castles in the sky

chicago, illinois
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jck welss/bob kester
abstract

This thesis book is an attempt at presenting a design project; and for me it was a project that was as difficult to define the problem as well as find the answer. It is my collection of thoughts, sketches, drawings, and photos that came from nine months of heartbreaks, sweat, tears and some joy as I tried to define Castles in the Sky, a cooperative housing project for Chicago. The collection is not a complete set but an attempt to provide the reader an idea (however vague or clear) of where I was and what I had on my mind.

Housing has always been of interest to me, especially as well as socially. I have felt that urban housing communities have left much to be desired in our larger metropolitan areas. They lack flexibility, sense of community, environmental influences, and have been designed much like a glass box. I have spent the last nine months designing what I hope is a better concept of the possibilities of urban high rise housing.

Chicago's downtown high rise housing market lacks any type of completely flexible communities. Typically, a potential owner can only purchase or rent enclosed volumes of space, contained behind glass curtain walls. Separated from Chicago's real happenings except maybe for a small balcony.

Visually the only flexibility is within the interior layout of the given volume. This lacks the most critical issue of flexibility, to have control of your own exterior and interior separation. That thin wall of material separating the continuation of the outside from the inside, Castles in the Sky with total openness to the city, hopefully provides something a little extra to Chicago's housing market.

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The site I have chosen for my thesis is located just south of the corner of Harrison and S. Michigan Ave., situated near the extreme southeastern corner of Chicago's central business district. This area of Chicago has become of new interest for residential development and has been growing during the past 5 years. Old hotels are being renovated into condominiums and old warehouses are sold and are developed into apartment complexes.

Major transportation routes nearby are the suburban trains, Loop, one block northwest; Eisenhower Expressway is one block north, and Lake Shore Drive is across the park to the east. Michigan Ave. is the major taxi and bus route connecting the north and south edges of downtown.

- PARKS and OPENSPACES:
- COMMUNITY FACILITIES:
- EDUCATION:
- TRANSPORTATION and UTILITIES:
- OFFICES:
- RETAIL TRADE and SERVICES:
- MIXED COMMERCIAL RESIDENTIAL:
- HIGH-DENSITY RESIDENTIAL: (over 5 stories)
- HIGH-DENSITY RESIDENTIAL: (under 5 stories)
- MEDIUM-DENSITY RESIDENTIAL:
- LOW-DENSITY RESIDENTIAL:
All 2, Wabash Ave, is a 12,000 sq. ft.
site east/west in axis focused on over Grant
Park: 25 x 150 feet in size with automobile
access from Harrison via an alley. Heavy
pedestrian traffic occurs on Michigan side-
walks traveling north and south between the
hotels, theaters, art museums, galleries, and
the many colleges.

Important to note is the unique historic quali-
ties of the site context. Many build-
ings were built during the early 1800's and
are massive stone structures rich in color
and texture. The park is no exception. It
is obvious from the photo that its many
victorian qualities add to the character of
this site.

Most important part of the micro-site
is the rear courtyard as I have called it.
A major factor in the development of Castles
in the Sky. The axonometric helps to show
the stepping back. Buildings to the north,
south and west have been shared, allowing a
sense of openness in this very tight urban
site. The southern buildings step back in
such a manner that direct sunlight floods
into the site all year round, but from the
street, this courtyard is not to be noticed.
A good aspect of surprise.
RECREATION

+102 Feet
Lockout Nest / Barbecue ........ 800

+292 Feet
Pool / Pooldeck ............... 5256
Giant Park Balcony .......... 144
Covered Elevator Lobby ...... 304
Sky Balcony ................. 960

+270 Feet
Handball / Racquetball ........ 1058
Environmental Simulator ...... 91
Whirlpool .................... 320
Universal Sys ................. 400
Lockerrooms .................. 672
Elevator Lounge Lobby ...... 304
Dance Studio ................ 144
Sun Room ..................... 168
Green Room / Massage ....... 1568
Outdoor Terrace North ...... 784
Outdoor Terrace South ...... 784

SUB TOTAL: 13757 SQ. FT.

HOUSING

+250 Feet
6 Lots ........................ 6576
at 20 FT Floor to Floor

SUB TOTAL: 39456 SQ. FT.

SUPPORT

+64 Feet
104 Feet
Apartment #4, #5, #6 .......... 3600
Mechanical Penthouse .......... 200

+74 Feet
Apartment #3 .................. 1200
Japanese Garden ............... 300
Tree Space .................... 800

+64 Feet
Apartment #2 ................. 1200
Outdoor Patio ................ 1300

+54 Feet
Street Balcony ............... 144
Elevator Lobby / Lounge .... 300
Stair / Outdoor Lobby ....... 300
Community Room .............. 600
Restroom ..................... 60
Kitchen ...................... 100
Outdoor Yard ................ 3000
Waterfall .................... 400
Apartment #1 ................. 1200

0 +7 Feet
Loading Dock ................ 200
Elevator Lobby ............... 300
Desk / Lounge ................. 300
Bath ........................ 100
Fountain ..................... 1000
Outdoor Drop-Off ............ 7000
Grand Stairs ................ 1500
Private Greenspace ........... 700

-5 Feet
Parking ...................... 8000
Storage ...................... 120
Chauffeur Lounge ............. 200
Covered Elevator Lobby ...... 100

SUB TOTAL: 34224 SQ. FT.

RECREATION .................. 13757
HOUSING ...................... 39456
SUPPORT ...................... 34224

PROJECT TOTAL: 87437 SQ. FT.
PENTHOUSE: GOOD VIEWS OVER PARK AND DOWNTOWN CHICAGO, DEFINE BUILDING TOP EDGE

RECREATION:

HOUSING:

SUPPORT:

LIVING VOLUME: SOLAR ORIENTATION

BUILDING VOLUME STEPS AWAY; LARGE GARDENS AND COURTYARD FORMED

PARKING IS CONTAINED UNDERGROUND

SEPARATION IMPLIES TWO DIFFERENT BUILDINGS

LOWER BUILDING VOLUME PROVIDES A HUMAN SCALE FOR STREETSCAPE
concepts
LIGHT: Solar energy, natural light into lower courtyard and neighbors existing windows on looking my site.

SECURITY / VIEWS: Building physically separated from street, scale of building from street down steps surrounding buildings best views out over park and over looking Chicago.

STRUCTURAL EXPRESSION:
Exposed structure, mass production image, sense of industrialization, light revealing about form, yet aware of surrounding historical elements.

IMAGE:
Grand facade and historic qualities as viewed from Lake Shore Drive, Lake Michigan and Grant Park, project fits historical context but yet is easily understood as a modern skyscraper.

SCALE:
Building has two scales, street scale / entry, and image of major structure as it is viewed from the distance, one building is two.
design development

- Sun deck
- Pool
- Exercise ball
- Solar mechanical and collection
- Condo housing level
- Indoor terrace view to the lake
- Entry
- Garden with pool
- Entrance
Structuring a skyscraper presented a challenge that I have thoroughly enjoyed these last 9 months. The usual square boxes of glass and steel reaching high into the sky have never tickled my fancy. I have always felt that a skyscraper could be a lot more, could have variety of form, depth in its facade, variation in texture and color, and does not have to be a solid building to the top. It could be a building built upon stilts raised above to leave the natural landscape as is.
entry and service

Entry and services for "castles in the sky" have been divided into two separate zones located on opposite ends of the site. Near the sidewalk off of Michigan Ave. and raised seven feet is the main entrance lobby. Pedestrians would travel up the grand stair across the open carriage storage drop-off and through two story walnut doors into the lobby. A strong visual tie is developed by the lobby towards the street scape and provides a human scaled environment at the ground connection. The entrance lobby also has provided for vehicular loading and unloading veranda. Located off of the lower water garden in the rear courtyard instead of near the sidewalk/street. Providing tenants and guests a secure transfer from the elements, vandals, and Chicago's many undesirables. This courtyard is 4 stories except above the fountain where it is 26 stories, a breath taking experience.

Below is a perspective sketch looking across the lily-pod pond through the waterfall at the vehicular entry veranda. This view would be as a person entered by car into the site off of the alley and we're beginning to travel around the fountain.

Services are provided for at the rear of the site off of the alley. A loading dock has been designed to function with the flow of alley traffic and the shape of the mechanical cars. This system area has been designed so as not to interrupt the courtyard and lobby spaces. Also, as one enters the site by automobile there is an elevator right off the entry from the alley. This elevator has been designed to divide vehicular traffic into the courtyard and the carriage parking garages. It is key locking and acts as a backdoor into the upper stories.
hanging gardens and servant cottages

Located in the rear courtyard of the site and raised 54 feet above street level are the community's outdoor spaces. These areas provide the tenants a private area of green space with a great amount of diversity offering things that grand park cannot provide. Designed to be a secure sunlit space separated from the tenants and the street; providing an interesting park of sorts for the community to use. The gardens have been stepped away from the rear stepping up towards the servants cottages and grand park, where the last outdoor terrace is focused out over the park and the lake. The interior of the gardens have a 9 story scale and are contained on all four sides by various buildings and structures.

These gardens have been provided with large volumes of textures of light, sounds and scale. Hopefully stimulating the tenant beyond their own imaginations. Sunlight is allowed down into the courtyard and is filtered by the texture created by the facade panels. Casting patterns of dark and light about. Sounds are echoing about from the five story waterfall in this semi-enclosed volume. And changes of heights provide an extreme difference in scales, from 9 feet to 109 feet.
example castle and lot

housing level two +240

+240 Feet
Master Bedroom Realm . 800
Bedroom 1 & 2 Realm . 800
Bedroom 3 . 400
Full Bath . 200

SUM TOTAL: 8506 SQ. FT.

housing level one +230

+230 Feet
Studio / Office . 450
Vestibule . 200
Gallery / Grand Hall . 350
Formal Living . 480
Fireplace Seating . 300
Bar . 250
Formal Dining . 600
TV Room . 144
1/2 Bath . 60
Family Room . 392
Breakfast / Stair . 200
Kitchen . 300
1/2 Bath . 60
Laundry / Storage . 120
Mechanical . 400
Outdoor . 1800
I have provided manmade land lots for sale that have total flexibility of a sort; land that has variety, and yet accommodates the owners every wish. Just as if it were a piece of land in the country and a house were built upon it adjusted to meet the site and programmatic requirements.

During design I had to keep in mind how seating, water and waste removal would be handled over a distance of 100 feet, not an easy task. Views, environmental issues, fire safety and escape also had to be kept in mind: code says no distance over 100 feet to each stair. Another major problem was how would materials be brought to the lots if they were sold and rebuilt.

I am a developer designing space that architects and designers could later fill with their joys. The best analogy I can find is as follows: I am designing a shopping mall where stalls are sold or rented and filled with their own special fronts and interiors.

I first divided the site into two circulation mechanical areas. The first located front left corner against the existing neighbor but kept in mind its windows, which I did not block. The second is located at the rear off the alley. It provided a visual shelter from the neighboring Harrison Hotel beyond, a low rent hotel. These two cores served conceptually as the front door and the back door respectively.

Once the mechanical and circulation cores were established I developed a grid that would span the site but be considerate of sun angles, views, vertical circulation in the parking garage and provide a system that would allow each floor to be independent of the other housing floors. The system I chose was a 10' deep verandah truss spanning between 4' square concrete columns. These columns are hollow allowing for plumbing and electrical systems to be run to the different parts of the housing sites. The floor is a precast T-beam system that lays on the top cord of each truss. A finished floor of air floated concrete is then poured leveling the floor slab.
recreation

Recreation provides the capital for this column skyscraper. It takes the place of the penthouse so that no single housing level has the advantage over all the others. Placed at the top so that the pool and pooldeck get maximum solar gain all year and so that the top of the skyscraper will have an interesting form, defining the end to the structure.

In the design of the recreation levels I took advantage of the variety of views that can be attained at this 300 foot vantage point. The views were separated into three main types, out over the park and lake, directly south towards the hotels, and north overlooking downtown Chicago.

Pool and deck design was divided into different scales and spaces each taking advantage of one of these views. First and most tingling in an air terrace, a narrow pinical cantilever reaching southeast focusing out over the southern tip of the park and its museums. Second the grant park cantilever which is smaller secure in scale, surrounded by building cares focused directly east to Buckingham Fountain and Grant Park Sailboat Club. Third are the pool decks on the north side scaled down with vegetation. These serve as a good summing area. Fourth is a covered deck with a 9 foot ceiling on the pools east side. It provides an elevator lobby and a secure feeling space when unexpected bad weather comes off the lake. A last major important feature to this level is the grand stair that sweeps around climbing 22 feet from the backdoor to the pool deck. Rising from the vehicular drop-off 26 stories in an enclosed elevator then opening up to a secure terrace with a large tree, sweeping up and around to the pool deck.

Design of the pool was such that the space needed to create the depth would not be wasted. The deep end housing the mechanical and storage areas, shallow end becomes the recreation club house as the ceiling height increases. North terrace serves as a green space framing the view towards downtown Chicago from the clubs whirlpool and weight room. Southern terrace is glazed as two large greenhouses and sunrooms to control the views from the hotels to the south.
PRECAST CONCRETE PANELS:

4 in a row each 6' x 10'

They were stamped by Durham Printing, then glued two together, painted with peach gesso and drawn on lines with Prisma Color Pencil.


