STUDY AREA IN NORTH-WESTERN MIDTOWN MANHATTAN

DRAWINGS SET

‘LIVE-WORK FACTORY’

NANTAWAT SIRITIP
4892399
NEW YORK MIDTOWN GRADUATION STUDIO
COMPLEX PROJECTS

FACULTY OF ARCHITECTURE AND THE BUILT ENVIRONMENT
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STUDY AREA IN NORTH-WESTERN MIDTOWN MANHATTAN
CURRENT SITUATION

Preserved volume alterations must be approved by the Landmark Commission

Elevated Highway
The highway rises in elevation in front of the 1950s volume.

Pier 98
(same owner)
steam machines + storage + employee parking

INTERBOROUGH RAPID TRANSIT (IRT) POWERHOUSE,

ARCHITECT: STANFORD WHITE, (McKIM, MEAD & WHITE)

BUILT: 1904 (PRESERVED) 1950 (ADDITION)

ORIGINAL USE: POWER STATION FOR METRO
CURRENT USE: STEAM PLANT
CURRENT OWNER: ConEDISON

POLICIES

NEW YORK WORKS
CREATING GOOD JOBS

2017: Emphasis on creating more good-paying jobs for New Yorkers.

OneNYC 2050
BUILDING A STRONG AND FAIR CITY

2019: Long term sustainability goal for the city - including the promotion of renewable energy and reduction in the use of natural gas.

CHOSEN SITE: THE IRT BUILDING ON W.58TH ST.
AXONOMETRIC OF THE GROUP’S PROPOSALS
RESEARCH QUESTIONS

HOW TO CREATE A LIVE-WORK TYPOLOGY THAT Responds TO THE CHANGING LANDSCAPE OF WORK OF THE 21ST CENTURY NEW YORK?

HOW CAN A MIXED-USE PROJECT ENGAGE WITH THE PUBLIC DOMAIN TO REACTIVATE THE URBAN QUALITY OF A PREVIOUSLY INDUSTRIALIZED WATERFRONT?
Pier 98 (same owner)
Possible site for expansion towards waterfront

IRT ADDITION (1950s)
NOT PROTECTED

IRT BUILDING (1914)
- LANDMARKED
- FACADE IS PROTECTED

INITIAL CONDITION & POSSIBILITIES
CONCENTRATION OF TALL BUILDINGS
(20+ STORIES)
THE PLAZA:
REPLACED THE 1950s ADDITION
IT CONNECTS THE FRAGMENTED MASSES
AND ACTS AS A GATHERING SPACE,
PLACE FOR ACTIVITIES.
PLAZA AND SEASONAL ACTIVITIES: SUMMER
PLAZA AND SEASONAL ACTIVITIES: WINTER
HOUSING
(THE “LIVE” OF LIVE-NORK)

HOUSING (MASS A + B)
(DWELLING UNIT)
(COLLECTIVE WORKSPACES)
(COMMON FACILITIES)
(MAKERSPACE)
TAKE ADVANTAGE OF LOCATION, EVERY UNITS HAVE WATERFRONT VIEW MAXIMIZE VIEW TO WATERFRONT
OPENING; LIGHT ENTRANCES
SECTION 1:200 (HOUSING MASS)
COLLECTIVE WORKSPACE PER FLOOR FOR RESIDENTS
ENTRANCES TO HOUSING FROM THE SLOPE
NEW CONNECTION USING EXISTING OPENING

EXISTING STRUCTURE INFLUENCES SPATIAL DEVISION

CENTRAL SPINE POSSIBLE SERVICE CORES (w = 8m.)

OLD MAIN ENTRANCE FROM 11TH AVE STILL USED

NEW OPENING IN PLACE OF THE PREVIOUS 1950S ADDITION

IRT FLOOR AREA: 12,800 SQ.M
GROUND FL: MAKERSPACE, EXHIBITION / POPS

1st FL - 3rd FL: WORKINGSPACE, RETAIL

EXISTING STRUCTURES

ORIGINAL FACADE (1914)

TO PLAZA / DIKE / HOUSING
TO PLAZA / DIKE / HOUSING

WORKING SPACE FLOOR
(1st FL) SOUTH WEST AXON
WORKING SPACE FLOOR
(1st FL) NORTH WEST AXON
MAKERSPACE FLOOR
(GROUND FL) NORTH WEST AXON
ENTRANCE FROM 11TH AVE (EVENT SPACE + RETAIL)
WORKSPACE ON 1ST FLOOR
WORKSPACE ON 2ND FLOOR
WORKSPACE ON 3RD FLOOR
POPS + EXHIBITION SPACE ON GROUND FLOOR (WEST END)
ARCADE CONNECTING W58th ST. TO W59th ST.
MASS C: THE ELEVATED MASS
: MEDIUM SIZE + RENTABLE OFFICE SPACE
Addition of steel truss structure

Fully opened facade (fully glazed)

Addition of floors

Varied facade (sun shading at random)

Addition of glazing and roof (cladded with PV panels)

Fully closed facade (automated sun shading)
HOUSING (MASS A, B)

ELEVATED VOLUME (MASS C)
- RENTABLE OFFICE SPACE

EXISTING BUILDING
- MAKERSPACE, ATELIERS, RETAILS, POPS

NEW FACADE
- INSPIRED BY THE EXISTING FACADE BUT WITH DIFFERENT MATERIAL (ALUMINIUM COMPOSITE CLADDING)

BUILDING TECHNOLOGY ASPECT
SERVICE CONCEPT
PLUMBING + SEWAGE

- USING SUPPORT STRUCTURES
  AS SERVICE CORES

CONCRETE SUPPORT
DOUBLED AS
SERVICE CORE

SEWAGE LINES
(INSHAFTS)

CONCRETE SUPPORT
DOUBLED AS
SERVICE CORE
SEAWATER SOURCE HEATING / COOLING
USING (SEA)WATER FROM THE HUDSON TO HEAT / COOL BUILDING

WARMER WATER FROM HUDSON RIVER

IN WINTER

WATER TEMP IS RELATIVELY WARMER THAN AIR,
WATER FROM THE RIVER IS PUMPED THROUGH THE HEAT EXCHANGER
AND USED TO WARM THE UNITS BY UNDER FLOOR HEATING SYSTEM
SEAWATER SOURCE HEATING / COOLING
USING (SEA)WATER FROM THE HUDSON TO HEAT / COOL BUILDING

IN SUMMER
WATER TEMP IS RELATIVELY COOLER THAN AIR,
WATER FROM THE RIVER IS PUMPED THROUGH THE HEAT EXCHANGERS
AND USED TO COOL THE UNITS BY UNDER FLOOR COOLING SYSTEM
Air exhaust from dwelling unit through the air ducts concealed above the dropped ceiling. The air ducts lead to the vertical dock located in the building cores.
Air exhaust from dwelling unit through the air ducts concealed above the dropped ceiling. The air ducts lead to the vertical dock located in the building cores.
IRT BUILDING
STRUCTURAL CONCEPT
CLT: POST BEAM SYSTEM

STEEL FRAME ON GROUND FLOOR (with fire-resistance coating)

STEEL JOINT CONNECTION
POSSIBLE DETAIL INTERNAL SUBSTRUCTURE

GLULAM WOOD COLUMN 500 X 500

STEEL JOINT AT BASE 400 X 400

STEEL BRACKET

DOUBLE GLAZE WALL
1. EXISTING STEEL STRUCTURE AND ORIGINAL BRICK FACADE
2. NEW STEEL FRAME ADDED WITHIN EXISTING FRAME
3. CLT FRAME EXTENDING UPWARD (ATTACHED TO NEW FRAME)
4. FLOORS AND WALLS (GLASS) ADDED TO NEW CLT FRAME
FACADE
FOCUS: HOUSING
FACADE CONCEPT
(NORTH + EAST FACADE)
- LESS SUN EXPOSURE
FULLY OPENED MODULE

FULLY CLOSED MODULE

SEMI-OPENED MODULE

FACADE CONCEPT (SOUTH + WEST FACADE)
- AFTERNOON SUN EXPOSURE
- FOLDABLE LOUVER CONCEPT
"PRIVATE BALCONY"

THERMoproof INSULATION

DAMPROOF MEMBRANE

FL FINISH

SCREED FLOORING

GUTTER

INSULATION

UNDERFLOOR HEATING

CROSSED LAMINATED TIMBER FLOOR SLAB DEPTH 300

GLULAM BEAM 500X300

LOUVER FACADE 3000 X 920 (200 BLADE SPACING)

GLULAM COLUMN 450X450

ALUMINIUM CLADDING

TRACK & ROLLER

ANGLE BAR (attachment) 85X85

INSULATION

ALUMINIUM FLASHING

STEEL TRACK (X 48)

RAILING ATTACHMENT

FACADE LOUVER DETAIL 1:5
FACADE CORNER CONDITION
(FIXED PANEL IN ANGLE)
BOLTED ON TOP AND BOTTOM ON STEEL ANGLE BAR
FACADE VIEW (INTERIOR)
FLOOR AREA CHECK - SQUARE FOOTAGE CHECK (COMPARE WITH INITIAL BRIEF)

INITIAL

INITIAL PROGRAM SPATIAL REQUIREMENT

<table>
<thead>
<tr>
<th>Category</th>
<th>Required Area</th>
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<tbody>
<tr>
<td>Dwelling</td>
<td>32,500 sq.m</td>
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<tr>
<td>Working</td>
<td>10,000 sq.m</td>
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<tr>
<td>Public Domain</td>
<td>7,500 sq.m</td>
</tr>
<tr>
<td>Total</td>
<td>50,000 sq.m</td>
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</tbody>
</table>

CURRENT

WORKSPACE

ELEVATED VOLUME (CO-WORKING + RENTABLE OFFICES) = 3,399 + 3,127 + 3,127 SQ.M = 9653 SQ.M

WORKSPACE IN EXISTING BUILDING = 2,547 SQ.M

TOTAL “WORKSPACE” (OFFICES) = 12,200 SQ.M (MORE THAN PLANNED 5,000 SQ.M)

MAKERSPACE

#1 + #2 + WORKSHOP SPACE + MATERIAL LIBRARY = 2,391 SQ.M (LESS THAN PLANNED 5,000 SQ.M)

PUBLIC DOMAIN

RETAIL = 5,149 SQ.M (SLIGHTLY LESS THAN PLANNED 5,500 SQ.M)

POPS / EVENT SPACE = 4,527 SQ.M (MORE THAN PLANNED 2,000 SQ.M)

HOUSING

MASS A = 19,038 SQ.M

MASS B = 24,534 SQ.M

TOTAL = 43,572 SQ.M (MORE THAN PLANNED 32,500 SQ.M)

OVERALL

HOUSING 43,572 SQ.M / POPS(+EVENT SPCE) 4,527 SQ.M / RETAIL 5,149 SQ.M / MAKERSPACE 2,391 / OFFICES 12,200 SQ.M

TOTAL = 67,839 SQ.M (INITIAL PROPOSAL: 52,700 SQ.M)

*INCREASED SQUARE FOOTAGE BUT RATIO IS SIMILAR TO INITIAL IDEA