

3035481239

THE UNIVERSITY OF HONG KONG DEPARTMENT OF ARCHITECTURE

BAYS OF TERRACE

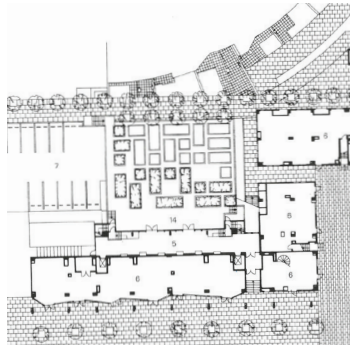
WONG MEI TING, VALERIE

ARCH4074 DESIGN 6

LEE, ANDERSON L.C.

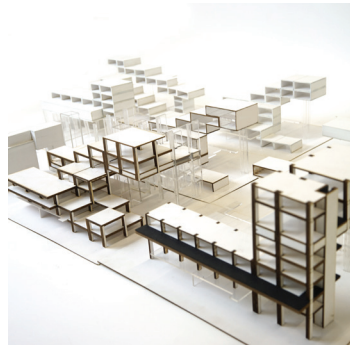
SEMESTER I, 2020-21

01



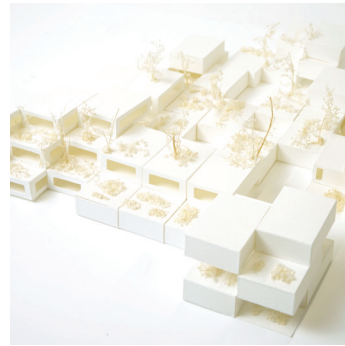
CASE STUDY

02



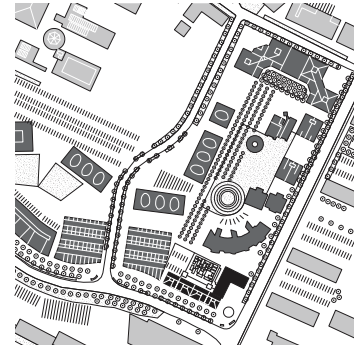
MASSING STUDY

03



LIFESTYLE ITERATION

04



CONTEXT INTEGRATION

05



INTEGRITY OF ADDITION

CONTENT

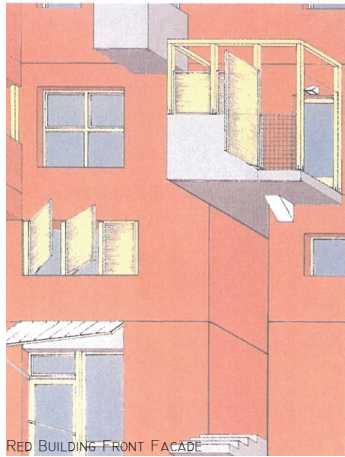


WATERCOLOUR DRAWINGS - COLOUR CONTRAST WITH CONTEXT

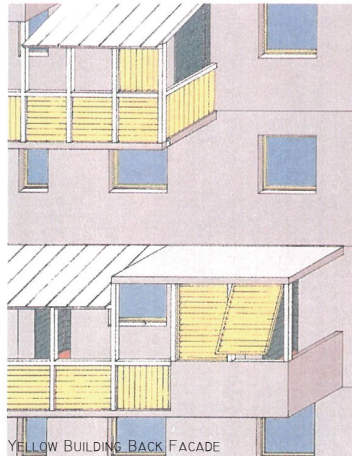
01

CASE STUDY





RED BUILDING FRONT FACADE

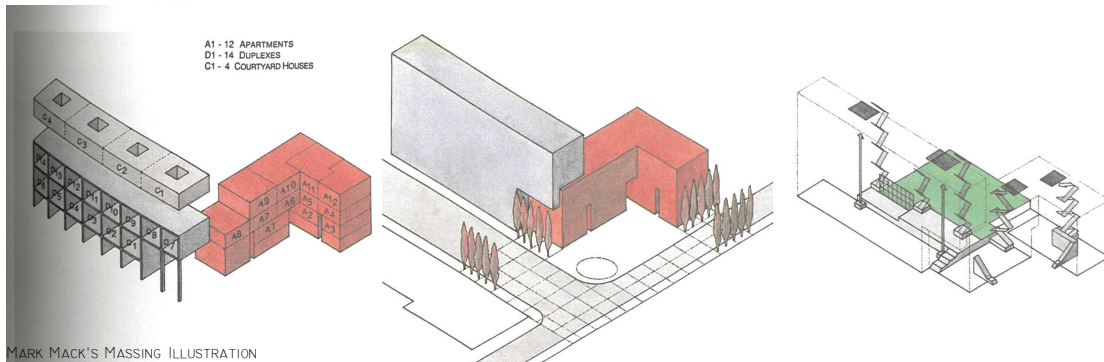


YELLOW BUILDING BACK FACADE

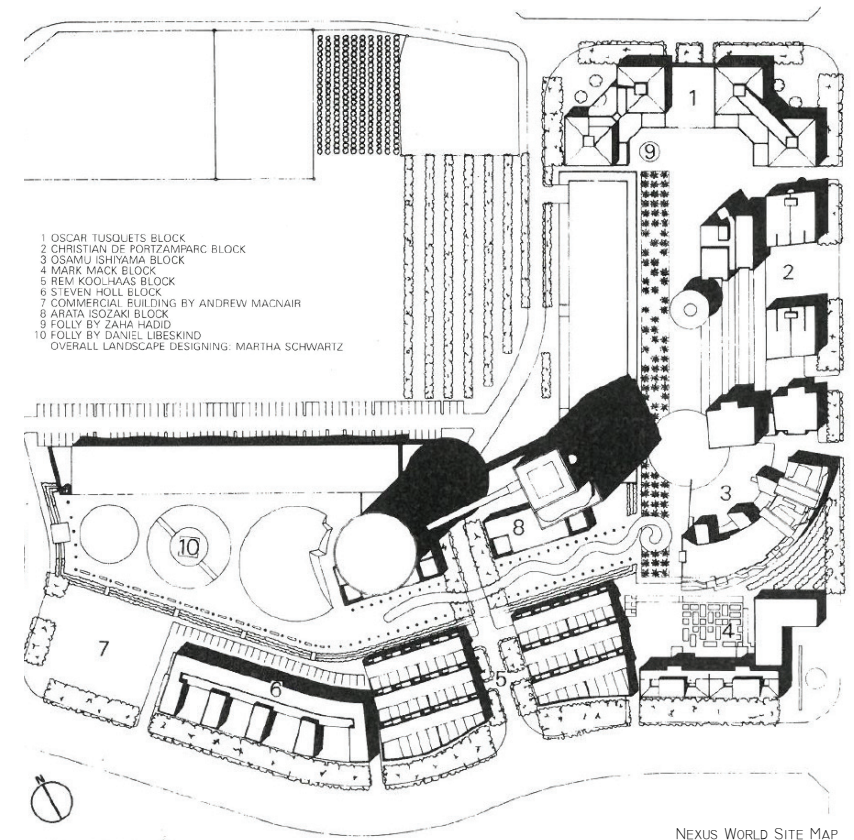


YELLOW BUILDING GAZED CORRIDOR

location: Fukuoka, Fukuoka Prefecture
 architects: Mark Mack
 client: Fukuoka Jisho
 structural engineers: Kusaba Structural Engineers
 general contractors: Ando Corporation
 site area: 3,023m²
 building area: 1,551m²
 total floor area: 4,965m²
 structure: reinforced concrete; 6 stories
 floor area ratio: 149.31%
 building coverage: 51.32%
 number of housing: 28
 date of completion: March, 1991



MARK MACK'S MASSING ILLUSTRATION



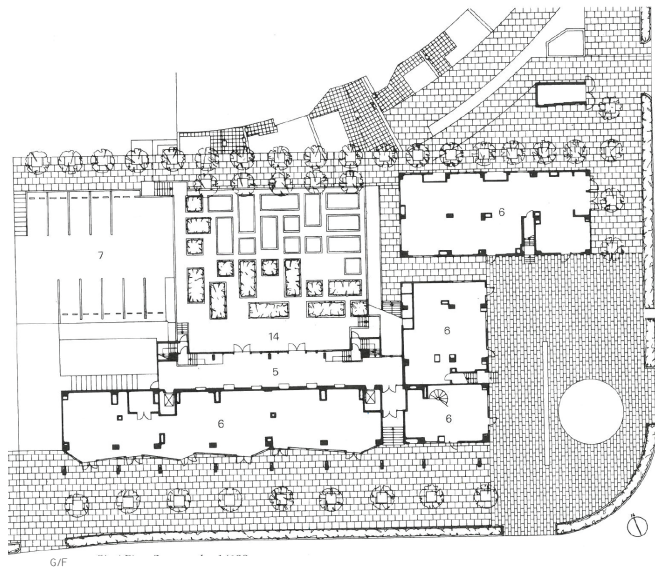
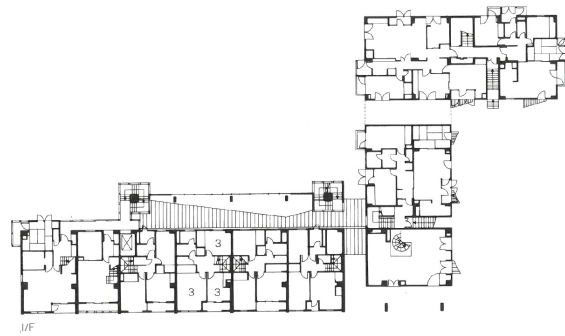
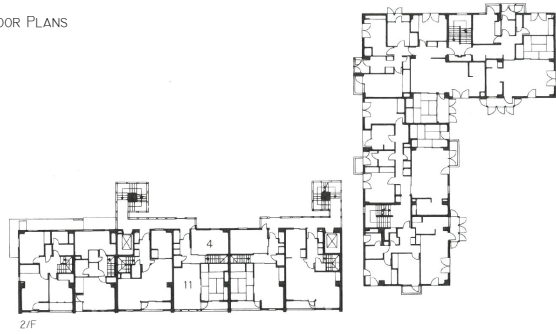
- 1 OSCAR TUSOLETS BLOCK
 - 2 CHRISTIAN DE PORTZAMPARC BLOCK
 - 3 OSANJU SHIYAMA BLOCK
 - 4 MARK MACK BLOCK
 - 5 REM KOOLHAAS BLOCK
 - 6 STEVEN HOLL BLOCK
 - 7 COMMERCIAL BUILDING BY ANDREW MACNAIR
 - 8 ARATA ISOZAKI BLOCK
 - 9 FOLLY BY ZAHA HADID
 - 10 FOLLY BY DANIEL LIBESKIND
- OVERALL LANDSCAPE DESIGNING: MARTHA SCHWARTZ

MARK MACK BLOCK AT NEXUS WORLD

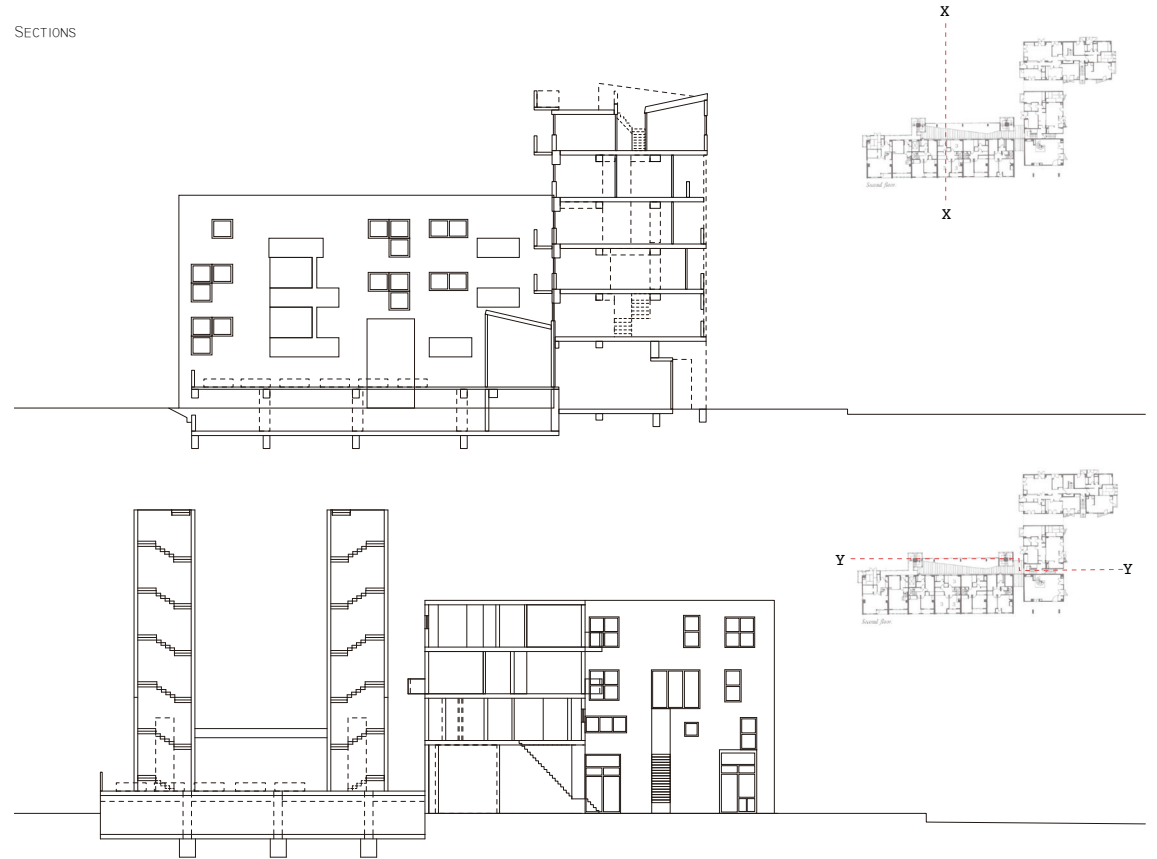
THE STUDIO PROJECT BASES ON NEXUS WORLD, AN EXEMPLAR OF INNOVATIVE FUTURE URBANISM IN THE 1990S. AMONG THE BUILDINGS WITH THE AIM TO PROVIDE VARIOUS LIVING ENVIRONMENT FOR RESIDENTS WITH ARCHITECTURE STYLES VARIED FROM ARCHITECTS OF THEIR OWN, 6 EARLIER PROJECTS ARE SELECTED. OUR STUDY PAIR IS REQUIRED TO STUDY THE MARK MACK BLOCK THEN DESIGN A 30% HOUSING ADDITION. AT THE TIME OF THE CONSTRUCTION OF THE BUILDING, JAPANESE IS EXPERIENCING AN ECONOMIC UPDRIFT WITH A LARGE INFLUX OF POPULATION FROM RURAL VILLAGES, OR EVEN FOREIGN COUNTRIES TO MAJOR CITIES, NAMELY TOKYO, YOKOHAMA, AND THE LOCATION OF MARK MACK BLOCK, FUKOKA. THEREFORE, MARK MACK NEEDED TO CREATE A RANGE OF SPACES SUGGESTING DIFFERENT LIFESTYLE IN RESPECT TO THE INTERIOR AND THE NEIGHBOURHOOD TO SATISFY THE VARIOUS DEMAND FROM DIFFERENT SOCIAL STATES AND CULTURES. MARK HOUSED 29 LIVING MODULES IN TWO OVERLAPPED WINGS WITH EACH ACQUIRE DIFFERENT ORIENTATION, TYPES OF OPENING, SIZES, PRIVACY, AS TO PROVIDE FREEDOM OF CHOICES TO THE RESIDENCE. THE INTERLOCKED MASSING RESULTED IN 2 OPEN SPACES WITH ONE EMBRACING THE CORNER WHERE COMMERCIAL STREET AND RESIDENTIAL STREET MEET IN FRONT OF THE RED BLOCK, AND THE OTHER WITH GARDENS ALLOTTED TO RESIDENTS.

NEXUS WORLD SITE MAP

FLOOR PLANS



SECTIONS



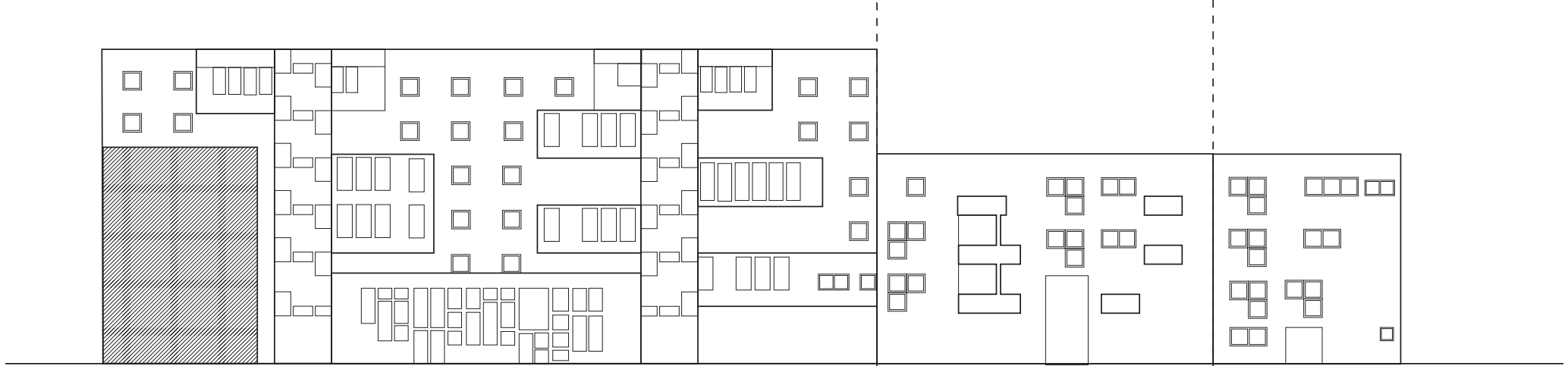
OTHER FEATURES OF MARK MACK BLOCK

THE COLOUR SCHEME OF MARK MACK BLOCK STANDS OUT FROM OTHER BLOCKS IN TERMS OF VIBRANCY. THIS REFLECTS HIS WELL-KNOWN CARLIFORNIA MODERNISM AND EASY LIVING OFTEN EXPRESSED BY COLOUR AND ECLECTIC MATERIAL CHOICE. THIS IS HIS ATTEMPT TO BRING HIS APPRECIATION OF EXTERNAL ENVIRONMENT TO THE INTERIOR. IN THIS CONTEXT, HIS USE OF COLOUR CONTRAST WITH THE PALE COLOUR SCHEME OF MODERNIST JAPANESE ARCHITECTURE SWIPING THROUGH THE REGION. WHILE THE YELLOW FACADE INDICATES THE POSITION OF DUPLEX, THE RED FACADE INDICATES THAT OF APARTMENT HOUSE, AND THE GREY FACADE INDICATES THAT OF COURTYARD HOUSE. THE ARCHITECT PLAYED AROUND THE OPENINGS TO HIGHLIGHT DIFFERENT COMBINATION OF FUNCTIONS ESPECIALLY AT THE DUPLEX'S STREET-FACING FACADE. FOR YELLOW BUILDING WHICH CONNECTS MORE WITH THE GARDEN, OPENINGS BECOME HOMOGENEOUS SO THAT THE SPIRAL STAIRCASE'S FEATURE POPS UP. SINCE THE 2 SPIRALS ARE DIRECT VERTICAL ACCESS LINKING RESIDENTS' FLAT TO THE FARM, WE CAN SEE MARK MACK'S VISION OF BRINGING THE BUILDING'S RESIDENTS TOGETHER BY THE SHARED GARDEN. A GLAZED CORRIDOR LINKED THE SPIRALS ON GROUND FLOOR TO REINFORCE THE NOTION OF COLLECTIVE FARMING AS SOCIAL LIFE. THE MAIN STRUCTURE OF BOTH WINGS IS POST AND BEAM SYSTEM. STRUCTURAL WALL WITH A SPAN OF AROUND 1/3 OF A DUPLEX'S LENGTH CAN BE SEEN IN FRONT OF THE COMMERCIAL STREET.

FRONT FACING ELEVATION / UNFOLDED



BACK FACING ELEVATION / UNFOLDED

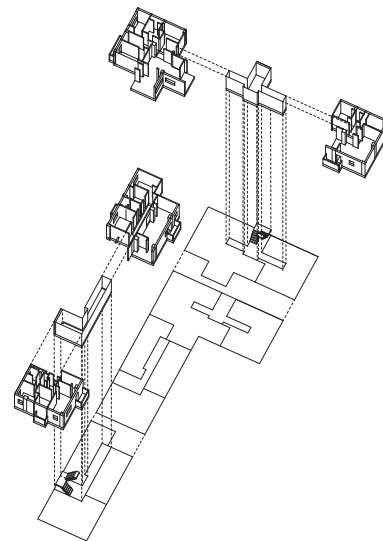


FLAT TYPOLOGY STUDY

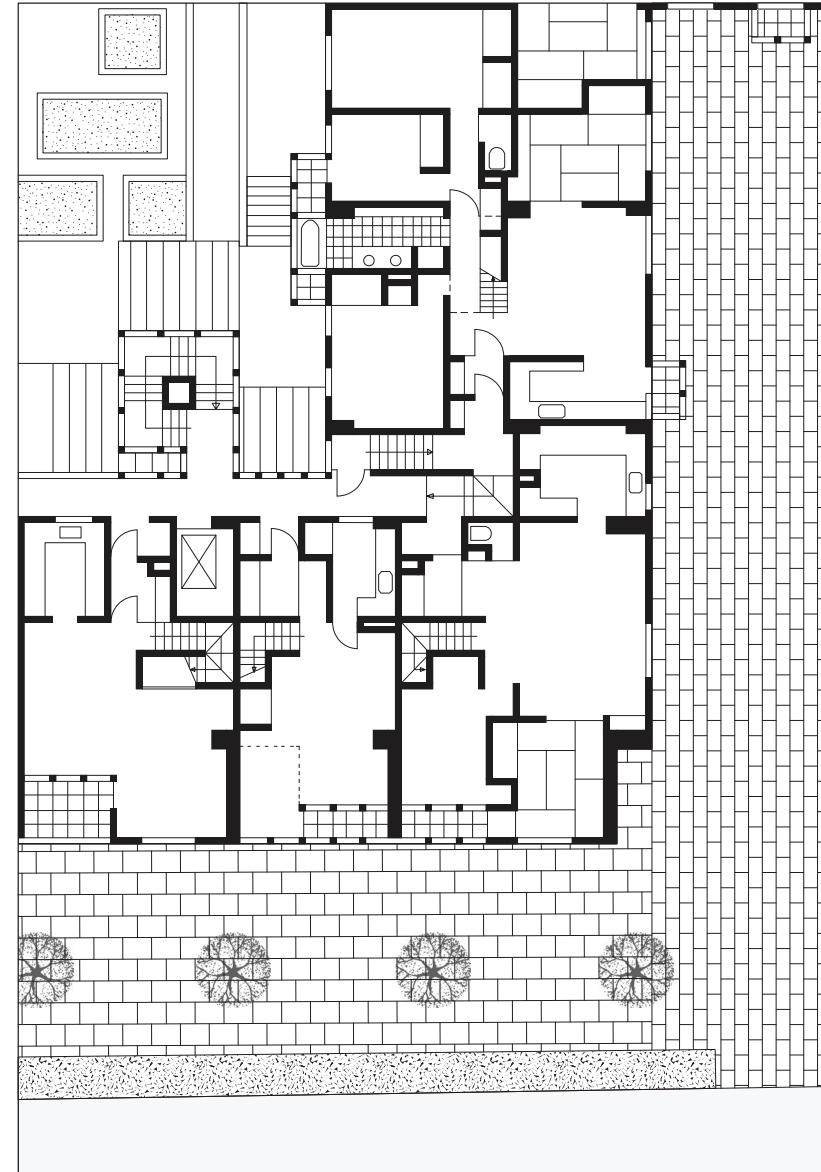
ZOOMING IN TO CHARACTERISTICS OF DIFFERENT FLATS, WE REALIZED THAT DUPLEXES HAVE CERTAIN CONNECTIONS WITH THE OTHER TWO TYPES OF BUILDINGS RESPECTIVELY, BUT THE THREE TYPES OF FLATS ARE GENERALLY STANDING ALONE. THE CONNECTION OF DUPLEX AND APARTMENT HOUSE EXISTS IN THE FLOOR WHERE THE 2 WINGS INTERWEAVE. THIS CONDITION PROVIDES A RARE ACCESS FROM SPIRAL STAIRS TO RED BUILDING ALONGSIDE A TRANSITION OF FORMULATED DOUBLE STOREY FLAT TO SINGLE STOREY FLAT WITH CLUSTERED LAYOUTS. AS FOR COURTYARD HOUSE, ITS CORRELATION WITH DUPLEX LIES IN FLOOR PLATE SIZE INHERITED BY THE BAYS PRESET FOR STANDARDIZING DUPLEXES' FLOOR AREA. HOWEVER, THE COURTYARD HOUSES EMPHASIZES IN SKYLIGHT MORE THAN DIVERSITY OF LIFESTYLES. IF APARTMENT HOUSE REFLECTS THE RATHER CASUAL LIVING CLUSTER OF MODERN CITIZEN, COURTYARD HOUSES ARE LIKE LINING UP TO DIFFERENTIATE THE EXTERIOR CROWD AND THE INNER GARDEN. WORTHNOTICING IS THE DEGREE OF PRIVACY VARIES FROM FLATS. RESIDENTS OF APARTMENT HOUSE AND COURTYARD HOUSE ENJOY HIGHER PRIVACY WHEN COMPARED TO THOSE OF DUPLEX SINCE CIRCULATION OF THEM IS SHARED AMONG FEWER FLATS.



COURTYARD HOUSE CONCEPT DRAWINGS



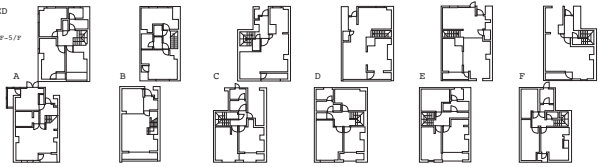
APARTMENT HOUSE CONCEPTUAL EXPLODED AXONOMETRIC



CORNER INTERSECTION PLAN

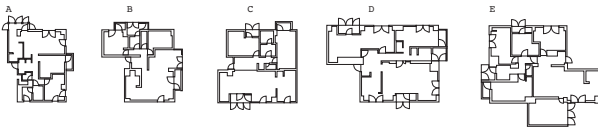
UNIT ITERATION

STANDARDIZED
DUPLIX
BLOCK YELLOW 2/F-5/F
14 UNITS



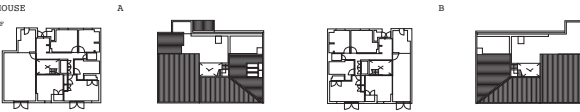
APARTMENTS

BLOCK RED
10 UNITS



COURTYARD HOUSE

BLOCK YELLOW 4/F
4 UNITS



MARK MACK BLOCK



UNITE D' HABITATION

UNIT TYPE 01



UNIT TYPE 02



UNIT TYPE 03



UNIT TYPE 04



UNIT TYPE 05



UNIT TYPE 06



UNIT TYPE 07



UNITE D' HABITATION

UNIT TYPE 08



UNIT TYPE 09



UNIT TYPE 10



UNIT TYPE 11



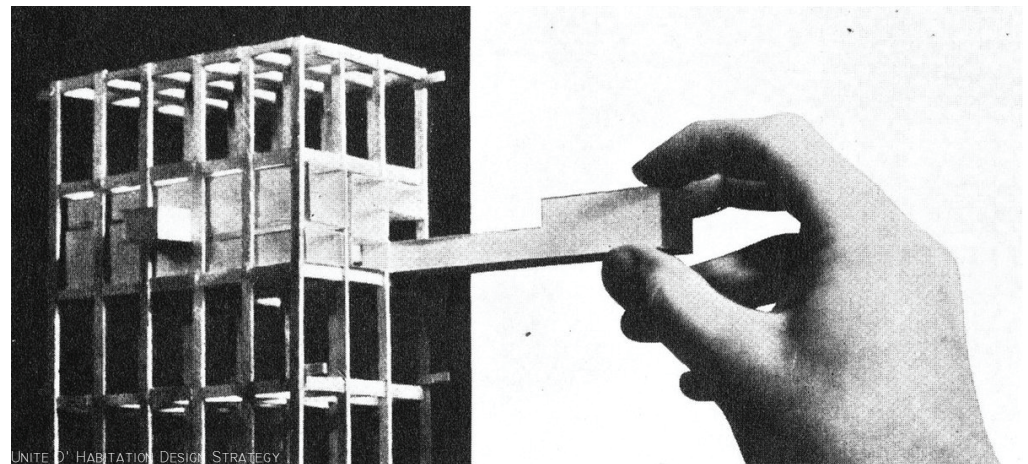
UNIT TYPE 12



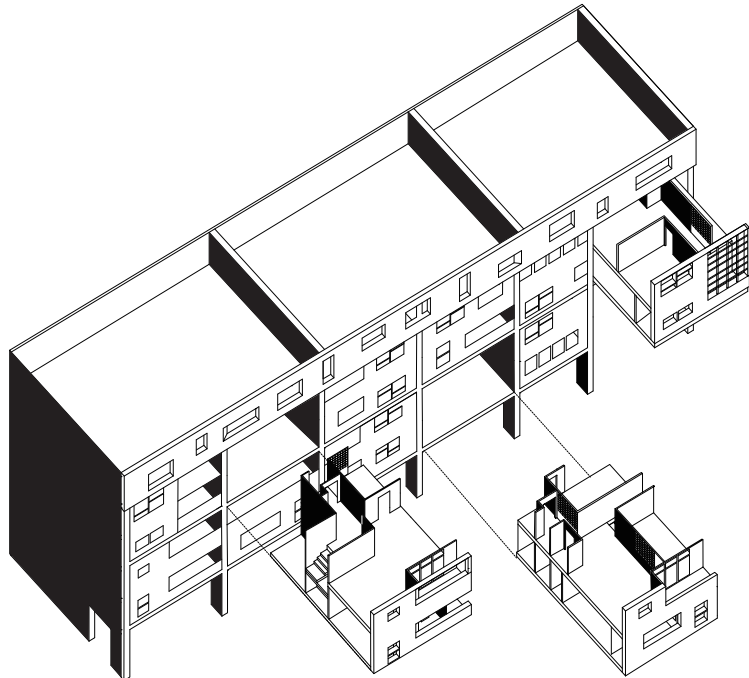
UNIT TYPE 13



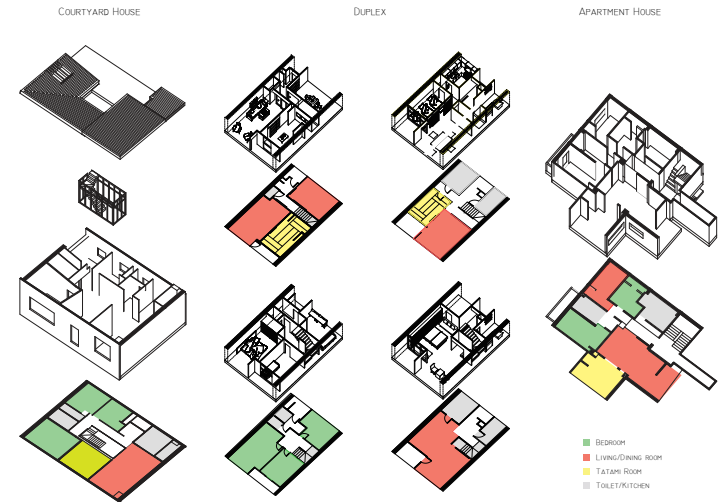
UNIT TYPE 14



UNITE D' HABITATION DESIGN STRATEGY



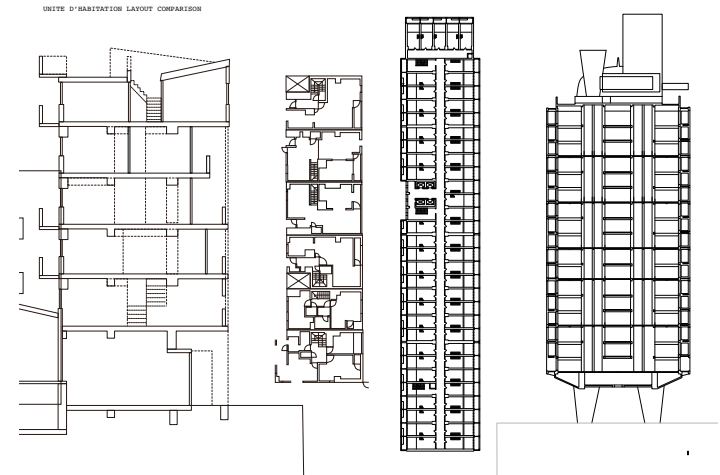
DUPLEX CONCEPTUAL AZONOMETRIC



LAYOUT COMPARISON BETWEEN UNIT TYPES

INFLUENCE OF UNITE D' HABITATION

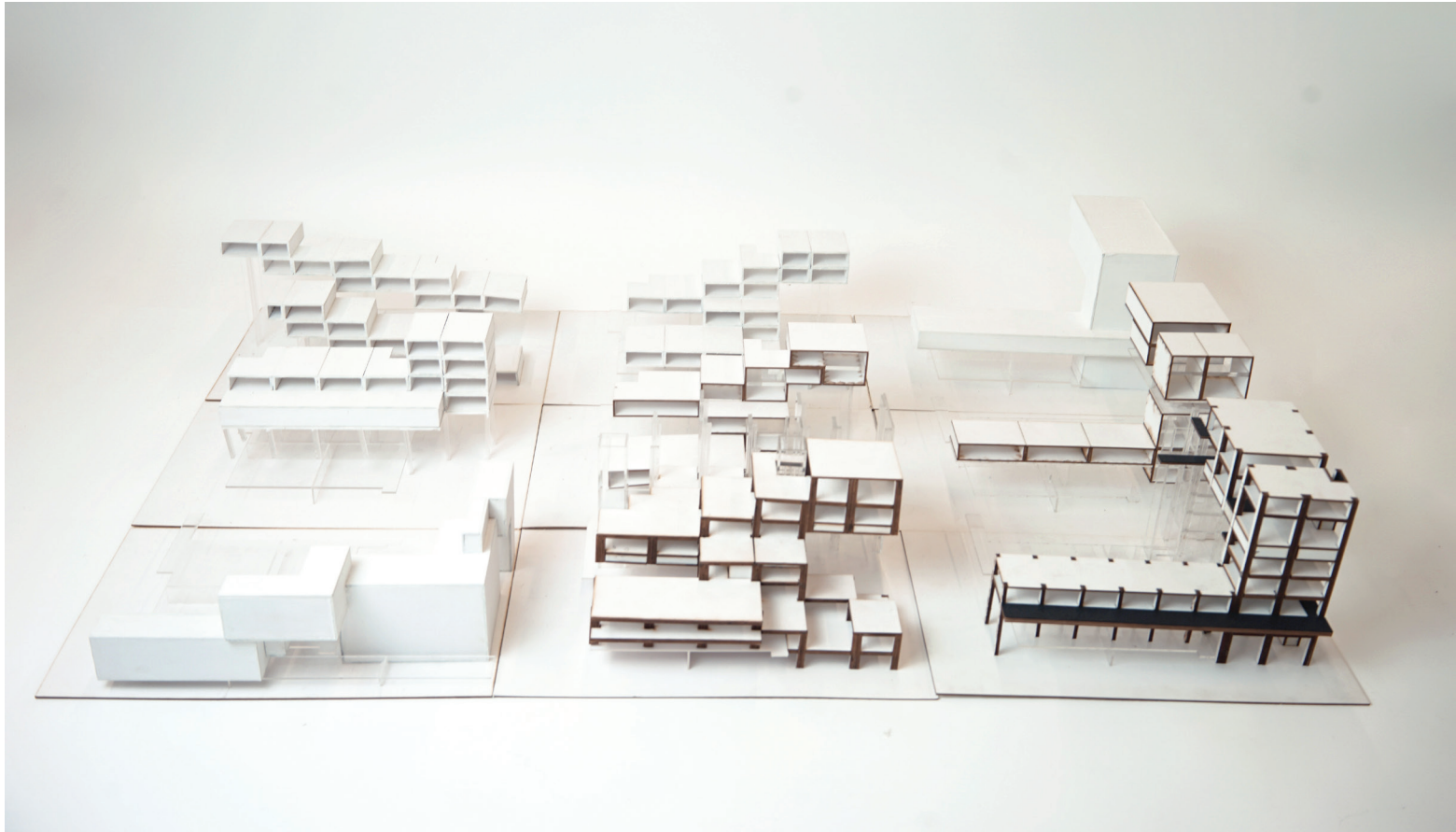
UPON FURTHER HISTORICAL TRACE, WE HAVE FOUND THAT MARK MACK WAS REFERENCING LE CORBUSIER'S UNITE D' HABITATION IN FRANCE FOR CONFIGURATION OF DUPLEX COMPLEX. BY PLUGGING MASS INTO A FRAME, SPACES WITH INDIVIDUALITY CAN BE DUPLICATED AND SQUEEZED INTO A SPACE EFFICIENTLY. ONE POSSIBILITY FOR THE ARCHITECT WHO WAS USED TO BUILD UPMARKET HOUSING IN 1990S REFERENCING A POST WAR SOCIAL HOUSING METHODOLOGY MIGHT DUE TO THE NEED TO SAVE SPACE FOR EACH UNIT WHILE FREEING UP A SHARED GARDEN WITHIN A LIMITED ALLOTTED SITE AREA. WHEN LOOKING INTO PROGRAM ARRANGEMENT, WE REALIZED THE DRAWER TYPOLOGY HAS SET UP A RUBIC FOR FUNCTIONS WITH RELATIVELY STANDARDIZED SIZE TO SUFFLE WITHIN THE 2 FLOORS. THE ATTEMPT OF SHOWING A MULTITUDE OF LAYOUTS CAN BE SEEN FROM THE YELLOW FACADE. TO CONCLUDE, THE ESSENCE OF UNITE D' HABITATION IS TRANSFORMED INTO A WAY TO PROVIDE PERSONALIZED LIFESTYLE HERE.



UNITE D' HABITATION LAYOUT COMPARISON





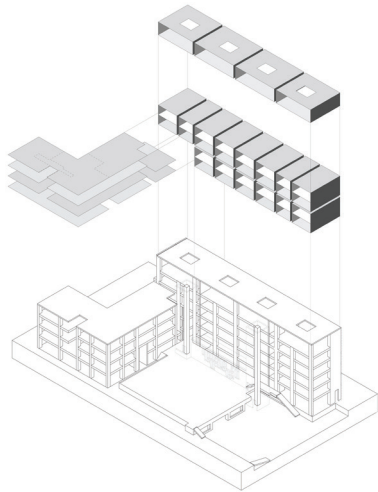


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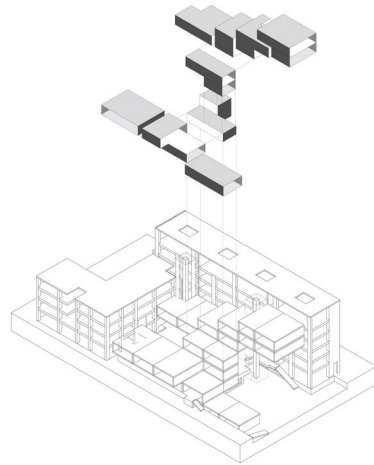
MASSING STUDY



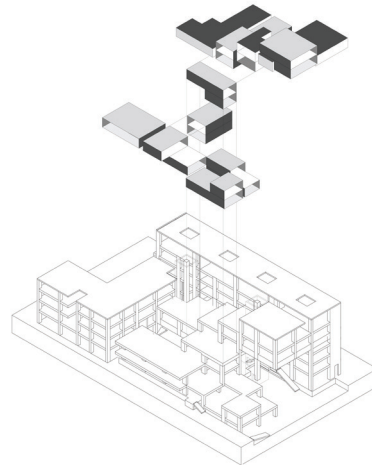
AXONOMETRIC OF DESIGN THINKING PROCESS



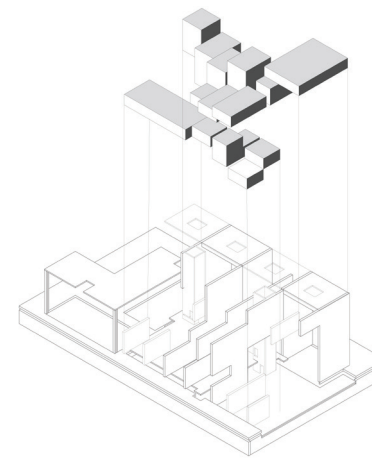
ORIGINAL UNIT TYPES



SINGLE FACING NEW FLATS



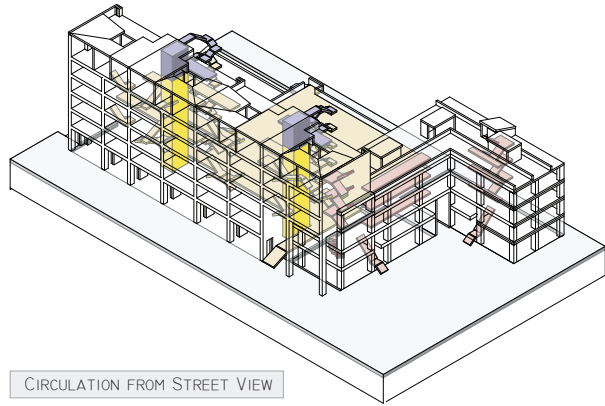
MULTIPLE FACING NEW FLATS



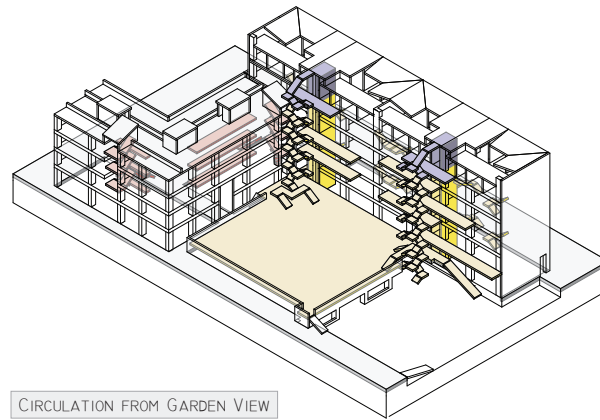
ALTERNATIVE STRUCTURAL SCHEME

REVITALIZING GARDENS BY DRAWER TYPOLOGY

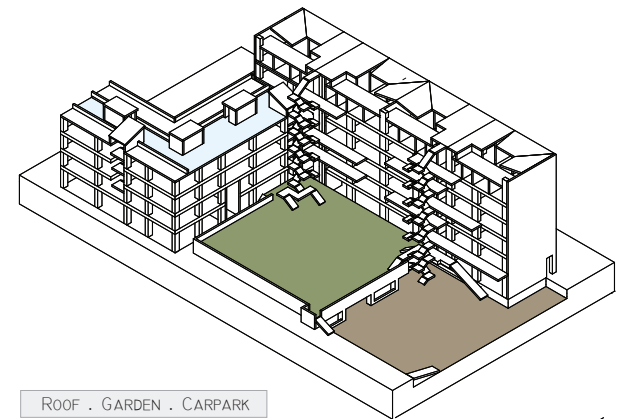
MY MANIFESTO FOR THE ADDITION IS TO REVITALIZE THE GARDEN BY THE DRAWER TYPOLOGY. THIS IS BECAUSE WE HAVE FOUND AN ESSAY PROVING THE GARDEN PLOT IS UNDERUTILIZED NOWADAYS. ONLY CHILDREN WILL SOMETIMES PLAY ON THE ILL-FARMED LAND. TO INCREASE THE USAGE OF THE AREA, I HAVE TRIED ON BOTH SURROUNDING AND TERRACING STRATEGY. THE FORMER SEEM TO BE AMPLIFYING THE TRICKS OF INTERSECTING MASSING IN EMBRACING PUBLIC SPACE, BUT THE FLATS IT CREATES IS BORN TO BE MORE ISOLATED. THE LATTER FOCUSES IN MAXIMIZING THE POTENTIAL OF LE CORBUSIER'S DRAWER TYPOLOGY. NOT ONLY CAN IT CREATE FLATS WITH A VARIETY OF CONNECTIVITY AND SHADING CONDITIONS, IT PROPOSES AN UP-TO-DATE STATEMENT TO MODERN LIVING WHEN LOOKING BACK AT THE HERITAGE HOUSING: INDIVIDUALISM HAS BECOME A TRENDY LIFESTYLE. SINCE PRIVATE GARDEN ALLOTTED TO RESIDENTS CAN BE SITUATED CLOSER TO THEIR FLAT, THEY WOULD HAVE GREATER SENSE OF OWNERSHIP TO THEIR PLOT. MOREOVER, SHARED GARDEN CAN STILL BE CREATED UNDER THIS MASSING APPROACH. MOREOVER, AS SHARED OWNERS OF A GARDEN COULD BE RESTRICTED TO 1 OR 2 NEIGHBOURS, THEY WOULD PROBABLY KNOW EACH OTHER AND FEEL MORE COMFORTABLE TO MANAGE THEIR GARDENS. I HAVE CHOSEN THE LATTER ONE SO THAT I CAN UNLEASH THE WIDE RANGE OF POTENTIALS IT POSSESSES.



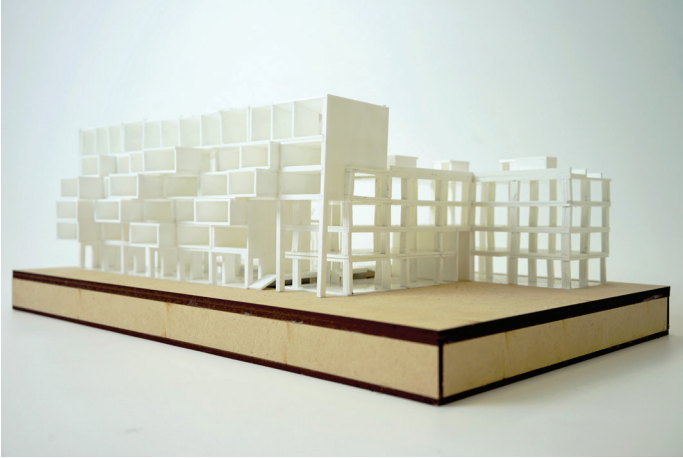
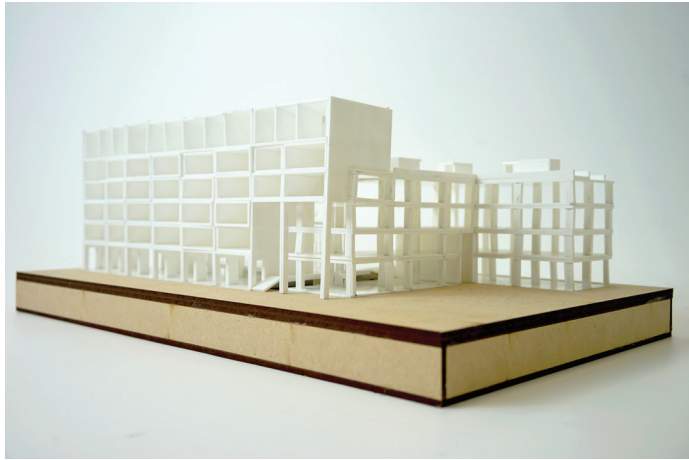
CIRCULATION FROM STREET VIEW



CIRCULATION FROM GARDEN VIEW



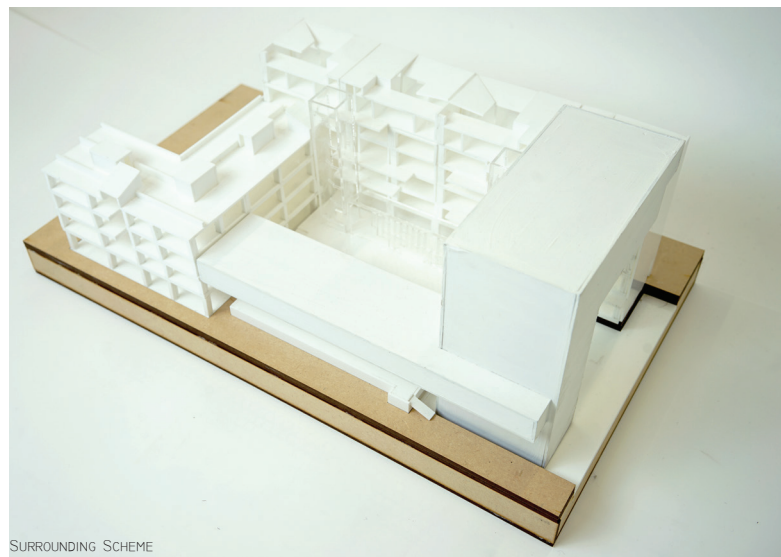
ROOF . GARDEN . CARPARK



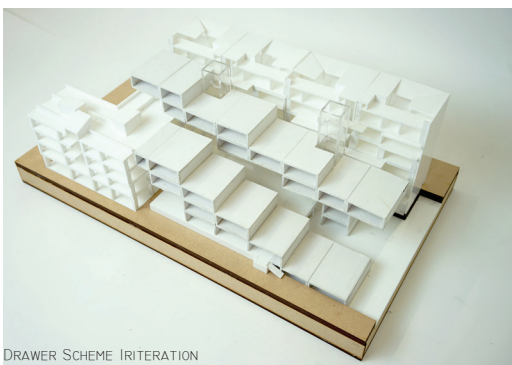
MASSING STAGE FOUNDATION MODEL



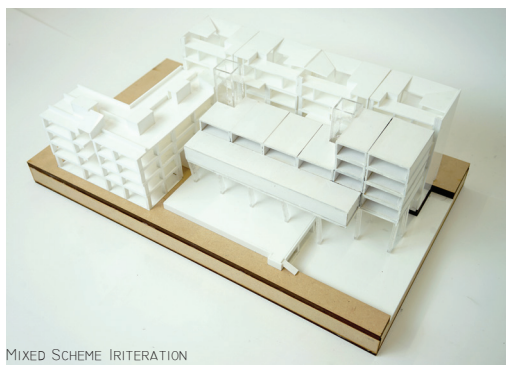
DRAWER SCHEME



SURROUNDING SCHEME



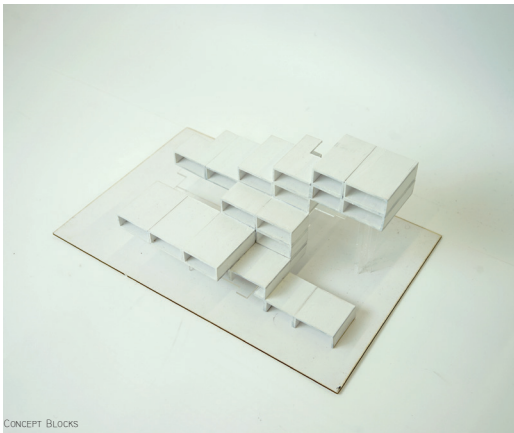
DRAWER SCHEME ITERATION



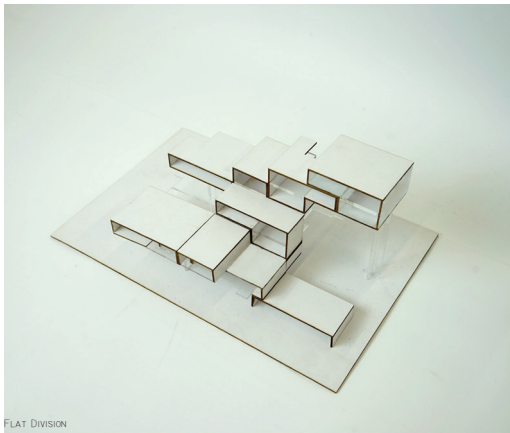
MIXED SCHEME ITERATION



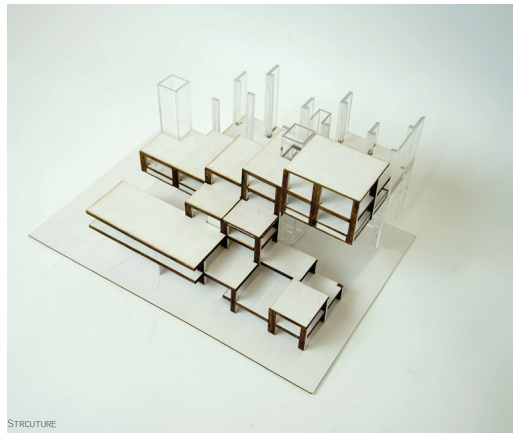
SURROUNDING SCHEME ITERATION



CONCEPT BLOCKS

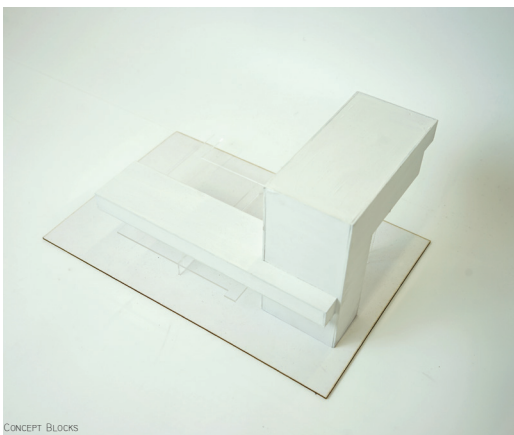


FLAT DIVISION

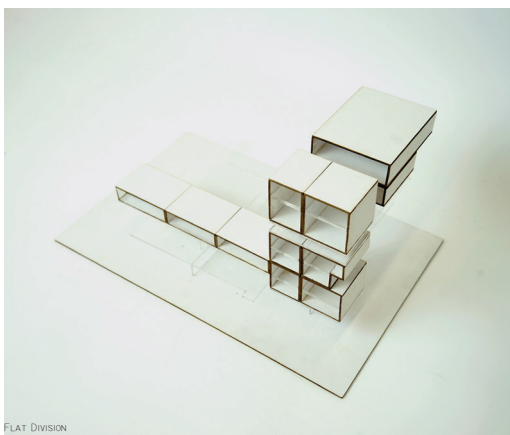


STRUCTURE

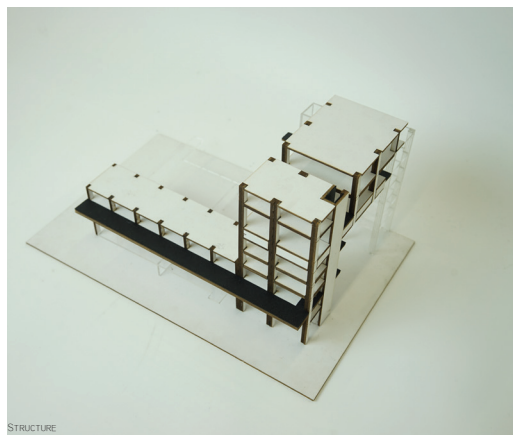
DRAWER SCHEME



CONCEPT BLOCKS

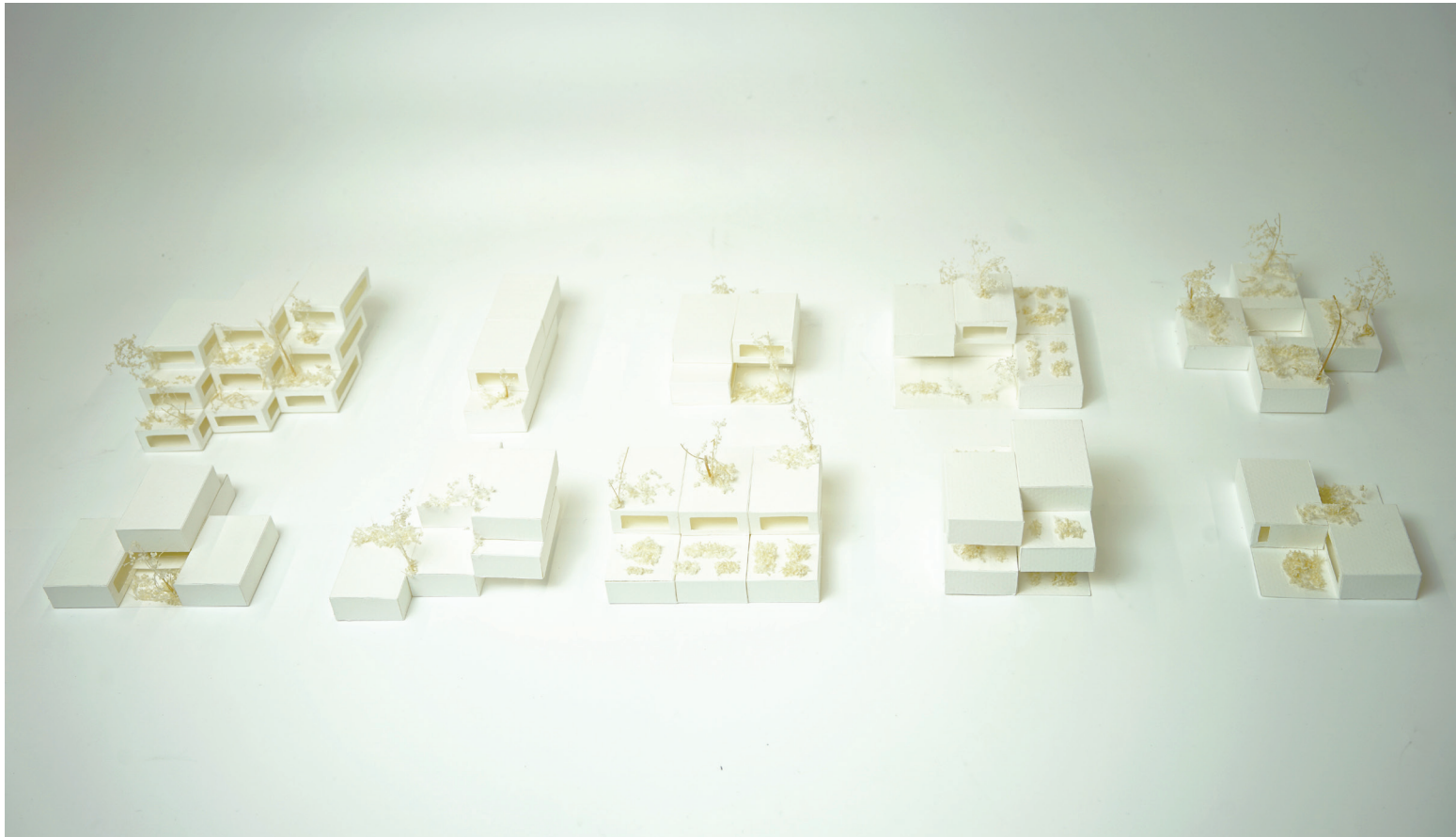


FLAT DIVISION



STRUCTURE

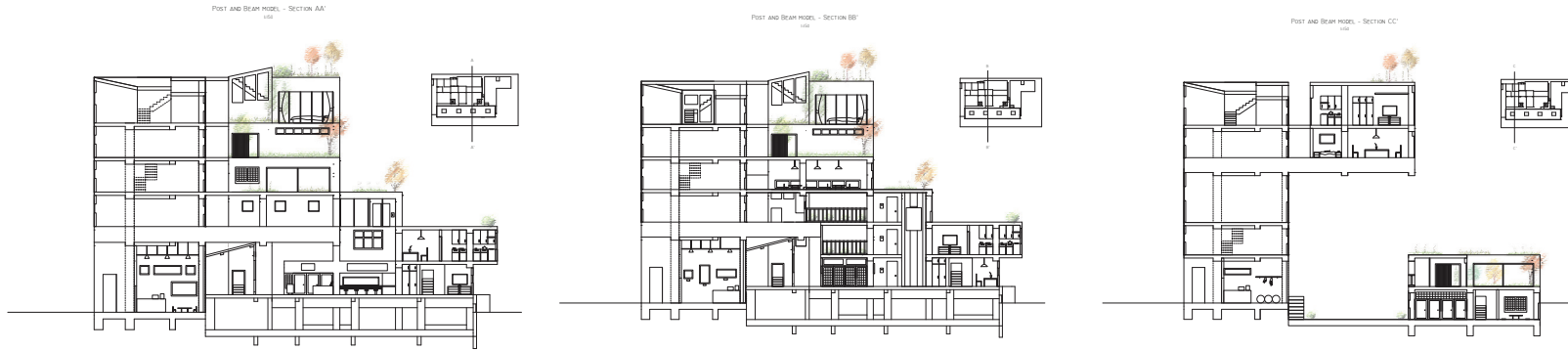
SURROUNDING SCHEME



03

LIFESTYLE ITERATION





SECTIONS OF SELECTED MASSING SCHEME

OFFSET DISTANCE CRITERION FOR TERRACES BETWEEN BAYS

THE MASSING STAGE ENDS AS THE 2 APPROACHES WERE TRANSFORMED INTO POST AND BEAM STRUCTURAL RESOLUTION. HOWEVER, AS I DRAW THE SECTIONS OF THE SELECTED MASSING, I REALIZED THE RESTRICTION OF SUCH STRUCTURAL SCHEME. ALTHOUGH THE DRAWERS SHOULD BE RESTRICTED BY THE BAYS INHERITED BY MARK MACK BLOCK, RIGIDITY BETWEEN VOLUMNS ON THE SAME BAY OR ACROSS BAYS SHOULD BE MINIMIZED. TO BREAK THE 3 ROWS OF VOLUMNS PERPENDICULAR TO THE BAYS IN PLAN VIEW, I ATTEMPTED TO CREATE DIFFERENT DIMENSION OF OFFSETS BETWEEN VOLUMNS. FOR EXAMPLE, AS I HAVE REALIZED MAIN CORRIDOR AND A SEMI-PRIVATE ONE IN MARK MACK BLOCK HAVE WIDTHS OF 2M AND 1M RESPECTIVELY, I WOULD APPLY THEM TO COMPLEMENTING MY IMAGINED CIRCULATION/ATMOSPHERE NEXT TO THE GENERALLY 4M WIDE GARDENS. BY INTERVIEWING PEOPLE WITH DIFFERENT LIFESTYLES OVER THEIR ATTITUDE IN PRIVATE/ SHARED GARDEN, I INVENTED SOME PAPER MODULES AS SPATIAL EXPERIMENT.

WHAT WOULD YOU SAY IF YOU HAVE A PRIVATE GARDEN?

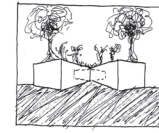
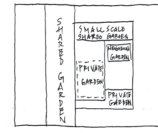
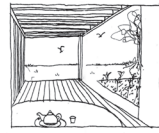
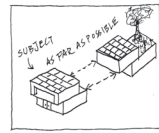
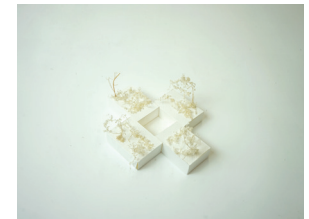
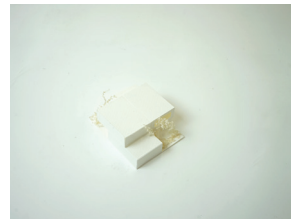
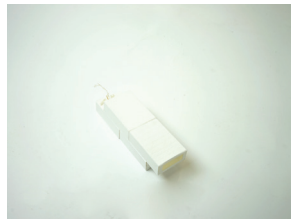
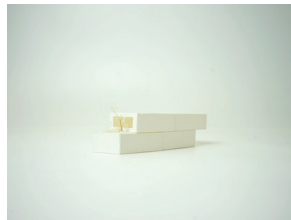
HOW LUXURIOUS!

NO MOSQUITO PLEASE

LET'S HAVE TEA NEXT TO IT!

I WANT TO BE SURROUNDED BY GREEN!

JUST LET ME STAY INVISIBLE, YAY



WHAT WOULD YOU SAY IF YOU HAVE A SHARED GARDEN?

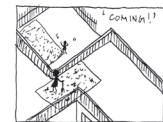
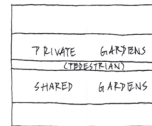
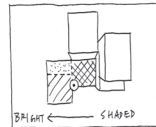
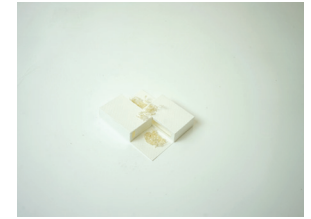
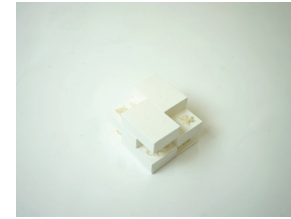
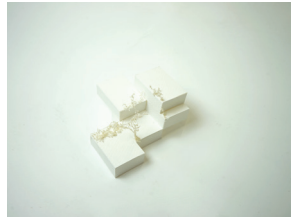
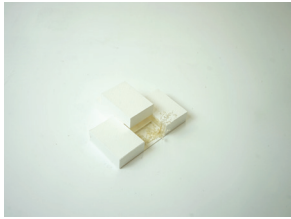
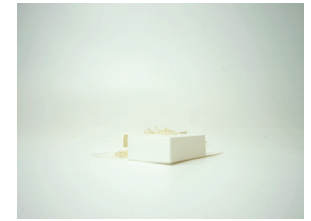
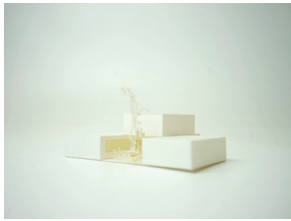
MAY WE HAVE AN ENGAUA AS WELL?

CAN I PLAY YOGA THERE?

WOW! OUR CROPS WILL BECOME EXHIBITS!

WHAT ABOUT PLAYING HIDE & SEEK THERE?

LET ME FARM WITH MY NEIGHBOUR!





ENTRANCE OF INTERNAL CORRIDOR BETWEEN MARK MACK AND ISHIYAMA BLOCK

04

CONTEXT INTEGRATION



WIDE ANGLE FRAMING REM KOOHAAS BLOCK, GREEN BELT, ISHIYAMA BLOCK AND MARK MACK BLOCK

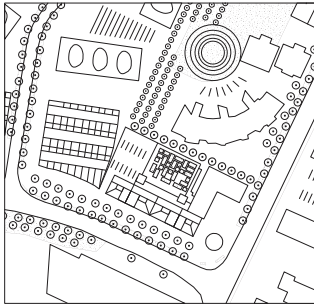
SITE MAP



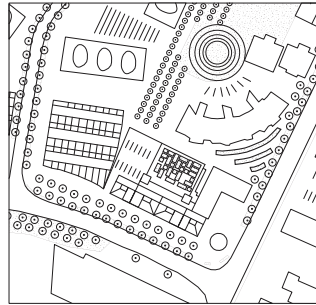
DETERMINING OVERALL FORM

AFTER INCORPORATING VOLUMNS OF DIFFERENT OFFSETS BASED ON PERSONAL PREFERENCE, I REALIZED THAT AN OVERALL RULE SHOULD EXIST OR ELSE THE DESIGN WOULD LACK AN ORGANIZED TELLING GESTURE. THEREFORE, I REVISITED THE SITE TO FIGURE OUT HOW WOULD MY ADDITION IMPACT THE COMMUNITY. ALTHOUGH MY DESIGN ELEVATED GARDENS TO NEW HOUSEHOLDS AS WELL AS ORIGINAL HOUSEHOLDS AS COMPENSATING DISRUPTION OF THEIR VIEWS, OTHER RESIDENTS MAY LOST A PLAYGROUND WITH GREENERY. UPON CLOSER SITE INVESTIGATION, I REALIZED THE GREEN BELT PENETRATING THROUGH THE NEXUS WORLD STARTED RIGHT NEXT TO THE ISHIYAMA BLOCK, MACK MACK BLOCK'S CURVE SHAPED NEIGHTBOUR. THEREFORE, I HAVE DECIDED THAT THE CLOSER A BAY IS TO THE REM KOOL-HAAS' BLOCK, THE GREATER ITS SETBACK FROM THE ISHIYAMA BLOCK. IN THIS WAT, THE INTERNAL CORRIDOR OF NEXUS WORLD BETWEEN MACK MACK BLOCK AND ISHIYAMA BLOCK BECOME MUCH SPATOUS. LIKE SOME OLD BLUEPRINTS WHEN THE NEXUS WAS PLANNED, THE CORRIDOR CAN INVITE PEDESTRIAN TO ENJOY THE GREEN WHICH COULD SERVE AS A RELAXING PUBLIC SPACE FOR THE LARGER SOCIETY. IN ADDITION, THE SETBACK PREVENTS RESIDENTS OF BOTH ISHIYAMA BLOCK AND MARK MACK'S ADDITION TO PEER INTO EACH OTHER'S FLAT EASILY, SAFEGUARDING THEIR PRIVACY. STRUCTURALLY SPEAKING, THE ABOVE MENTIONED GESTURE DIRECTION ALLOWS THE ADDITION TO BE SOLELY SUPPORTED BY SHEAR WALL AND SLABS. STRUCTURAL INTERGRITY AND STABILITY IS ATTAINED BY THICKENING AND EXTENDING THE DIVISION WALL OF THE ORIGINAL BAYS IN YELLOW WING.

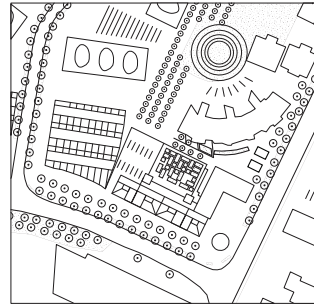
SITE DIAGRAMS



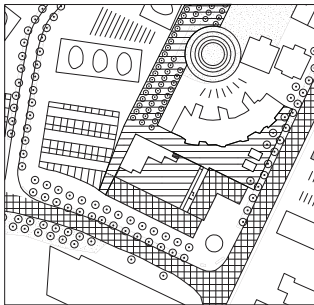
TREES ALONG INTERNAL STREET (ORIGINAL PROPOSAL V1)



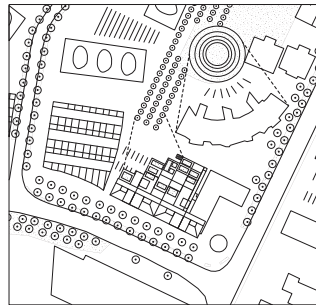
GRASS AT TRIANGULAR CORNER (ORIGINAL PROPOSAL V2)



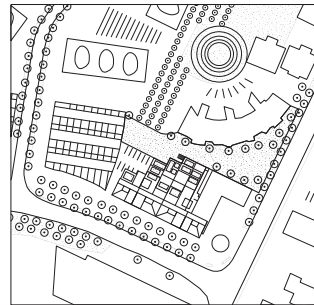
EXISTING ARRANGEMENT WITH BLOCKADE



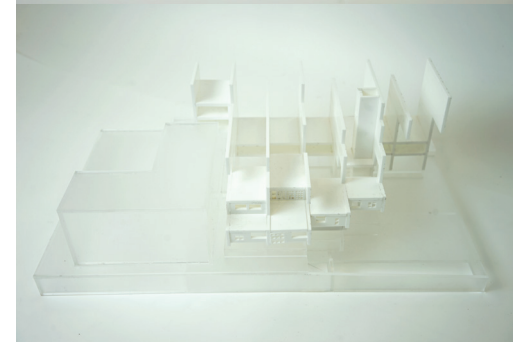
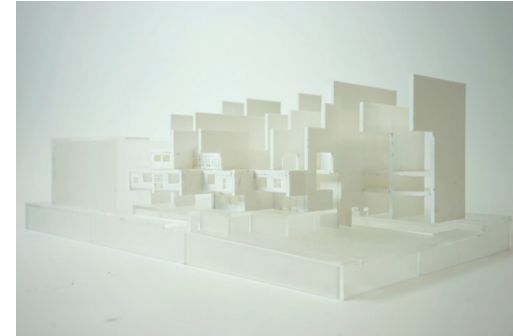
RESPONDING TO INTERSECTION OF 2 STREETS RESPECTIVELY



GREEN BELT AS A FOCAL POINT



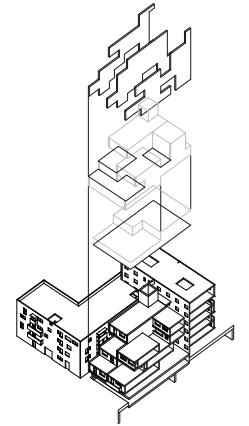
OFFSET TO LIBERATE INTERNAL STREET TO GREEN BELT



SHEAR WALL MODEL



SHEAR WALL BASIC OUTLINE



05

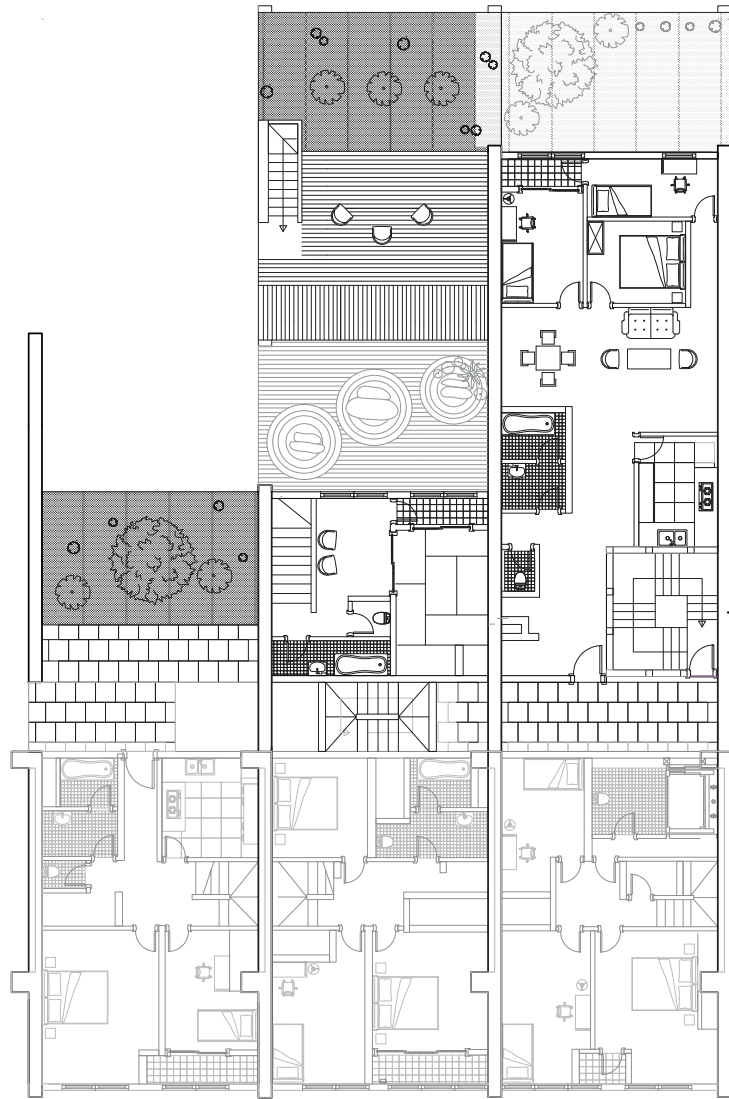
INTEGRITY OF ADDITION



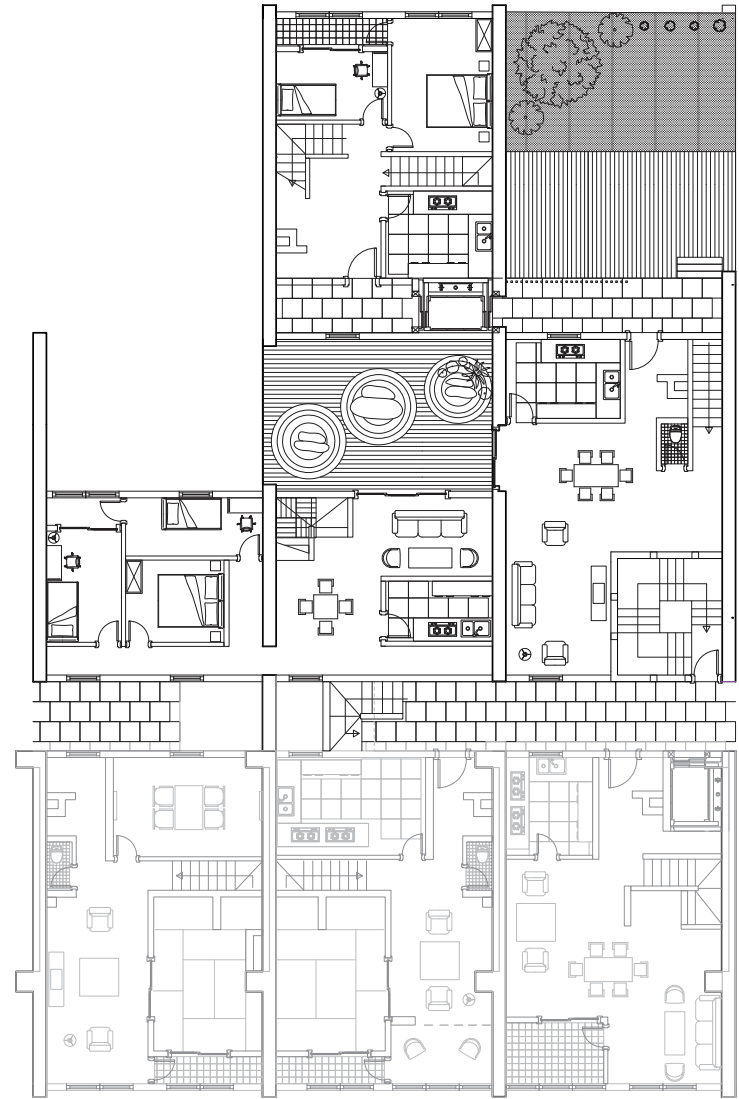


LEARNING AND UTILIZING ORIGINAL LAYOUT AND ENVELOPE

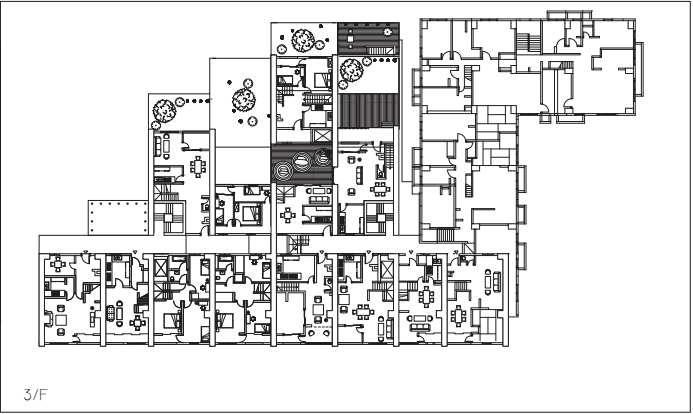
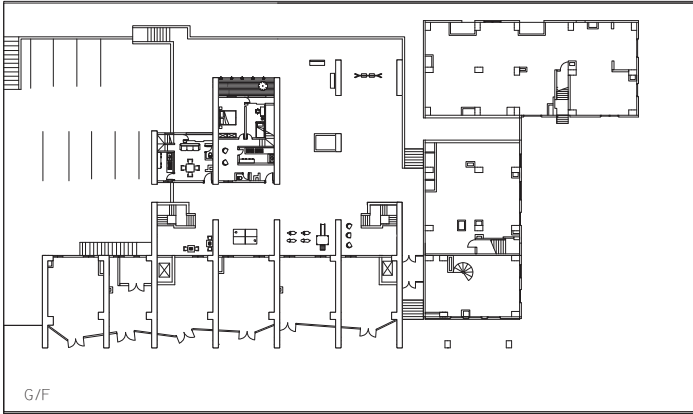
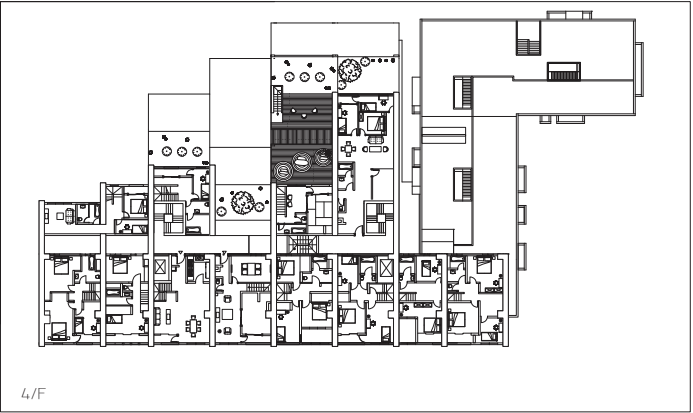
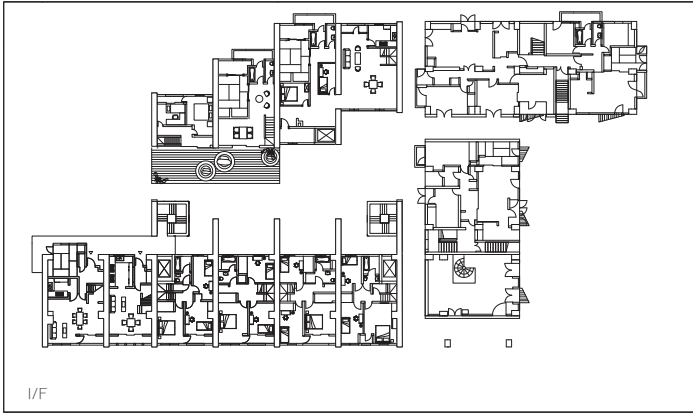
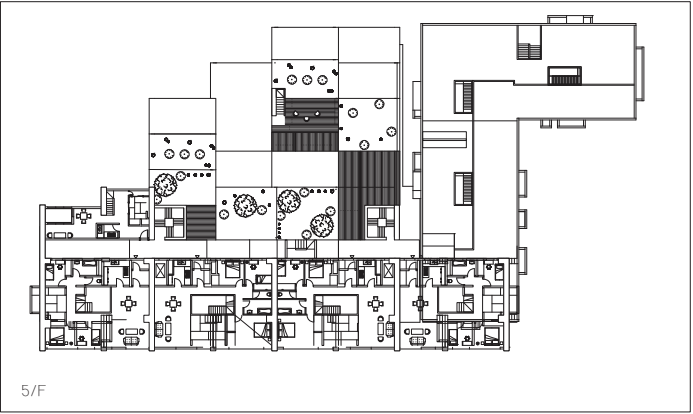
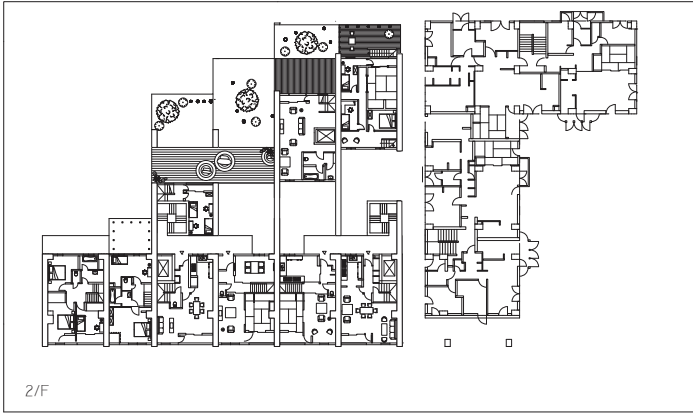
APART FROM STRUCTURAL INTEGRITY, IT IS ALSO IMPORTANT TO CARRY FORWARD THE ORIGINAL'S WRAPPER AND LAYOUT TO ITS ADDITION. BY DOING ANALYSIS OF THESE 2 ASPECT FOR MAINLY THE DUPLEXES, WHERE THE DRAWER TYPOLOGY STEM FROM, I REALIZED THE FLATS ARE GENERALLY DIVIDED INTO SOCIAL FLOOR WITH LIVING ROOM, DINING ROOM AND RESTING FLOOR WITH BEDROOMS AND LARGE TOILET. KITCHEN AND SMALL TOILET WOULD BE PLACED NEAR THE ENTRANCE ALONG THE SHARED CORRIDOR TO FILTER OUT EXTERNAL DISTURBANCES. EACH FLAT IS GENERALLY DIVIDED INTO 2 SUB BAYS TO FACILITATE EASY ACCESS FROM THE INTERNAL STAIRCASE. BALCONY CAN BE OBSERVED ON EITHER SUB-BAYS OF BOTH FLOORS IN A DUPLEX. PLAYFUL FACADE REFLECT THE HIERARCHY OF SUB BAY'S WIDTH AND SOMETIMES THE PROGRAM INSIDE. OPENINGS ON THE FACADE FACING EXTERNAL STREET IS LARGER SINCE THE SUN PATH IS ON THAT SIDE. MATCHING THE ALL THESE DETAILED PROPERTIES TO GARDENS OF DIFFERENT CONDITIONS AS WELL AS NEW FLATS OF VARIED STORIES/ LAYOUT, THE ADDITION CARRY MARK MACK'S SPIRIT TO AN INDIVIDUALIZED ERA EFFICIENTLY.

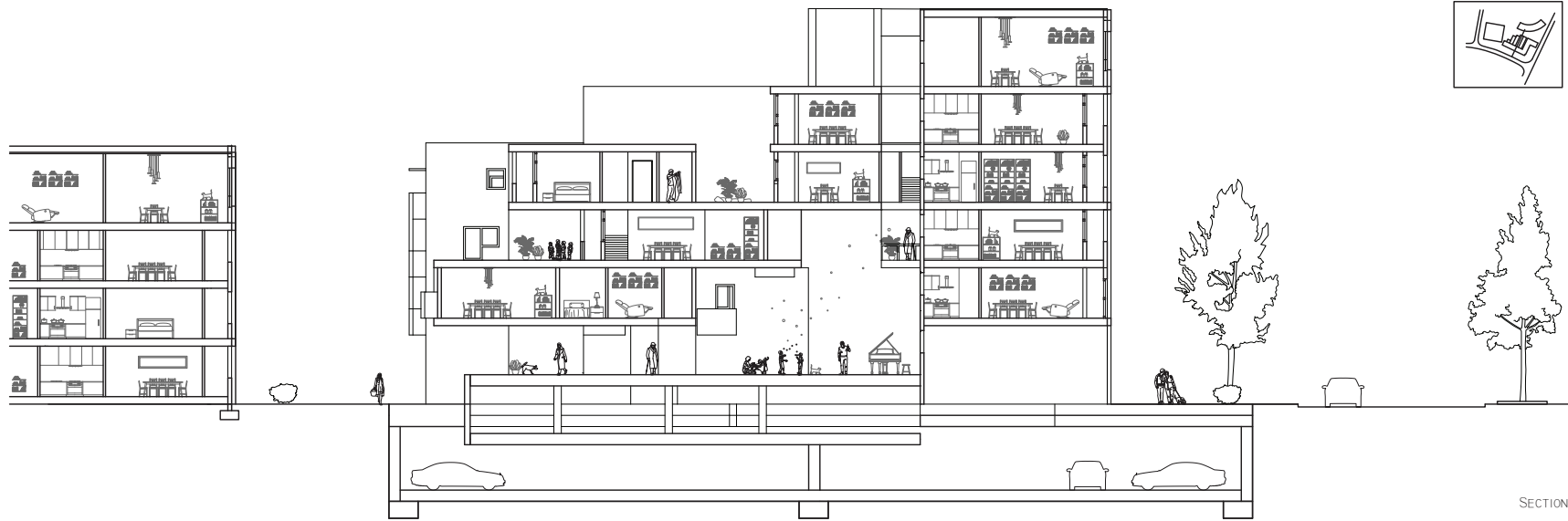


PLAN OF SELECTED UNITS - 4/F

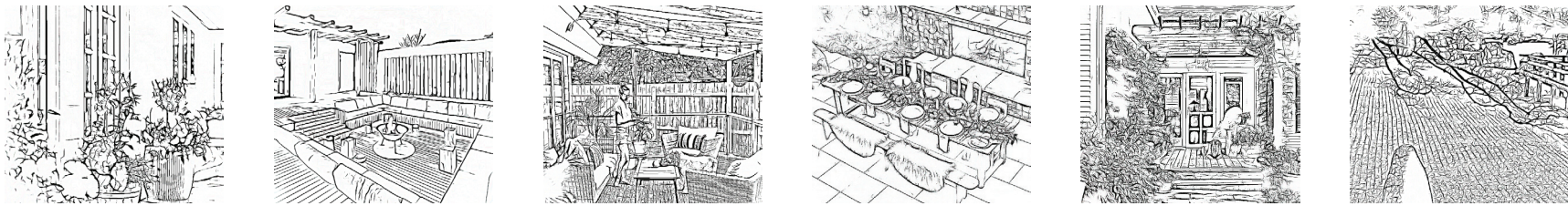


PLAN OF SELECTED UNITS - 3/F





SECTION



ATMOSPHERE SKETCH





FINAL MODEL