RAMÓN RAMOS

UNIVERSITY OF HOUSTON
ACADEMIC PORTFOLIO

01

Alabama Housing and Sports Complex

HOUSTON, TEXAS, 2008 The intent of this project is to re-imagine housing in the wake of hyper consumption.

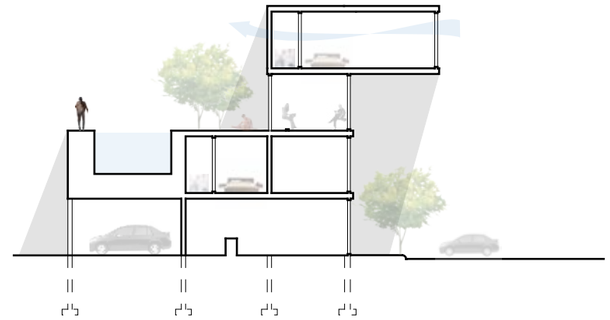
Prior to their demolition in July of 2009, the Wilshire Apartments were the only remaining development of three original Federal Housing Administration-insured sites in Houston. Finished in 1940, as the United States emerged from the great depression, the garden apartment complex had 44 apartments of varying sizes, in 17 two-story buildings, on a nine-acre site in the Montrose area.

A development plagued over the years by delinquent taxes, lack of maintenance, and threats of condemnation, the property was eventually cleared and sold when it was determined that demolishing the structures would actually increase the property value to around $26.8 million.

An architectural "deleveraging" of cultural assumptions (programmatic and organizational) allows for the excesses of contemporary dwelling to be identified, in an effort to propose new forms of sustainable habitation in Houston.

The result is a Housing, Retail and Sports Complex along the densely commercially active streets of West Alabama and Dunlavy. The commercial program, mostly made up of retail and recreational shops, border the edge of the two main streets and are designed to provide amenities that the community lacks. The building footprint is minimized by stacking the housing program on top of the commercial program that creates a buffer between the active street and semi private inner park. Furthermore, the streets immediately to the west of the site are extended as a strategy to encourage bicyclist and pedestrians in the community to engage the site directly.

Opposite: View of Interior Park.

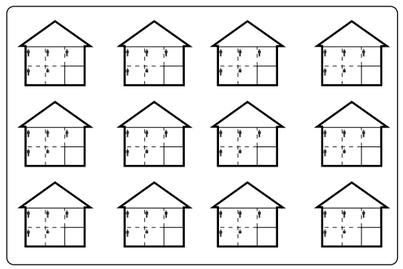


Average U.S. Residential energy use (MBtu per capita)

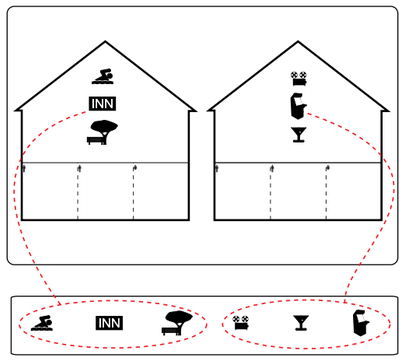
YEAR 1950s 2000s 2010s

Home Size (SQ FT.) 900 2200

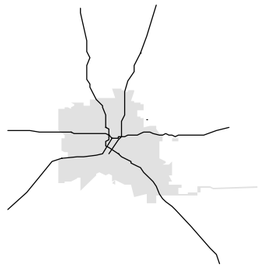
Occupants per Home

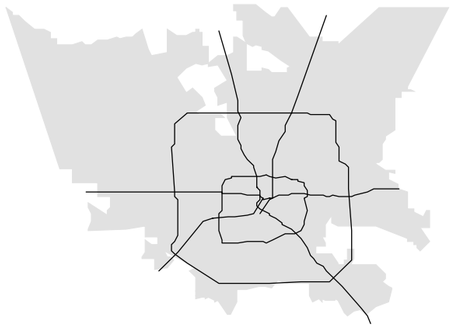


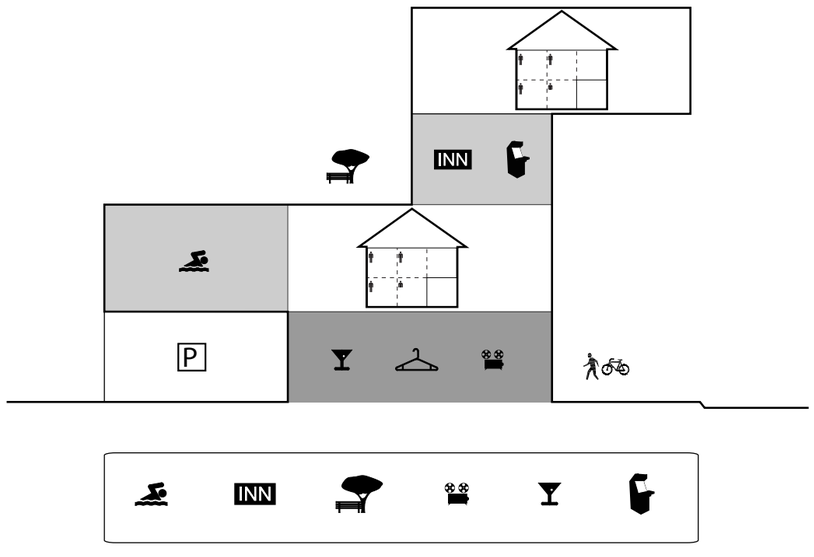
Domestication of Public Program



Suburban Sprawl Houston, TX





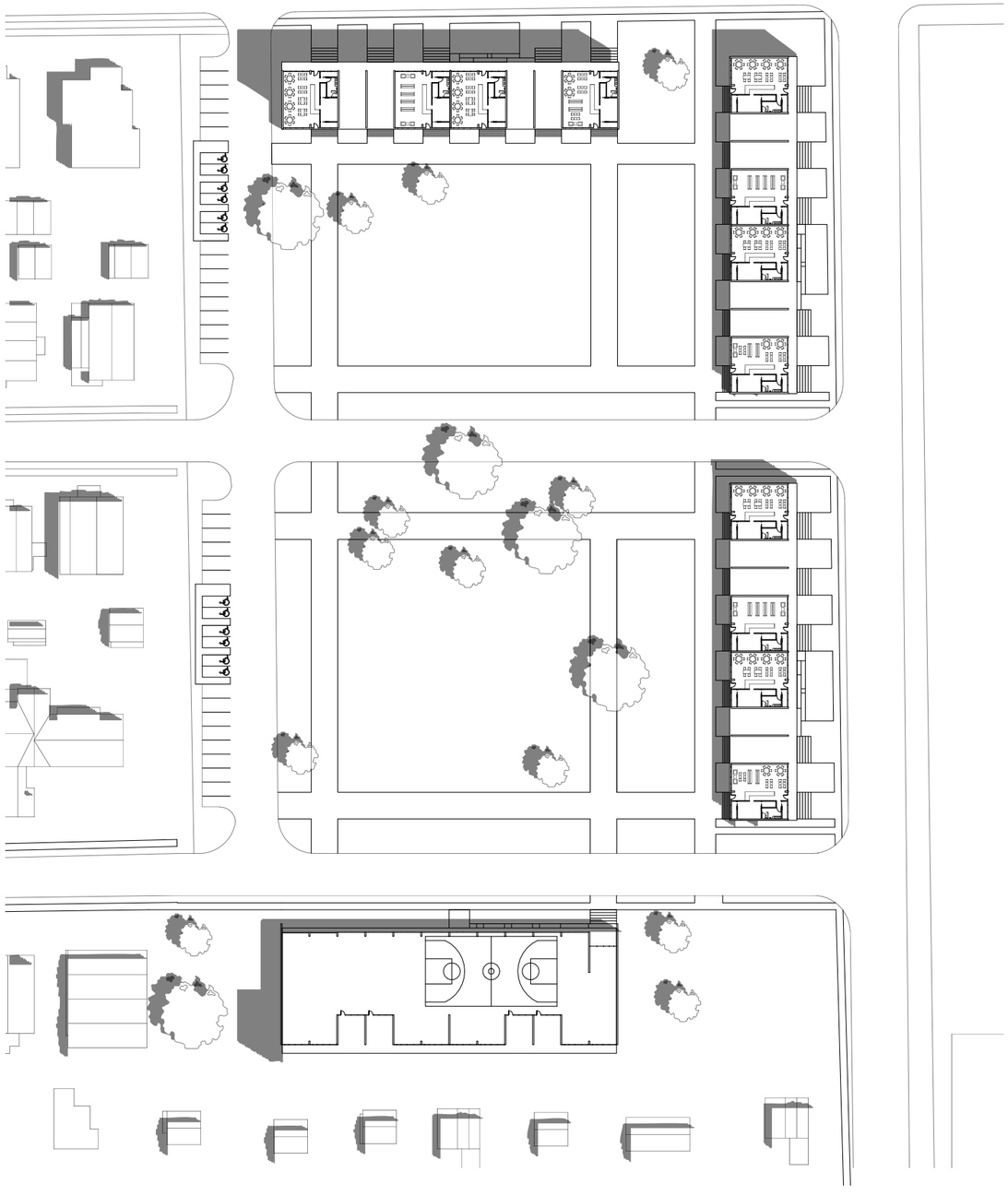


From 1920 to 2000 the average amount of square footage occupied by a resident has doubled while the average amount of people occupying a household has decreased. This excessive amount of space has slowly led to the domestication of public program, such as swimming pools, lodging, bars, and theatre/entertainment rooms, into the United States household.

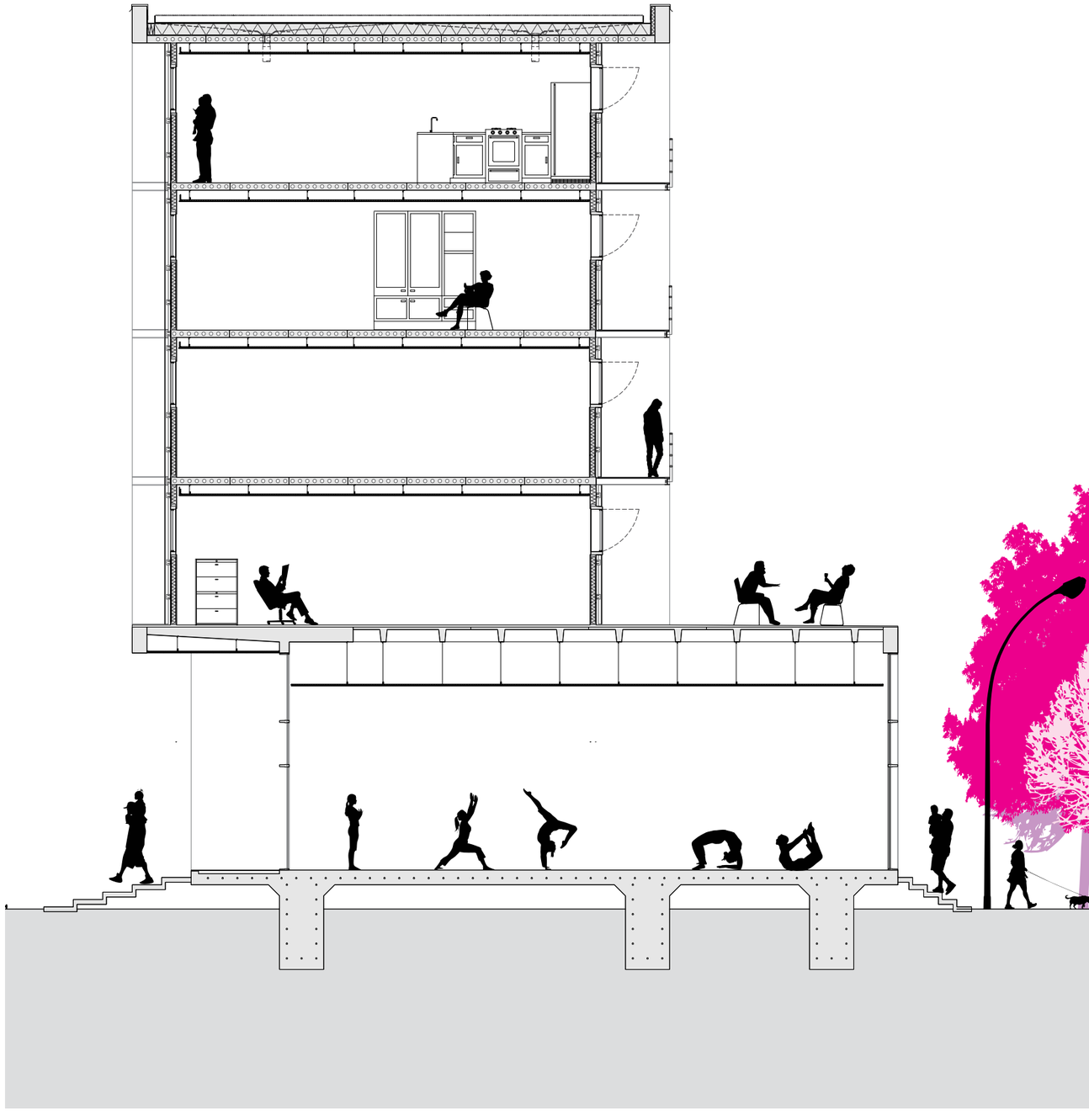
In conclusion, I decided on a Housing Typology where domesticated program is divided into semi-public program, shared by the tenants, and public program, shared by the tenants and public.

Above: Research: Hyperconsumption and the Domestication of public program into the American household.

Above: End Result of reseach: A staggered housing retail typology.



Above: Site Plan.



Above: Detail Section

Above: View of Retail shops from Dunlavy.

Above: View of Gym.

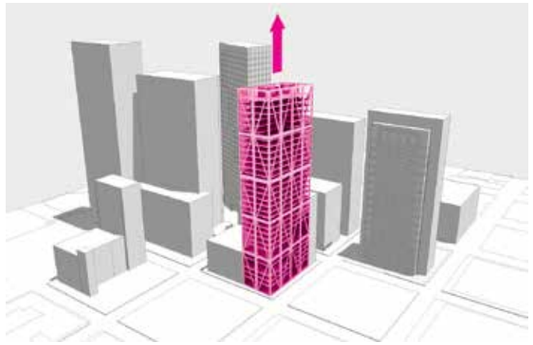
02

Holy Cross Church

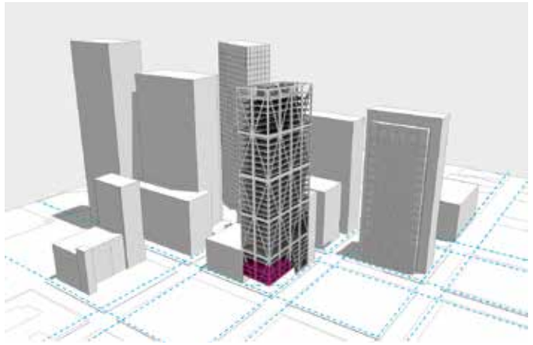
HOUSTON, TEXAS 2008 The Holy Cross Church is located in downtown Houston. The main goal of the design is to engage the inherited characteristics of the site in order to provide a sacred space for downtown Houston. By placing the sacred space at floor level and lifting it off the ground the skyscraper is able to actively engage pedestrian traffic. Furthermore, parks are injected at various levels of the skyscraper in order to create social spaces.

Opposite: View of Church from street.

Site

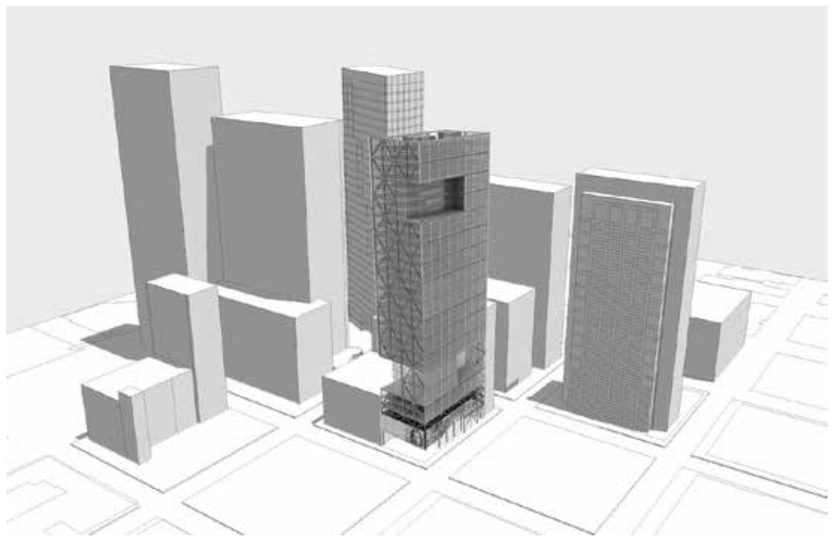


Typical Skyscraper



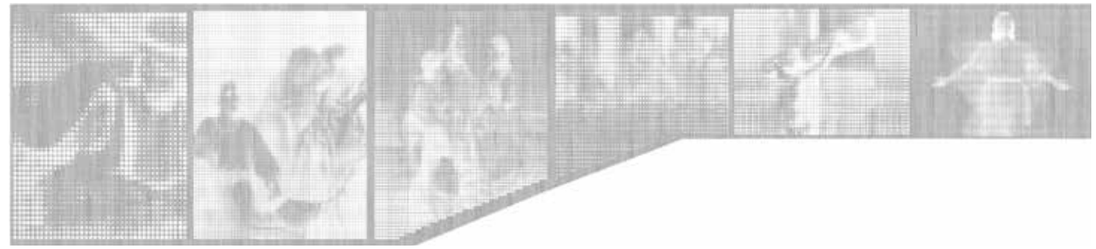
Adapt Stucture to Sacred Space
and Pedestrian Movement

Rework Structure and
Connect to Existing Bulidings

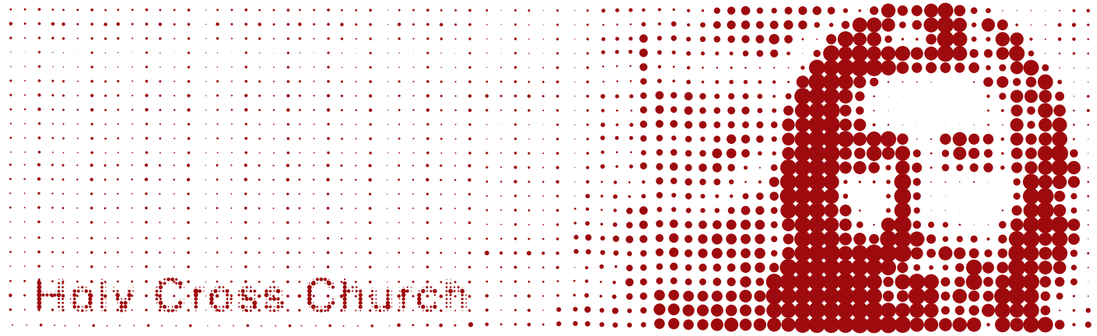


Above: Development of Skyscraper.

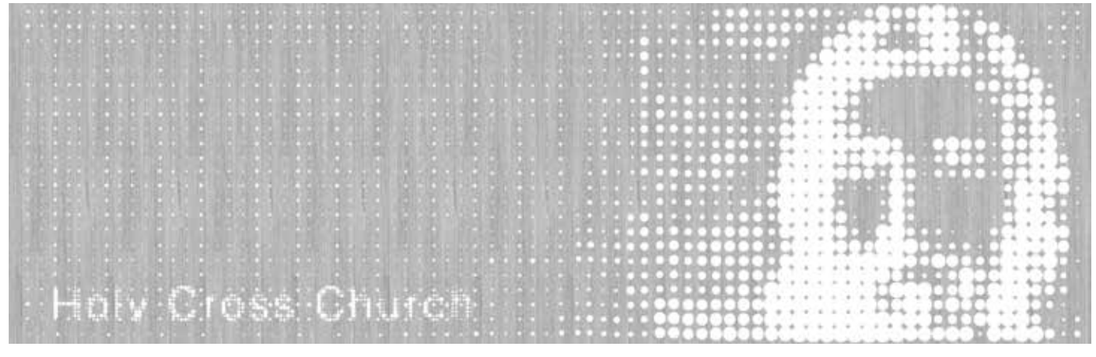
Much like the stations of the cross, which are used in nearly every Catholic church, these pictures describe the life of Jesus Christ from birth until resurrection.



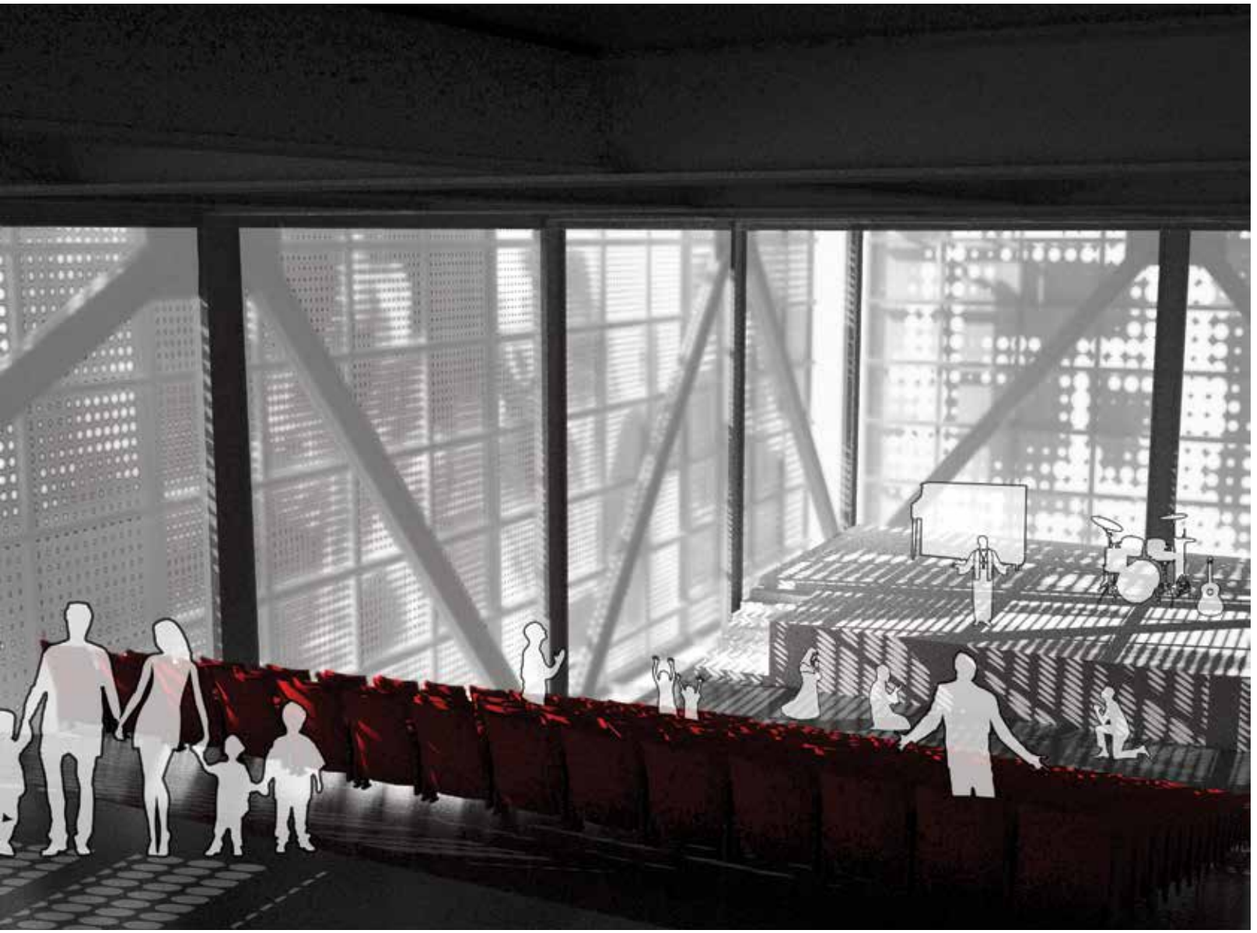
The effect of stained glass is emulated through a perforated steel panel system.



Still emulating the stained glass effect, this image attempts a more commercialized way of advertisement a religious institution while never compromising the integrity of the church.



Above: Development of Church skin surface.



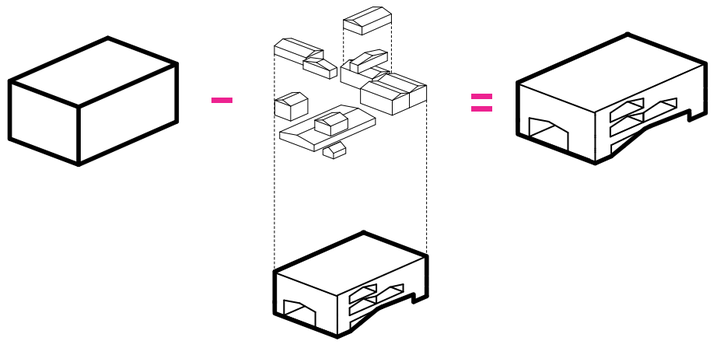
Above: Internal view of church space.

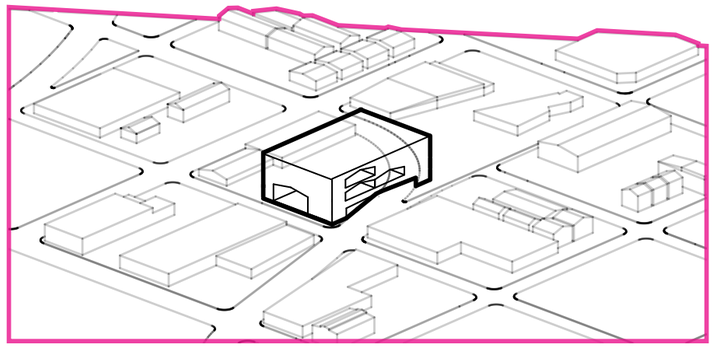
Above: Mid-level park above parking lot.

03

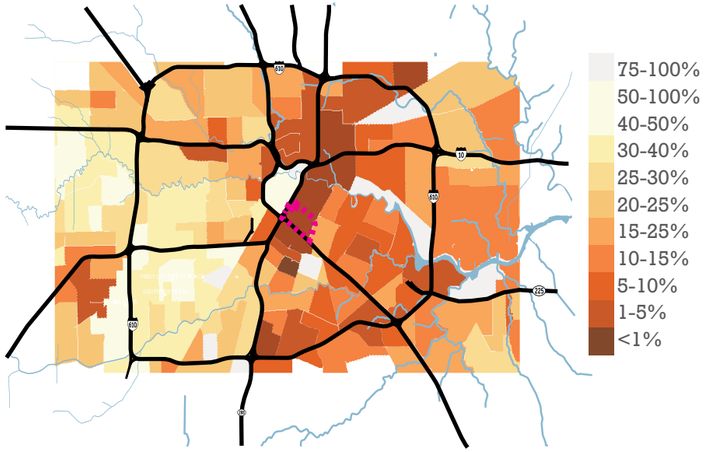
Fabrication Incubator

EAST DOWNTOWN, HOUSTON, TEXAS, 2012 The Fabrication Incubator is located just east of Downtown Houston. According to recent Cencus data, the percentage of people living at or below the poverty level in the community is more than twice the statewide poverty level. The Fabrication Incubator takes aim at this issue by using a two fold system that builds on the strong educational and industrial work force that is present in the community. The Incubator provides educational training facilities of various trades to the community while the Fabrication part provides a space for those skills to be used in the manufacturing of products which can then be displayed and sold at the facility. The Incubator also provides a Tool Library that aids the community of east downtown with the tools and equipment needed to do yard work and "fix-up" the community one house at a time.





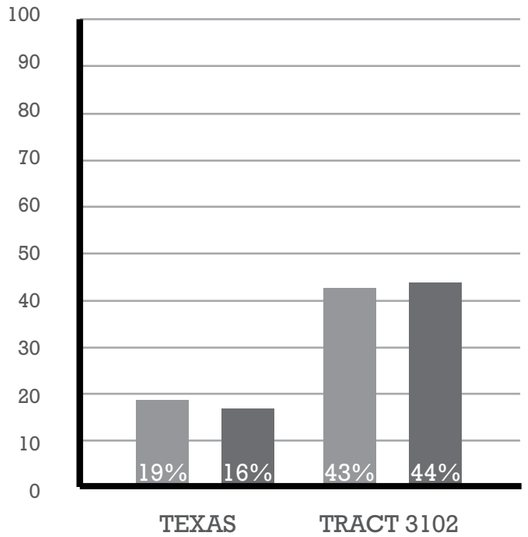
Above: Program Diagrams
Opposite: View of Entrance from Street.



% Of People Living Below Poverty

Demographics: Poverty

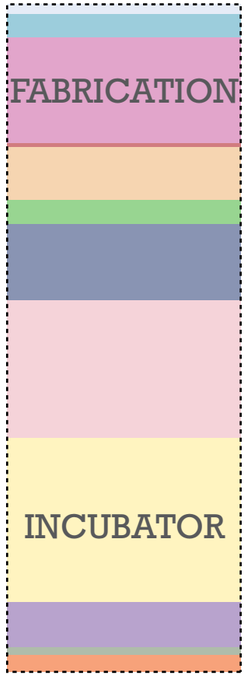
The greatest single issues that the area faces, specifically Tract 3102, is poverty. The percentage of people living at or below the poverty level is particularly high in the communities immediately west of Downtown Houston. According to recent Census data, the percentage of people living at or below the poverty level in the community is more than twice the state-wide poverty level.



% Of People Living Below Poverty Level by Sex.

MALE FEMALE

Above: Project Issue, Demographics: Poverty



1.3% Agriculture, forestry, fishing and hunting, and mining

3.7% Construction

14.1% Manufacturing

.5% Wholesale trade

8.7% Retail trade

3.3% Transportation and warehousing, and utilities

0% Information

11.2% Finance and insurance, and real estate and rental and leasing

21.4% Professional, scientific, and management.

26.3% Educational services, and health care and social assistance

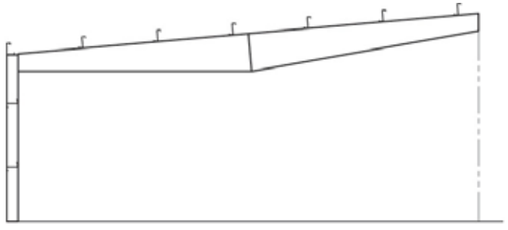
5.8% Arts, entertainment, and recreation, and food services

1.2% Other services, except public administration

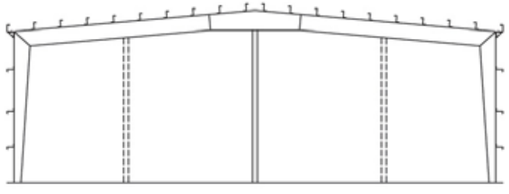
1.7% Public administration

Civilian Labor Force	1,042 people
Employed Population 16 Years and Over	1,002 people
Unemployed	42 people
Unemployment Percent	3 %

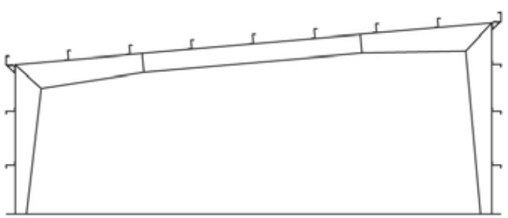
Above: Demographics: Community Workforce by Occupation



Lean-To Building Frame (LT)
LT buildings are ideal for use as office structures attached to larger WRF or RF buildings. LT framing is an economical solution for expanding existing buildings. Simple span frame design provides minimal horizontal thrust so foundation costs are minimized.

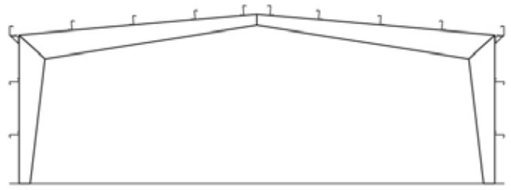


Rigid Frame Multi-Span (RF)
Used where interior columns do not impair function of building. Provides maximum width at lower cost than Rigid Frame Clear Span frames. RF Frames are ideal for manufacturing plants and warehouses. Frames are ideal when wide buildings are required and interior columns are required. RF frames may be used with bar joist roof purlins when large column free areas are permitted. Interior columns may be recessed for a clean appearance.

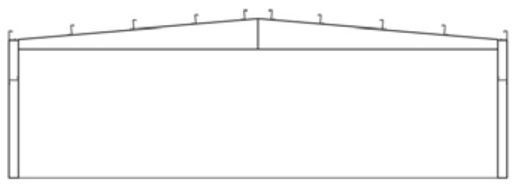


Single-Slope Welded Rigid Frame (SSRF)
SSRF buildings are ideal where drainage restrictions are an issue, such as strip shopping centers. SSRF buildings are available with options such as straight columns and/or interior columns.

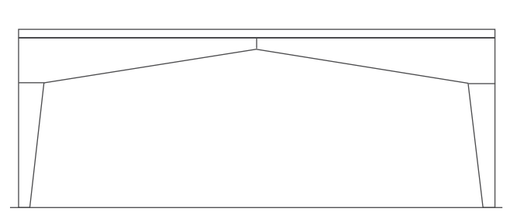
Above: Research: Warehouse Typologies (Pre-Engineered Steel Buildings)



Welded Rigid Frame (WRF)
Used where column-free floor is required. Ideal for auditoriums, gymnasiums, showrooms, and aircraft hangars. WRF buildings provide for the widest possible spans without interior columns. Economical due to the use of tapered members. WRF buildings are ideal where maximum available clearances are required in the center of the building.

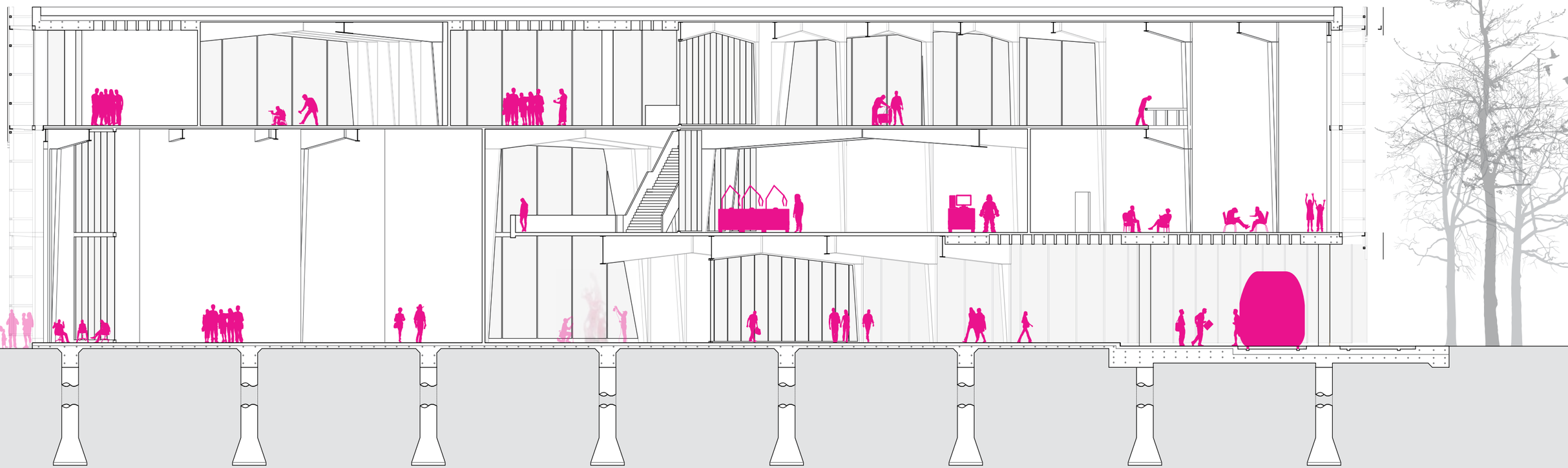


Welded Tapered Beam (Rigid Beam/WTB)
Ideal for individual retail buildings, office complexes and shopping centers. WTB buildings provide maximum floor space. Straight sidewalls allow interior finishes to be installed easily. WTB design minimizes the horizontal frame base reaction so less expensive foundations may be used.

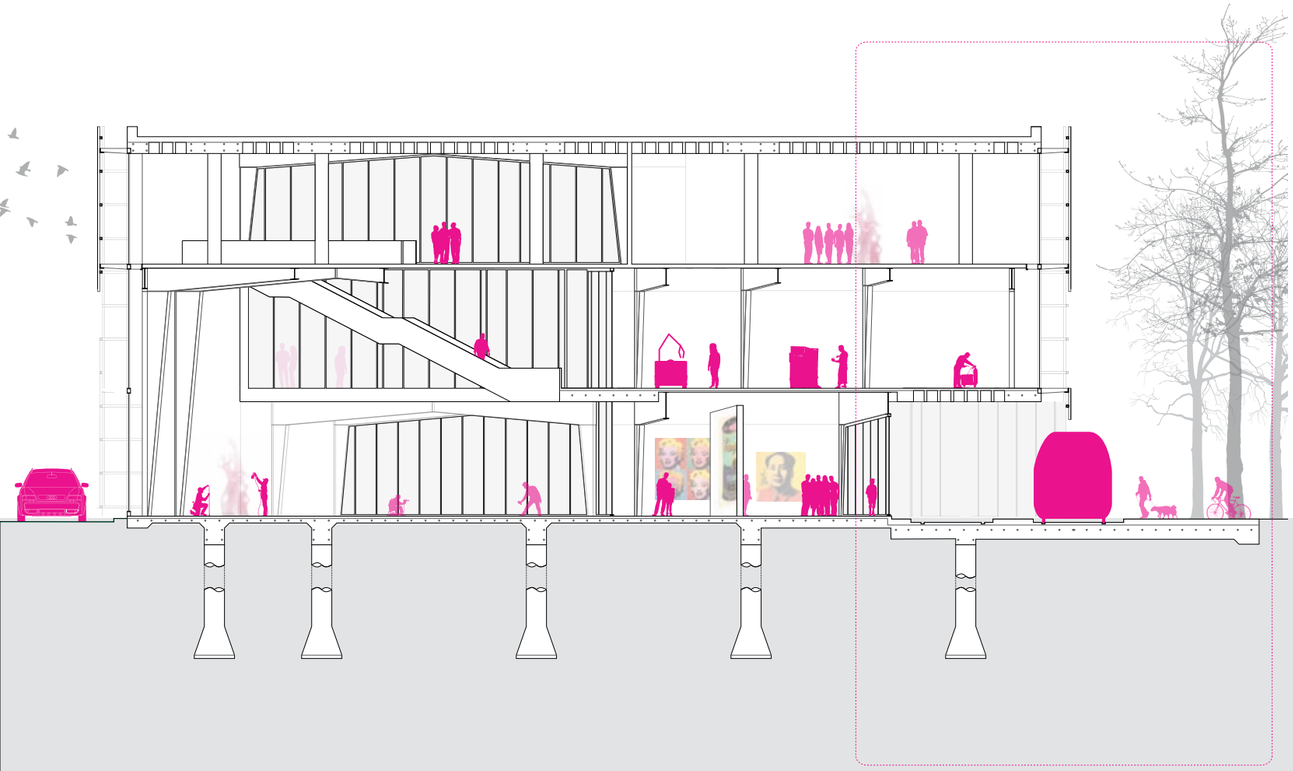


Custom Pre-Engineered For This Project
Our design requires that these frames be stackable and because of this the structural loads are greater than the average pre-engineered frame. To provide sufficient lateral support and maximum structural load, I decided designing a frame that was flat on top and tapered on the inside bottom. This frame is them braced with a concrete filled steel decking as opposed to purlins that are normally used. This system allows me to take advantage of pre-engineered steel, and the spans that it provides, while allowing me the freedom to stack these warehouse types in any way necessary towards the overall design.

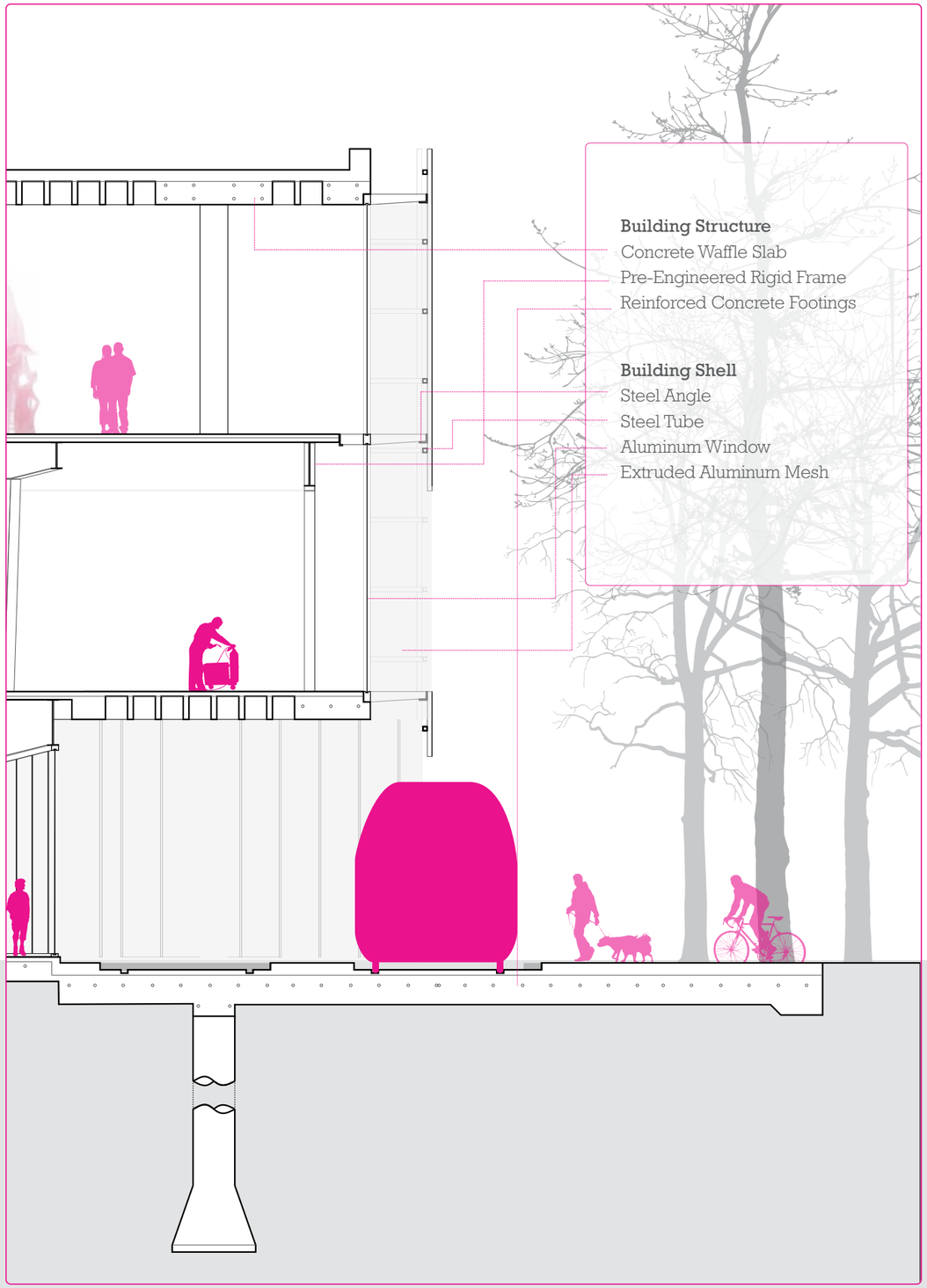
Above: Research: Warehouse Typologies (Pre-Engineered Steel Buildings)



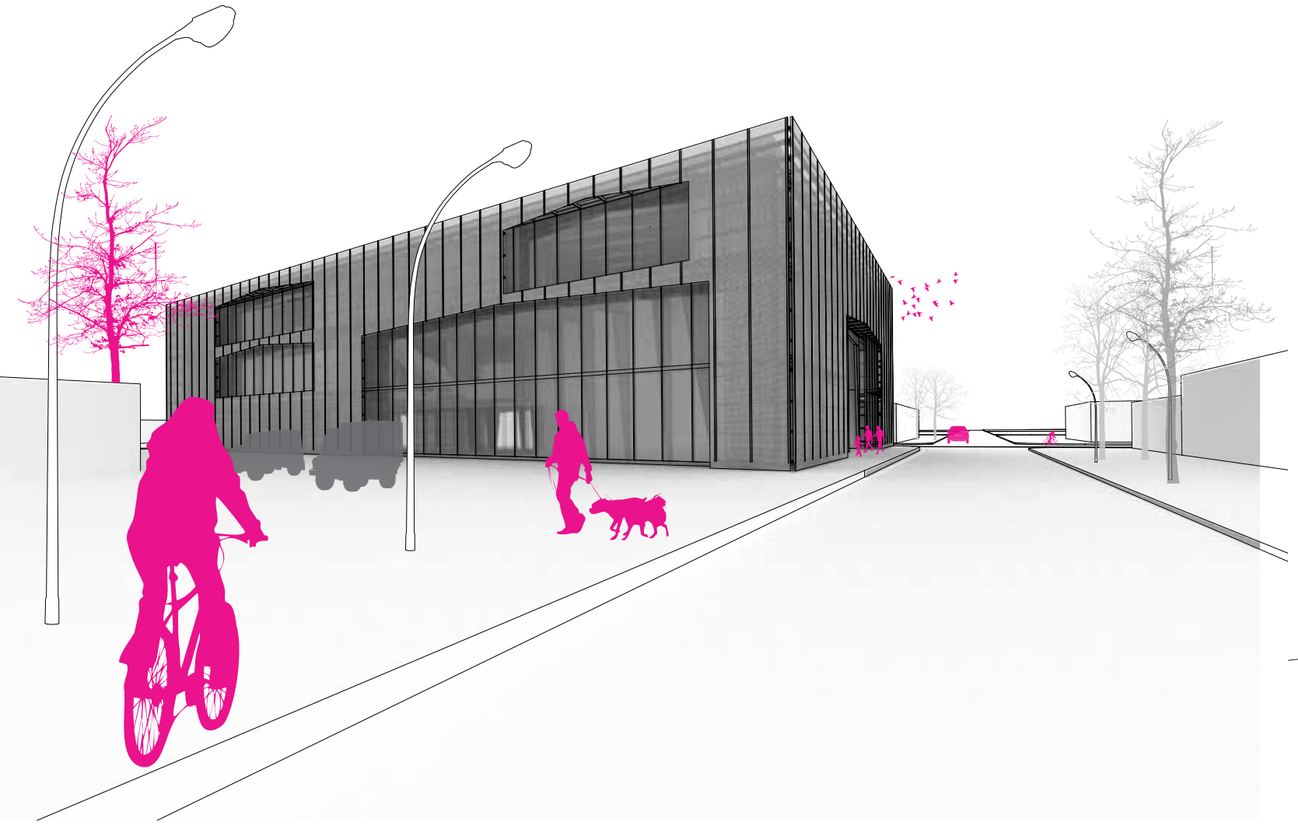
Above: Building Section Through Entrances and Work Shop Spaces



Above: Building Section Through Workshops and Gallery.



Above: Detail Section.



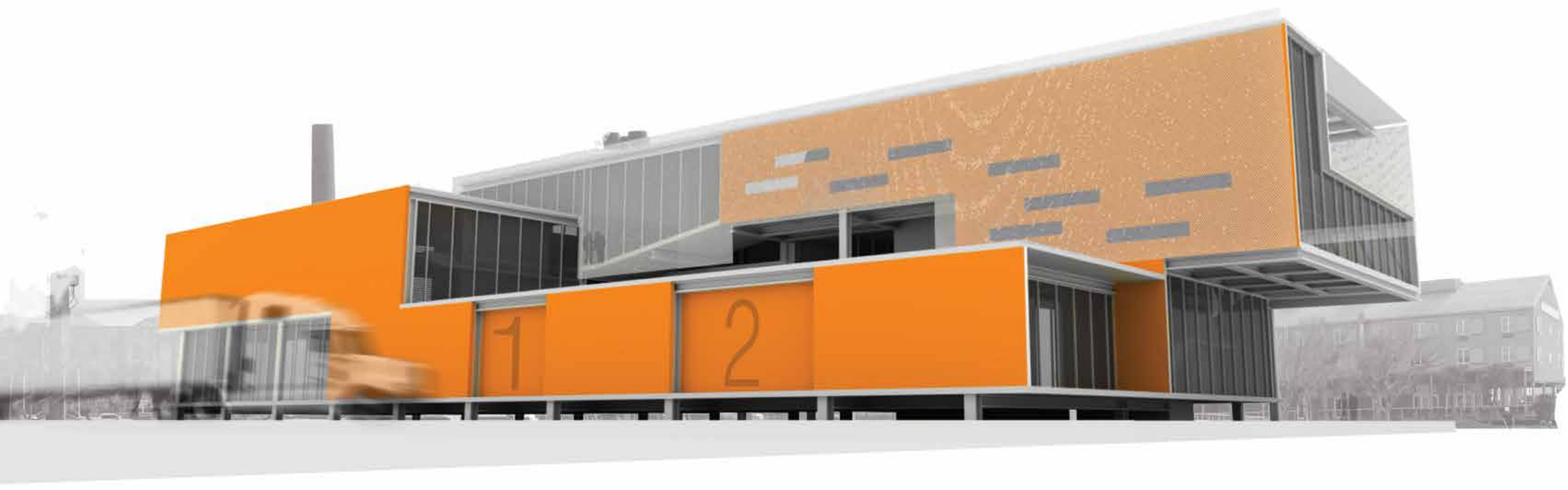
Above: View of Building Entrance from Eest.

Above: View of Building from West.

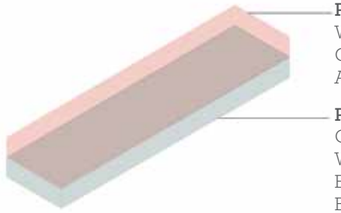
04

Galveston Weather Center

GALVESTON, TEXAS, 2008 The Galveston Weather Center is located in the industrial district of Galveston. The design takes advantage of its location by becoming a filter between the city and the channel. Through a method of transformation, two interconnected tubular volumes are modified according to program and site-conditions while always respecting the datum of both internal and external views. The Weather Center's location is vulnerable to severe flooding, in some cases up to 20 feet of surge. The Center is reinforced with a steelstructure and shading system in response to this issue and other problems related to the weather during a hurricane. The entire building is raised so that the Weather Research is completely operational before, during and after a hurricane.



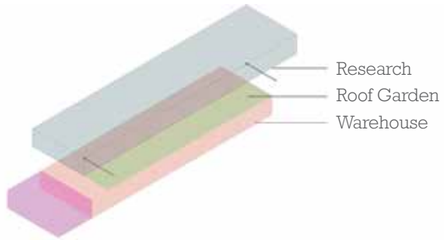
Above: View of Building from Galveston Channel(North).



Private
Weather Tracking Research
Offices
Access to Research

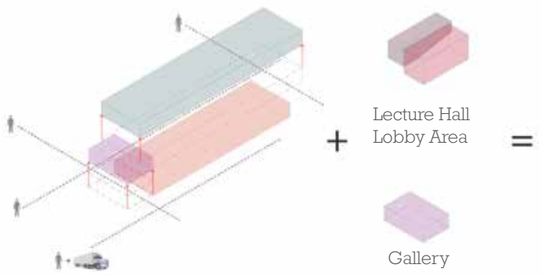
Public
Gallery
Warehouse
Entry Lobby
Bottle Water Storage
Ice Storage

Program Starts off as two stacked volumes that are stacked and represent public access and private access.



Research
Roof Garden
Warehouse

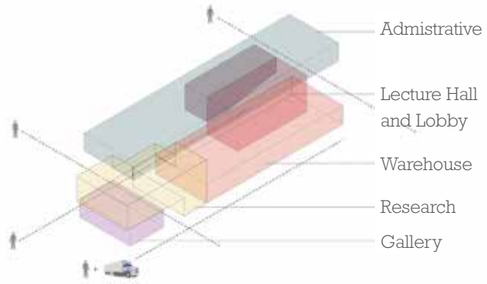
Transformation of the Volumes begins by defining public access to the building.



Lecture Hall
Lobby Area

Gallery

Volumes Adapt To Site Circulation (Automobiles and Pedestrian)



Admistrative

Lecture Hall
and Lobby

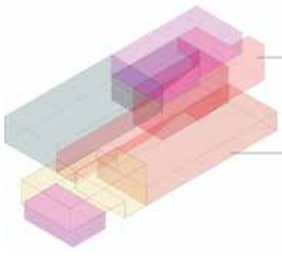
Warehouse

Research

Gallery

External View Towards City

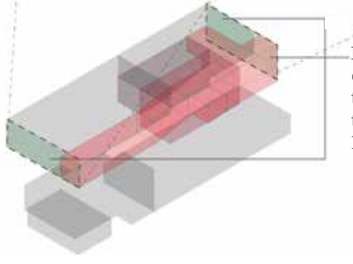
External View Towards Channel



Private(Cool Colors)
Weather Tracking Research
Offices
Acces to Research

Public(Warm Colors)
Gallery
Warehouse
Entry Lobby
Bottle Water Storage
Ice Storage

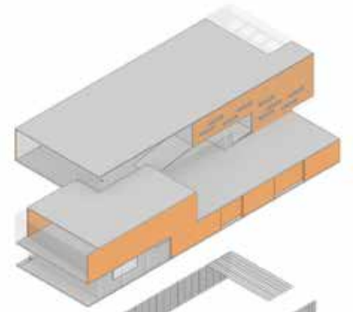
Final Program Diagram



Red Color shows continuous volume, that is public space, that allows for Internalized Views.

External Views VS Internal Views

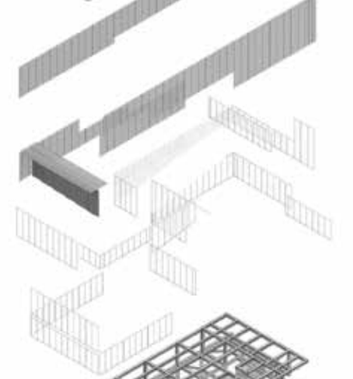
Above: Development of Weather Center According to Program, Site Conditions, both External and Internal Views.



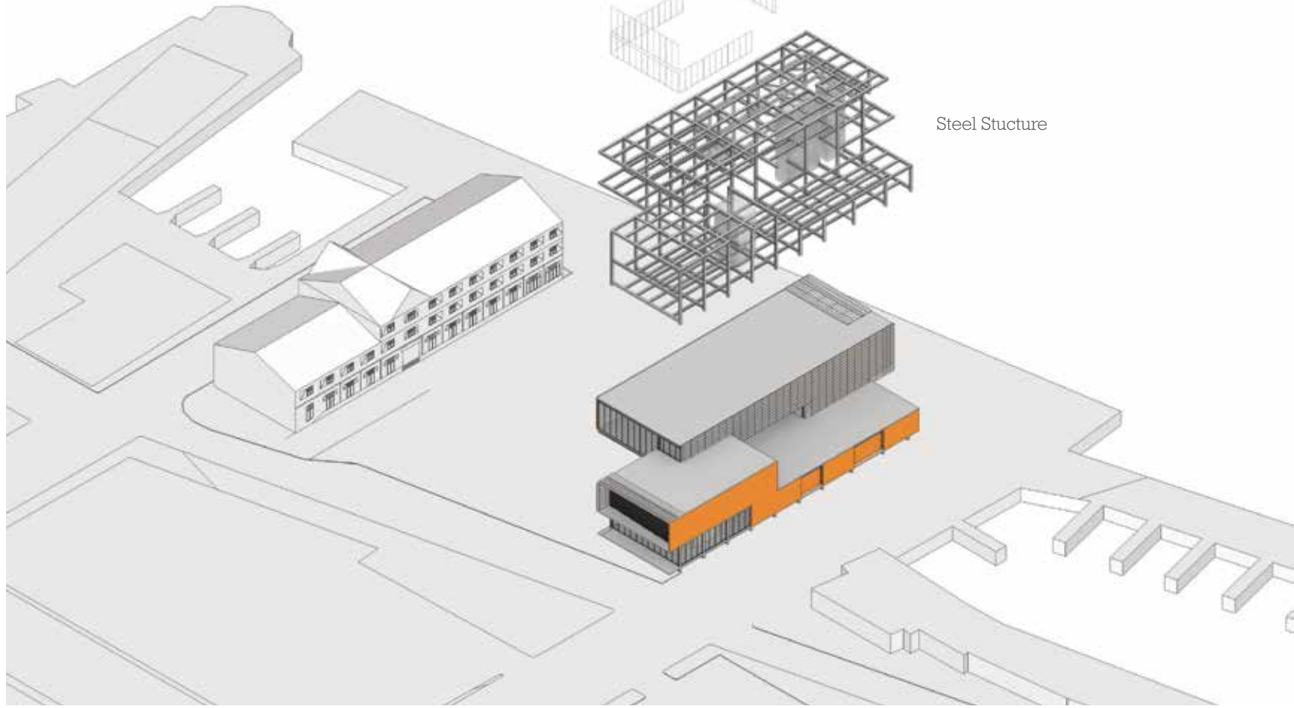
Slab and Wall Enclosure

Shading & Weatherguard System

Glass & Frame



Steel Stucture



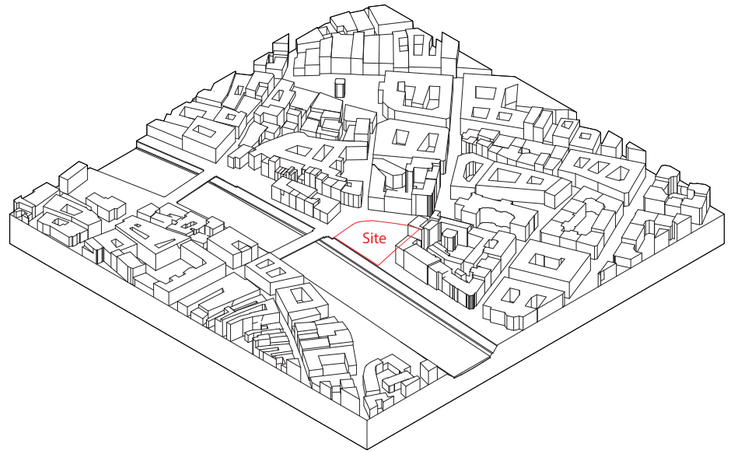
Above: Exploded Axonometric : Building Construction Components Diagram in Site Context.

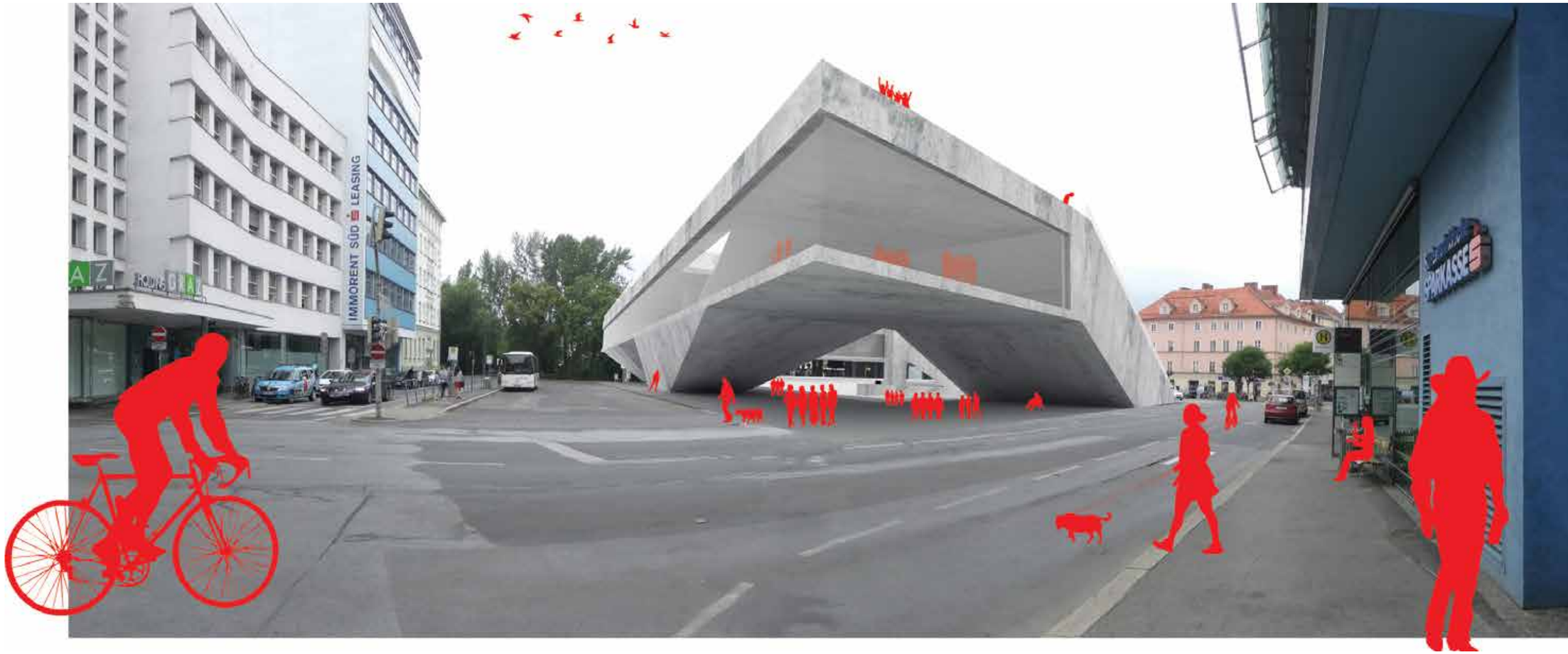
Above: Perspective from channel looking Southeast.

05

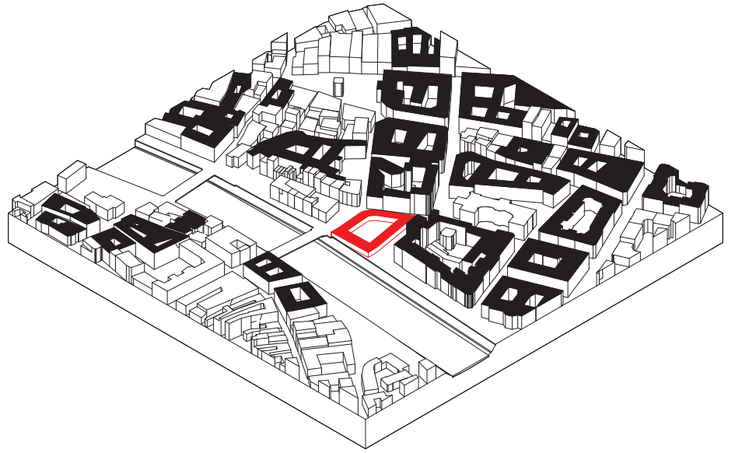
Kunstplatz (Art Space)

GRAZ, AUSTRIA, 2012 The Kunstplatz (Art space) builds upon the ideas of the existing urban fabric of Graz. The courtyard typology is used as a starting point for the project in order to both fit into the built environment around it but to also create an urban plaza inside. The direct relationship to the river Mur is also an idea previously established by four precedents; Kunsthaus, Maria-hilferplatz, Murinsel and CityBeach Graz. By extending the building over the river it creates a new way of interaction not previously explored by the four precedents and therefore creating a new attraction along the river. This idea of direct interaction with the river is amplified by the way the inner plaza space folds down into the river, creating a performance stage on the river. By providing gallery spaces, performance areas and housing the new Andreas Hofer Platz seeks to build on the artistic traditional of Graz already established by Kunsthaus along the Mur.

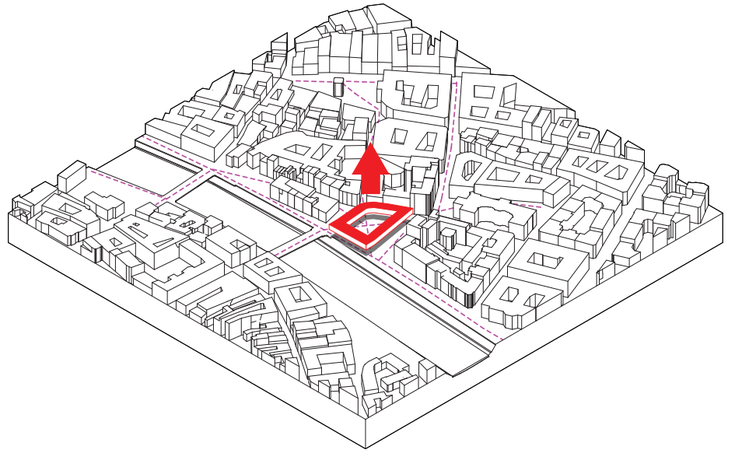




Above: View of Entrance.
Opposite: Project Site in Urban Context.

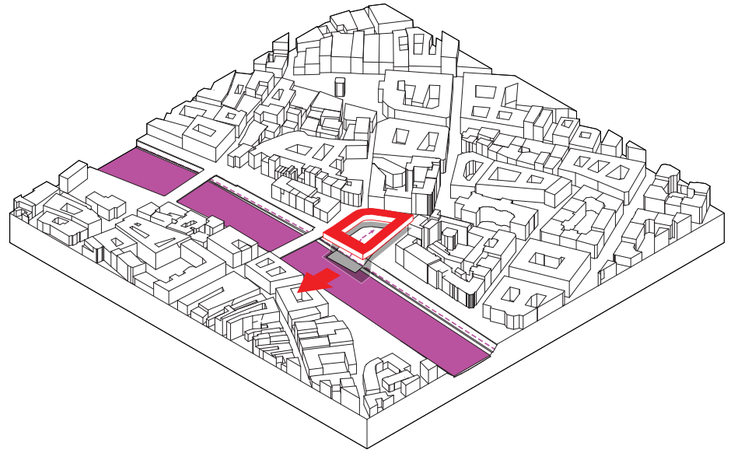


Emulate Urban Fabric Using Courtyard Typology and Use Courtyard as Plaza.

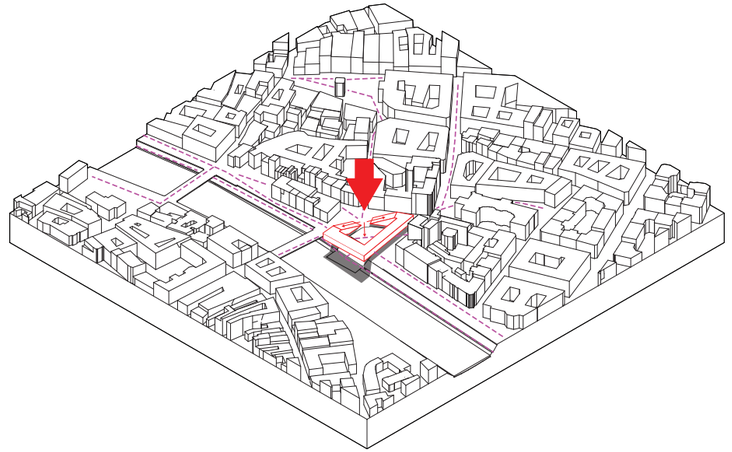


Elevate Program to allow free flow of traffic into courtyard/plaza space.

Above: Project Development Diagrams.

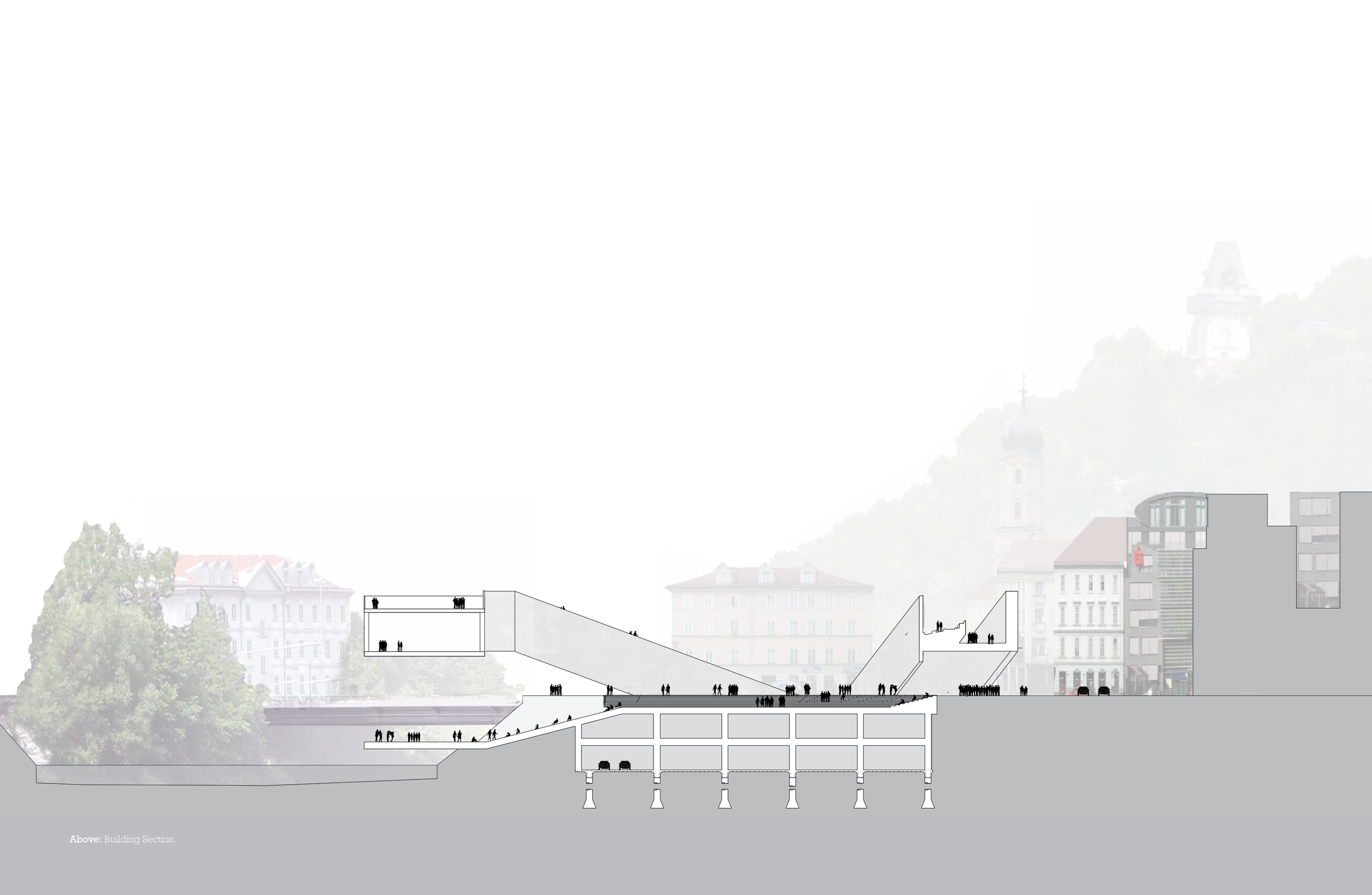


Extend both the Program and Plaza over the Mur River to create a covered performance space.



Form is transformed in order to allow more directed access to all program space.

Above: Project Development Diagrams Continued.



Above: Building Section.

Above: View of River Performance space from Bridge.