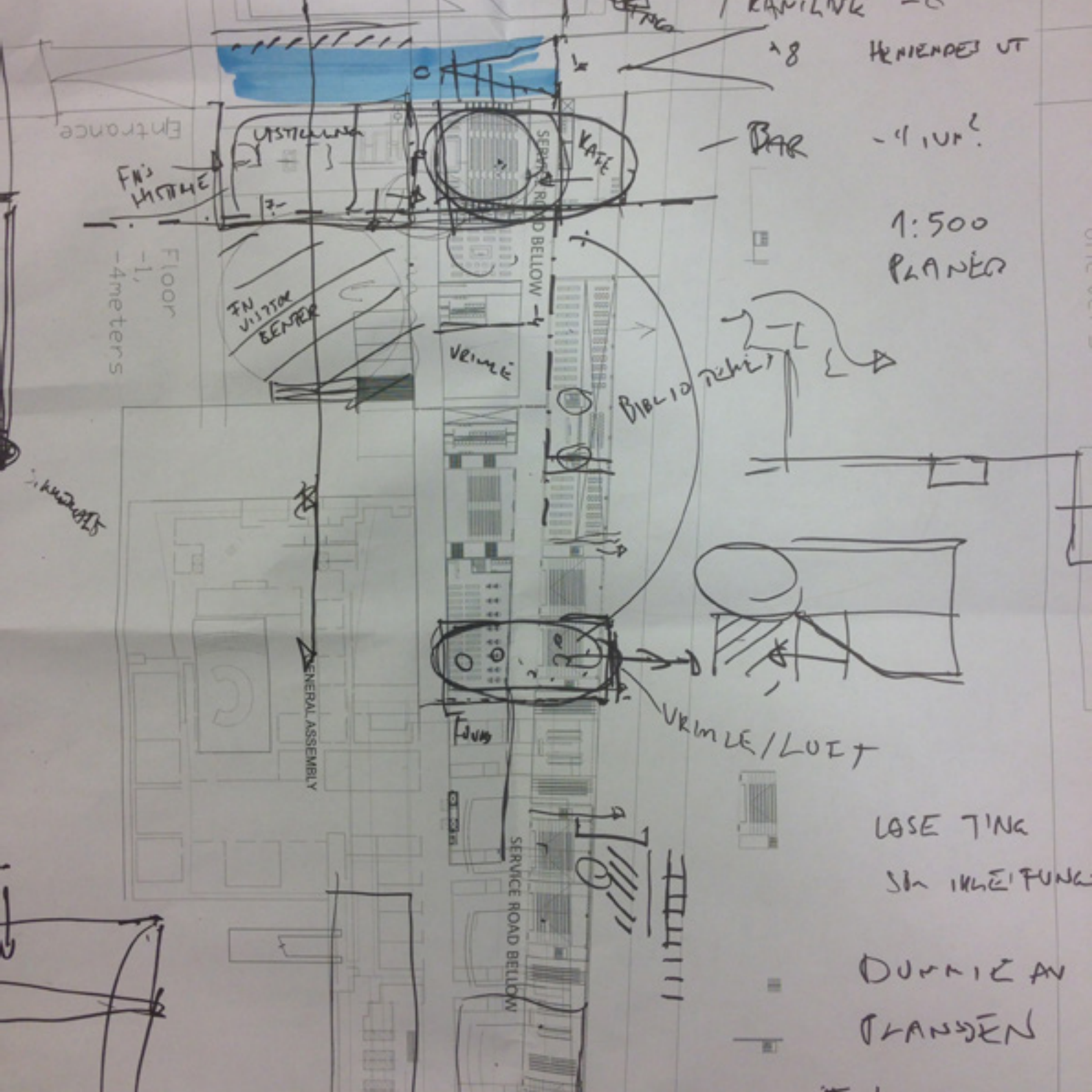
PEOPLE

Jack Howard- Head of department

United Nations ODMU

Steffen Wellinger- Guidance Teacher

Associate Professor NTNU



Entrance

FN VISITOR CENTER

Floor -1, -4 meters

FN VISITOR CENTER

VEHICLE

BIBLIOTHEK

BAR

SERVICE ROAD BELOW

SERVICE ROAD BELOW

GENERAL ASSEMBLY

VEHICLE/LOFT

8

HEIMGARTEN UT

BAR - 1.1.1.1.1.

1:500 PLANNED

LOSE TING

SIN IKKEITUNG

DUNKLE AN PLANSSEN