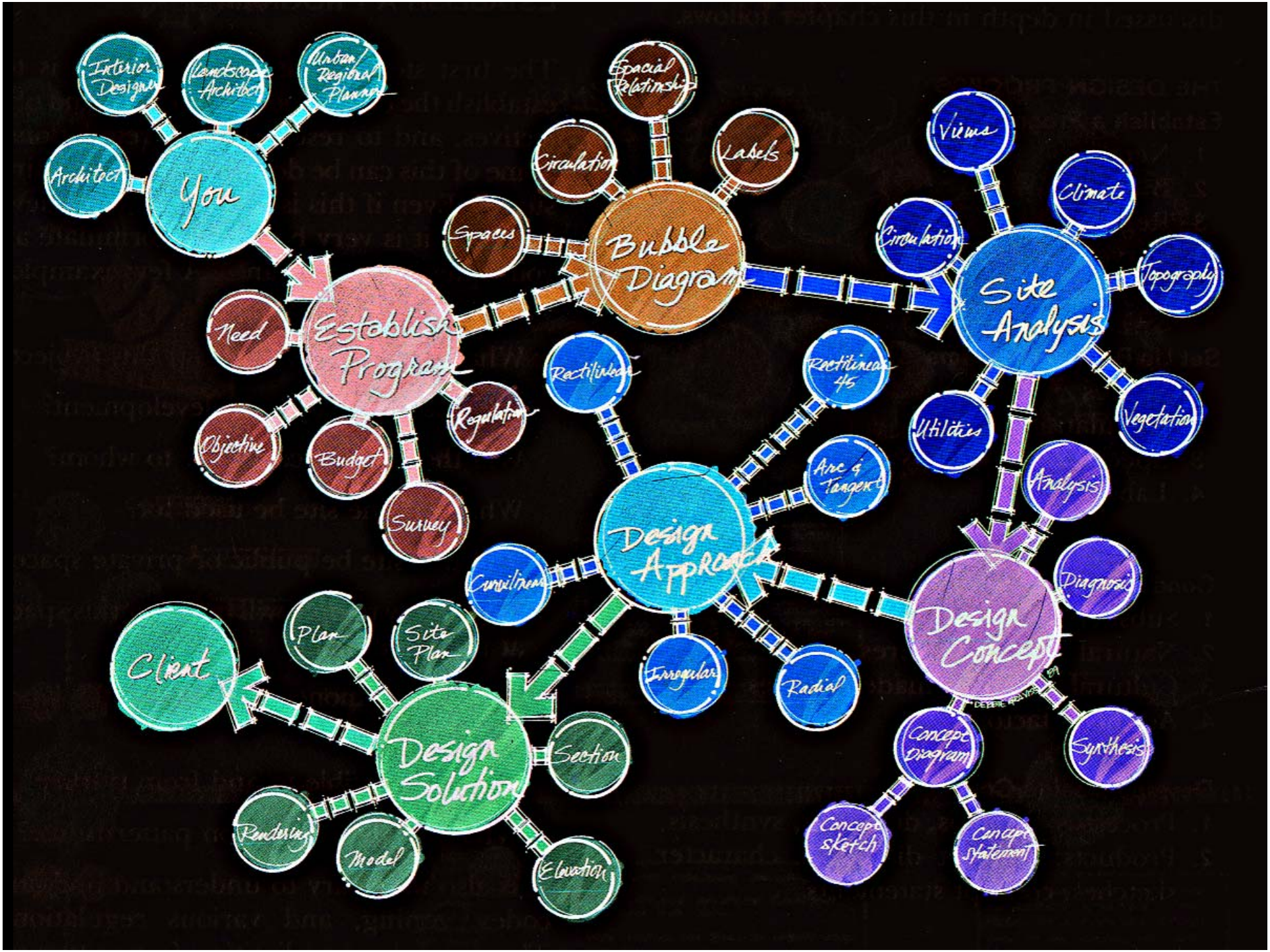
# Columbia University

Master of Science in Real Estate Development

# Architectural Design

## Reading Architectural Drawings

# Introduction – Documentation


Interior Designer
Landscape Architect
Urban/Regional Planner
Architect
You
Establish Program
Need
Objective
Budget
Survey
Regulation
Spacial Relationship
Circulation
Labels
Spaces
Bubble Diagram
Rectilinear
Rectilinear 45
Arc & Tangent
Curvilinear
Irregular
Radial
Design Approach
Views
Climate
Circulation
Topography
Site Analysis
Utilities
Vegetation
Analysis
Diagnosis
Design Concept
Concept Diagram
Concept Sketch
Concept Statement
Synthesis
Client
Plan
Site Plan
Design Solution
Section
Rendering
Model
Elevation

# WHY DRAWINGS ? (DOCUMENTS)

## (1) DESCRIBE THE PROJECT (GRAPHIC)

- LOCATION
- SIZE
- LAYOUT
- IMAGE
- CONSTRUCTION
- FINISH/FURNISH. etc.

(+ WRITTEN SPECIFICATIONS)

## (2) A LEGAL INSTRUMENT for

- OWNERS
- ARCHITECTS
- ENGINEERS
- CONTRACTORS
- SUPPLIERS
- TENANTS
- MUNICIPALITY
- FINANCIAL INST.
- CONSULTANTS
- LEASING AGENTS
-
-

- terms
- conditions
- specifications
- instructions
- Level of quality
- sequences
- performance
-
-
-
-

# TYPES OF DRAWINGS - PARTIAL LIST

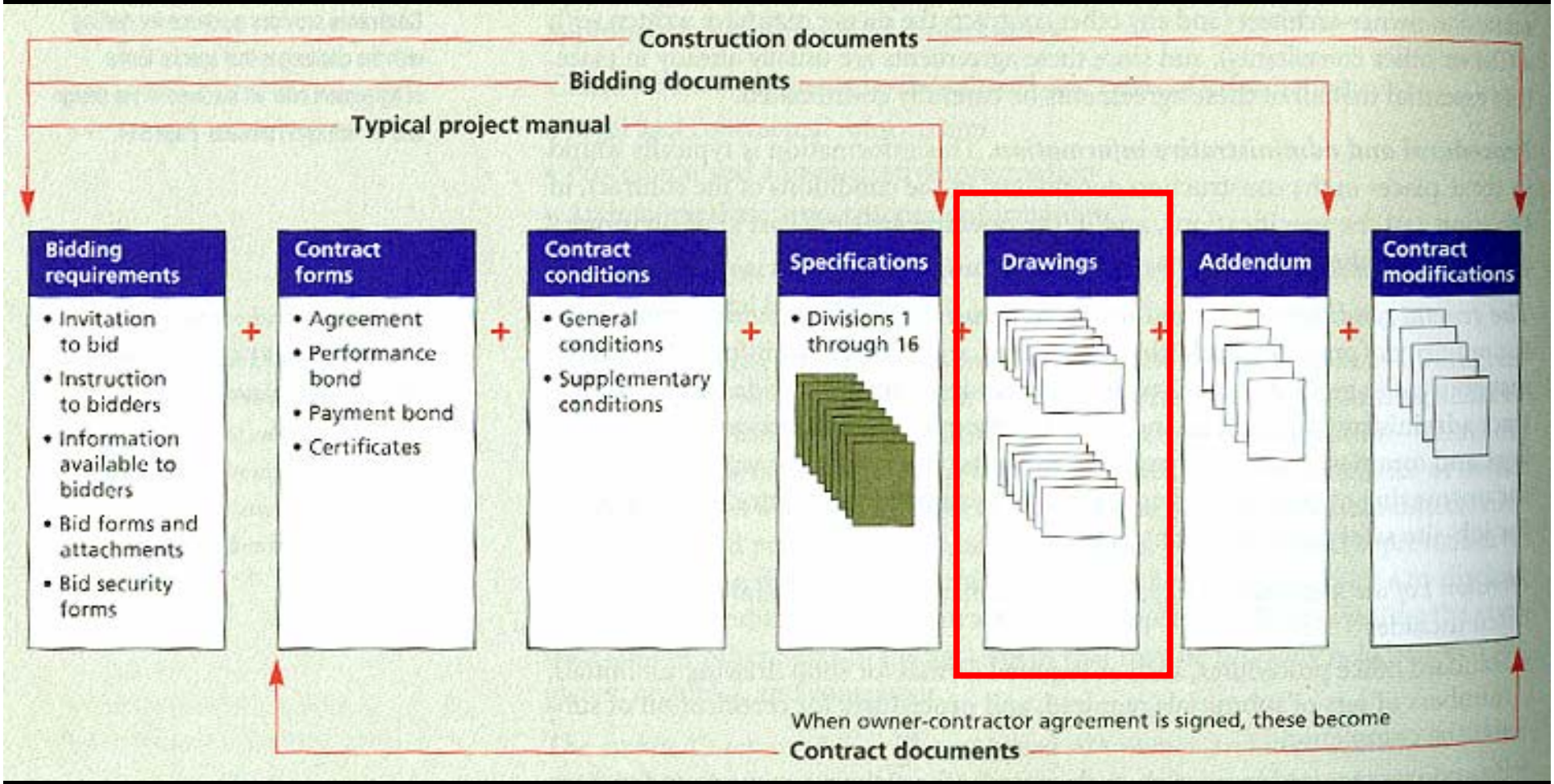
**SITE**
- LOCATION
- ZONING
- REQUIREMENTS
- PHASING
- TOPOGRAPHY
- UTILITIES
- PARKING
- ACCESS

**BLDG.**
- CONCEPTUAL
- DESIGN DEVELOPMENT
- CONTRACT DOCUMENTS
- SPECIFICATIONS

- FLOOR PLANS
- ROOF PLANS
- CEILING PLANS
- SECTIONS - CROSS - LONG.
- ELEVATIONS
- DETAILS
- STRUCTURAL
- MECHANICAL H.V.AC. LTG.
- SHOP DRAWINGS
- PERSPECTIVES
- FURNISHINGS
- TECHNICAL

- LEASING
- CONSTRUCT. SEQUENCES
- —
- —
- —
- —
- etc, etc,

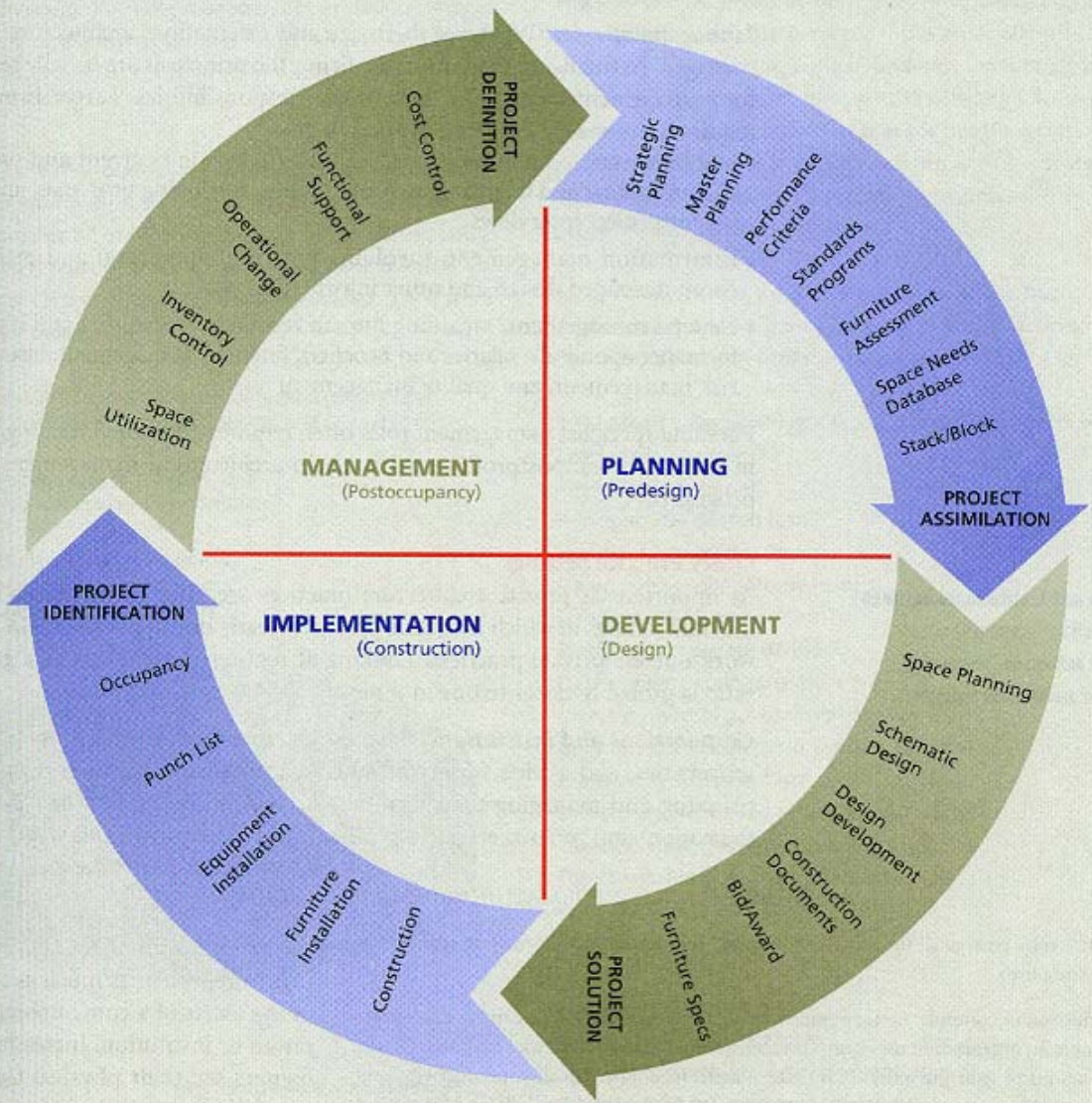
# Required Documents



## THE CLIENT SUPPORT CIRCLE

William T. Coleman, AIA

While architects and builders have, for centuries, focused their energies on design and construction projects, a growing number of building owners have a different view. For them, the process of operating and managing buildings is ongoing. For the client, the project does not end at move-in since this is only the beginning of the process of managing the facility. Thus, the project development process is a circular one in which postconstruction and predesign are linked. This circle offers a framework for expanded services for architects.



*AIA Document B141*

# Standard Form of Agreement Between Owner and Architect

**1987 EDITION**

*THIS DOCUMENT HAS IMPORTANT LEGAL CONSEQUENCES; CONSULTATION WITH AN ATTORNEY IS ENCOURAGED WITH RESPECT TO ITS COMPLETION OR MODIFICATION.*

## AGREEMENT

made as of the day of in the year of
Nineteen Hundred and

**BETWEEN** the Owner:
*(Name and address)*

and the Architect:
*(Name and address)*

For the following Project:
*(Include detailed description of Project, location, address and scope.)*

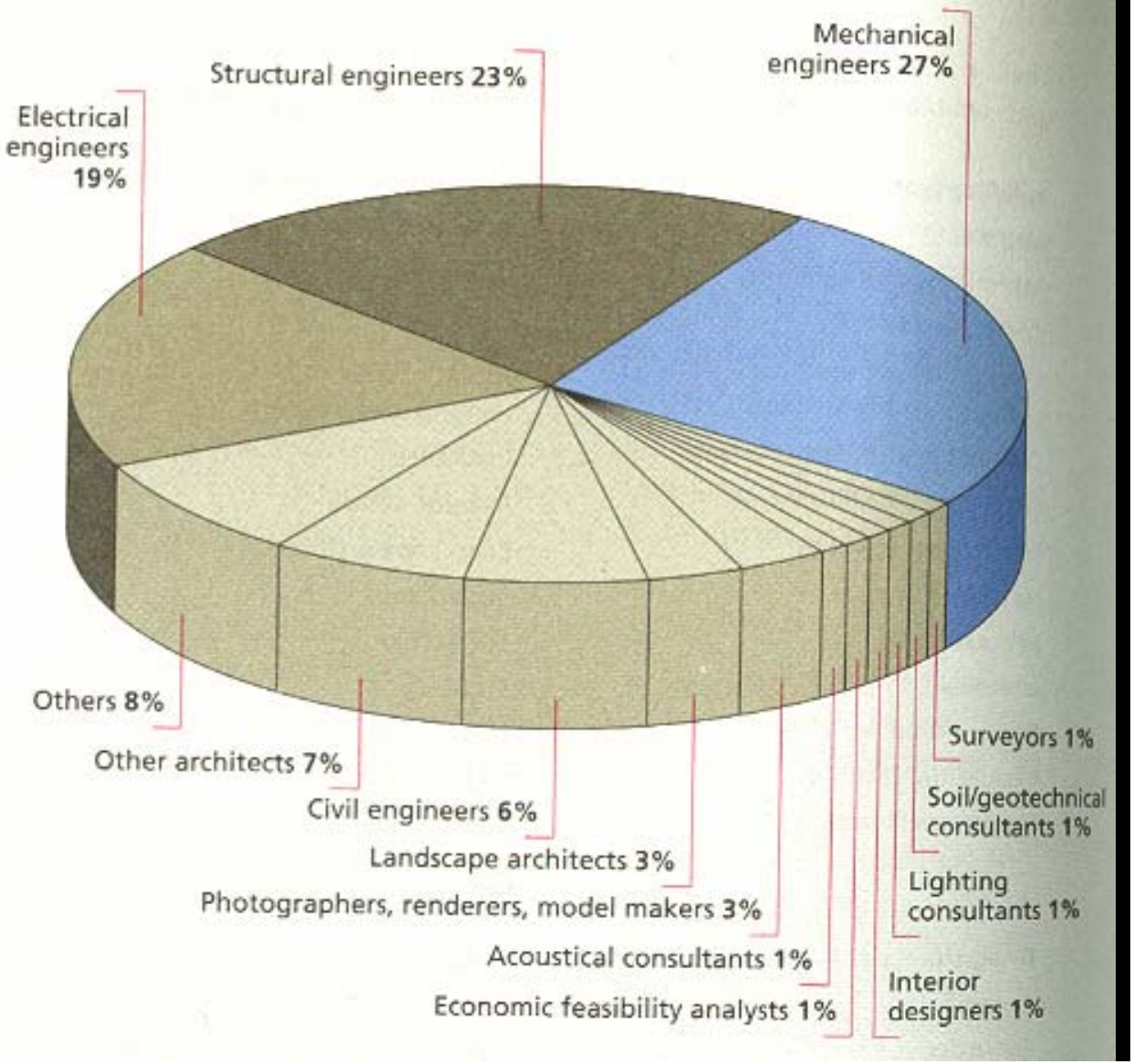
The Owner and Architect agree as set forth below.

## PASS-THROUGH REVENUES TO CONSULTANTS

1993 AIA Firm Survey

The average architecture firm passes 20 percent of its gross revenues through to consultants and joint venture partners.

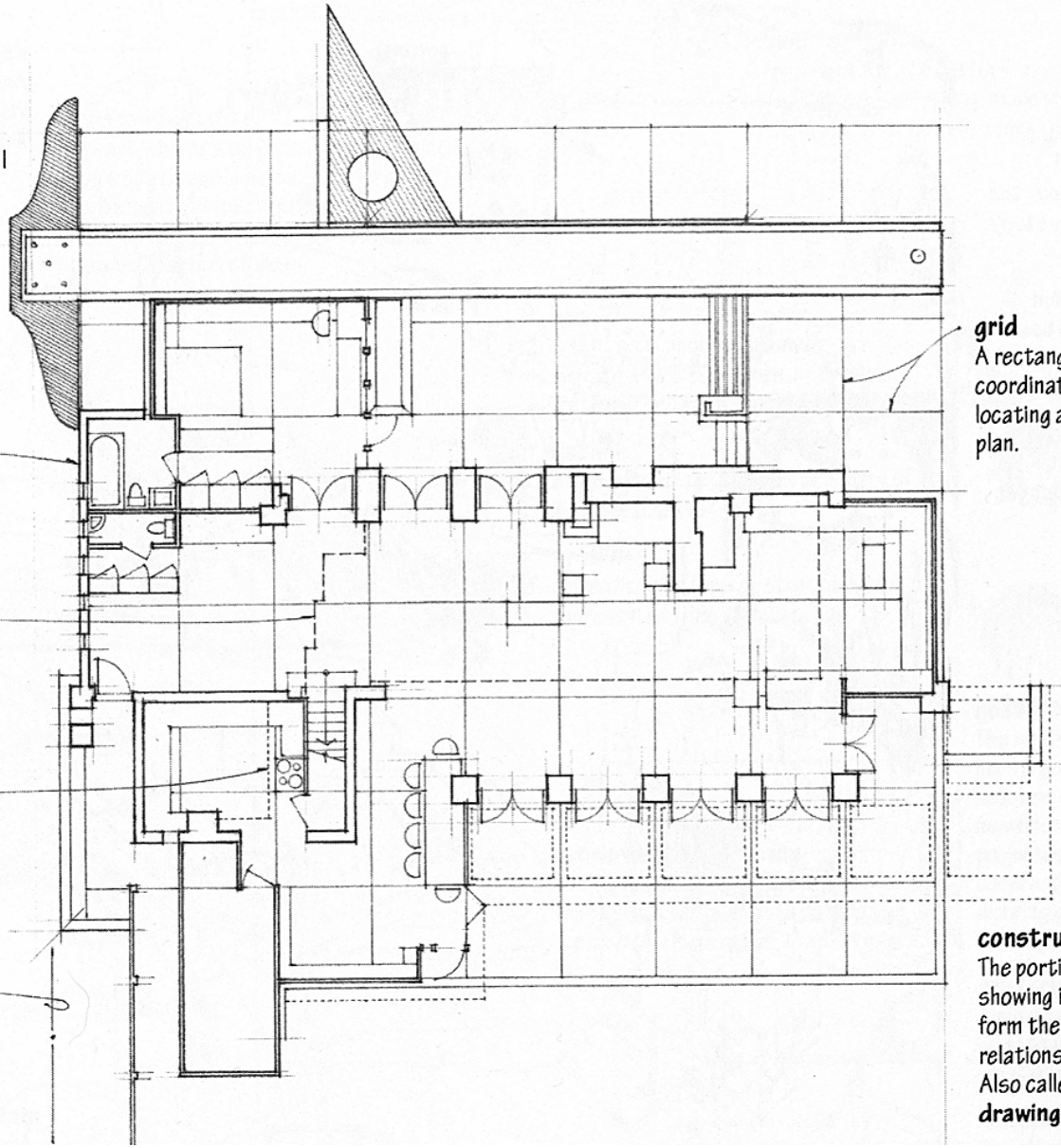
As shown in the pie chart, a very substantial share of the pass-through revenues collected by the firms in the 1993 AIA firm survey were distributed to mechanical, structural, and electrical engineers.



# Types of Drawings

## DRAWING

**drafting**
Drawing done with the aid of such instruments as T-squares, triangles, compasses, and scales, esp. for the systematic representation and dimensional specification of architectural and engineering structures. Also called **mechanical drawing**.



**grid**
A rectangular system of lines and coordinates serving as a reference for locating and regulating the elements of a plan.

**object line**
A solid line representing a contour of an object.

**dashed line**
A broken line consisting of short, closely spaced strokes, used esp. to represent object lines that are hidden or removed from view.

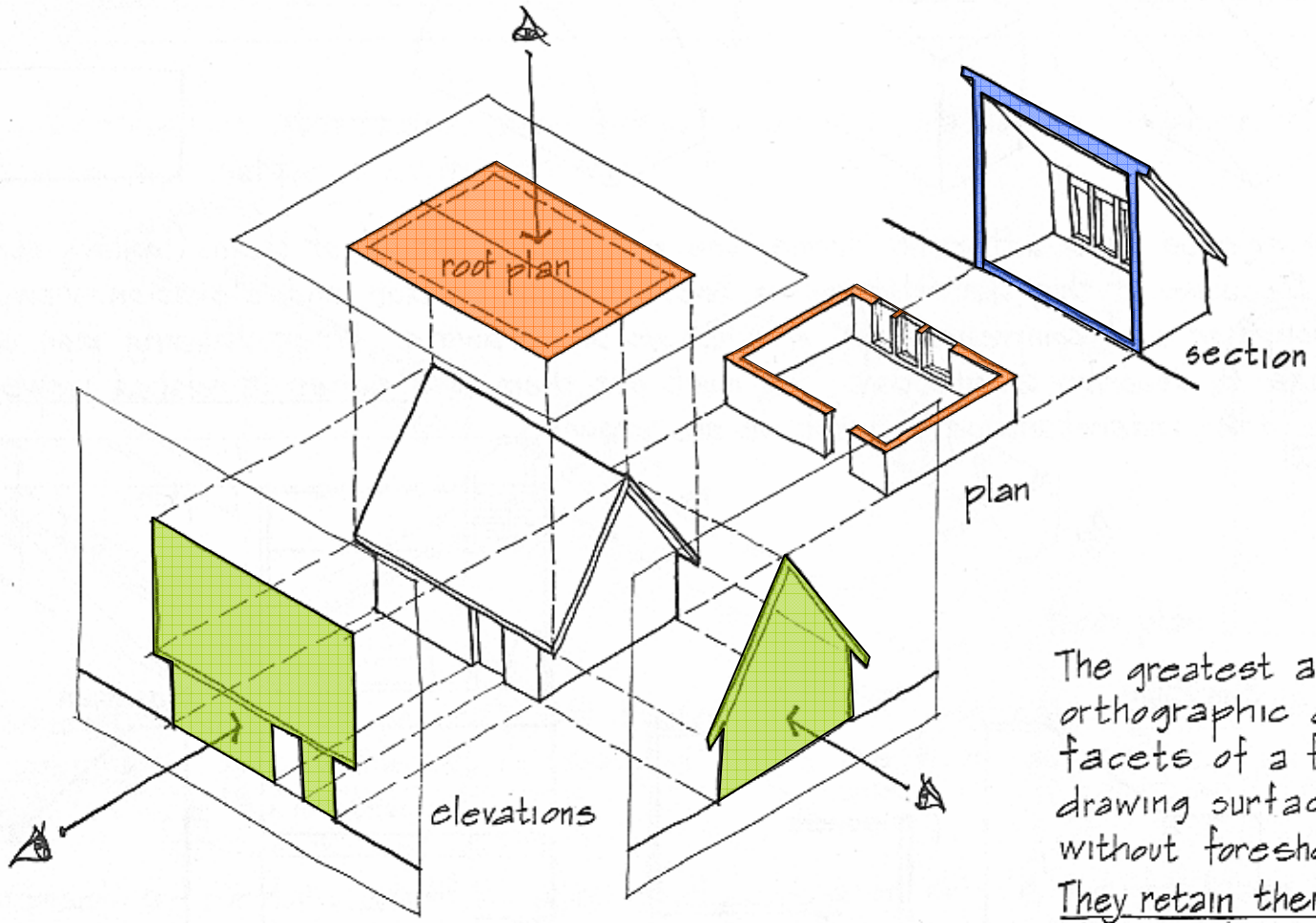
**dotted line**
A broken line consisting of a series of closely spaced dots, sometimes used in place of a dashed line.

**centerline**
A broken line consisting of relatively long segments separated by single dashes or dots, used to represent the axis of a symmetrical element or composition.

**construction drawings**
The portion of the contract documents showing in accurate graphic or pictorial form the design, location, dimensions, and relationships of the elements of a project. Also called **contract drawings**, **working drawings**.

# ORTHOGRAPHIC (RIGHT-ANGLED) PROJECTIONS

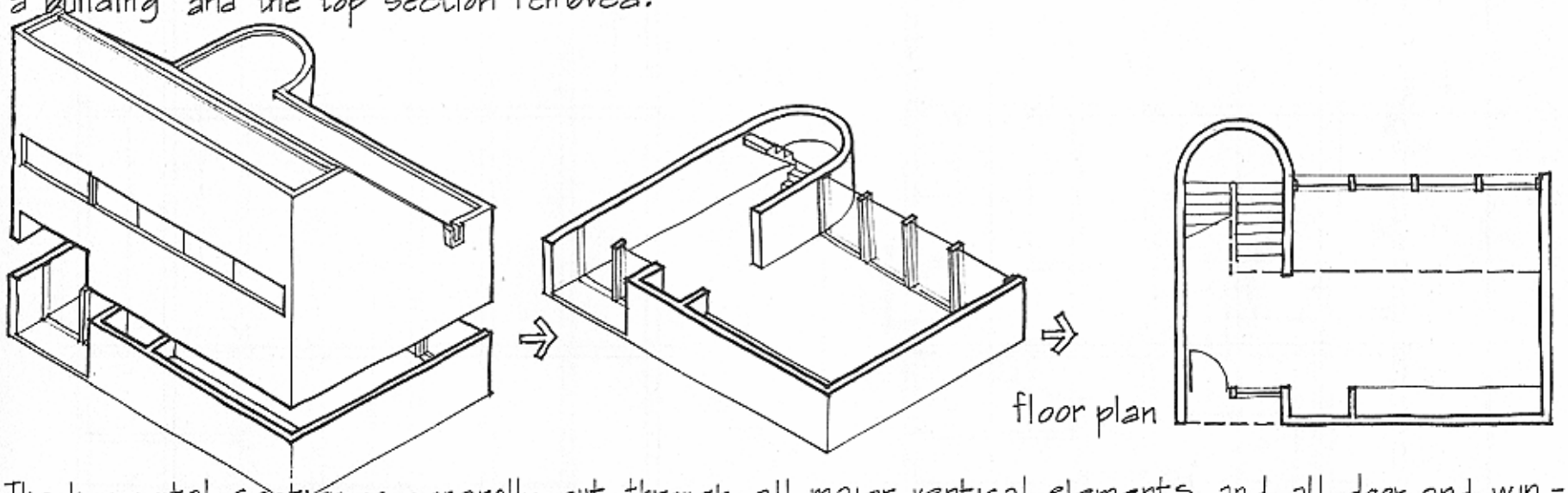
Plan / section / elevation views are the primary architectural drawings. They are orthographic in nature: the observer's line of sight is perpendicular to both the drawing plane and the principal surfaces of the building viewed. Conversely, the drawing surface is parallel to the major surfaces of the building.




The greatest advantage of using orthographic drawings is that all facets of a form parallel to the drawing surface are represented without foreshortening or distortion. They retain their true size (to scale), shape, and proportion.

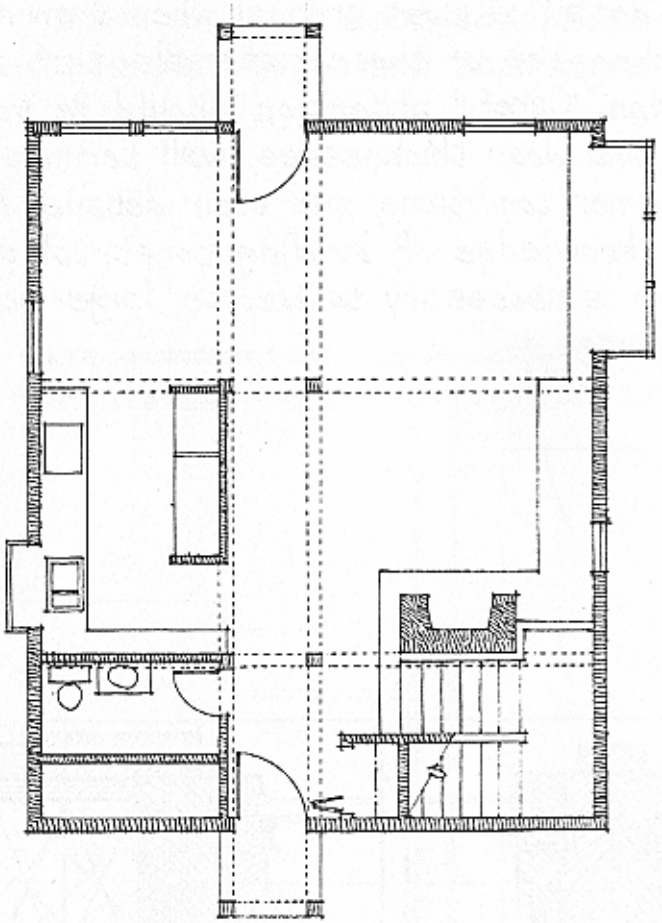
The floor plan and the building section (see pages 42-43) are both sections or cuts: the plan is cut horizontally; the building section, vertically. Whereas in working drawings (for the purpose of construction) plans and sections show the way buildings are put together, in design and presentation drawings the primary purpose of floor plans and building sections is to illustrate the forms and relationships of positive and negative spaces, and the nature of defining elements and surfaces.

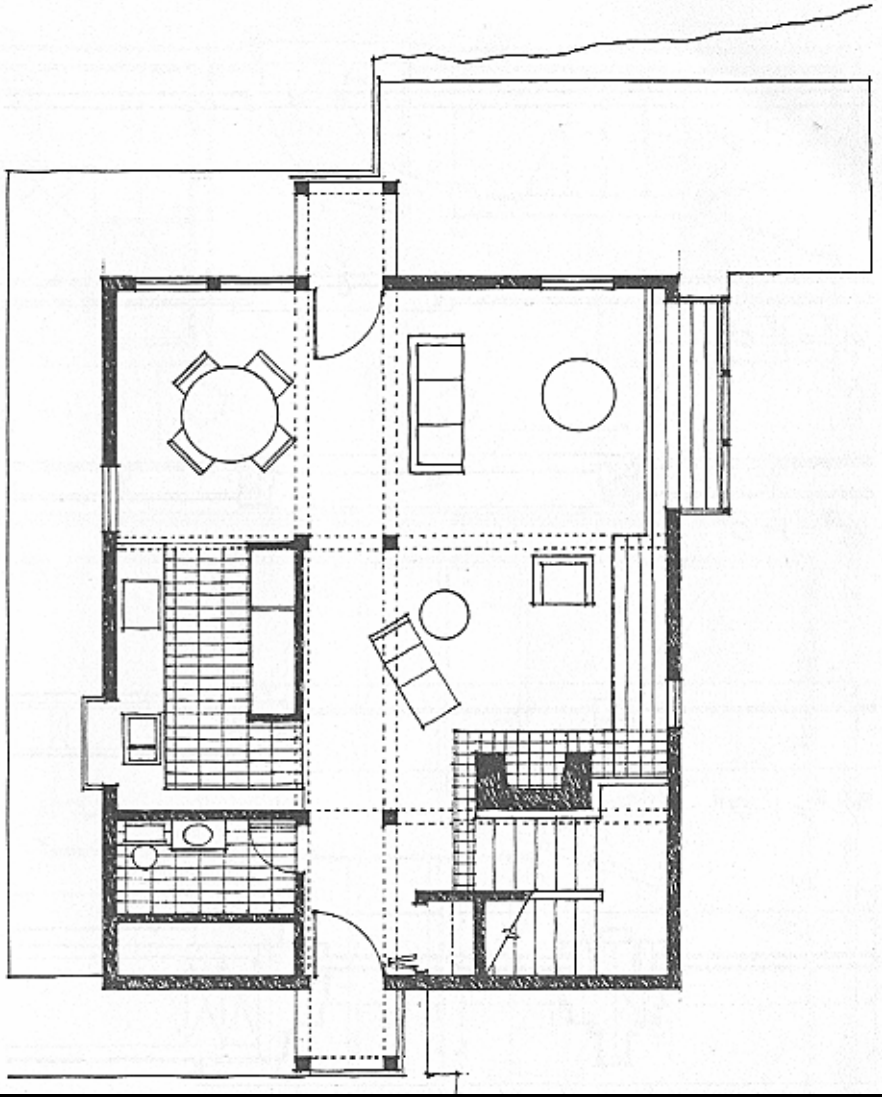
The floor plan is a sectional view looking down after a horizontal plane has been cut through a building and the top section removed.



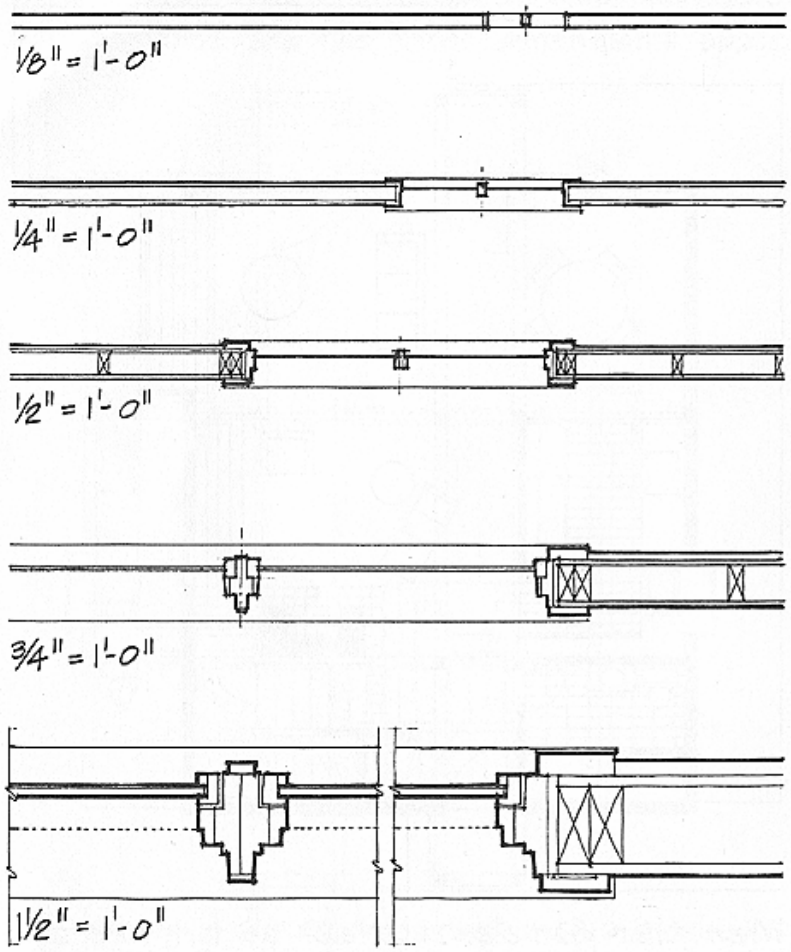

The horizontal section is generally cut through all major vertical elements and all door and window openings. Usually this cut is about 4' above the floor, but this can vary slightly, depending on what you want to illustrate.

Floor plans are normally drawn at a scale of 1/8"=1'0 or 1/4"=1'0, but for large buildings and complexes the scale can be smaller. The larger the scale of the floor plan, the more detail has to be shown to give the drawing credibility (see pages 32-33).

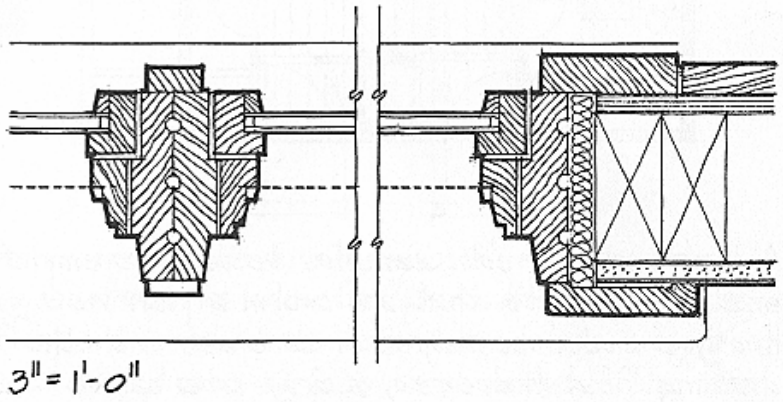




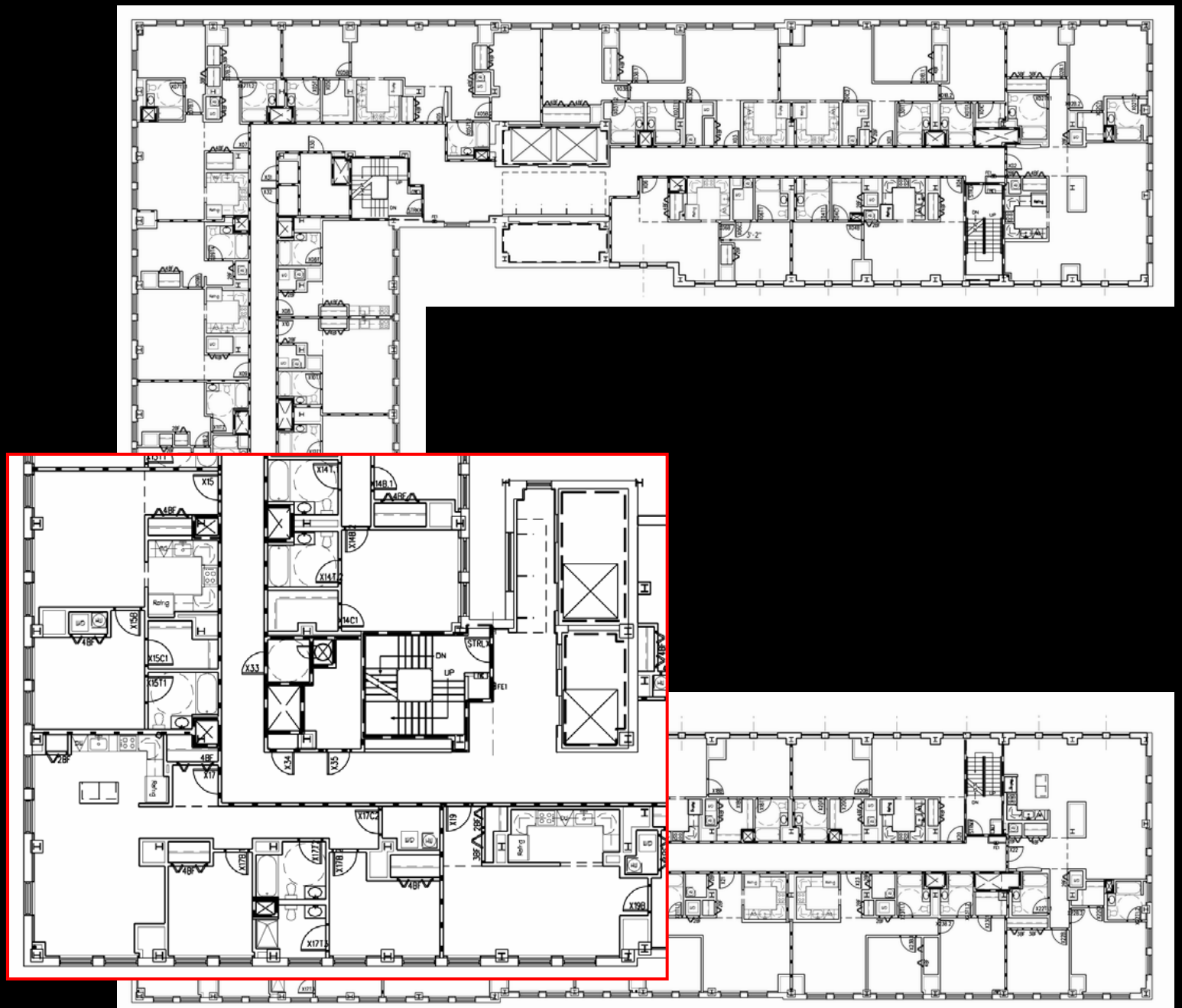
# Levels of Scale



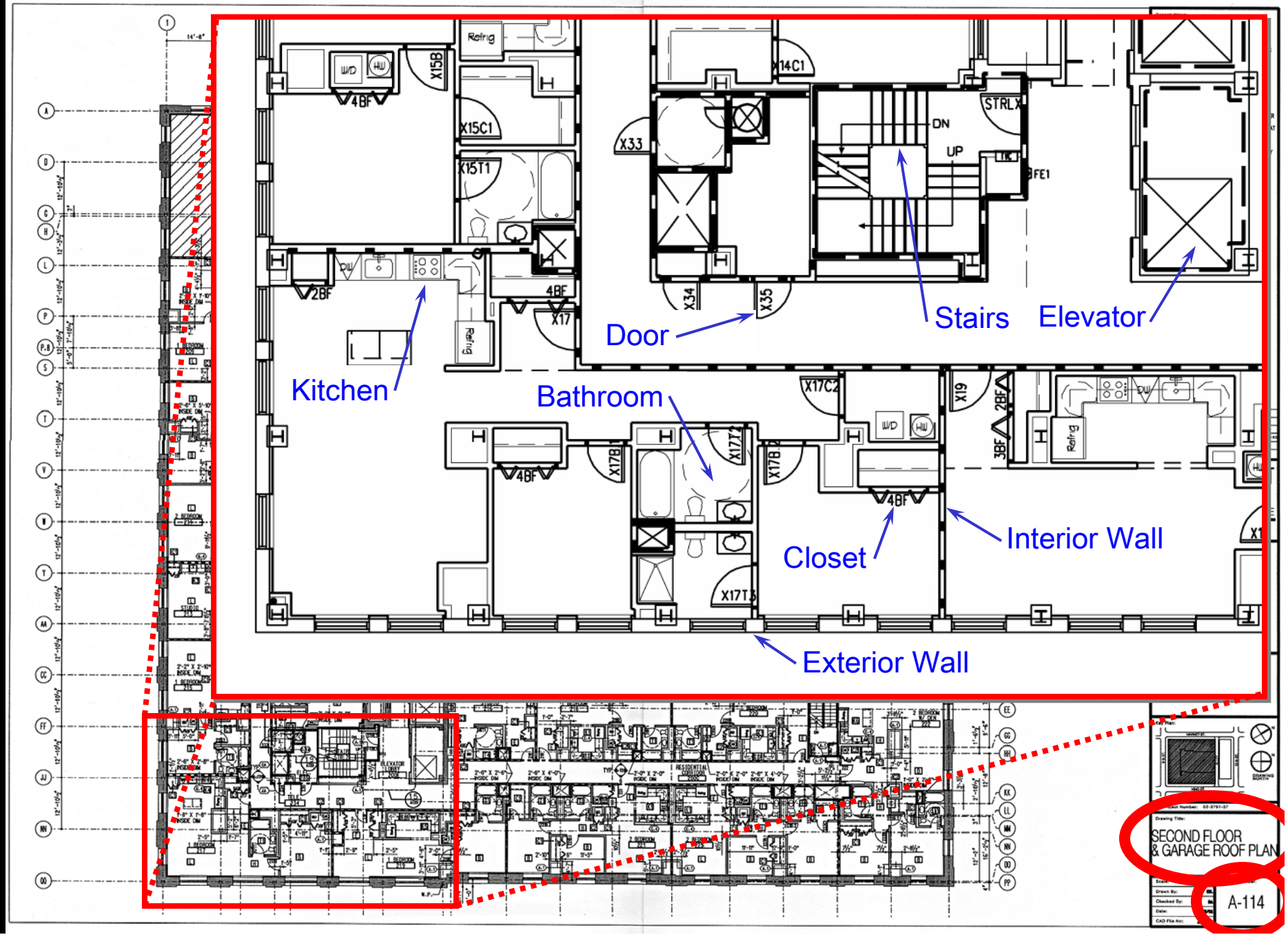

As the scale of a drawing increases, the amount of detail required to give the drawing credibility also becomes greater. This attention to detail is most critical when drawing the thicknesses of those materials that are cut in plan. Careful attention should be paid to wall and door thicknesses, wall terminations, corner conditions, and stair details. A general knowledge of building construction therefore is necessary to execute large-scale plan drawings.



# Sample Building Plan

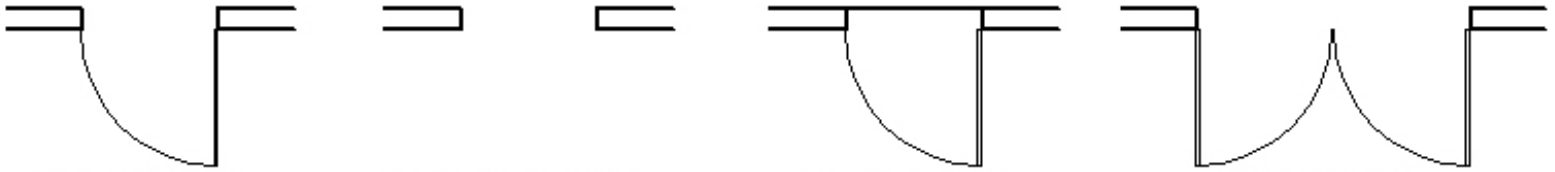


# Sample Project – Typical PLAN Sheet

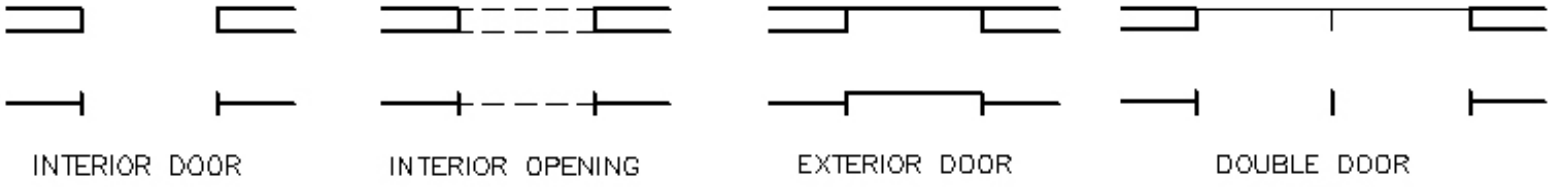


# SYMBOLS REPRESENTING DOORS

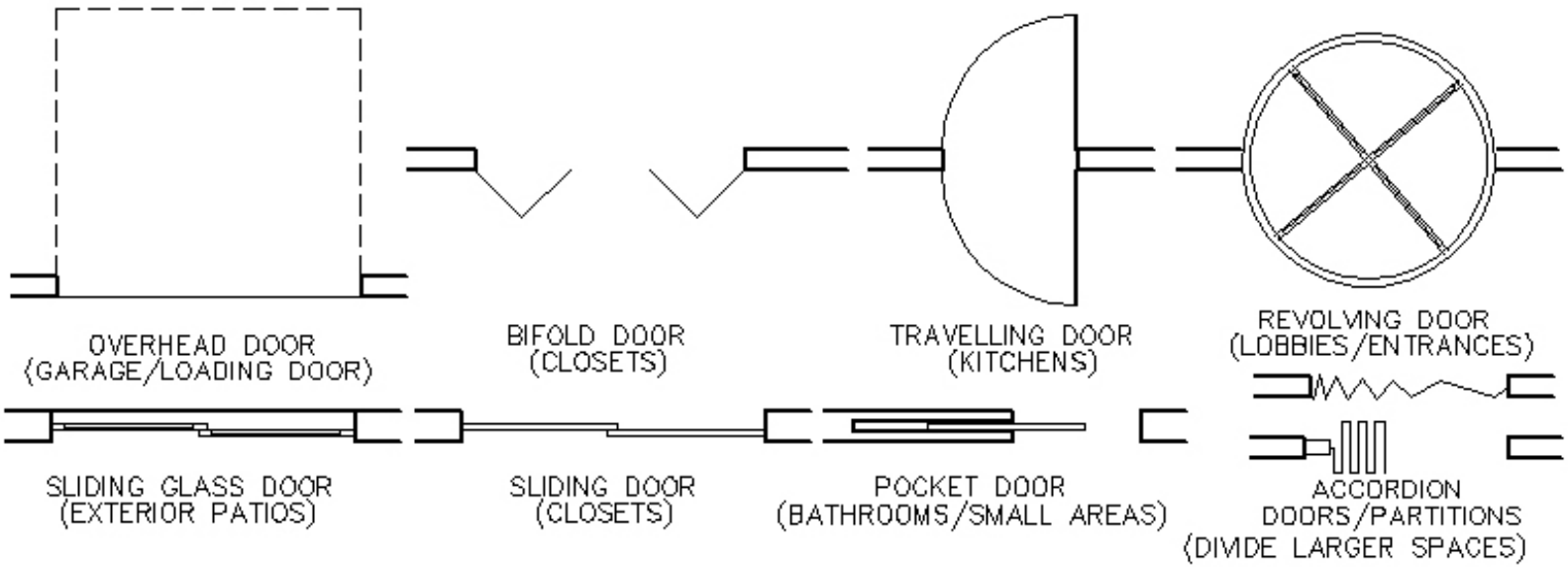
Typically, Architectural Drawings will use these symbols to represent a door in Plan:




Older/ Simplified Architectural Drawings manytimes will use this alternate set of symbols to represent doors:

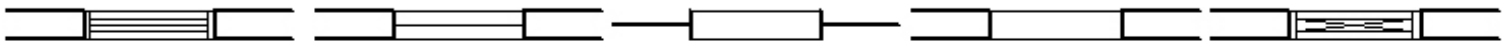



The Doors above are common hinged doors, and are represented as shown.
There are various other types of doors which commonly appear on plans which which have the following symbols and uses:



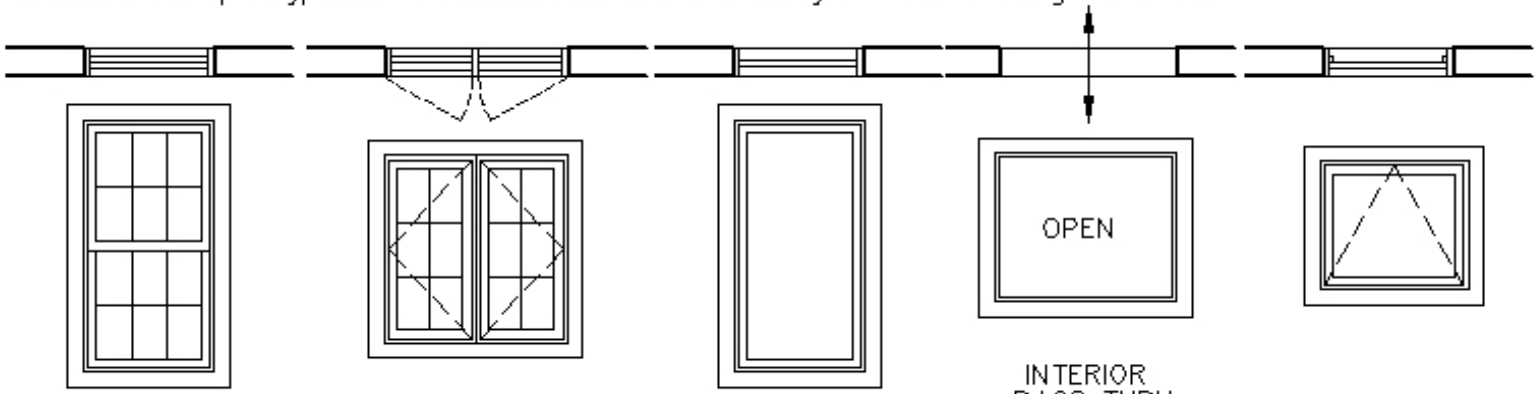
# SYMBOLS REPRESENTING WINDOWS

Typically, Architectural Drawings will use one of these symbols to represent a window in Plan:



WINDOW (on Arch. Plan) | WINDOW (on Marketing Plan) | WINDOW (Code/Zoning Plan) | WINDOW (on Marketing) | VENT

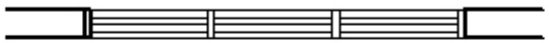
There are multiple types of windows which are commonly used in buildings such as:



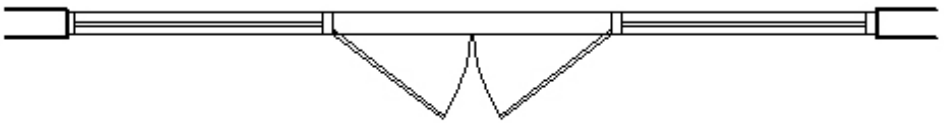

DOUBLE HUNG | CASEMENT | FIXED GLASS | INTERIOR PASS THRU OPENING (no glass) | AWNING

In addition to single windows, there are a number of other window systems commonly used:

CURTAIN WALL
(Office Towers/ Large Commercial Buildings)



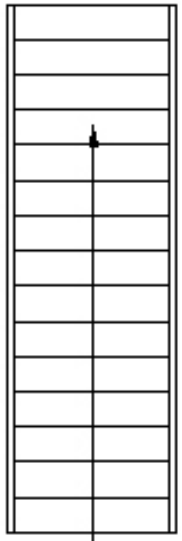
MULLED WINDOWS/
MULTI WINDOW UNITS
(several single window units joined together)



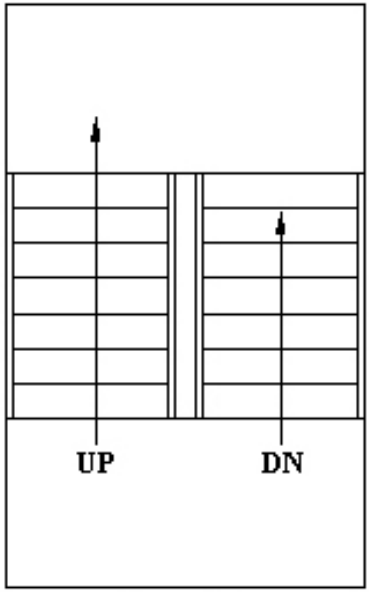
STOREFRONT WINDOW UNIT
(almost always including an integrated door unit)

# SYMBOLS REPRESENTING STAIRS

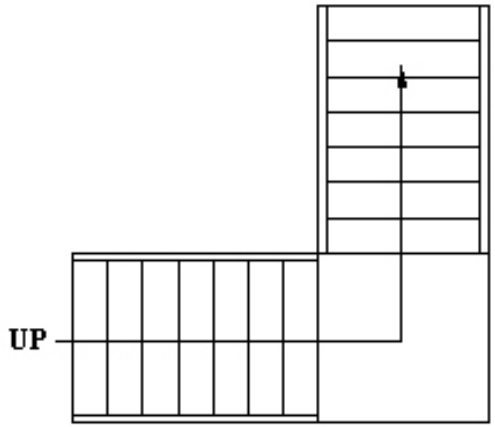
Typically, Architectural drawings will use these symbols to represent **stairs:**



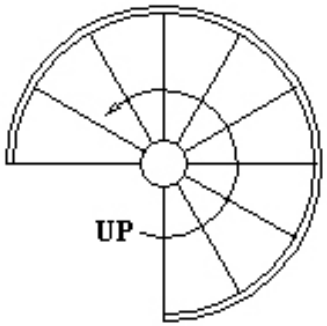

**Straight Staircase**



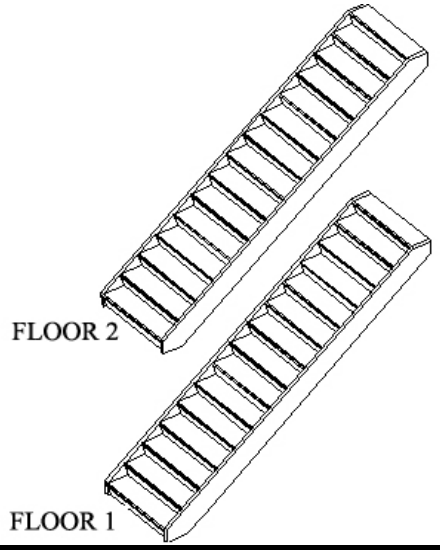

**Sissor Stairs**
(Fire stairs)

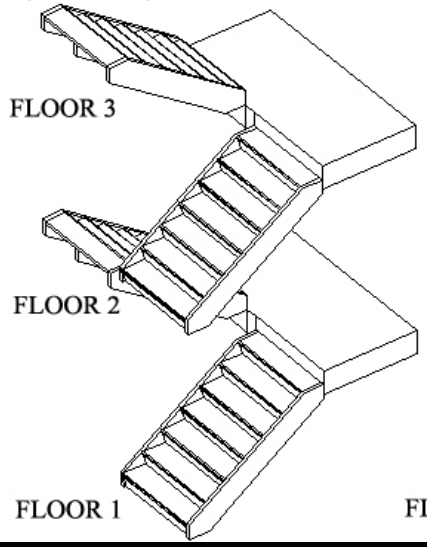


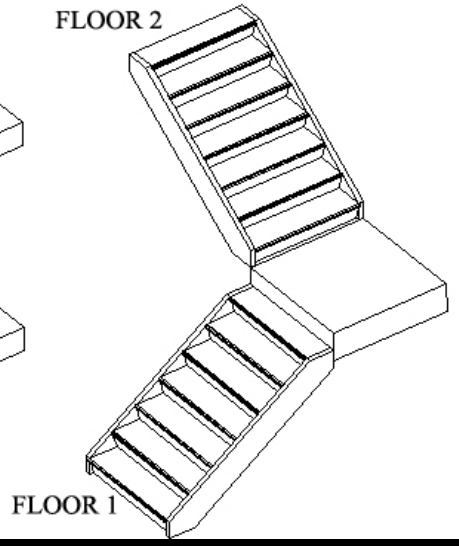

**Stairs w/landing**




**Spiral Staircase**



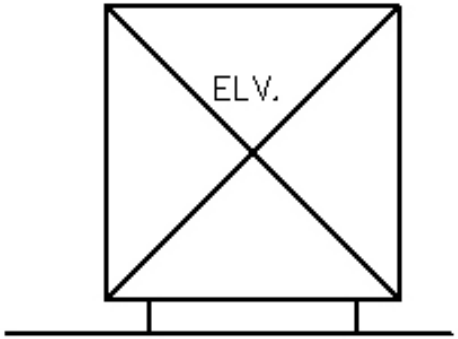



# SYMBOLS REPRESENTING ELEVATORS

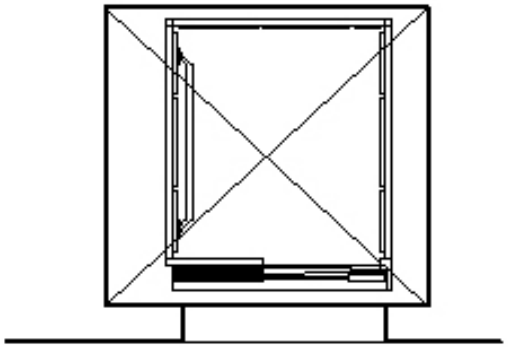
On Plans, Elevators are represented in one of two different ways:

This is an Elevator Shaft

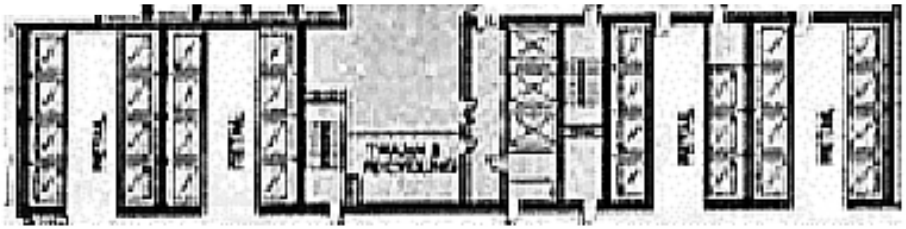



The Elevator exits on this side

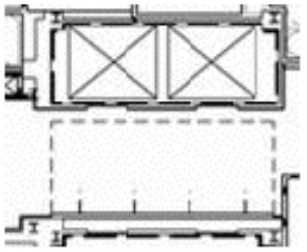
This is an Elevator Shaft



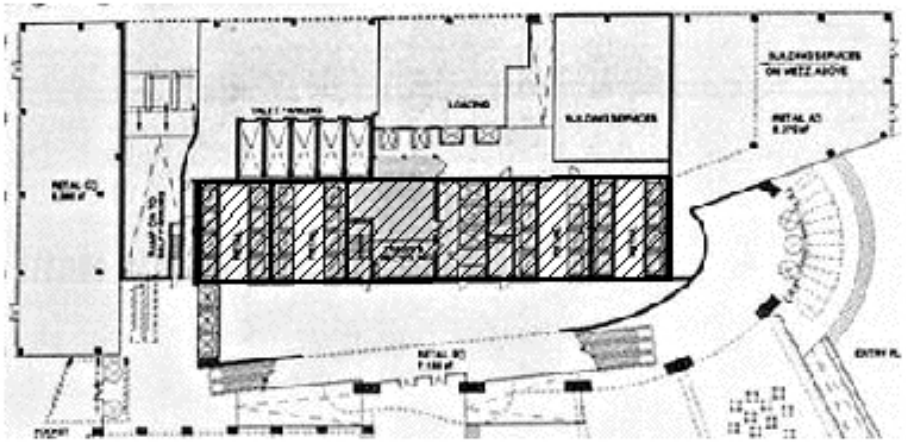
The Elevator exits on this side



A Typical Large Elevator Core
Containing Elevators, Stairways and Mechanical Shafts

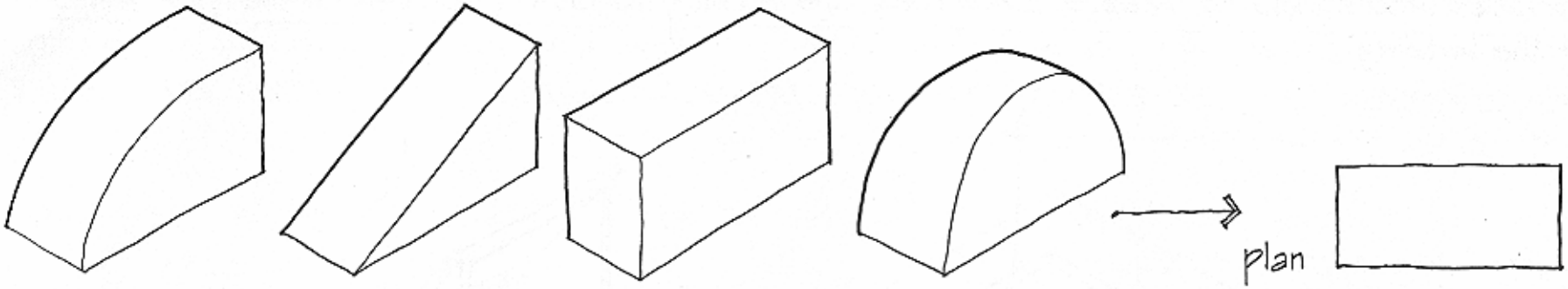


A Typical Elevator Bank

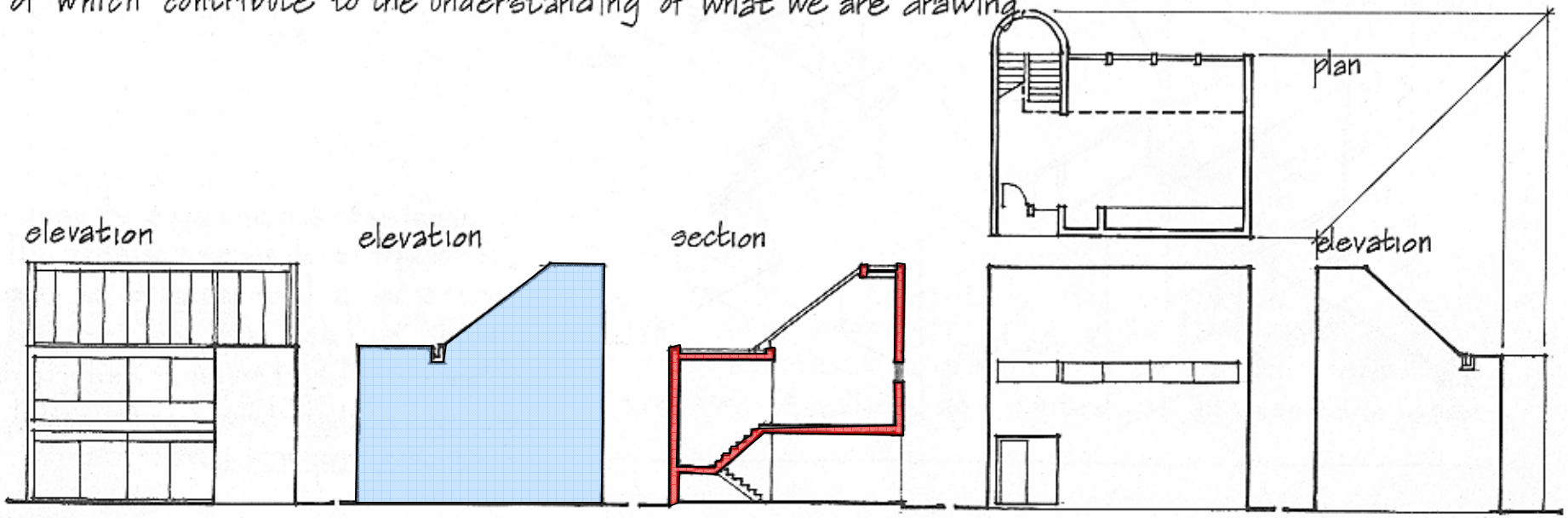


The Elevator Core occupies the center of a typical building.

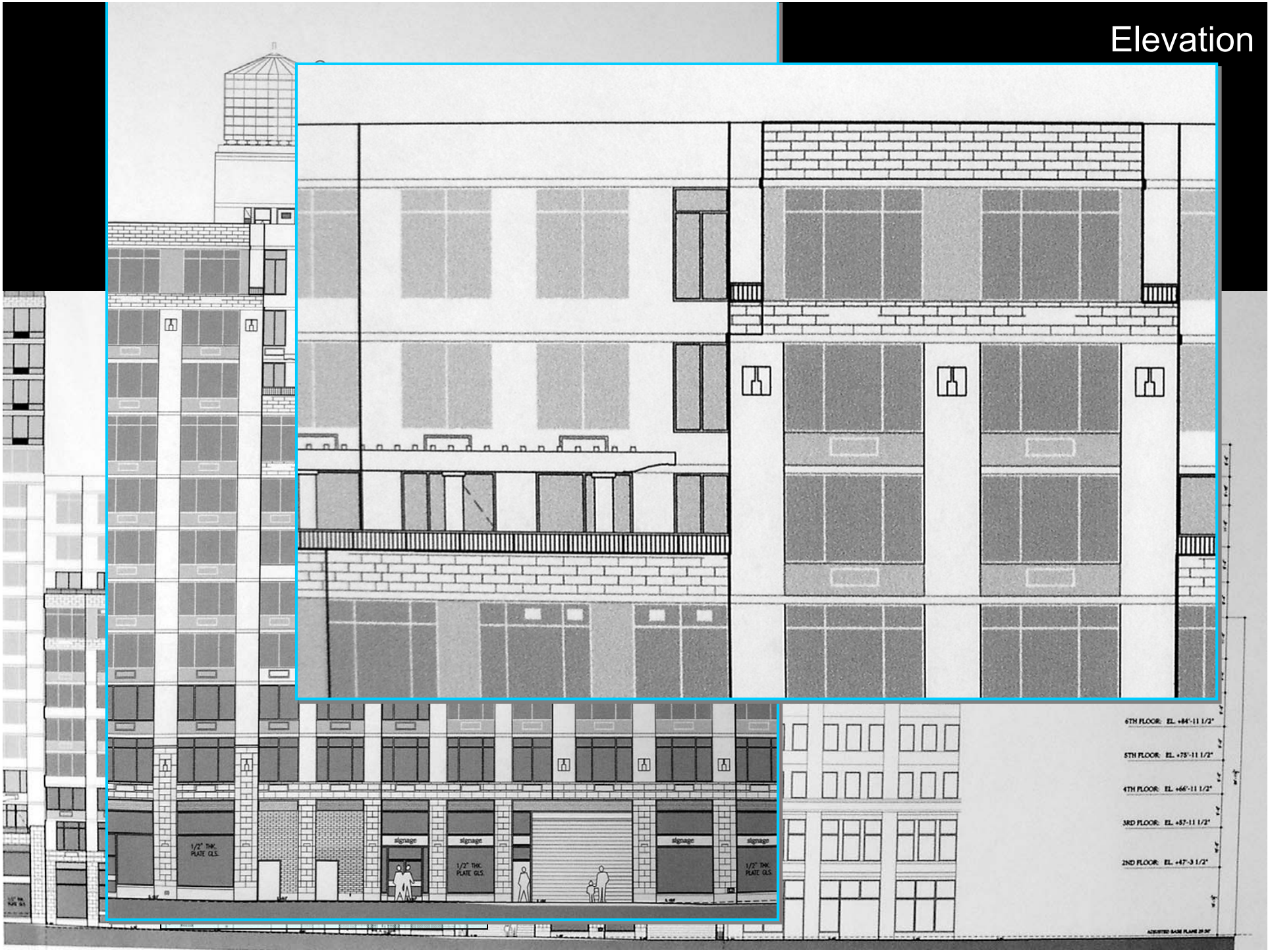
In using plan/section/elevation drawings to represent architecture, we are in fact utilizing an abstract method to represent reality.

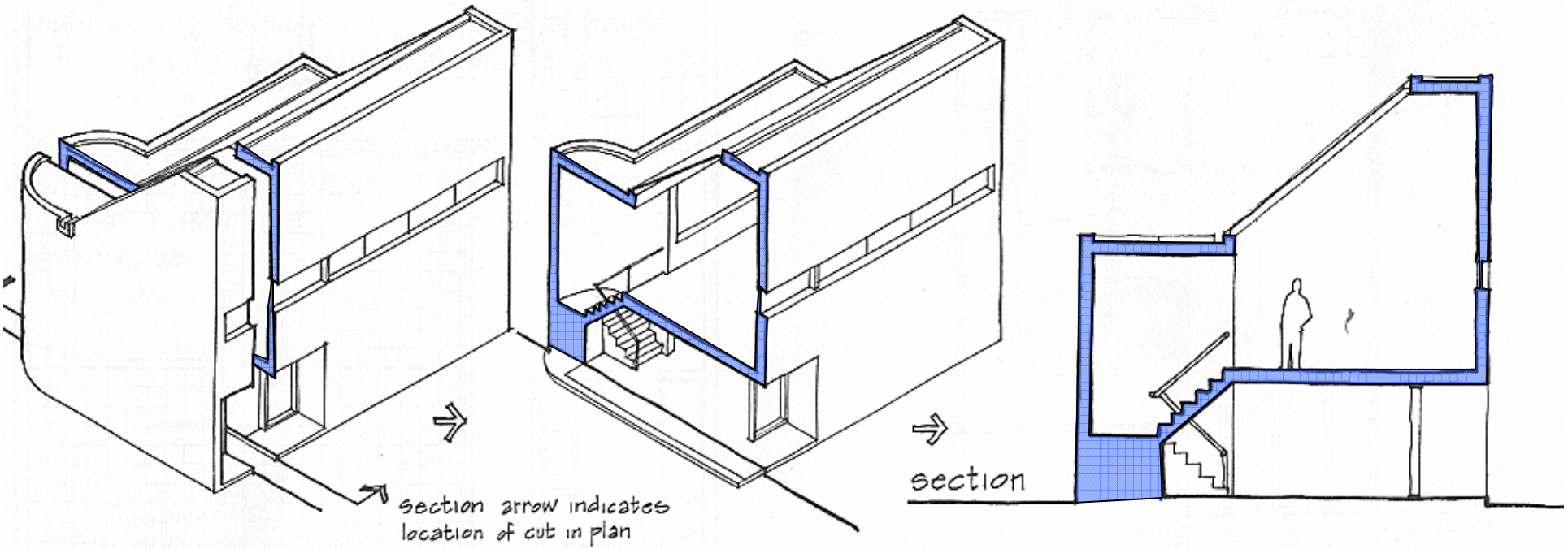



Although these four objects have different forms, the plan views for all of them (looking straight down) are identical. Because of this, the relationship between plan, section, and elevation views is critical for the description and comprehension of what we are drawing. When utilizing plan, section, and elevation drawings to describe architecture, we must see them as a series of related views, all of which contribute to the understanding of what we are drawing.



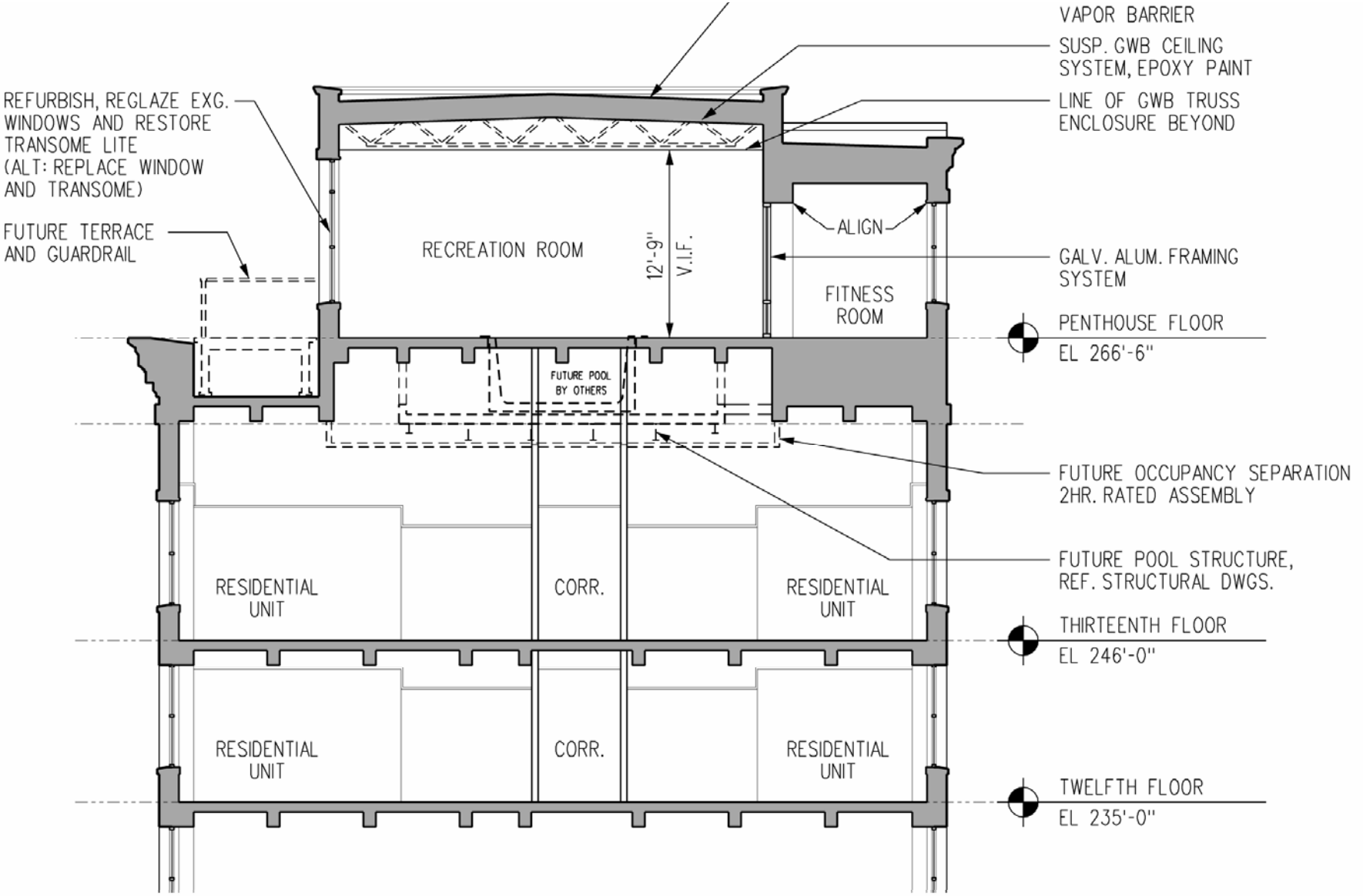
# Elevation


1/2" THK. PLATE GLS.
signage
signage
1/2" THK. PLATE GLS.
signage
signage
1/2" THK. PLATE GLS.
6TH FLOOR EL. +84'-11 1/2"
5TH FLOOR EL. +75'-11 1/2"
4TH FLOOR EL. +66'-11 1/2"
3RD FLOOR EL. +57'-11 1/2"
2ND FLOOR EL. +47'-3 1/2"



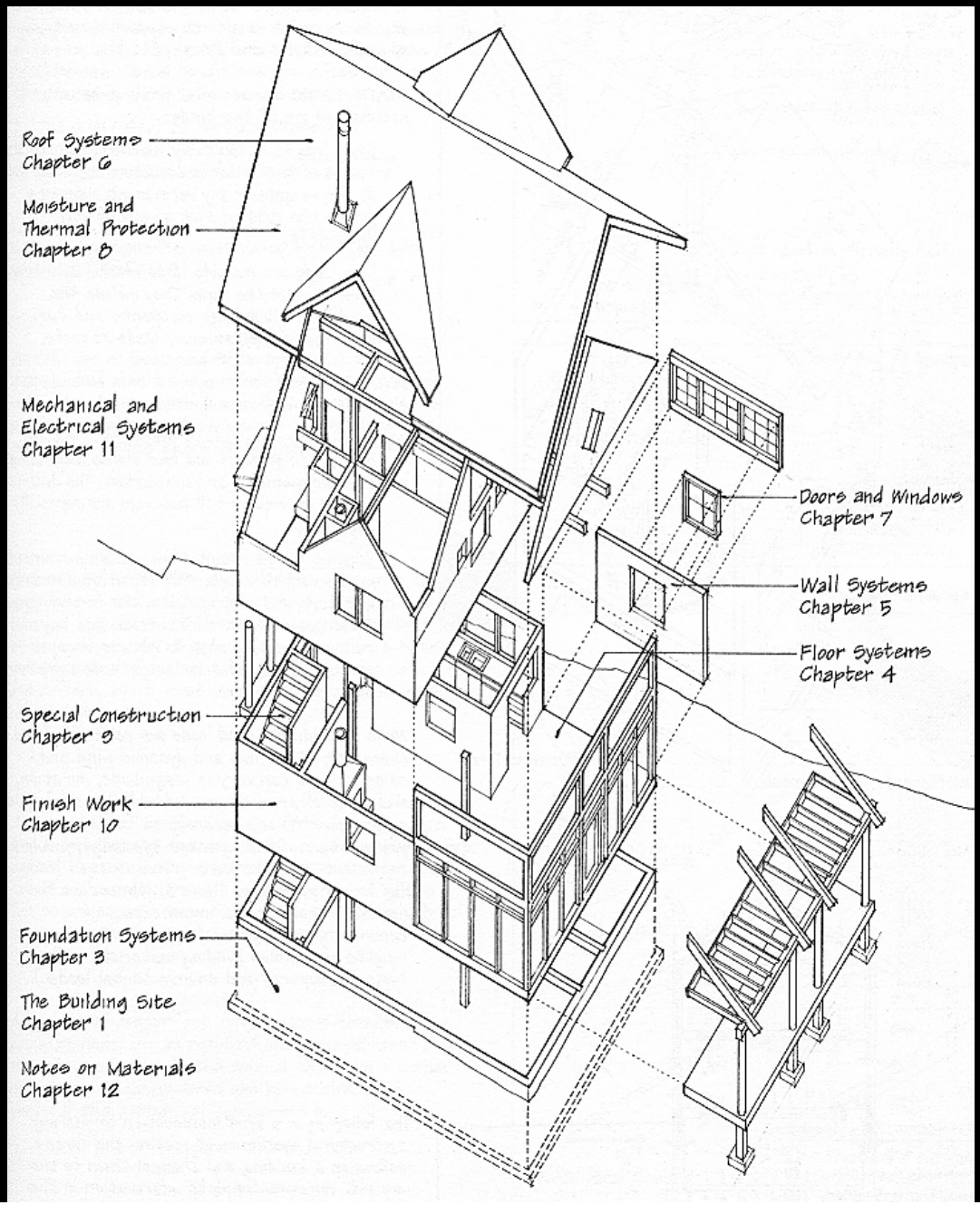

The building section is a horizontal view of a building after a vertical plane has been cut through it and the front section removed.

Design sections, unlike construction-drawing sections, should always be continuous, using jogs in the cutting plane only when absolutely necessary. The intent of building design sections is to illustrate the greatest number of relationships between significant interior spaces; they look toward the most significant ends of these spaces. One section is usually not sufficient to achieve this unless the building is extremely simple. (Remember that the building section is only part of a series of related views.)

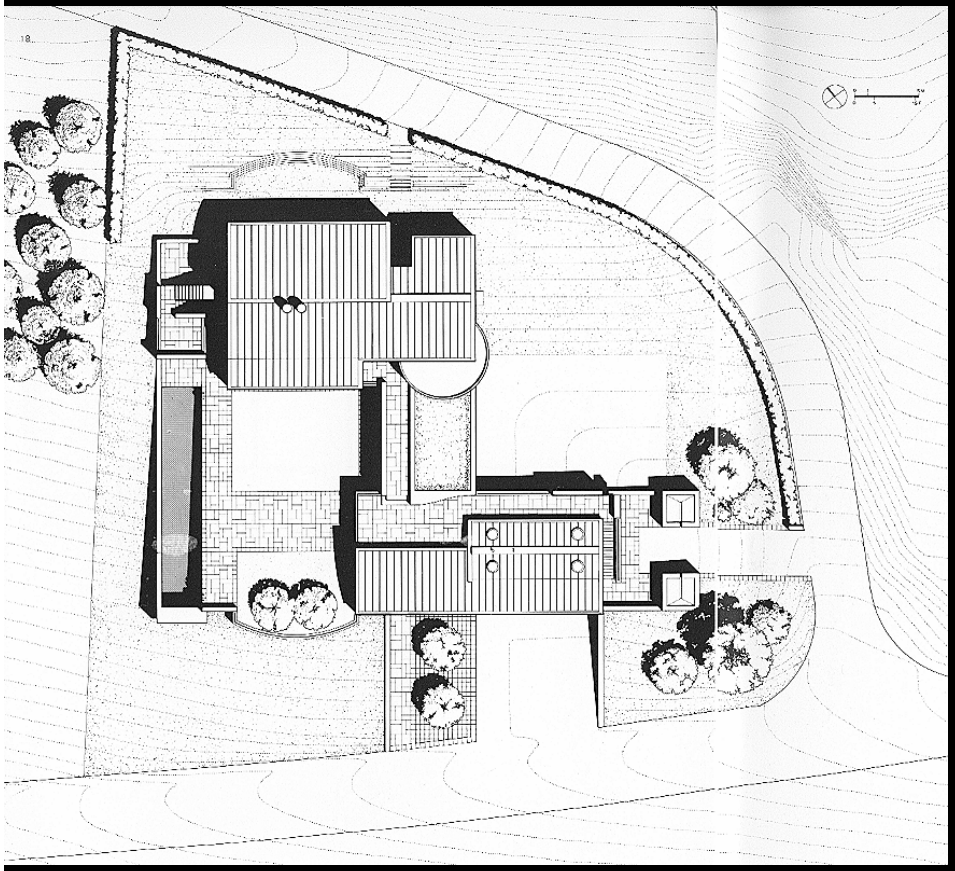


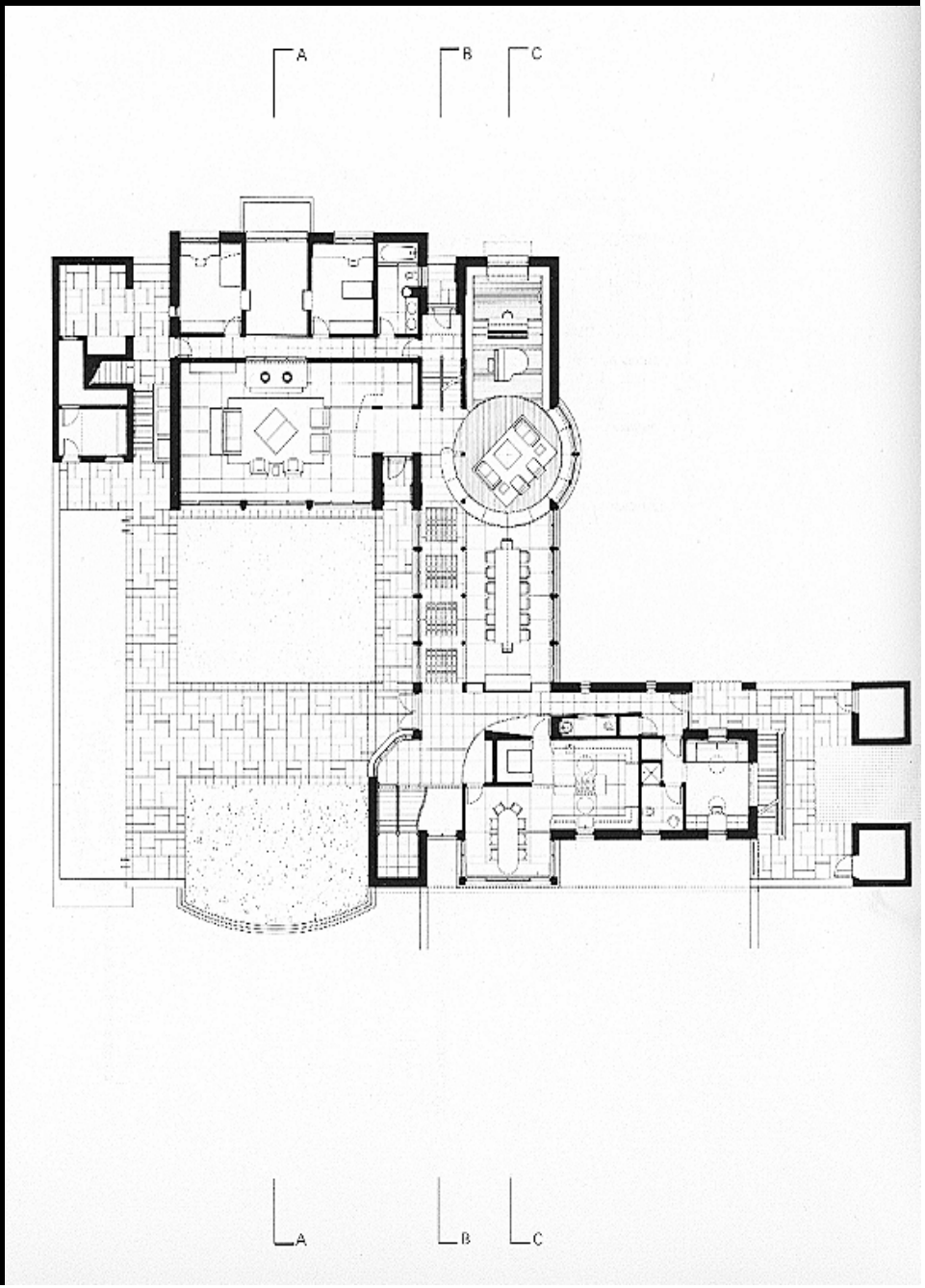

| DSK-A-003 | | SECTION<br>12TH, 13TH, AND PENTHOUSE FLOORS | | |
|---|---|---|---|---|
| PROJECT NO.: 02-3791-37 | CADD FILE NO.: DSK-003.dgn | DATE: 01/20/03 | SCALE: N.T.S. | BY: ESL |

# Axonometric Drawing

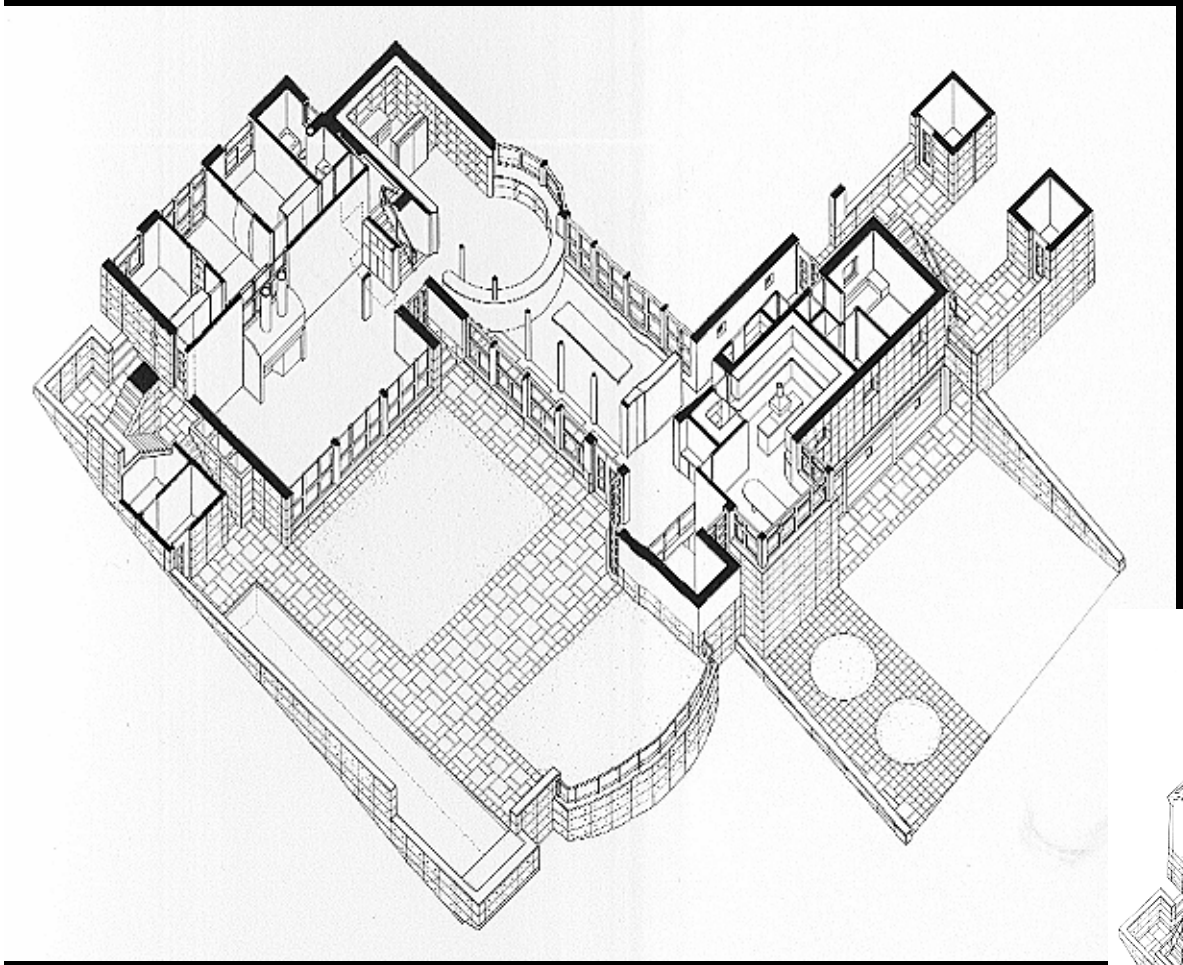


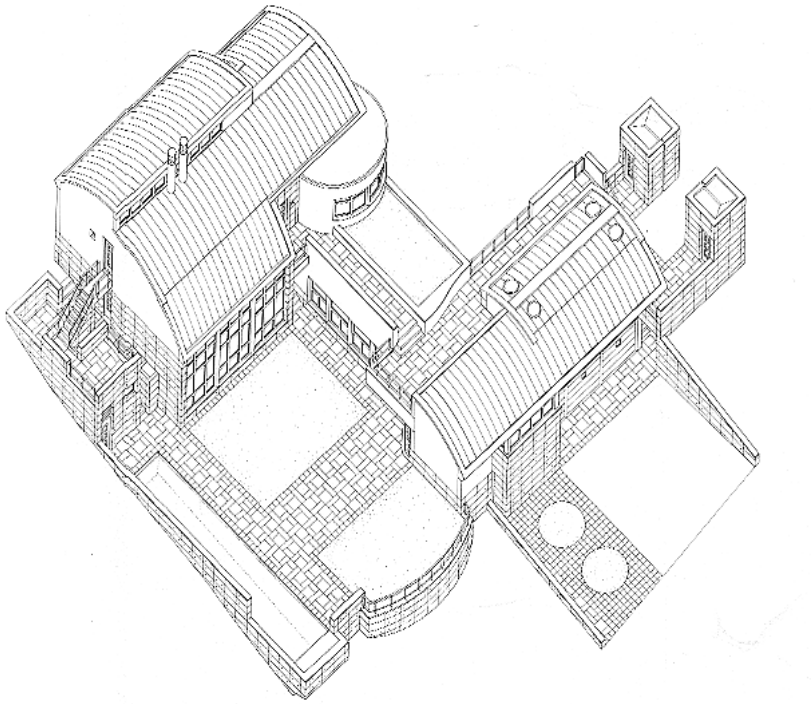
# Site Plan & First Floor Plan



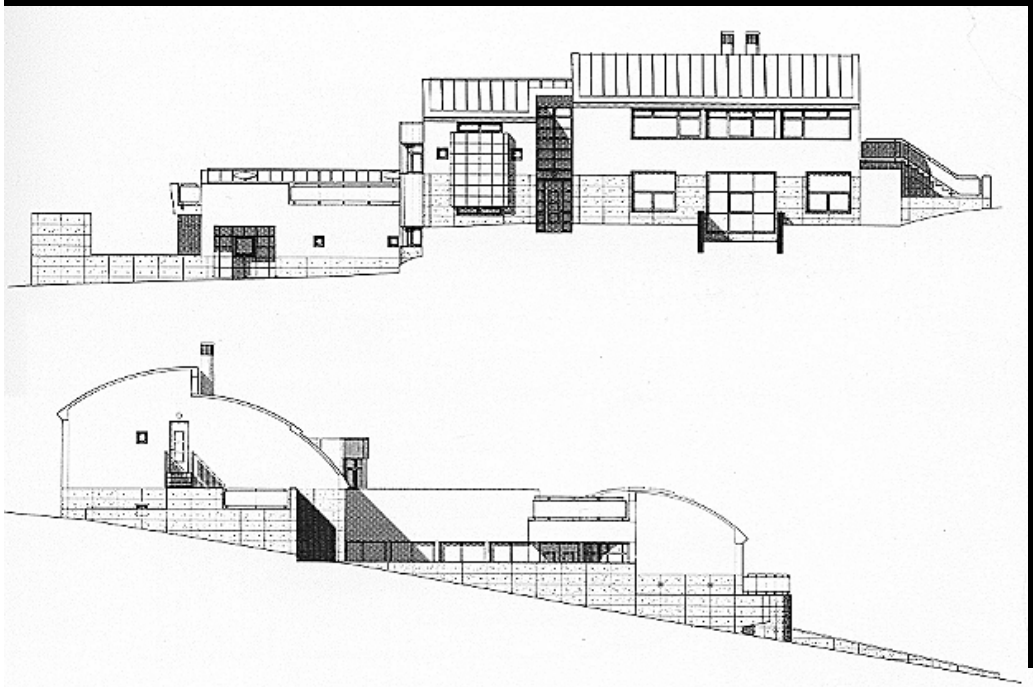


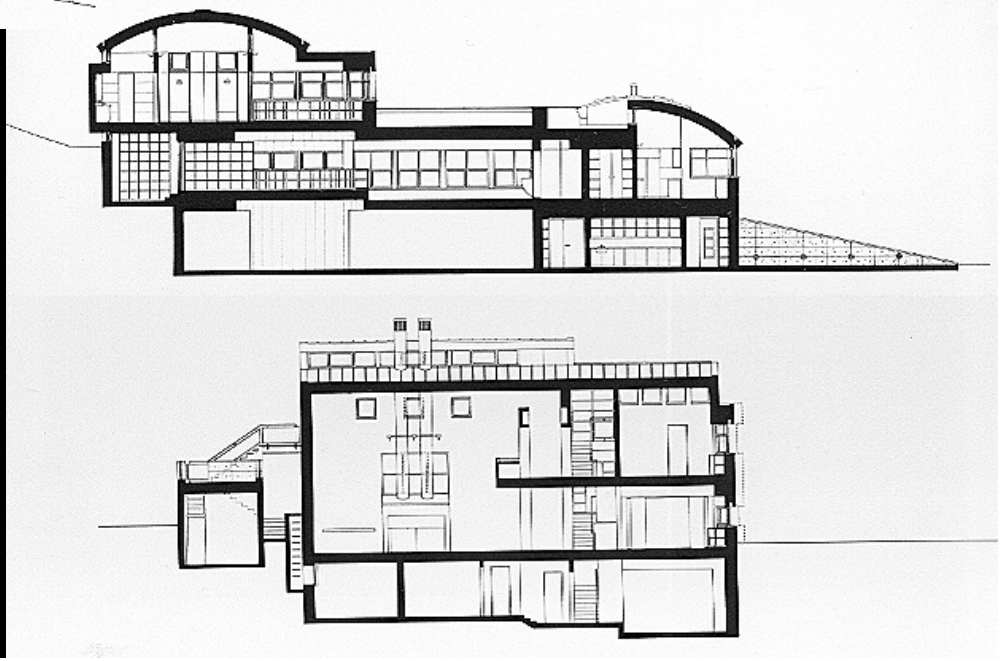
# Axonometric Drawings



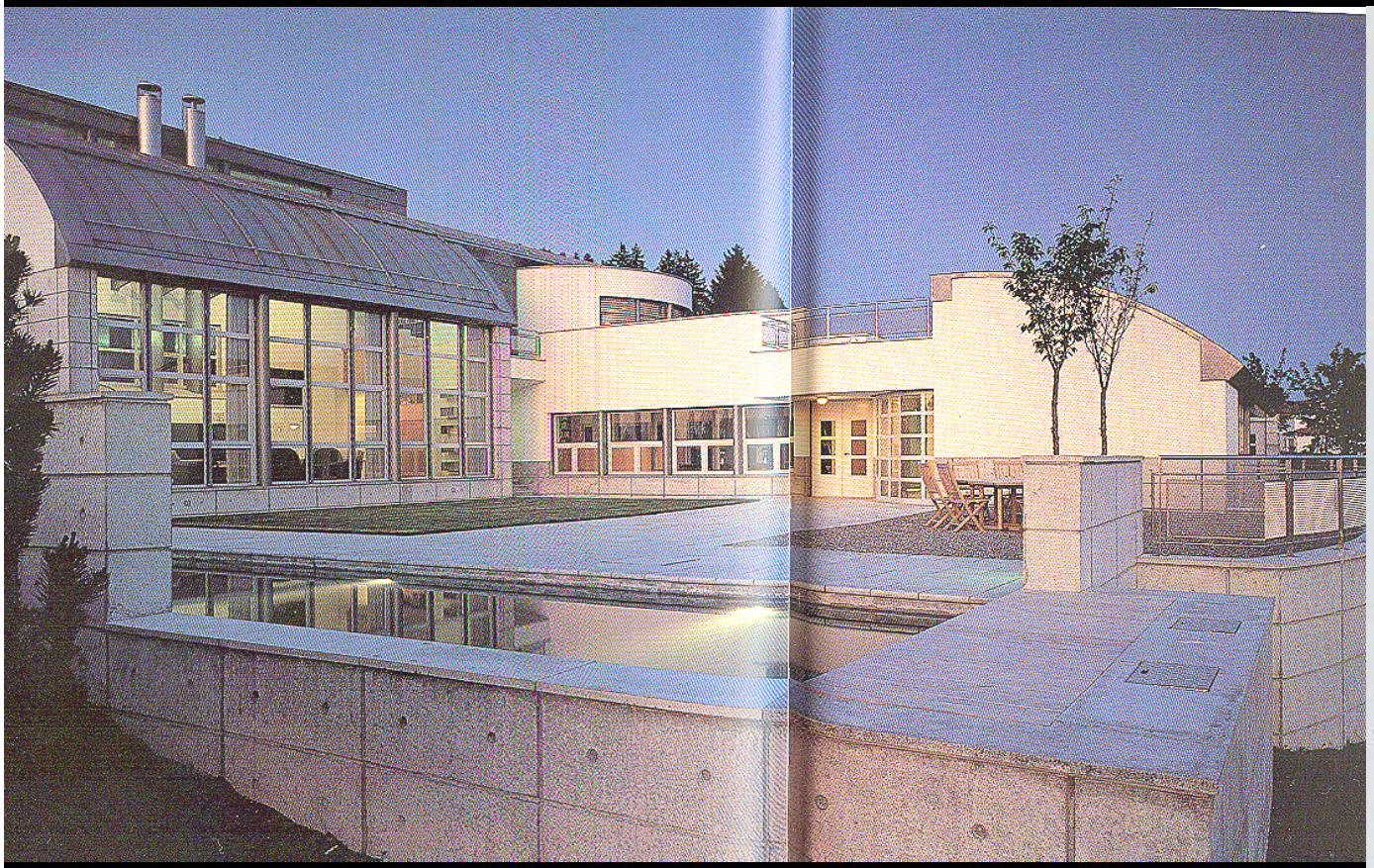


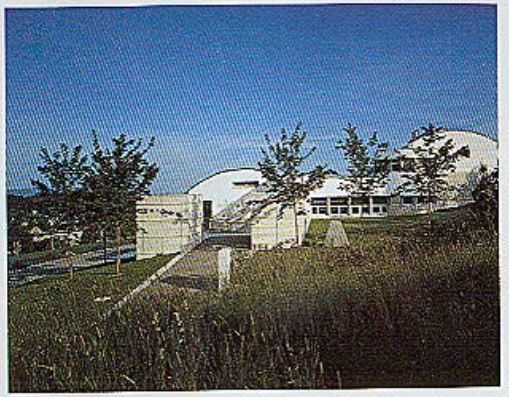
# Elevations and Sections

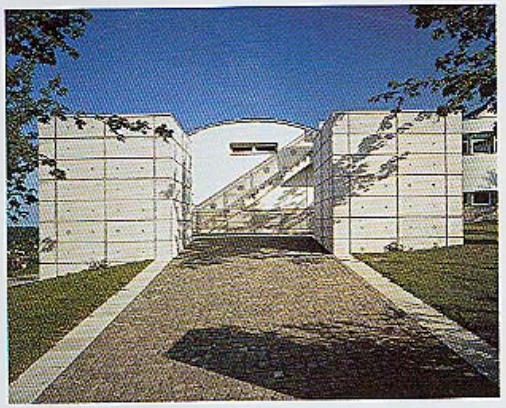


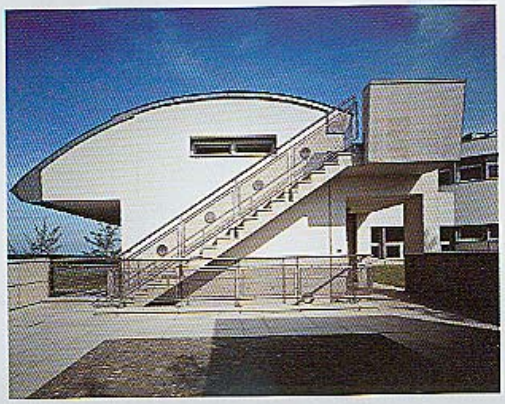


# Single Family Residence



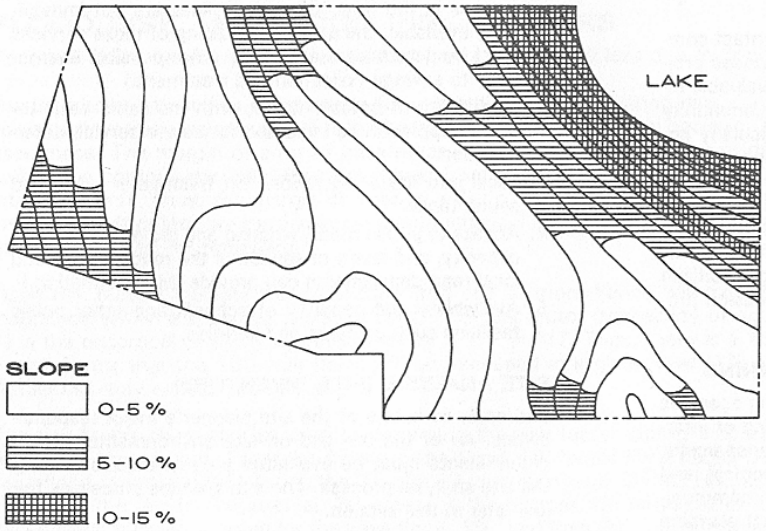


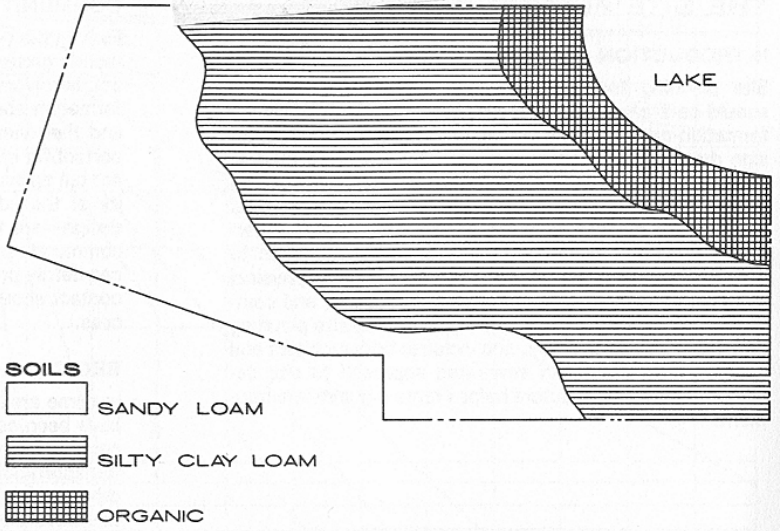


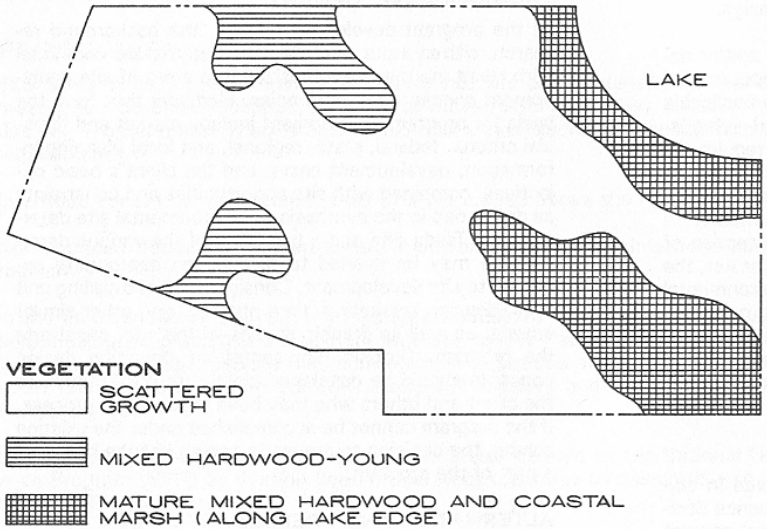


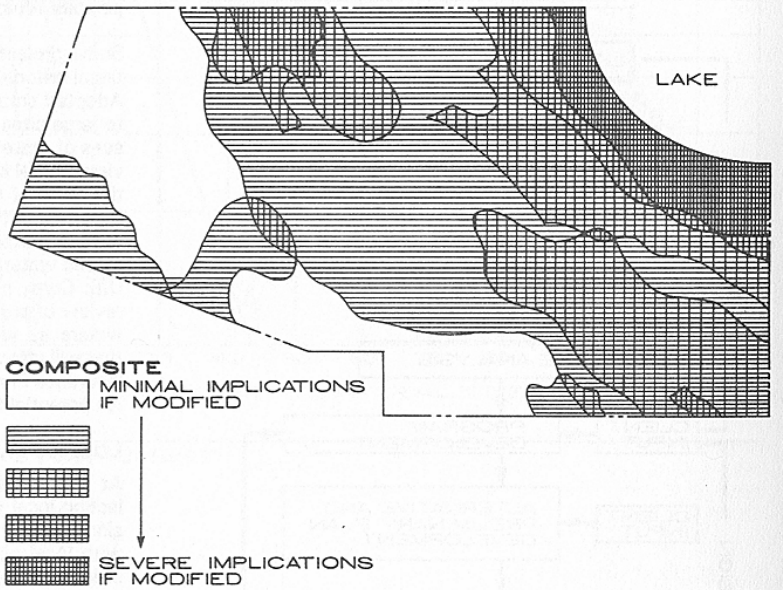
# Session II – Types of Drawings

# Geological Survey

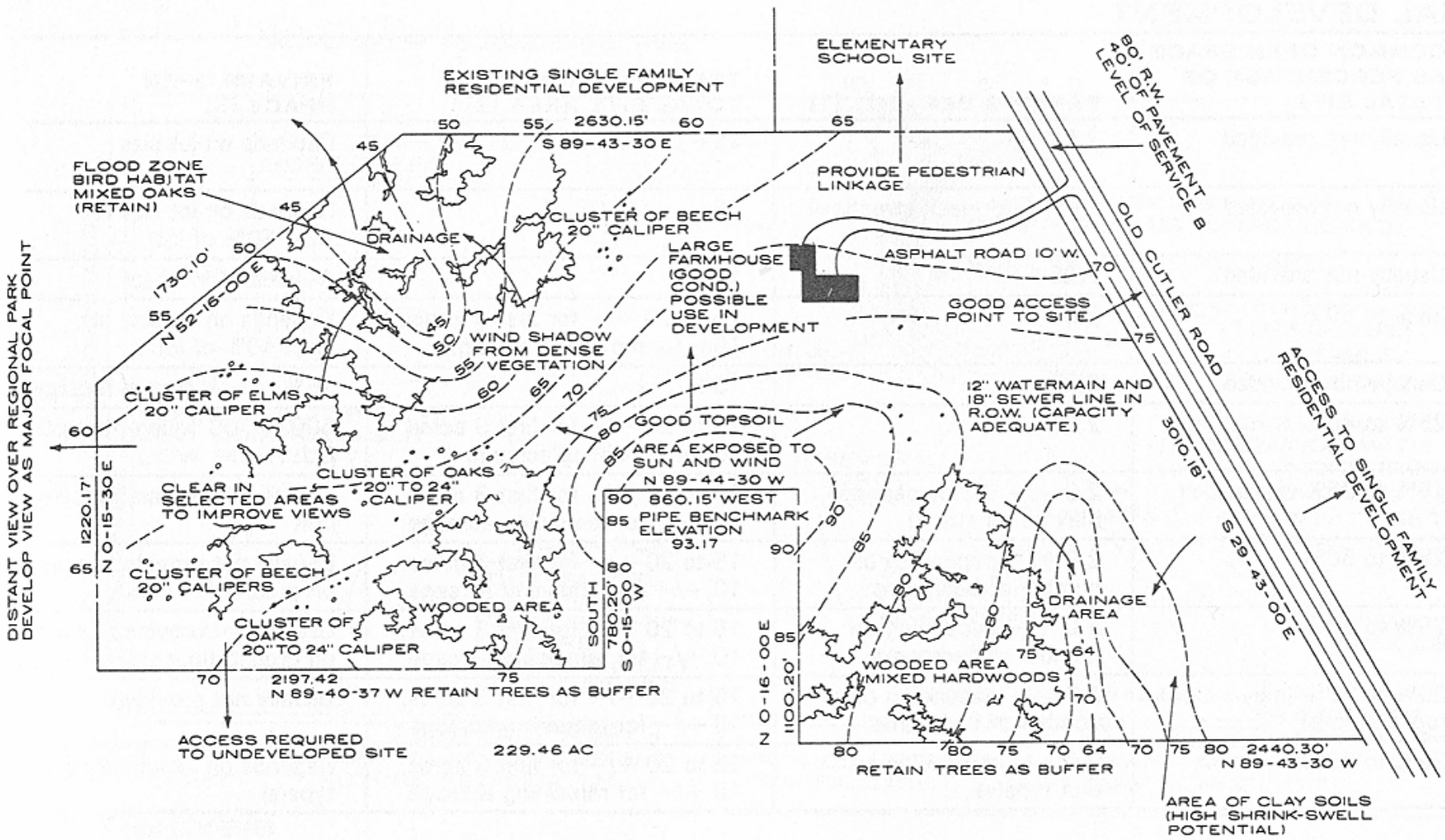


# Topographic Survey

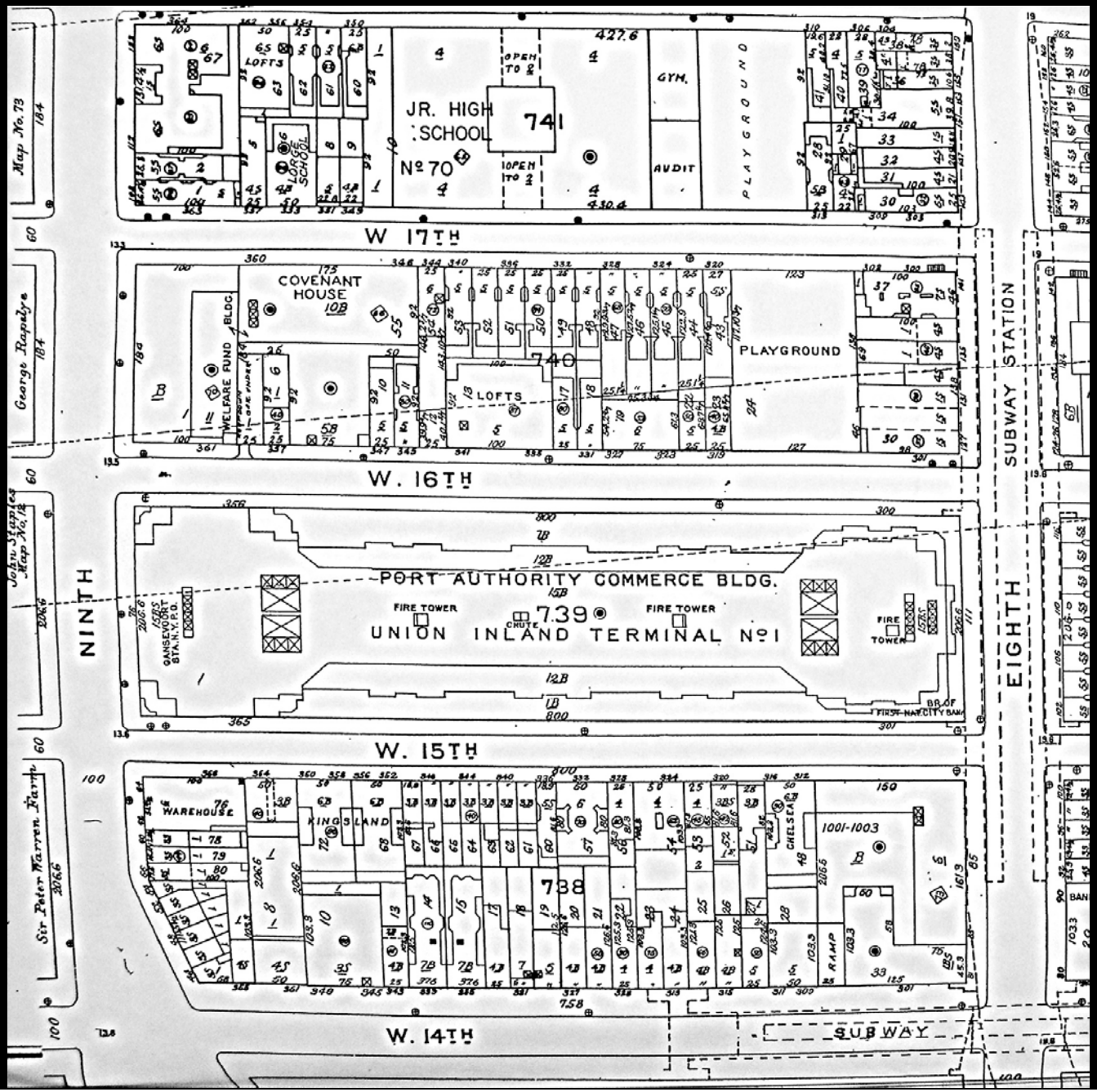



**TOPOGRAPHIC SURVEY:**

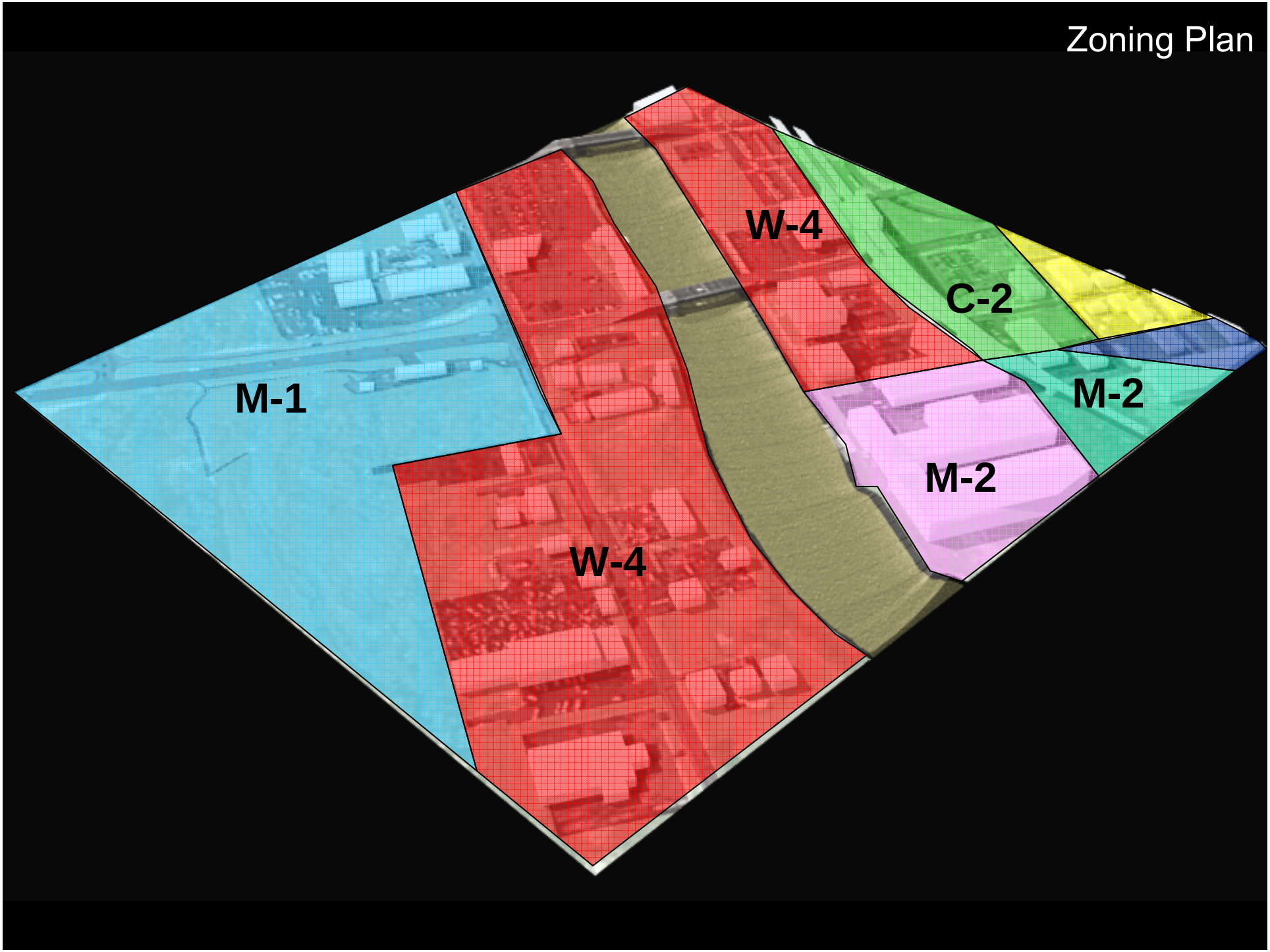
**J.R. HOKE TRACT**

RIVERVIEW, VIRGINIA
LOUIS DAY SCALE: 1" = 500'
PROF. ENGR. LAND SURVEY #1087
MAY 15, 1980

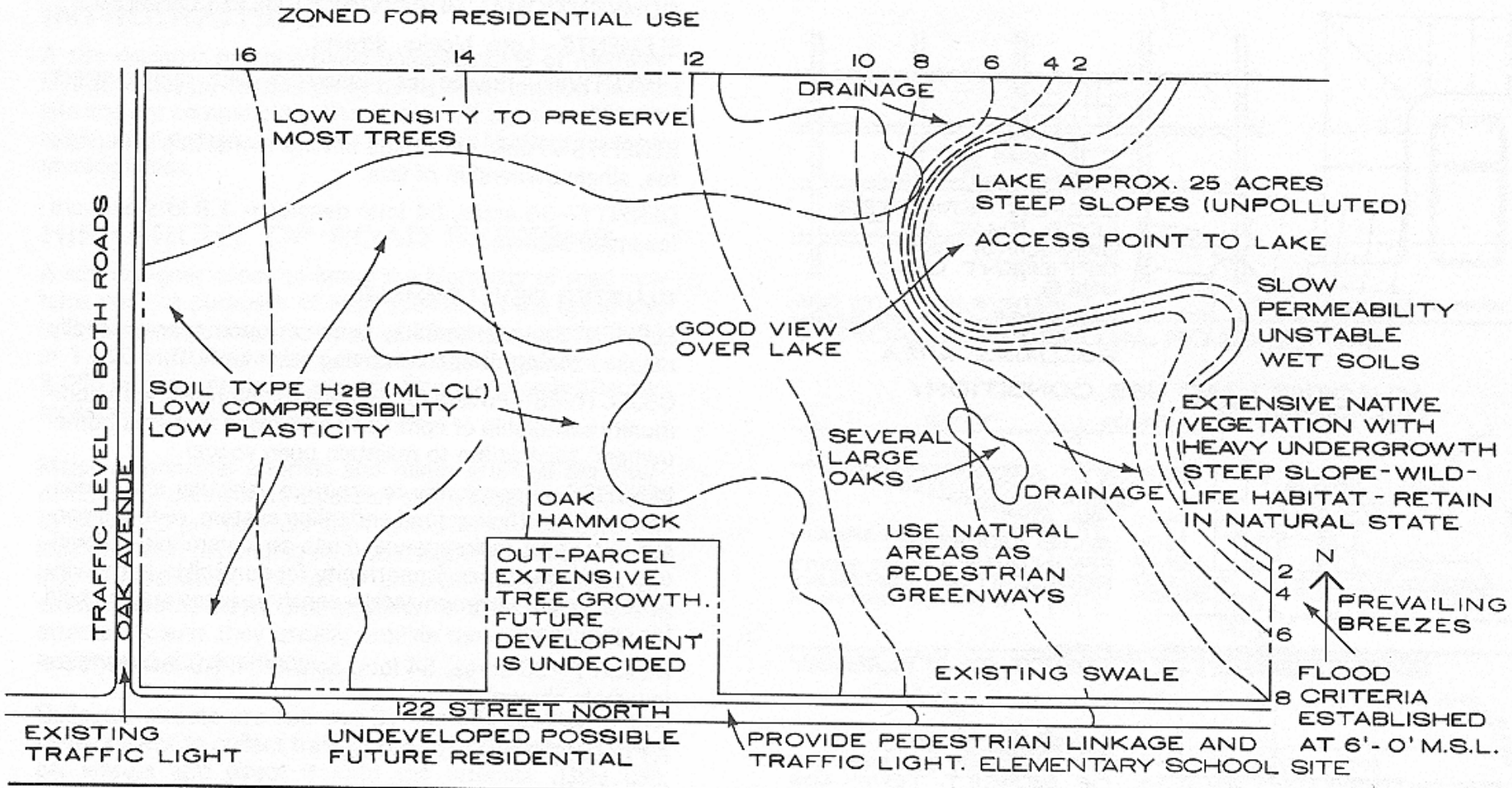
# Land Use Plan



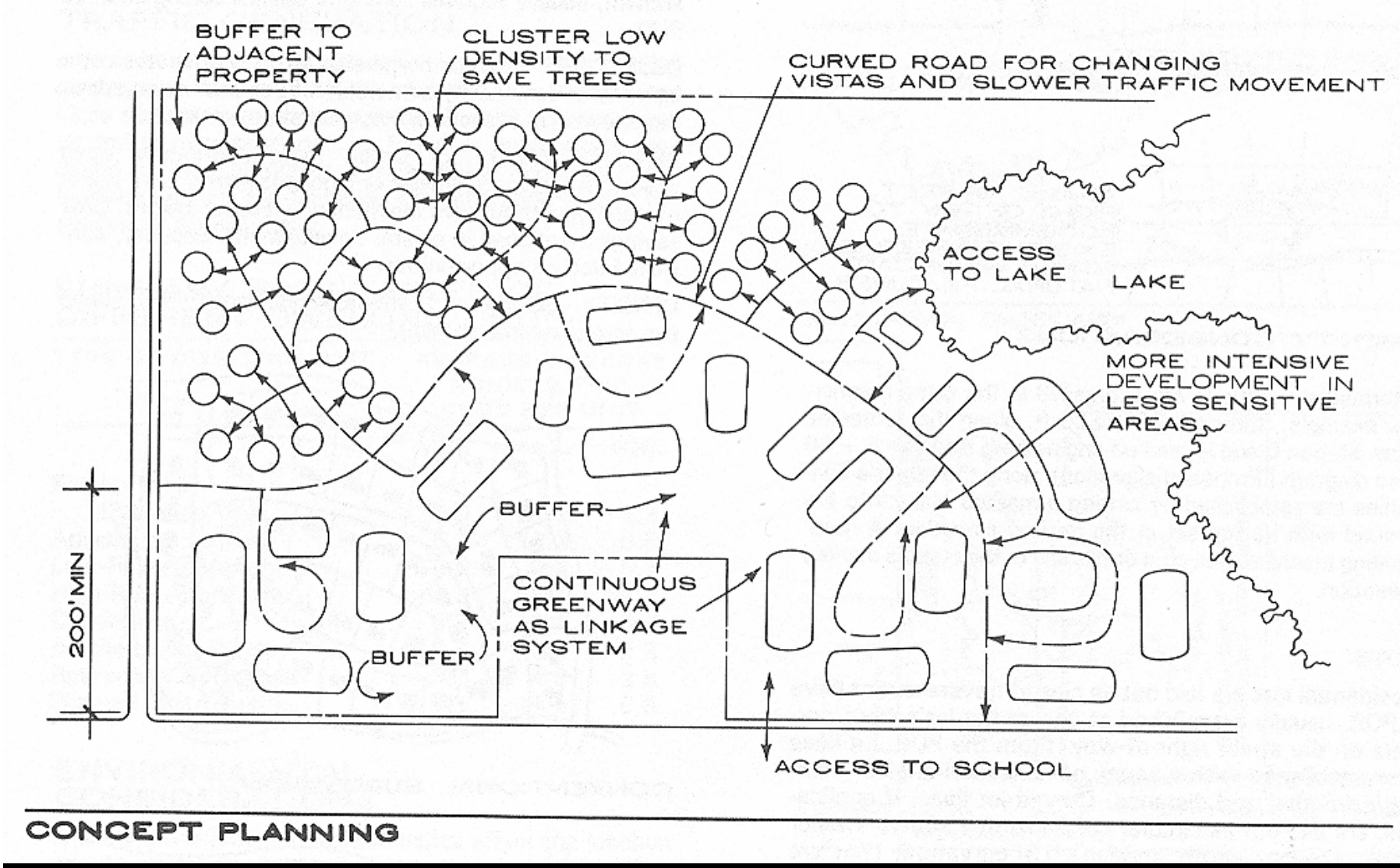
# Zoning Plan



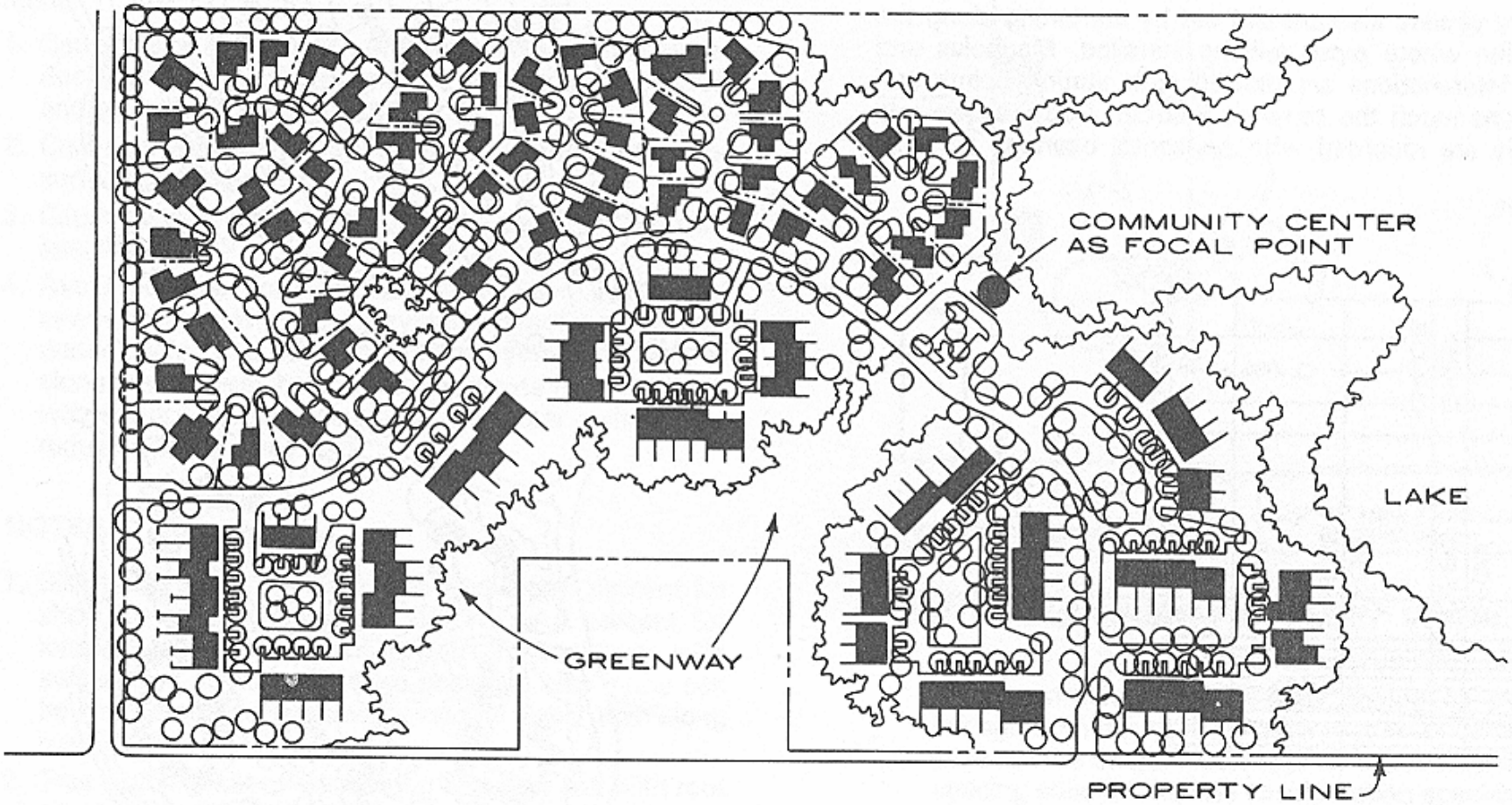
# Site Analysis



# Concept Planning

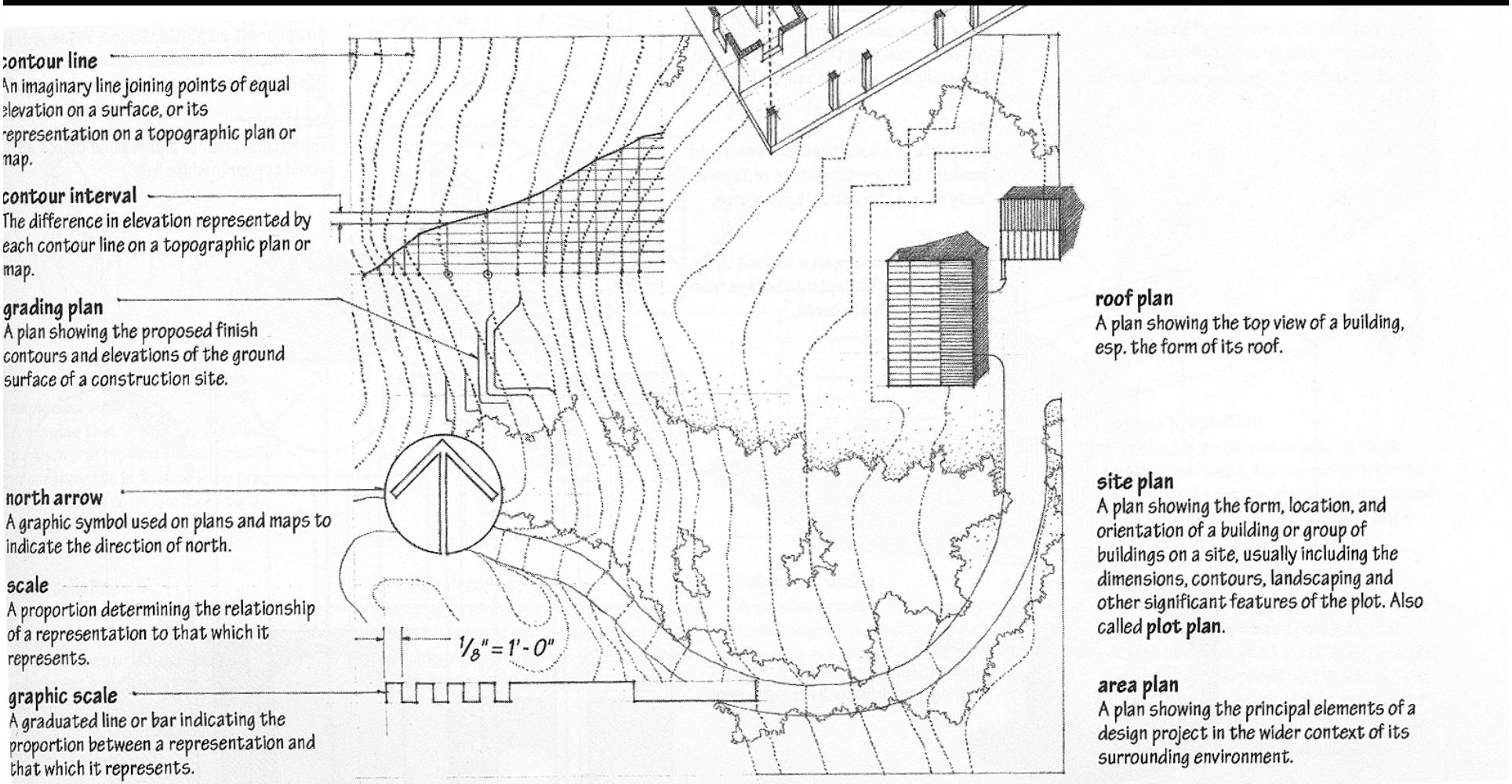


# Preliminary Planning




PRELIMINARY PLAN

# Site Plan Terminology




**contour line**
An imaginary line joining points of equal elevation on a surface, or its representation on a topographic plan or map.

**contour interval**
The difference in elevation represented by each contour line on a topographic plan or map.

**grading plan**
A plan showing the proposed finish contours and elevations of the ground surface of a construction site.

**north arrow**
A graphic symbol used on plans and maps to indicate the direction of north.

**scale**
A proportion determining the relationship of a representation to that which it represents.

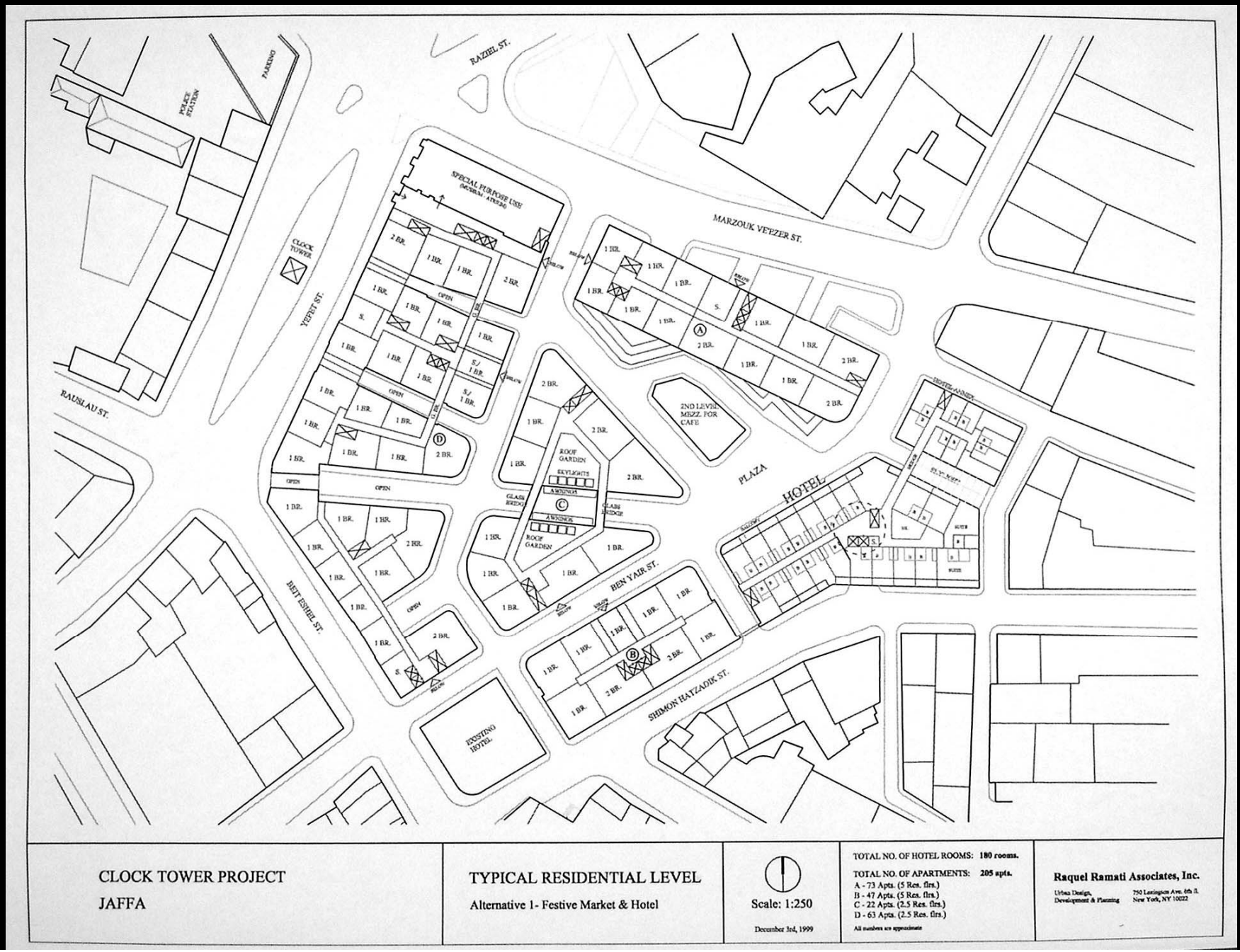
**graphic scale**
A graduated line or bar indicating the proportion between a representation and that which it represents.

**roof plan**
A plan showing the top view of a building, esp. the form of its roof.

**site plan**
A plan showing the form, location, and orientation of a building or group of buildings on a site, usually including the dimensions, contours, landscaping and other significant features of the plot. Also called **plot plan**.

**area plan**
A plan showing the principal elements of a design project in the wider context of its surrounding environment.

# Site Plan




CLOCK TOWER PROJECT

JAFFA

TYPICAL RESIDENTIAL LEVEL

Alternative 1- Festive Market & Hotel

Scale: 1:250

December 3rd, 1999

TOTAL NO. OF HOTEL ROOMS: **180 rooms.**

TOTAL NO. OF APARTMENTS: **205 apts.**

A - 73 Apts. (5 Res. flrs.)
B - 47 Apts. (5 Res. flrs.)
C - 22 Apts. (2.5 Res. flrs.)
D - 63 Apts. (2.5 Res. flrs.)

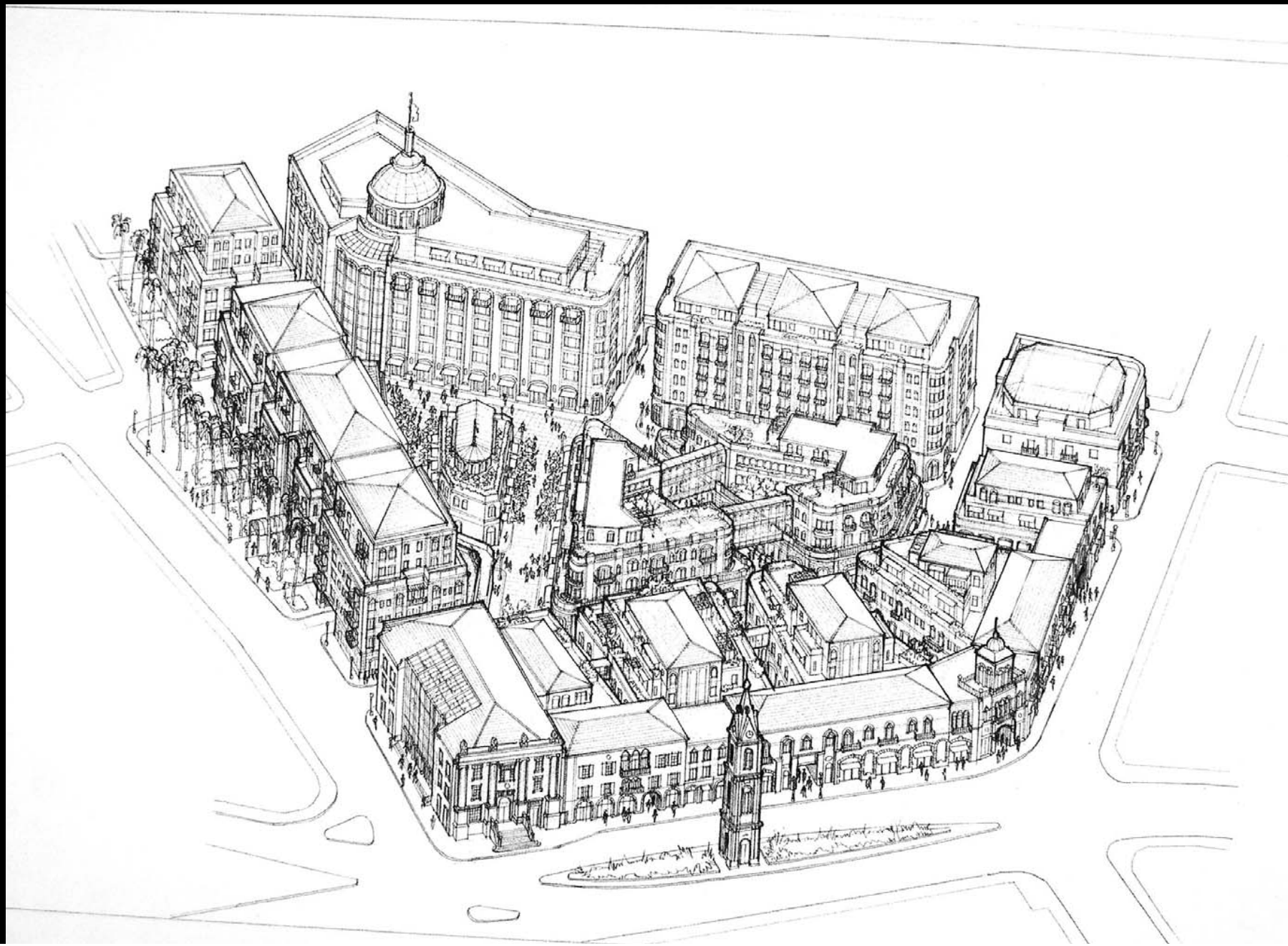
All numbers are approximate

**Raquel Ramati Associates, Inc.**

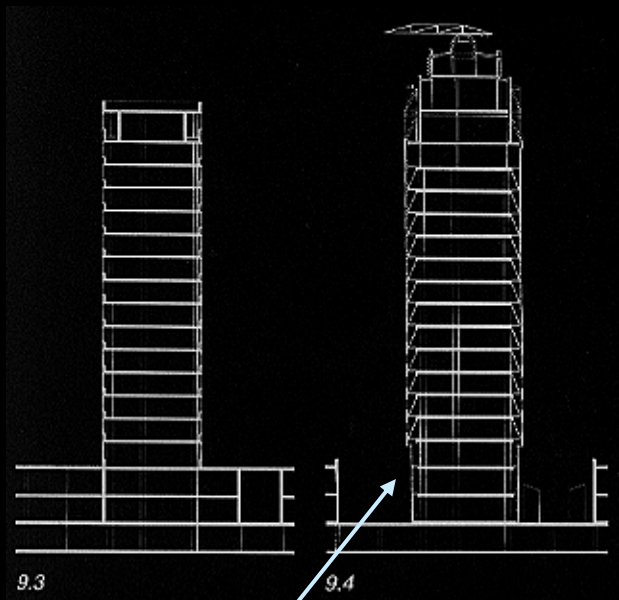
Urban Design, Development & Planning

750 Lexington Ave. 6th fl. New York, NY 10022

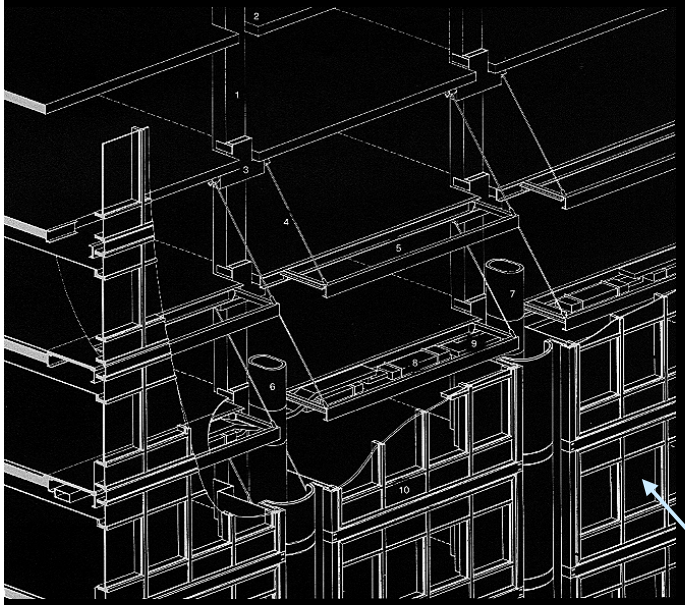
# Birdseye Site Rendering



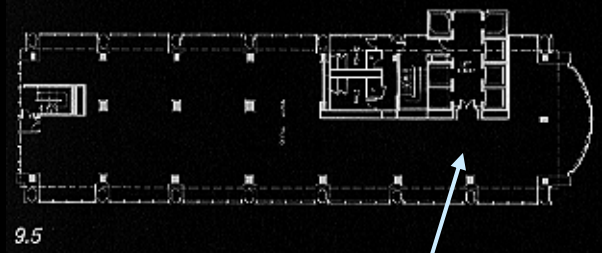
# Office Tower Details



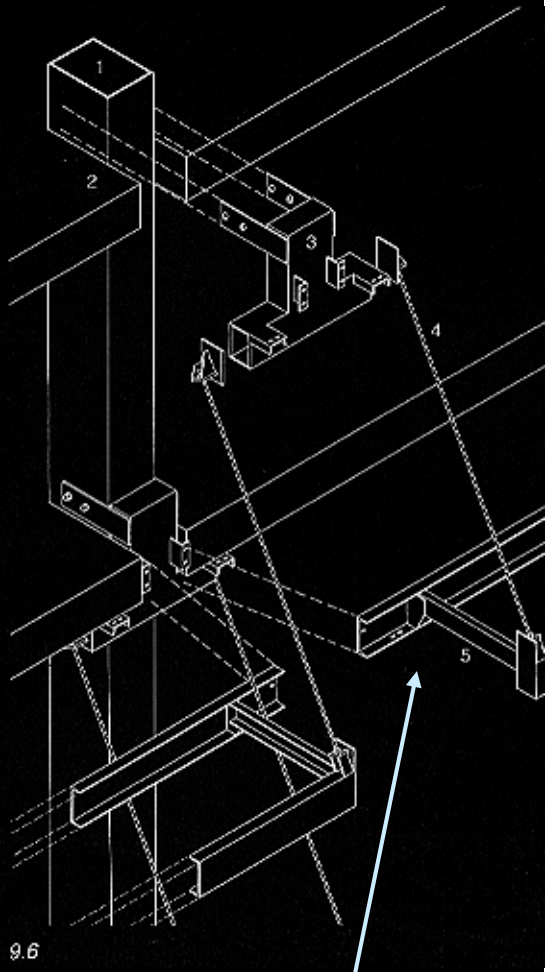

sections



exterior wall assembly

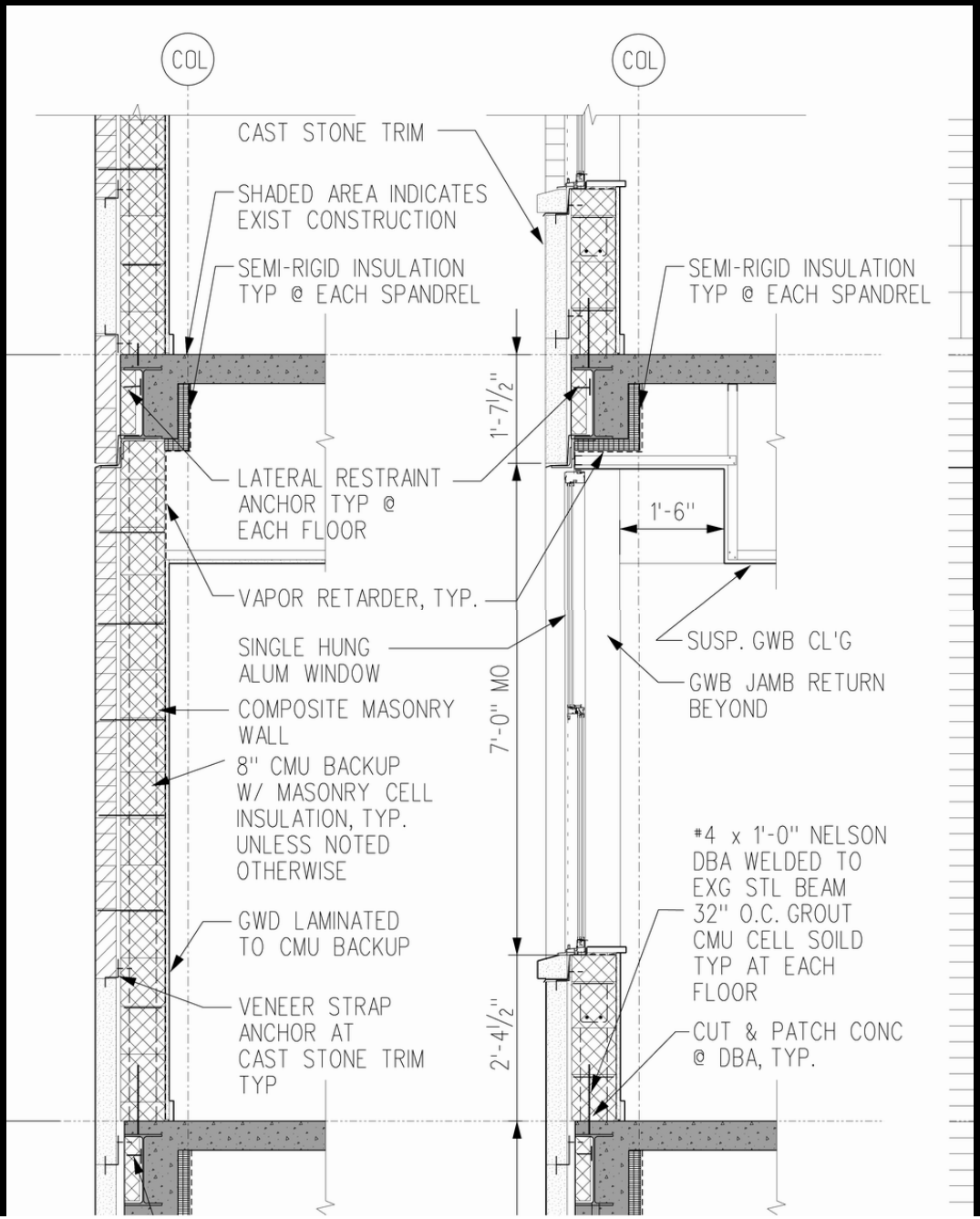



typical floor plan

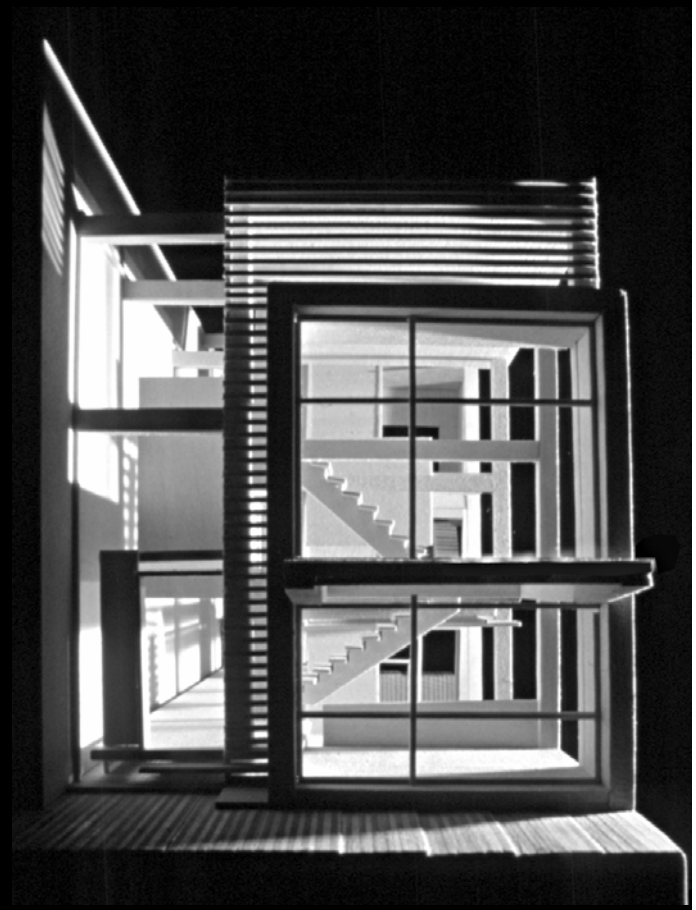



structural detail

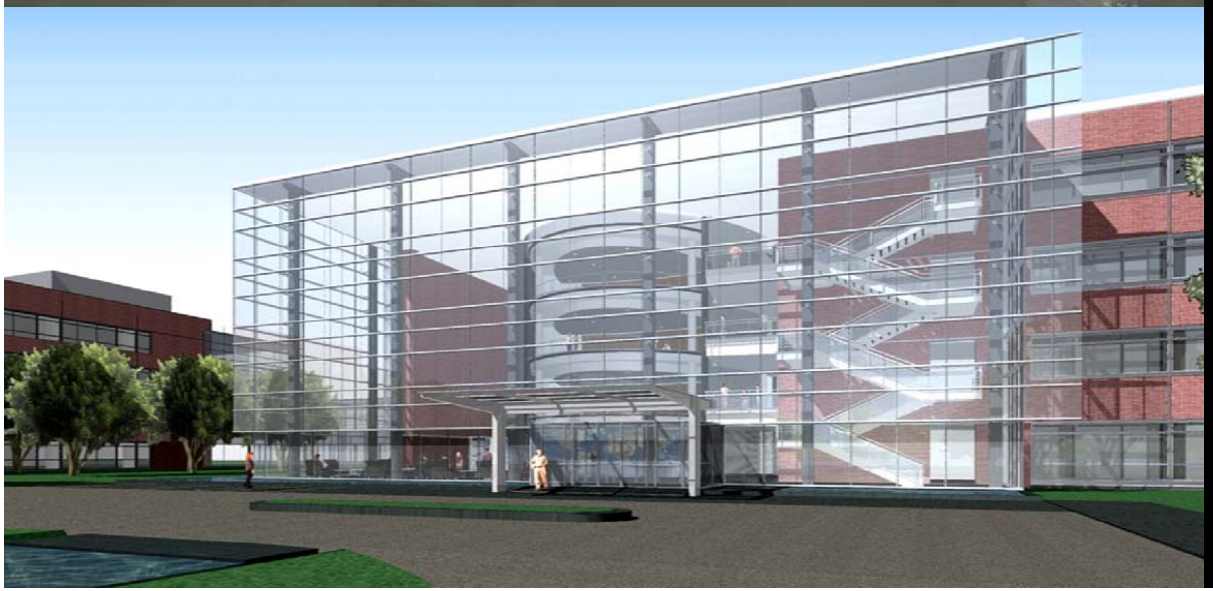
# Exterior Wall Sections

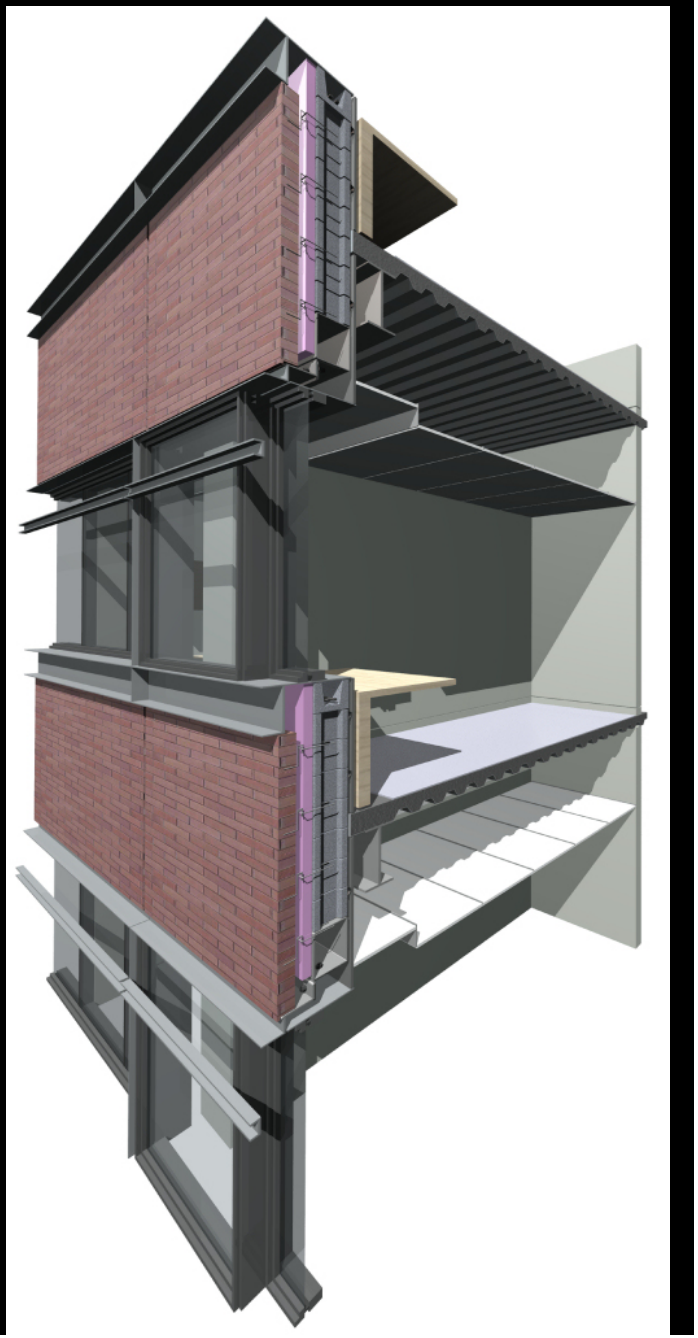


# Architectural Models

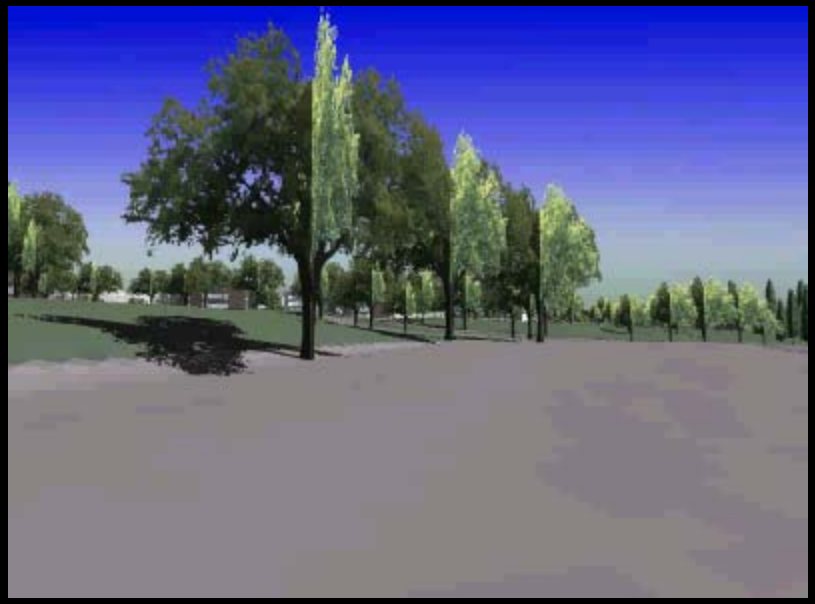


# 3D Computer Model Rendering





# 3D Computer Model Animation



# Specification Divisions

## MASTERSPEC DIVISIONS AND SECTIONS

Master Outline Specifications Table of Contents, AIA Master Systems (1992)

This outline, based on the MASTERFORMAT developed by the Construction Specifications Institute, is used by AIA Master Systems for its Master Outline Specifications. (The MASTERSPEC outline is more detailed. For comparison, see its Division 1 on page 718.)

**Division 1—GENERAL REQUIREMENTS**
01000 Project Summary

**Division 2—SITE WORK**
02060 Building demolition
02100 Site preparation
02140 Dewatering
02150 Excavation support systems
02200 Earthwork
02282 Termite control
02360 Driven piles
02380 Caissons
02511 Hot-mixed asphalt paving
02515 Unit pavers
02520 Portland cement concrete paving
02660 Water systems piping
02670 Water wells
02710 Foundation drainage
02720 Storm and sanitary sewerage
02730 Sanitary sewerage
02740 Septic systems
02776 Pond and reservoir liners
02800 Site improvements
02810 Irrigation systems
02831 Chain link fences and gates
02900 Landscape work

**Division 3—CONCRETE**
03300 Cast-in-place concrete
03350 Concrete toppings
03355 Special concrete finishes
03361 Shotcrete
03410 Structural precast concrete
03450 Architectural precast concrete
03455 Glass fiber reinforced precast concrete
03470 Tilt-up concrete construction
03520 Insulating concrete decks
03531 Cementitious wood fiber plank

**Division 4—MASONRY**
04200 Unit masonry
04270 Glass unit masonry
04405 Exterior stonework
04500 Masonry restoration and cleaning

**Division 5—METALS**
05120 Structural steel
05220 Steel joists and joist girders
05310 Steel deck
05400 Cold-formed metal framing
05500 Metal fabrications
05521 Pipe and tube dailings
05580 Sheet metal fabrications
05700 Ornamental metalwork
05715 Prefabricated metal stairs
05720 Ornamental handrails and railings
05810 Expansion joint cover assemblies

**Division 6—WOOD AND PLASTICS**
06100 Rough carpentry
06130 Heavy timber construction
06170 Structural glued laminated units
06192 Wood trusses
06200 Finish carpentry
06401 Exterior architectural woodwork
06402 Interior architectural woodwork
06420 Panelwork

**Division 7—THERMAL & MOISTURE PROTECTION**
07110 Sheet membrane waterproofing
07120 Fluid-applied waterproofing
07130 Bentonite waterproofing
07140 Metal oxide waterproofing
07160 Bituminous waterproofing
07175 Water repellents
07210 Building insulation
07240 Exterior insulation and finish systems
07250 Fireproofing
07310 Shingles
07320 Roofing tiles
07411 Manufactured roof panels
07412 Manufactured wall panels
07460 Siding
07511 Built-up asphalt roofing
07512 Built-up coal-tar roofing
07530 Single ply membrane roofing
07540 Fluid-applied roofing
07570 Traffic topping
07600 Flashing and sheet metal
07610 Sheet metal roofing
07700 Roof specialties and accessories
07710 Manufactured roof specialties
07810 Plastic unit skylights
07820 Metal-framed skylights
07900 Joint sealers

**Division 8—DOORS AND WINDOWS**
08111 Standard steel doors and frames
08114 Custom steel doors and frames
08211 Flush wood doors
08212 Panel wood doors
08305 Access doors
08311 Aluminum sliding glass doors
08312 Wood sliding glass doors
08314 Sliding metal fire doors

# Specification Divisions

08318 Insulating security doors
08330 Overhead coiling doors
08340 Overhead coiling grilles
08351 Folding doors
08360 Sectional overhead doors
08390 Screen and storm doors
08410 Aluminum entrances and storefronts
08450 All-glass entrances
08460 Automatic entrance doors
08470 Revolving entrance doors
08510 Steel windows
08520 Aluminum windows
08525 Aluminum architectural windows
08560 Aluminum storm windows
08610 Wood windows
08710 Door hardware
08720 Power door openers
08800 Glass and glazing
08920 Glazed aluminum curtain walls
08925 Structural sealant glazed curtain walls
08960 Sloped glazing systems

**Division 9—FINISHES**
09200 Lath and plaster
09215 Veneer plaster
09250 Gypsum drywall
09262 Gypsum sheathing
09270 Gypsum board shaft wall systems
09300 Tile
09400 Terrazzo
09511 Acoustical panel ceilings
09512 Acoustical tile ceilings
09513 Acoustical snap-in metal pan ceilings
09521 Acoustical wall panels
09546 Linear metal ceilings
09549 Suspended decorative grids
09550 Wood flooring
09600 Interior stonework
09635 Brick flooring
09560 Resilient flooring
09680 Carpet
09705 Resinous flooring
09800 Special coatings
09830 Elastomeric coatings
09841 Fire retardant coatings
09900 Painting
09931 Exterior wood stains
09950 Wall coverings

**Division 10—SPECIALTIES**
10100 Visual display boards
10155 Toilet compartments
10200 Louvers and vents
10270 Access flooring
10350 Flagpoles
10416 Directories and bulletin boards
10425 Signs
10436 Exterior post and panel signs
10437 Exterior pylon signs
10500 Metal lockers
10522 Fire extinguishers and cabinets
10550 Postal specialties
10605 Wire mesh partitions
10615 Demountable partitions
10652 Folding panel partitions
10655 Accordion folding partitions
10750 Telephone specialties
10800 Toilet and bath accessories

**Division 11—EQUIPMENT**
11050 Library equipment
11062 Stage curtains
11065 Portable theater and stage equipment
11132 Projection screens
11150 Parking control equipment
11160 Loading dock equipment
11170 Solid waste handling equipment
11307 Packaged sewage pump stations
11400 Food service equipment
11452 Residential appliances
11460 Unit kitchens
11610 Laboratory fume hoods
11900 Specialty equipment

**Division 12—FURNISHINGS**
12345 Laboratory casework
12372 Kitchen casework
12500 Window treatment
12680 Foot grilles
12690 Floor mats and frames
12710 Auditorium and theater seating
12760 Telescoping bleachers
12900 Building accessories

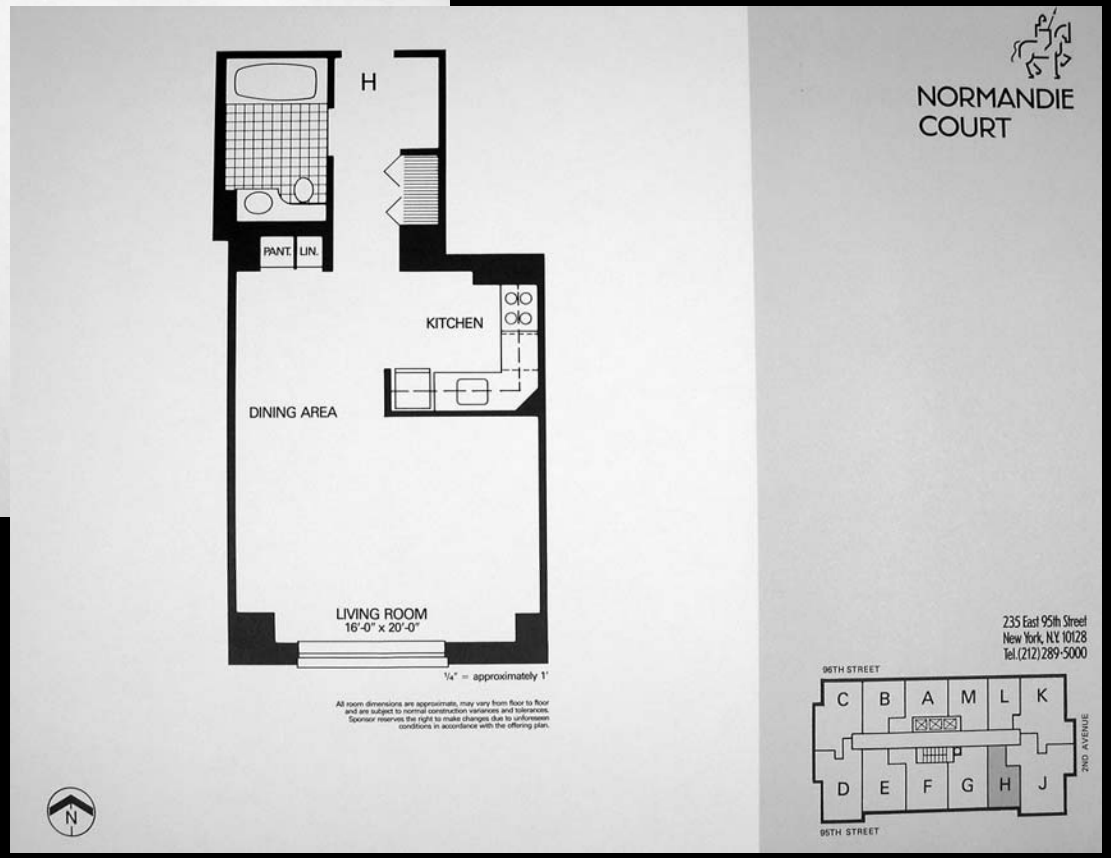
**Division 13—SPECIAL CONSTRUCTION**
13052 Saunas
13091 X-ray protection
13122 Metal building systems

**Division 14—CONVEYING SYSTEMS**
14100 Dumbwaiters
14210 Electric traction elevators
14240 Hydraulic elevators
14310 Escalators
14320 Moving walks
14420 Wheelchair lifts
14560 Chutes

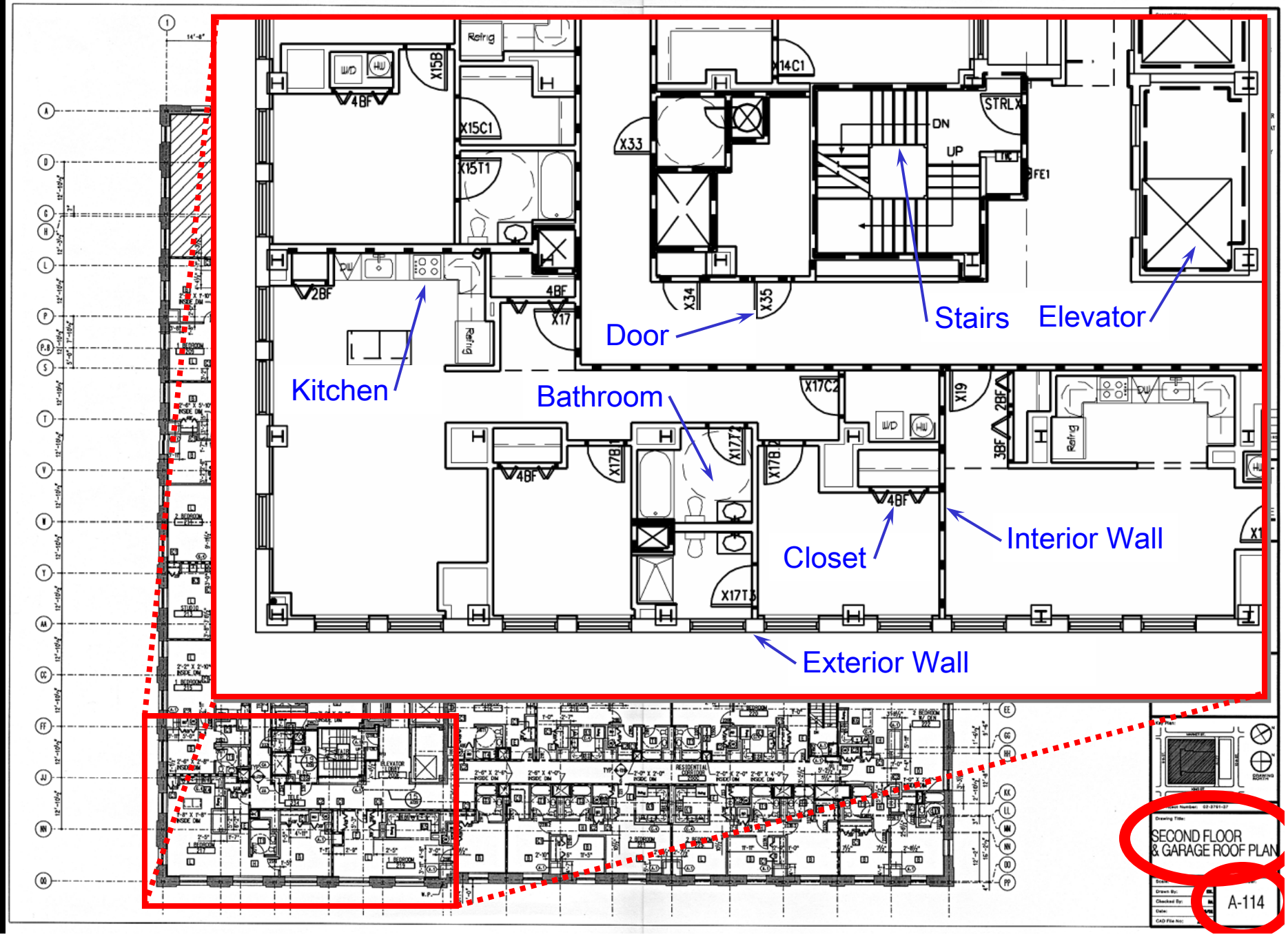
**Division 15—MECHANICAL**

**Division 16—ELECTRICAL**
Not included in Master Outline Specifications

# Marketing Plans

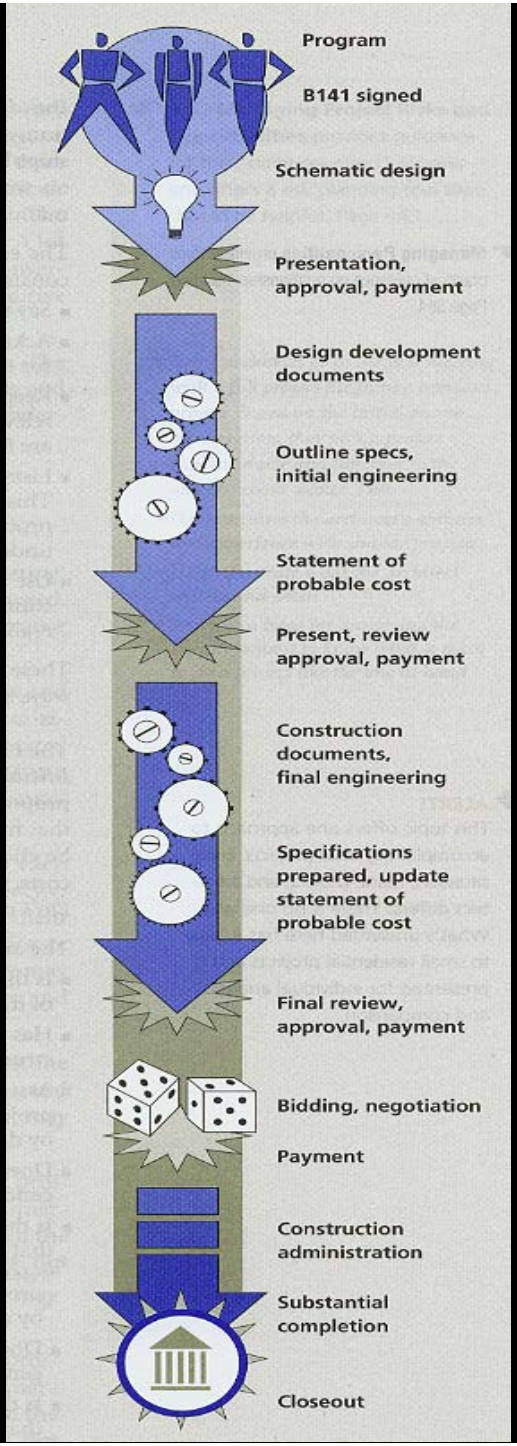



# Sample Project – Typical PLAN Sheet



# Session III – Design Process

# Process


Program
B141 signed
Schematic design
Presentation, approval, payment
Design development documents
Outline specs, initial engineering
Statement of probable cost
Present, review approval, payment
Construction documents, final engineering
Specifications prepared, update statement of probable cost
Final review, approval, payment
Bidding, negotiation
Payment
Construction administration
Substantial completion
Closeout

# Process Continuum

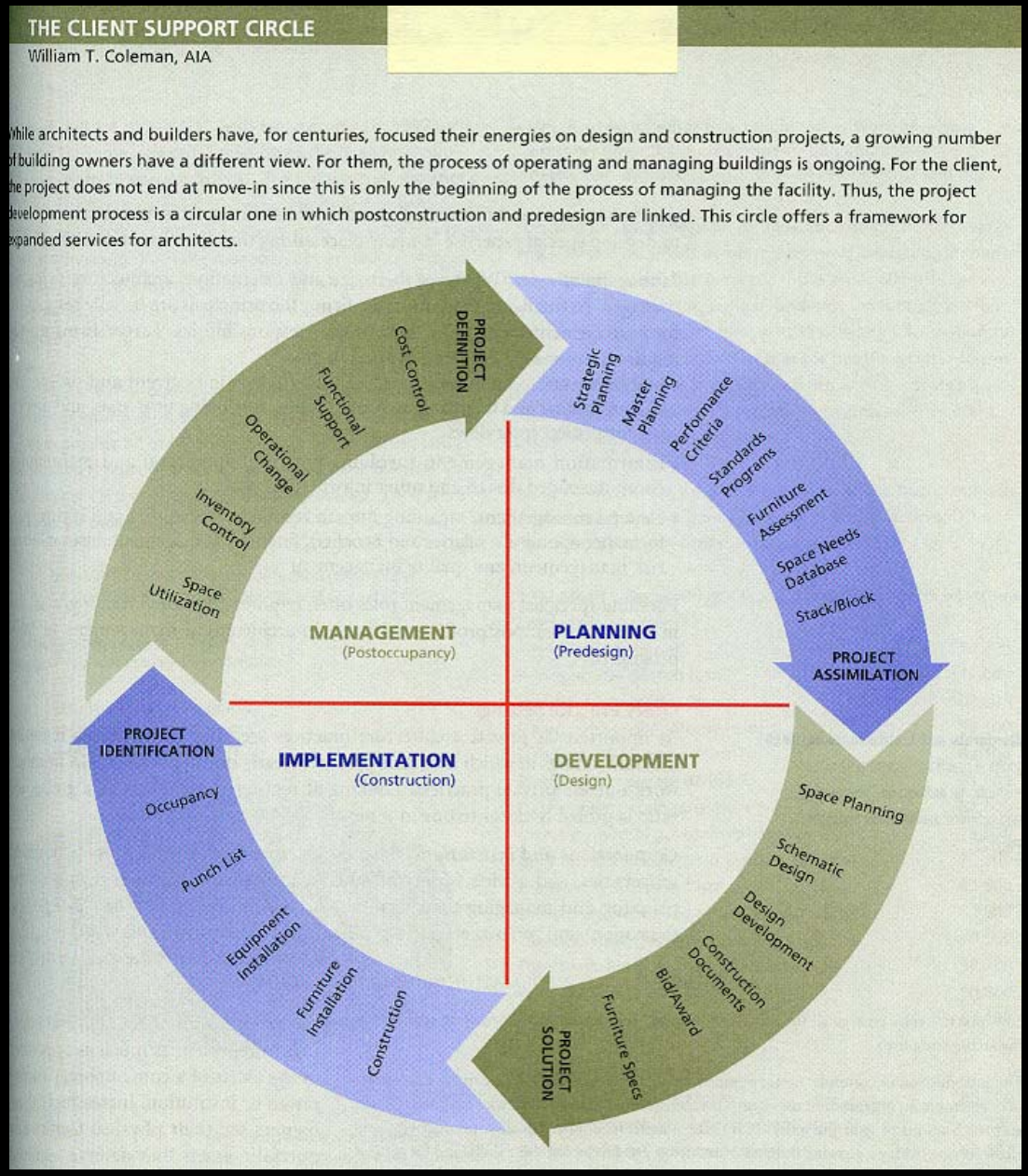
Involvement:

Client

Community

Finance

Consultants



# Programming Issues

## PROGRAMMING ISSUES

Mickey Palmer, *The Architect's Guide to Facility Programming* (AIA, 1981)

Depending on the project, facilities planning and programming may encompass a wide variety of human, physical, and external factors. Here is one list:

**HUMAN FACTORS**

- Activities
- Behavior
- Objectives and goals
- Organization
  - Hierarchy
  - Groups
  - Positions
  - Leadership
- Demographics
- Social forces
- Political forces
- Interactions
  - Communication
  - Relationships
  - Materials transfers
- Policies and codes
- Attitudes and values
- Customs and beliefs
- Perceptions
- Preferences
- Qualities
  - Comfort
  - Productivity
  - Security
  - Safety
  - Access
  - Privacy
  - Territory
  - Control
  - Convenience

**PHYSICAL FACTORS**

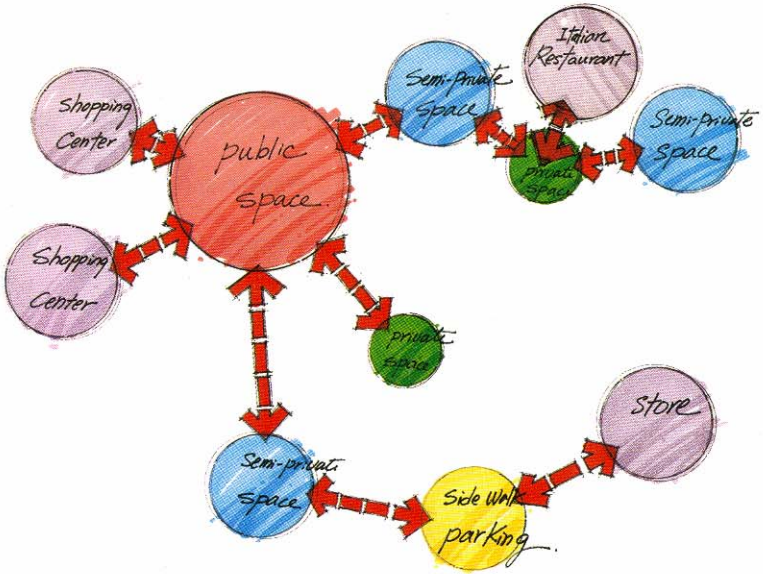
- Location
  - Region
  - Community
  - Vicinity
- Site conditions
- Facility conditions
  - Structure
  - Envelope
  - Engineering systems
  - Communications
  - Lighting
  - Security
- Spaces
  - Types
  - Dimensions
  - Relationships
- Equipment and furnishings
- Materials and finishes
- Support services
  - Storage
  - Parking
  - Access
  - Waste removal
  - Utilities
- Circulation
- Uses and functions
- Behavior/activity settings
- Environments
  - Thermal comfort
  - Visual
  - Acoustical

**EXTERNAL FACTORS**

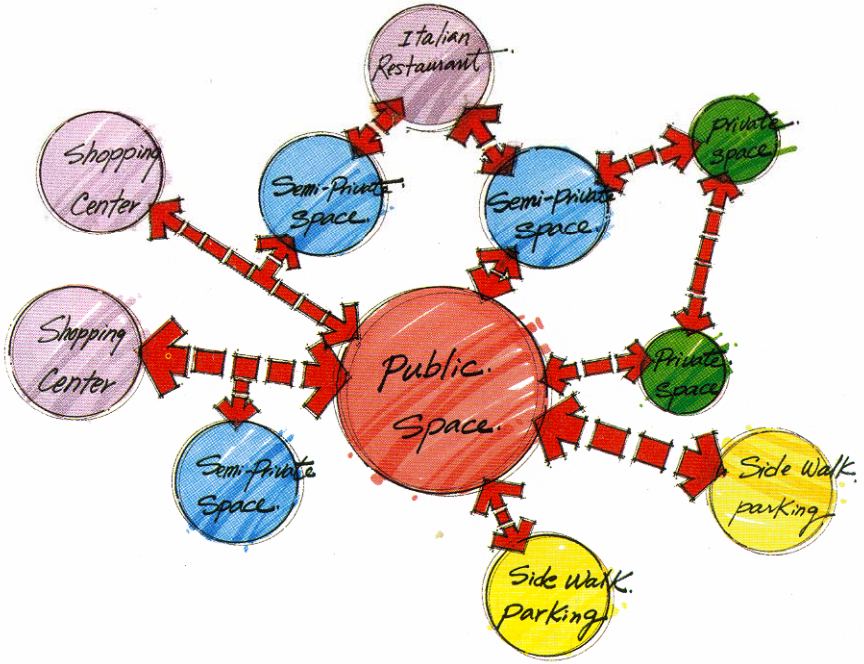
- Legal requirements
  - Land use and development
  - Building
  - Systems
  - Materials
  - Energy
  - Environment
  - Safety
  - Accessibility
  - Solar access
- Topography
- Climate
- Ecology
- Resource availability
- Energy supply and costs
- Market supply and demand
- Financing
- Time
  - Schedule
  - Deadlines
  - Existing operations
- Costs and budget
  - Construction
  - Design
  - Services and operations
- Costs and benefits

# Program Bubble Diagrams

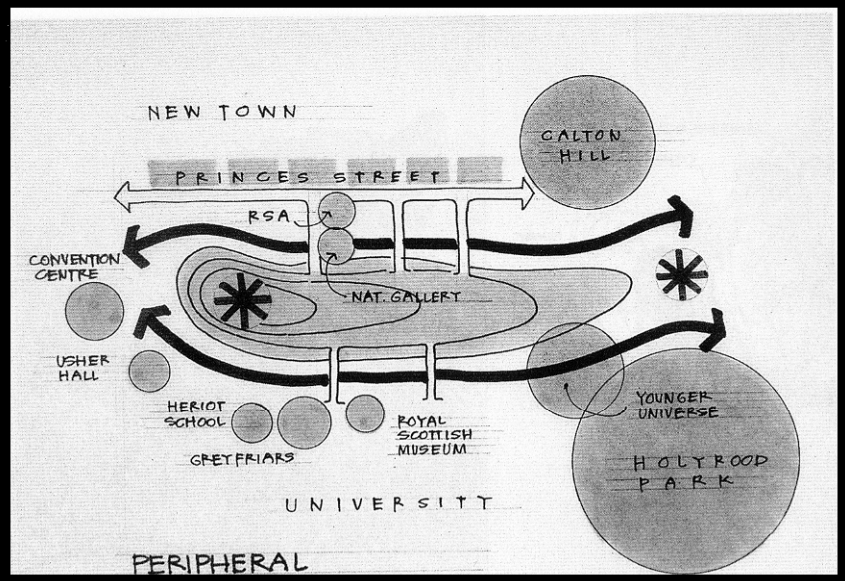
+ Good access to shopping center.
+ Private space located away from Main Street.
− Access to restaurant is through private space.
− Public space isn't accessible to parking & sidewalk.
− Major circulation is through semi-private space.

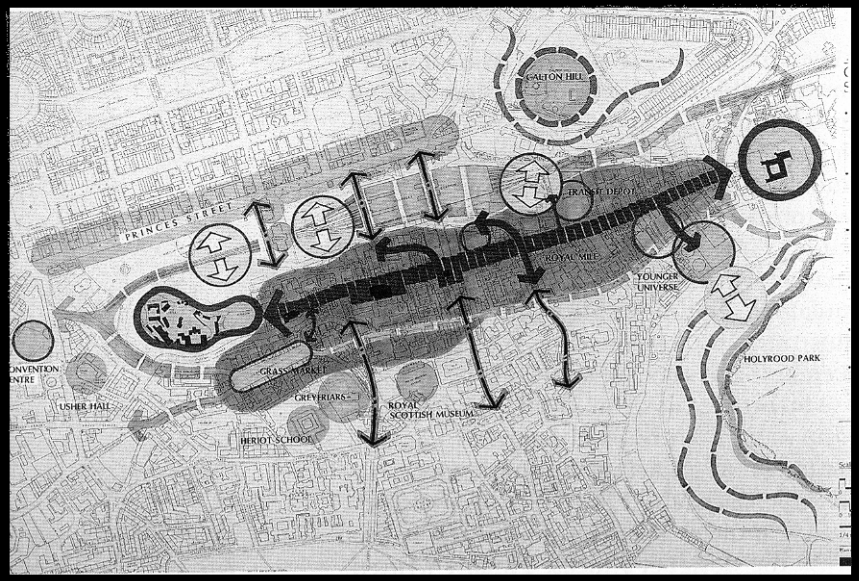


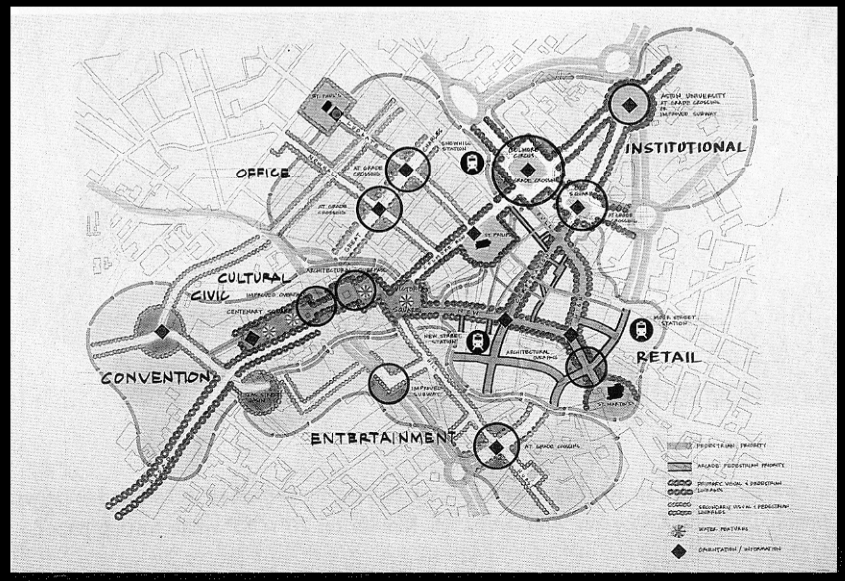

+ Good access to shopping center.
+ Private space located away from Main Street.
+ Access to restaurant is through semi-private space.
+ Good access from public space to parking & sidewalk.
+ Major circulation is through public space.

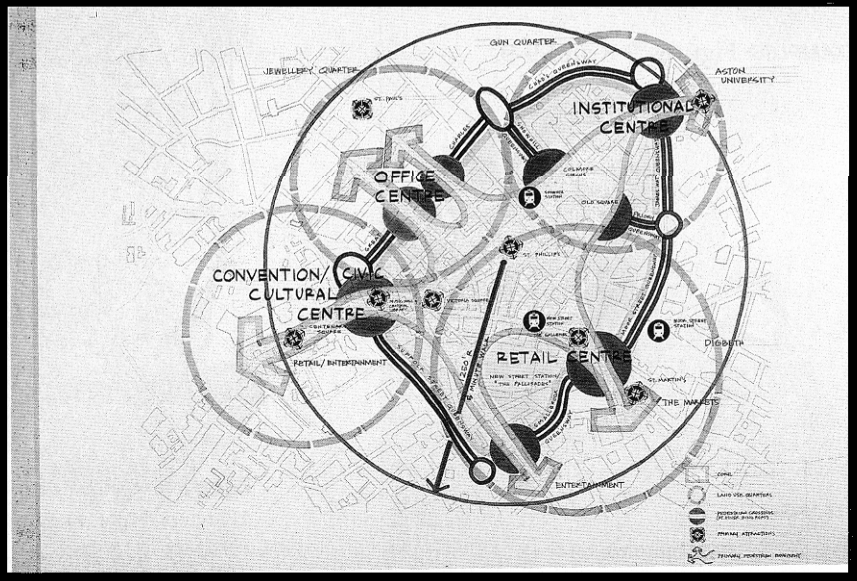


# Schematic Planning Sketches



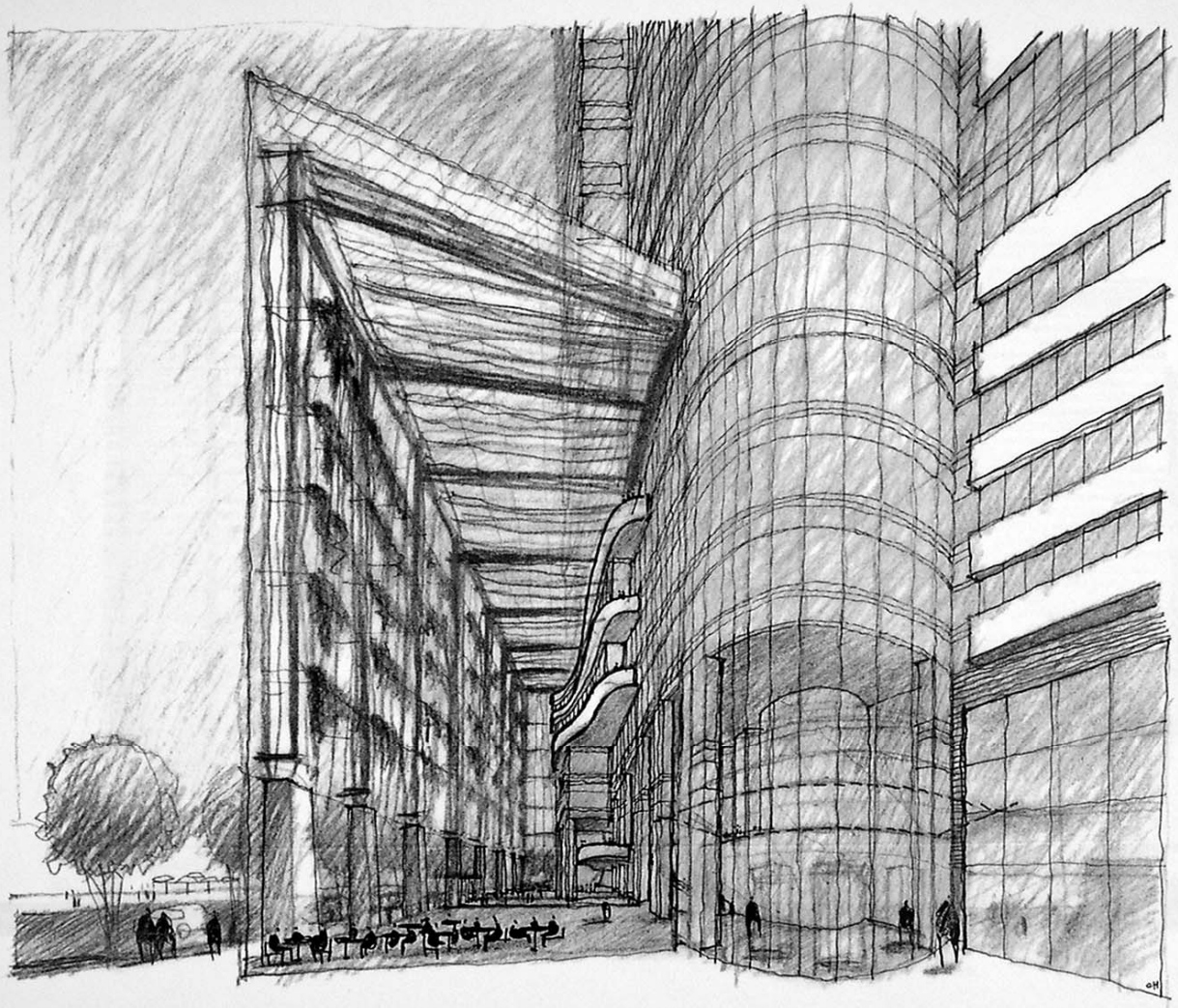
# Masterplanning – Phase 1

# Masterplanning – Phase 2

# Masterplanning – Phase 3

# Masterplanning – Phase 4

# Schematic Perspective



MERRILL LYNCH

99 HUDSON STREET

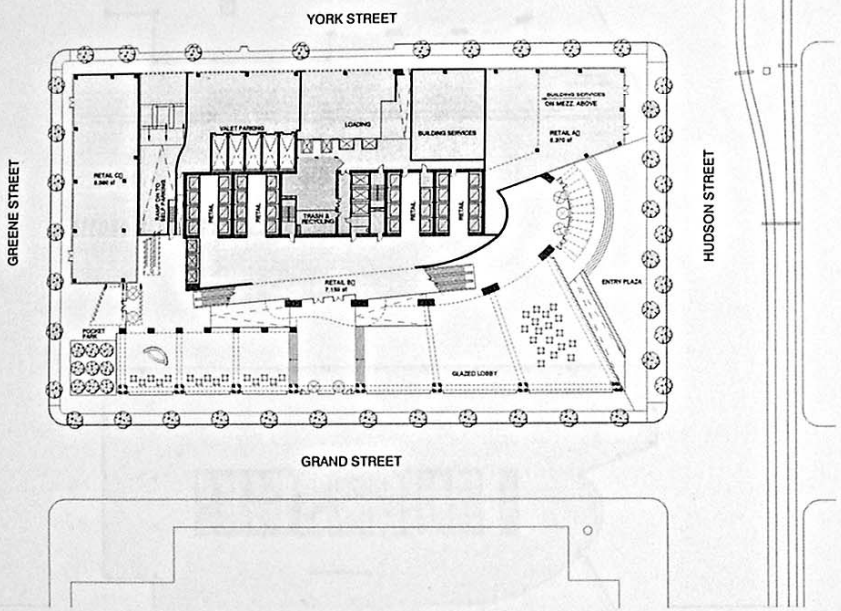
Lobby Perspective

JERSEY CITY, NEW JERSEY

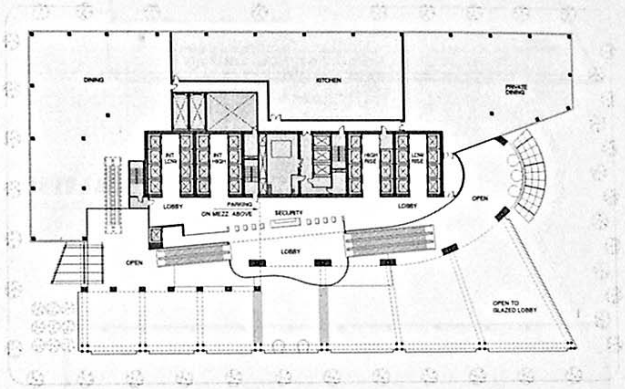
FOX & FOWLE ARCHITECTS, P.C.

11.01.00

# Schematic Typical Plans




GROUND LEVEL




LOBBY / SECOND LEVEL

N

MERRILL LYNCH

99 HUDSON STREET

FLOOR PLANS -GROUND AND LOBBY LEVELS

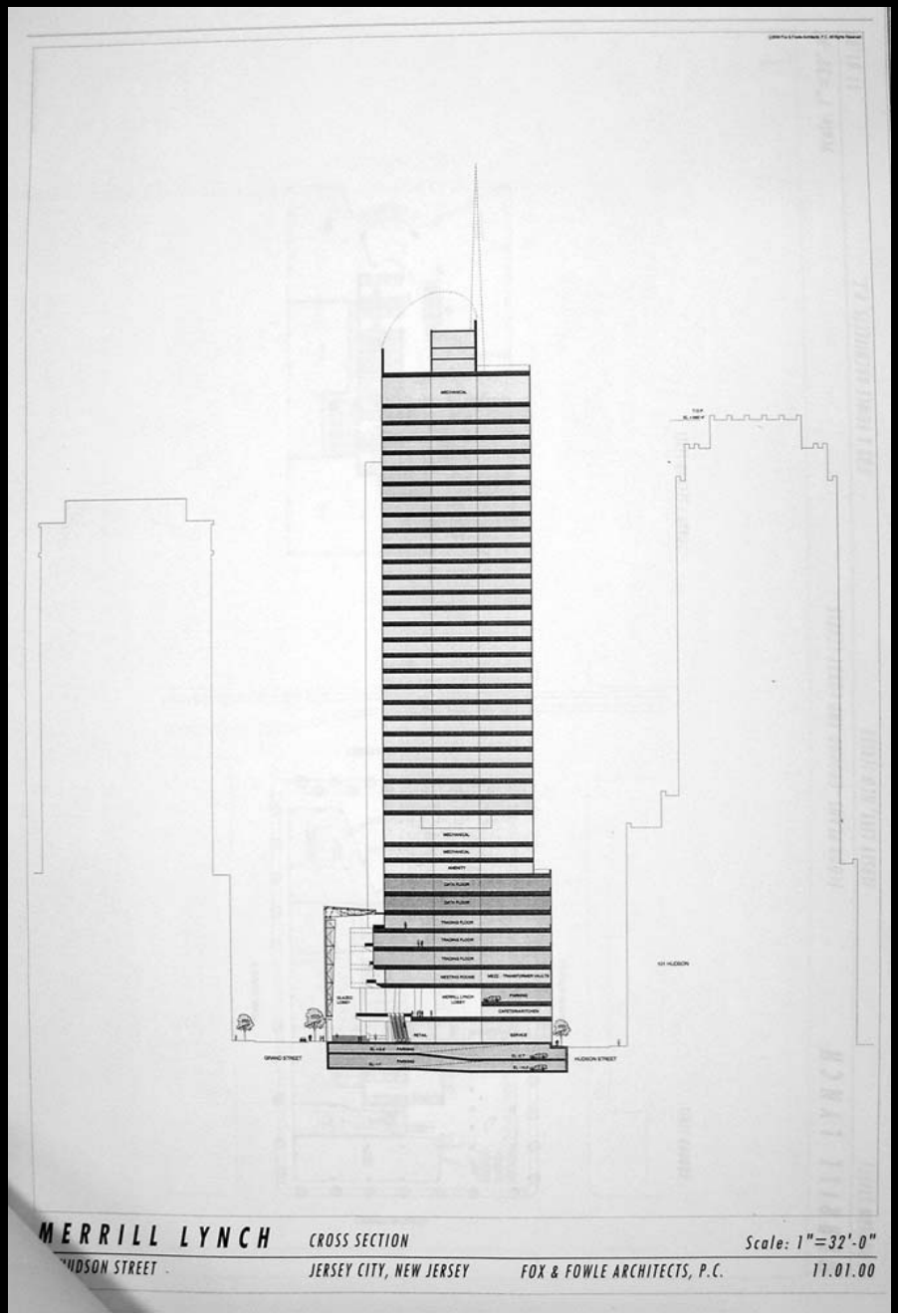
JERSEY CITY, NEW JERSEY

FOX & FOWLE ARCHITECTS, P.C.

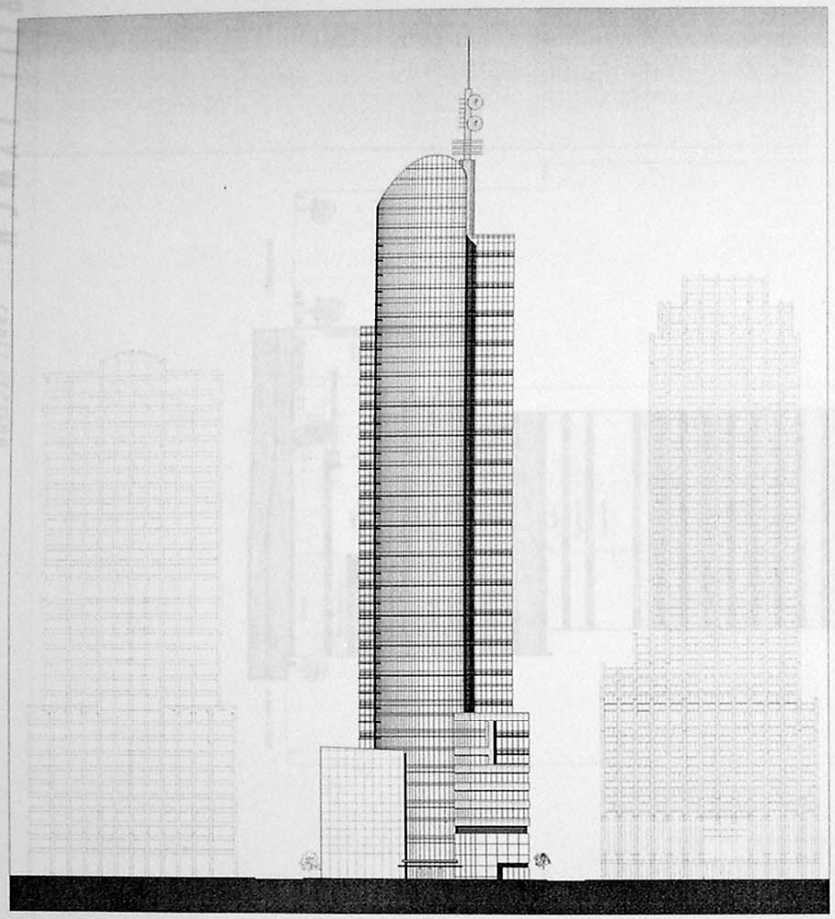
Scale: 1"=32'-0"

11.01.00

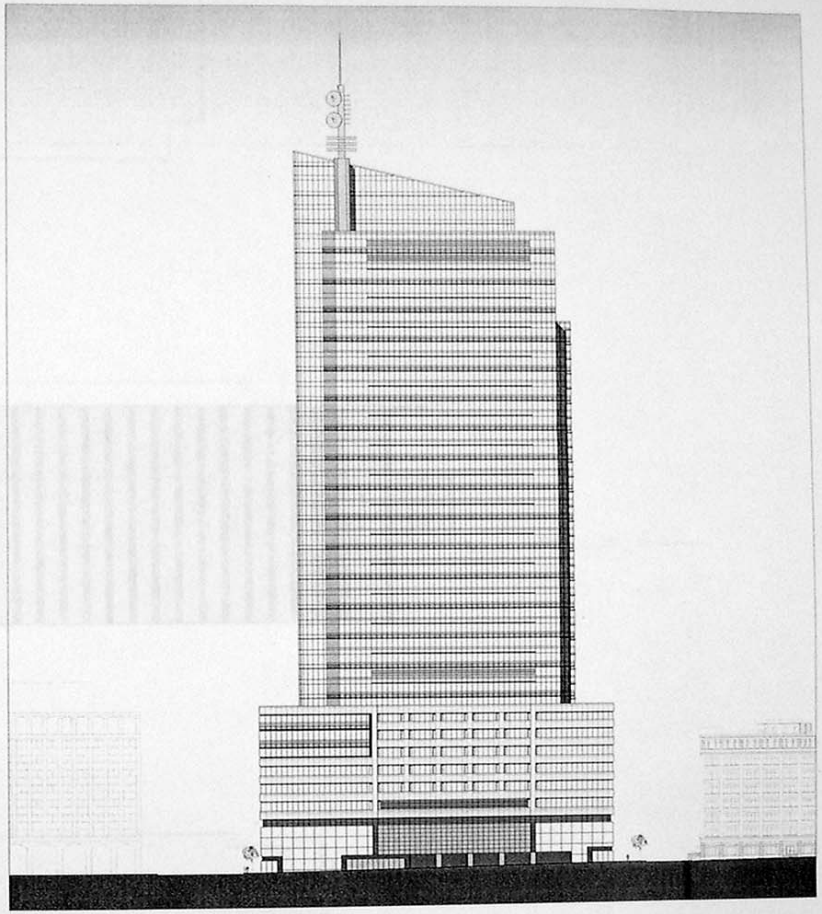
# Schematic Building Section



# Schematic Building Elevations



Elevation Hudson Street (East)



Elevation York Street (North)

**MERRILL LYNCH**

99 HUDSON STREET

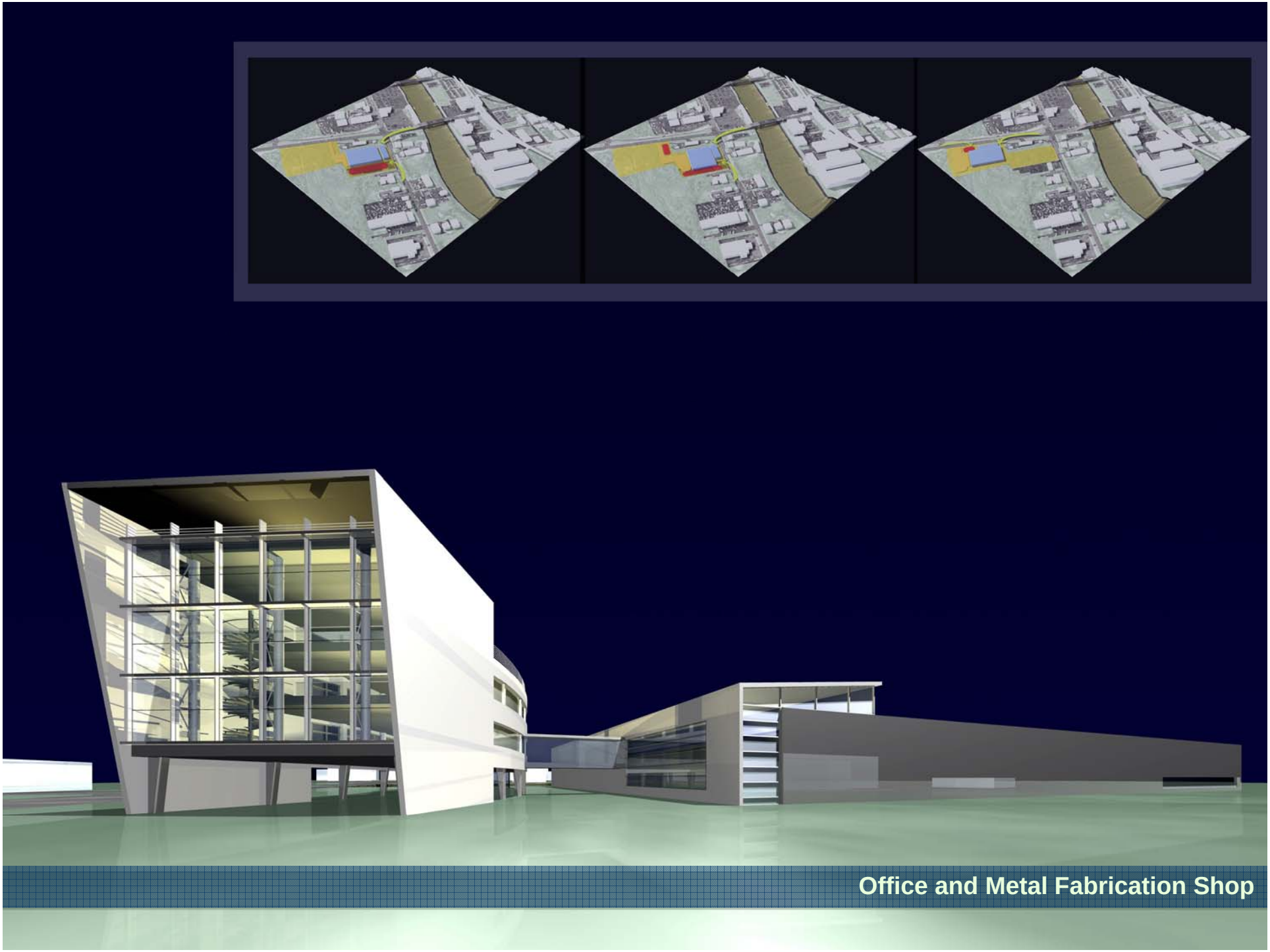
ELEVATIONS

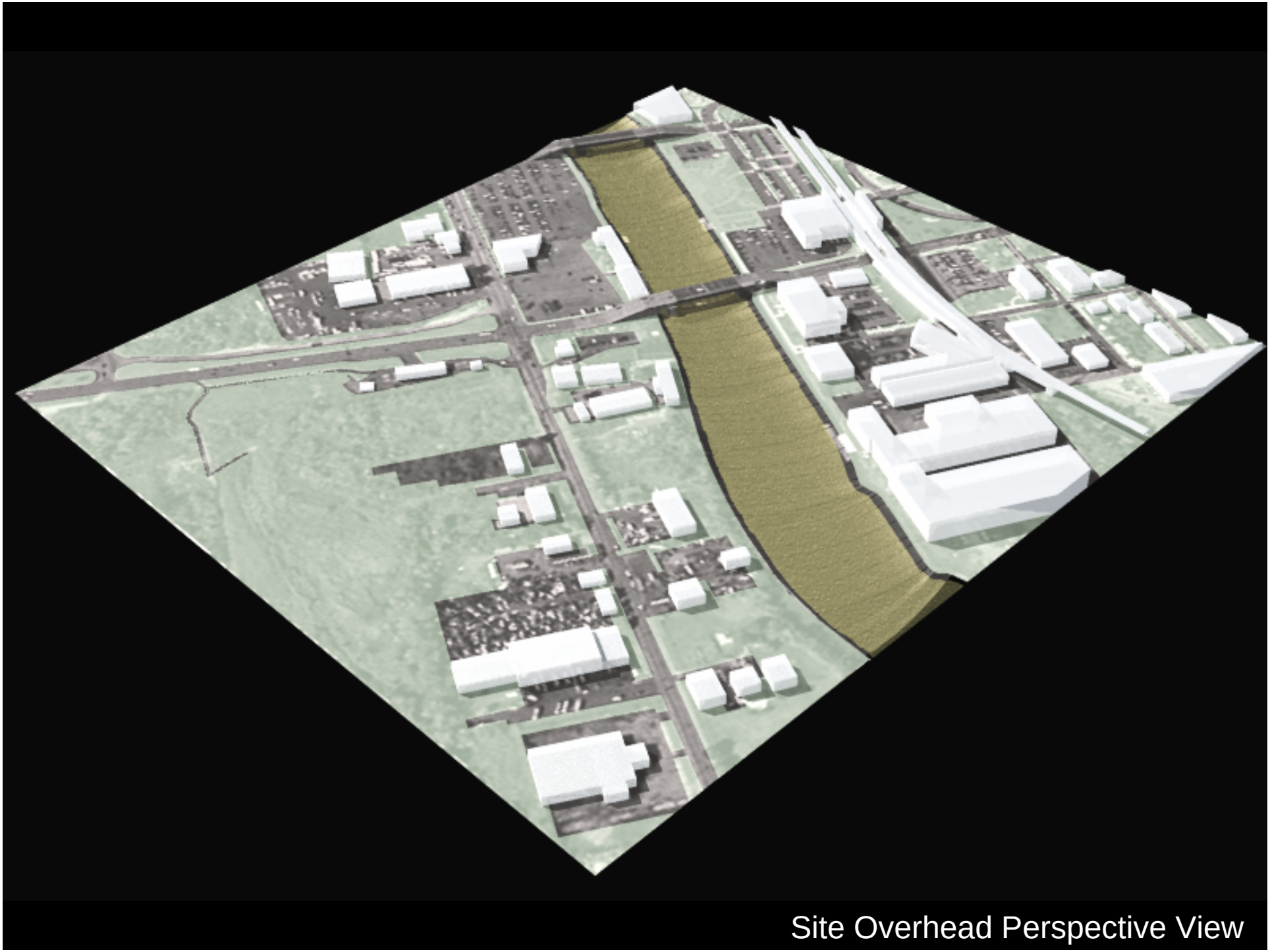
JERSEY CITY, NEW JERSEY

FOX & FOWLE ARCHITECTS, P.C.

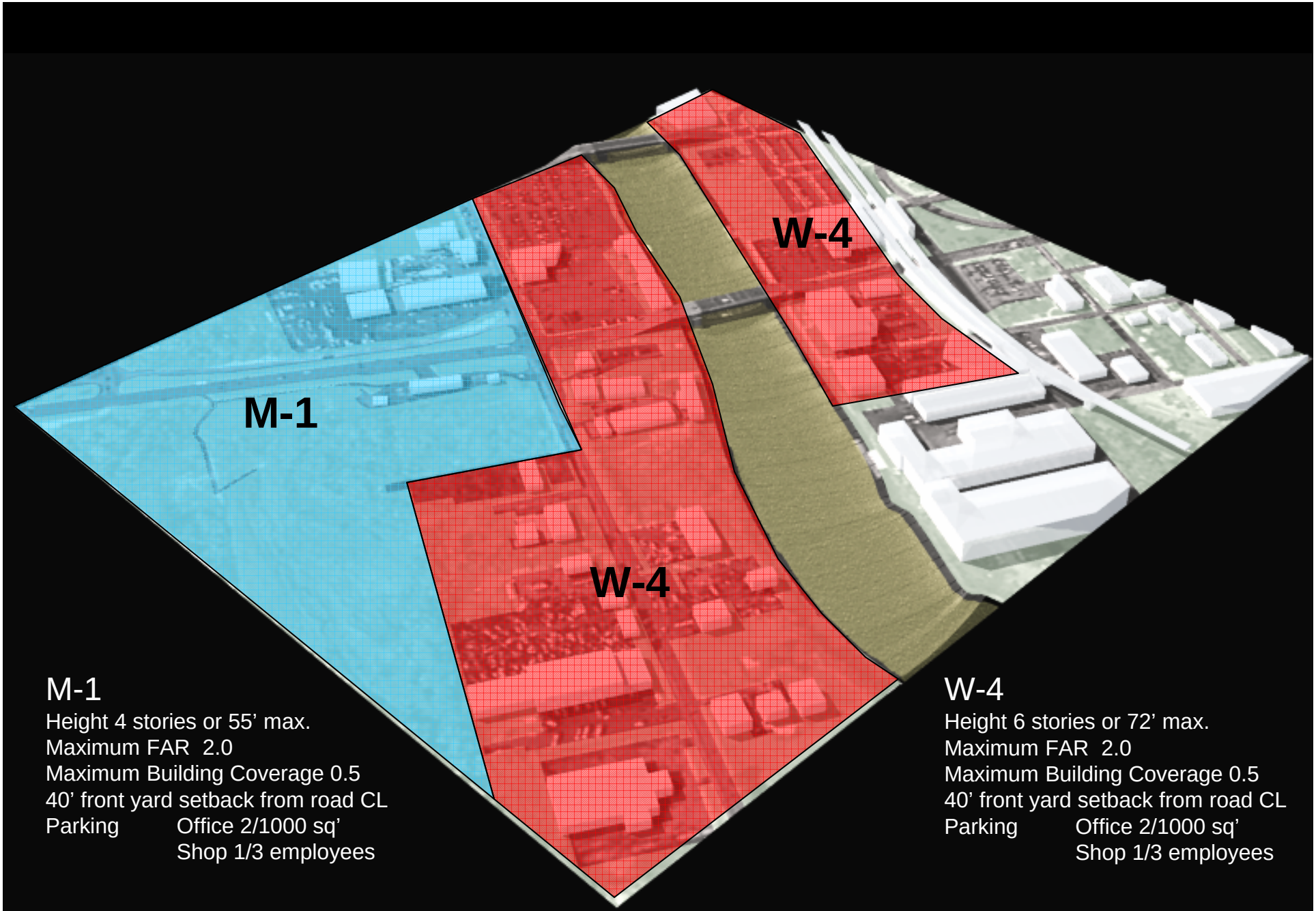
Scale: 1"=50'-0"

11.01.00


Office and Metal Fabrication Shop



Site Overhead Perspective View



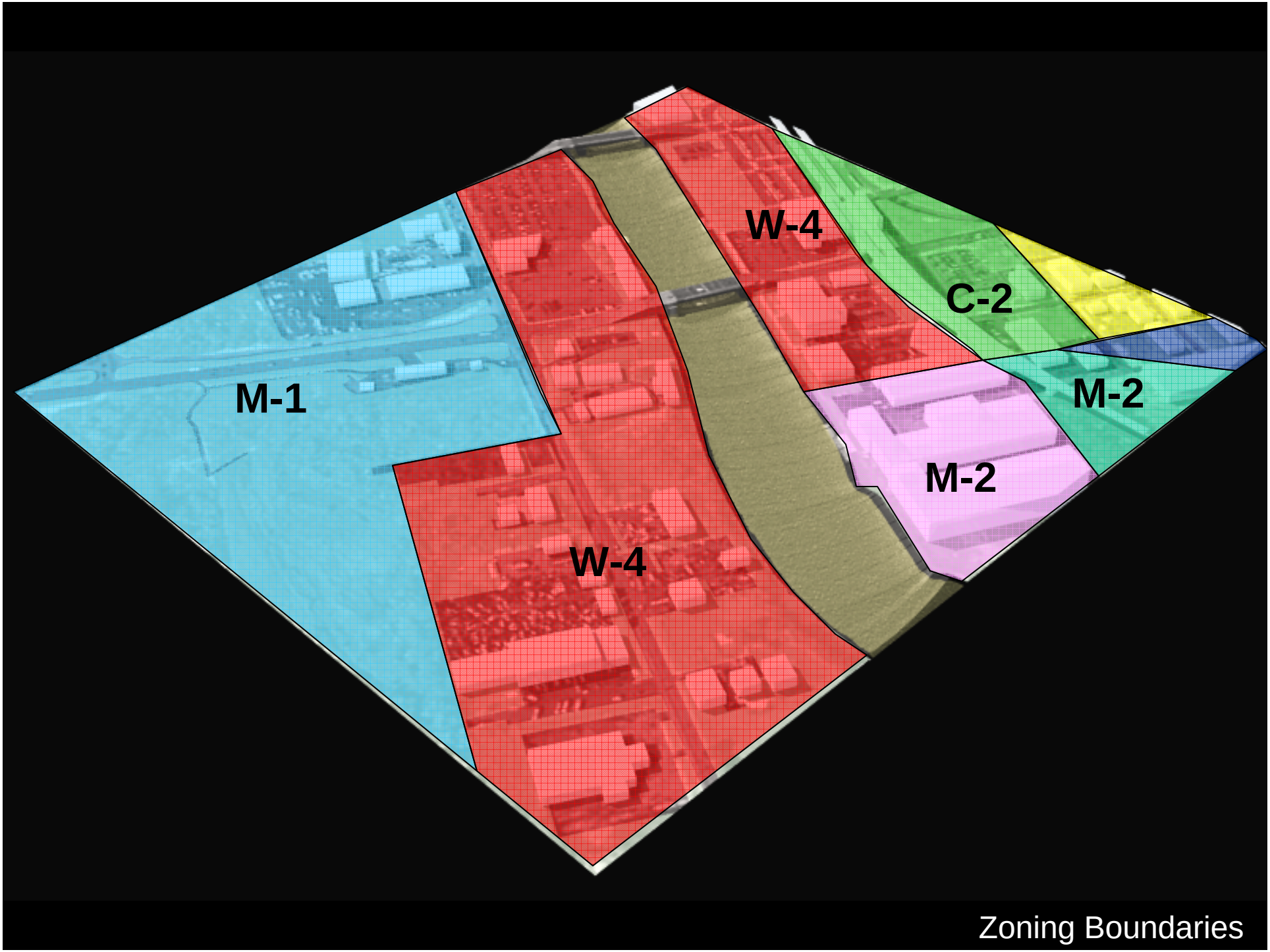

## M-1

Height 4 stories or 55’ max.
Maximum FAR 2.0
Maximum Building Coverage 0.5
40’ front yard setback from road CL
Parking Office 2/1000 sq’
Shop 1/3 employees

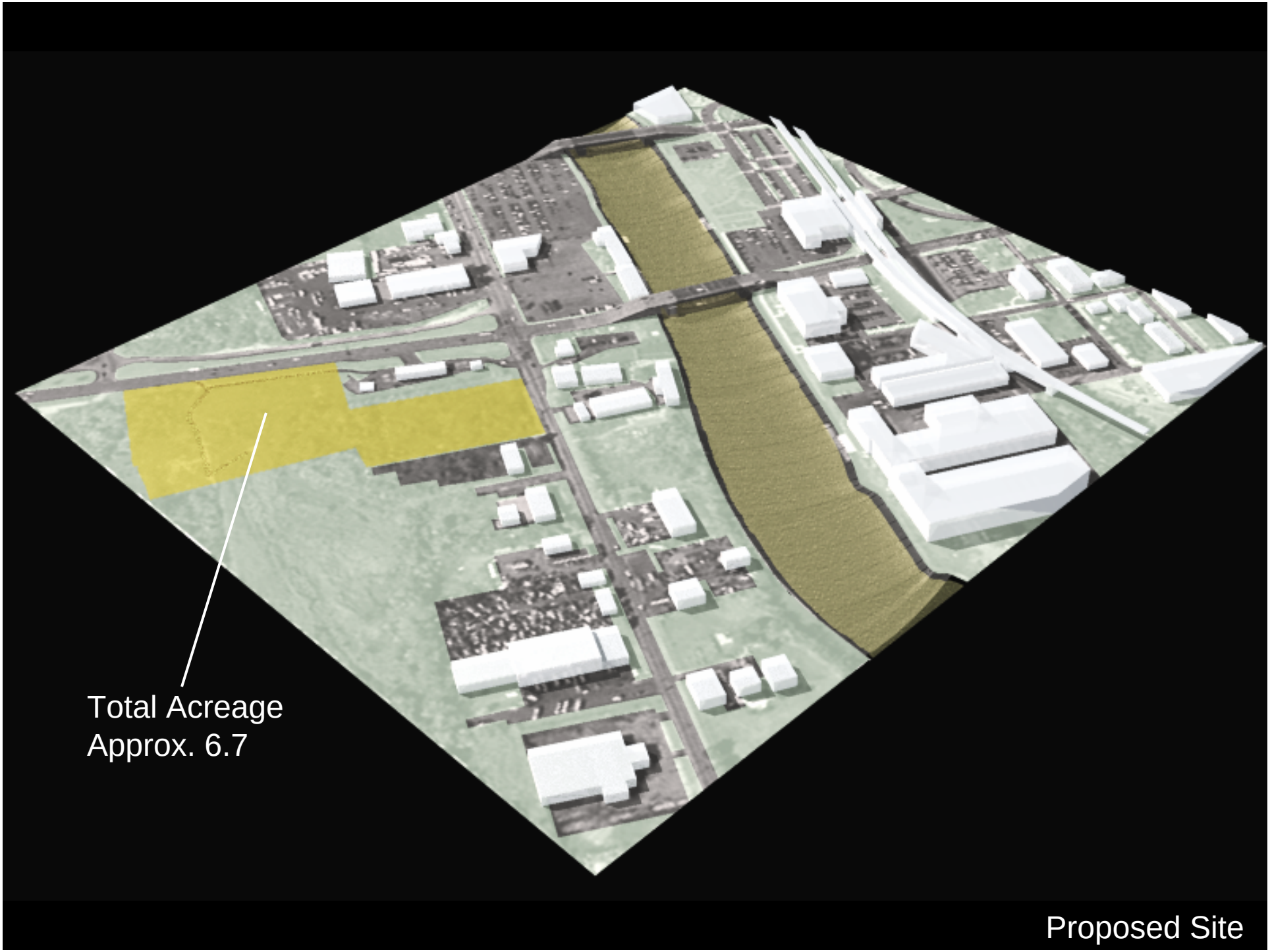
## W-4

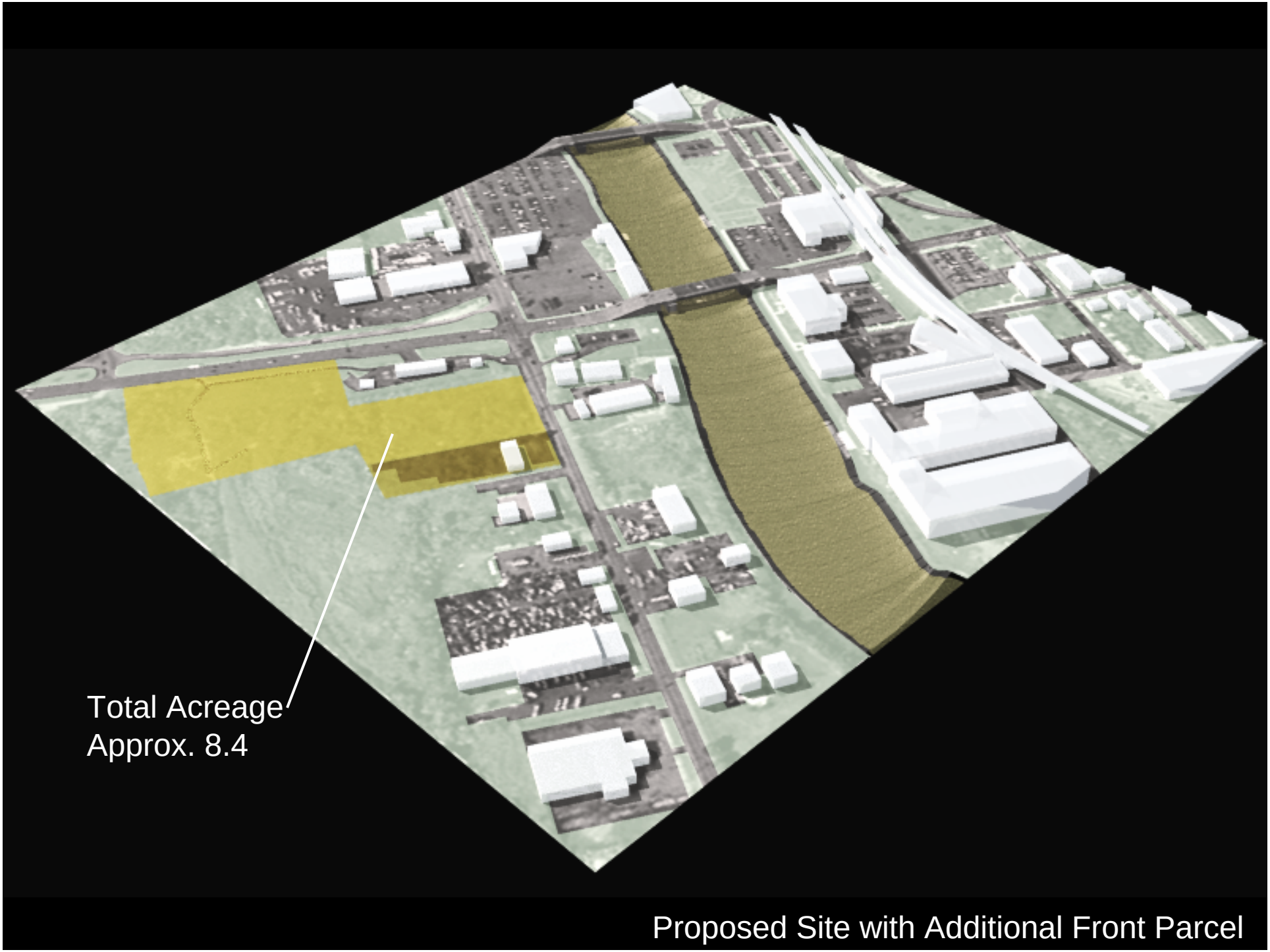
Height 6 stories or 72’ max.
Maximum FAR 2.0
Maximum Building Coverage 0.5
40’ front yard setback from road CL
Parking Office 2/1000 sq’
Shop 1/3 employees

# Zoning Requirements

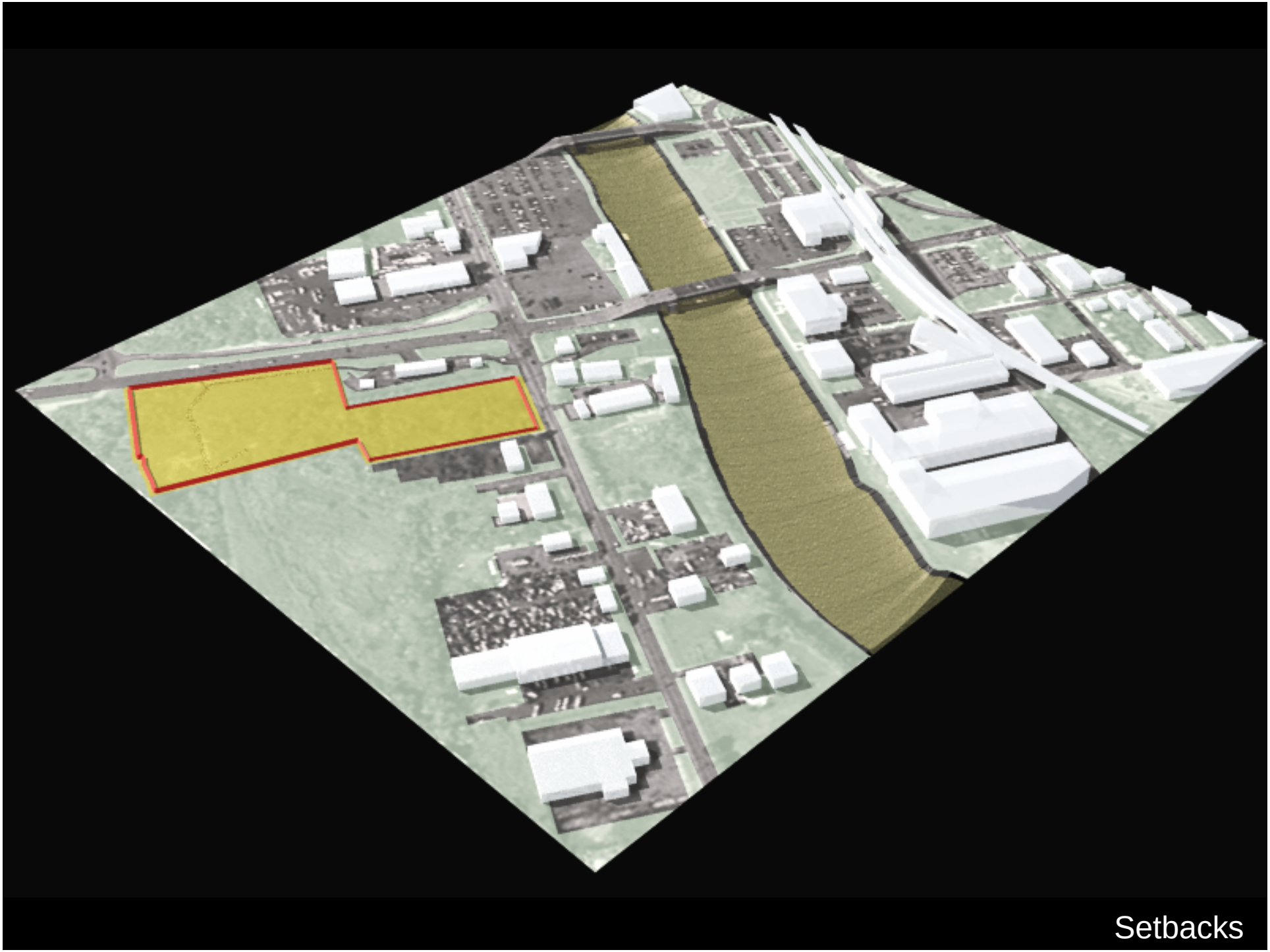


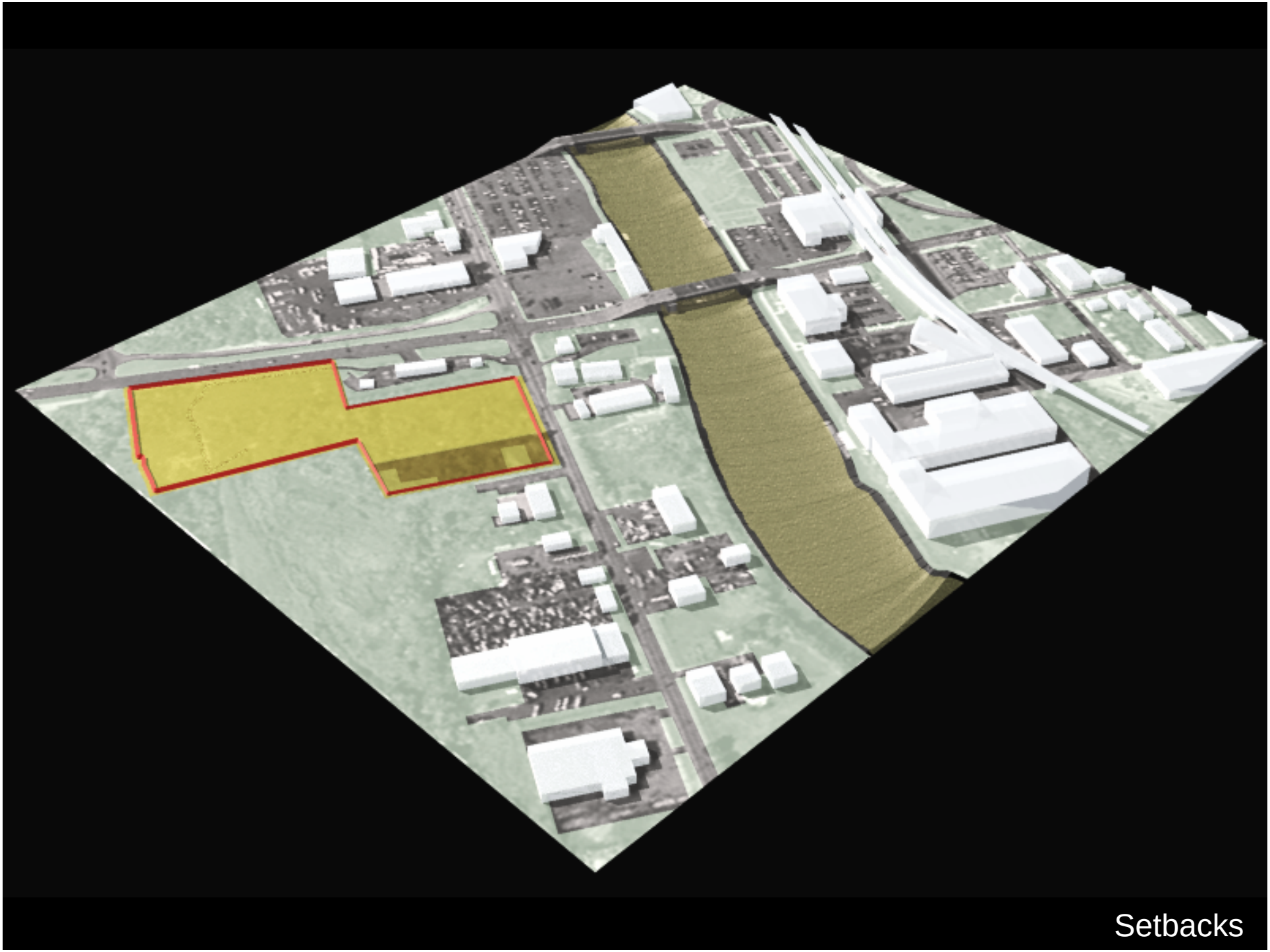

Zoning Boundaries

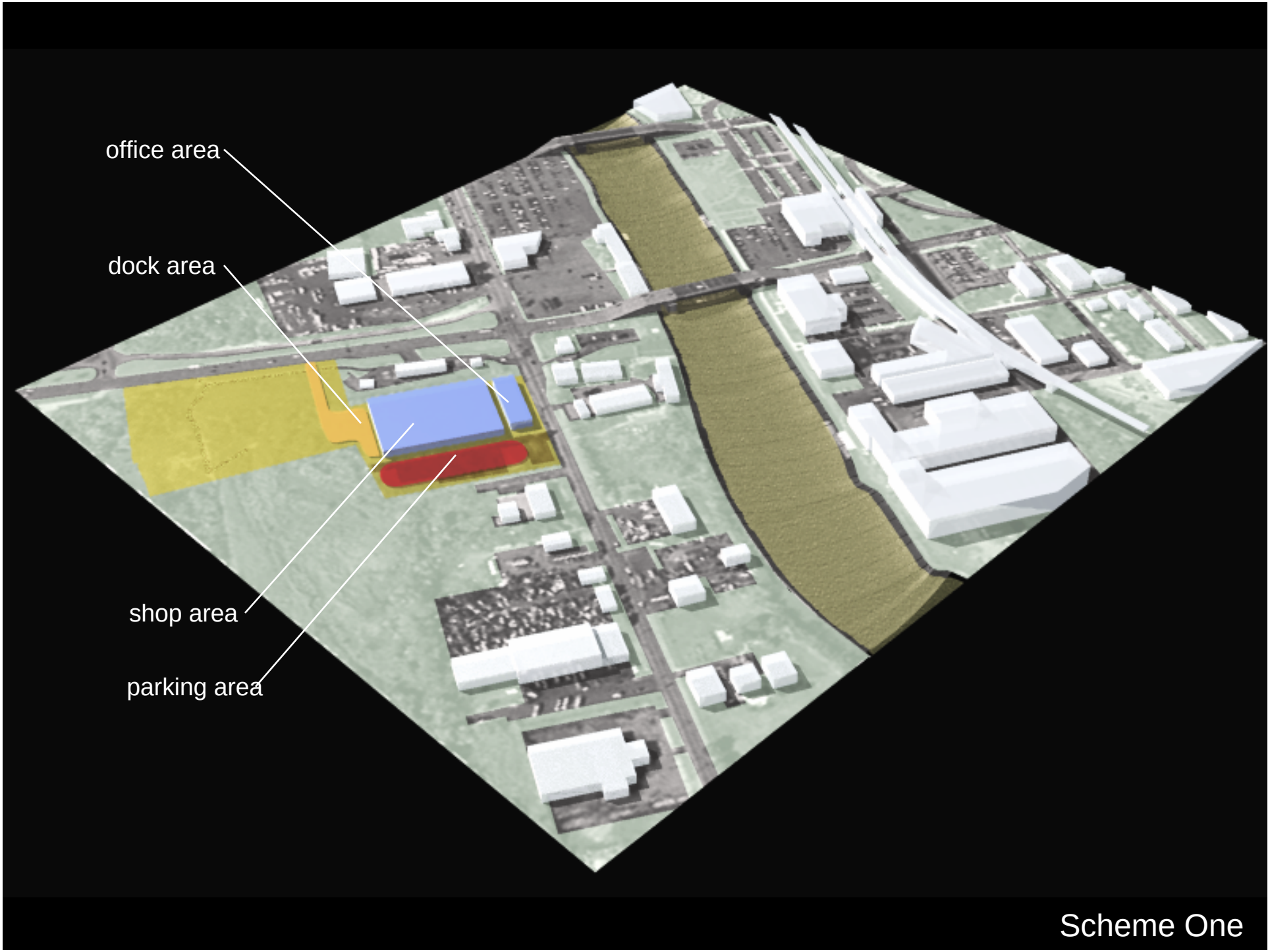

Total Acreage
Approx. 6.7
Proposed Site

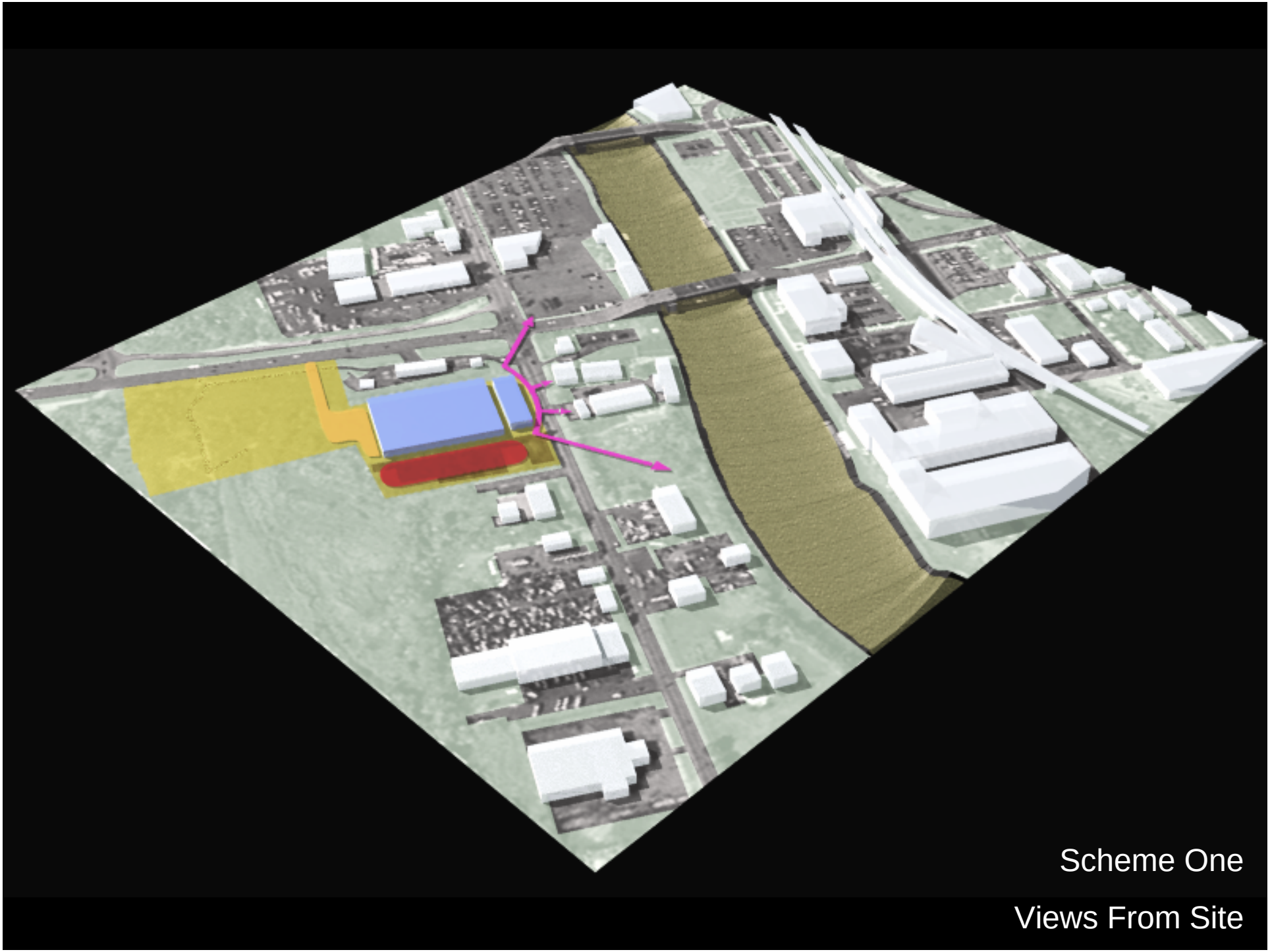


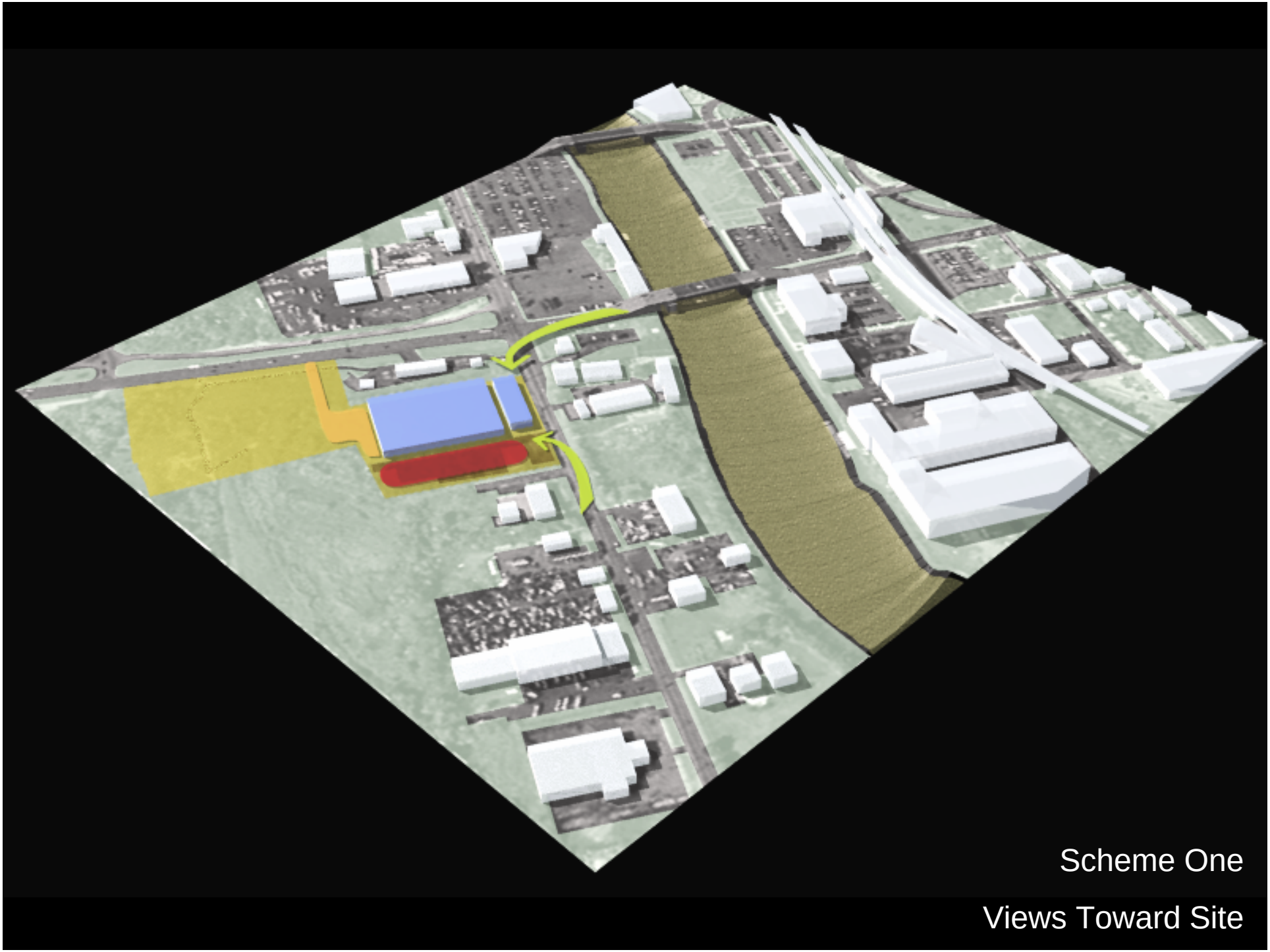

Proposed Site with Additional Front Parcel


Setbacks


Setbacks

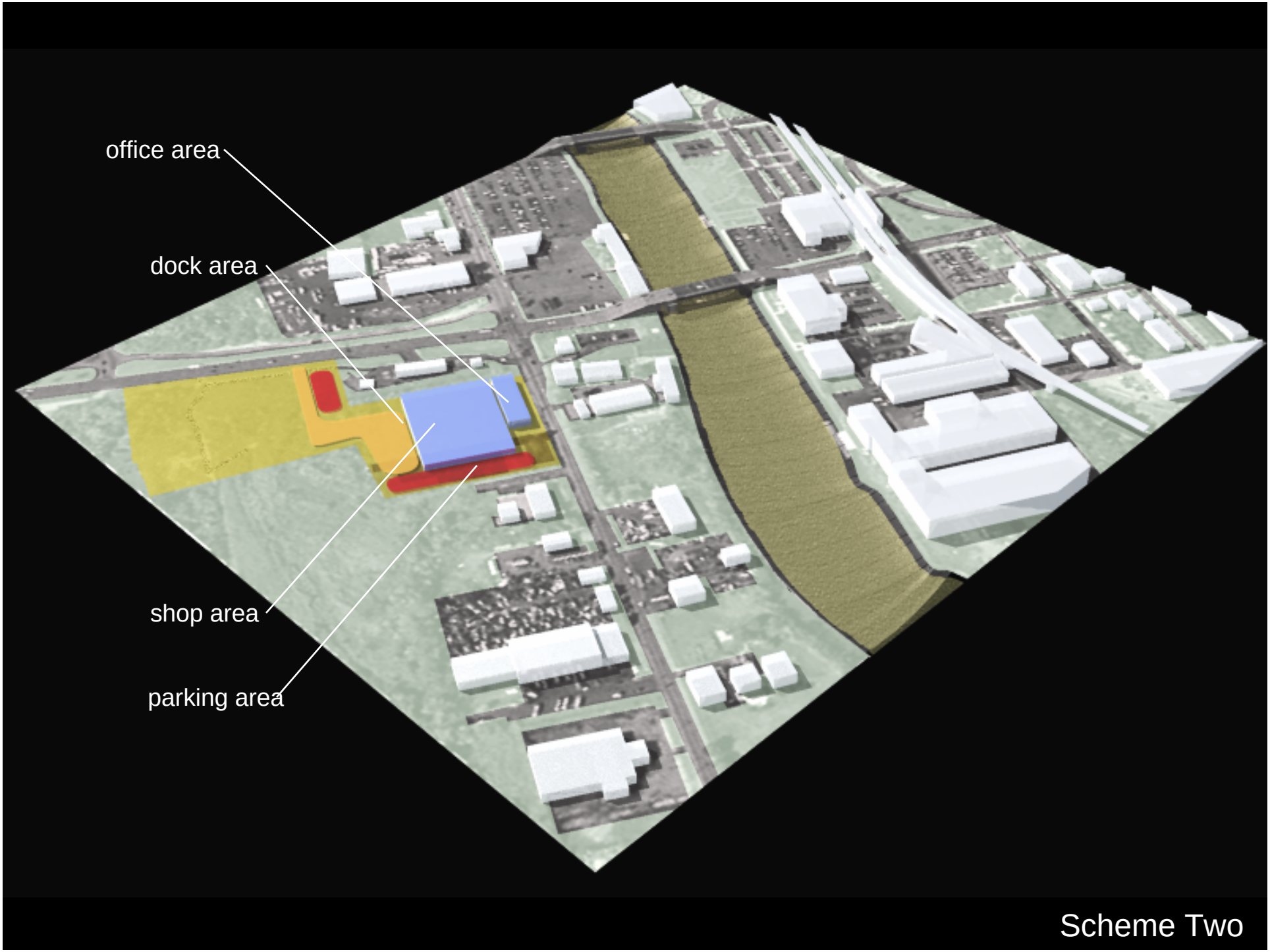

office area
dock area
shop area
parking area
Scheme One

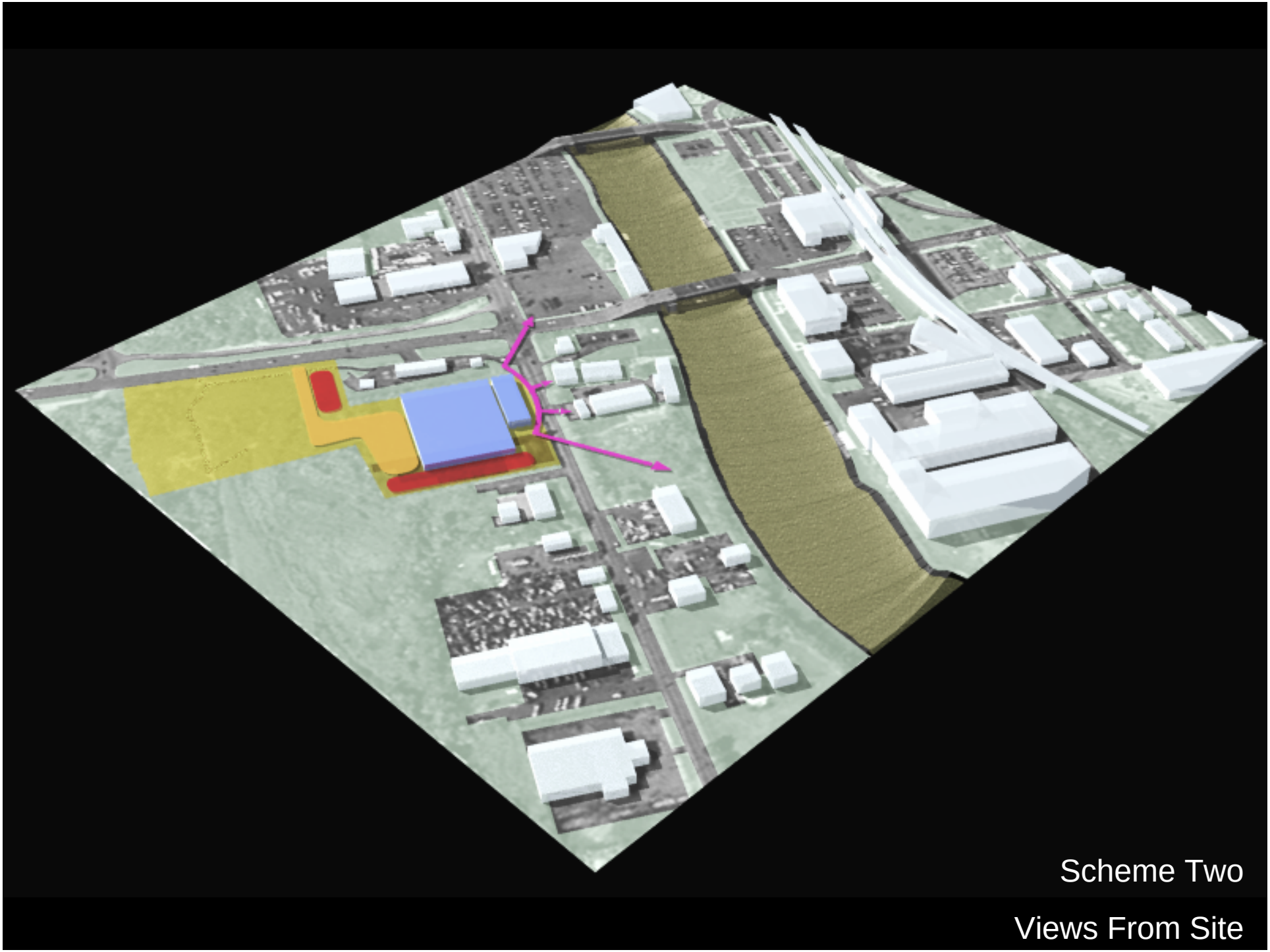

Scheme One
Views From Site

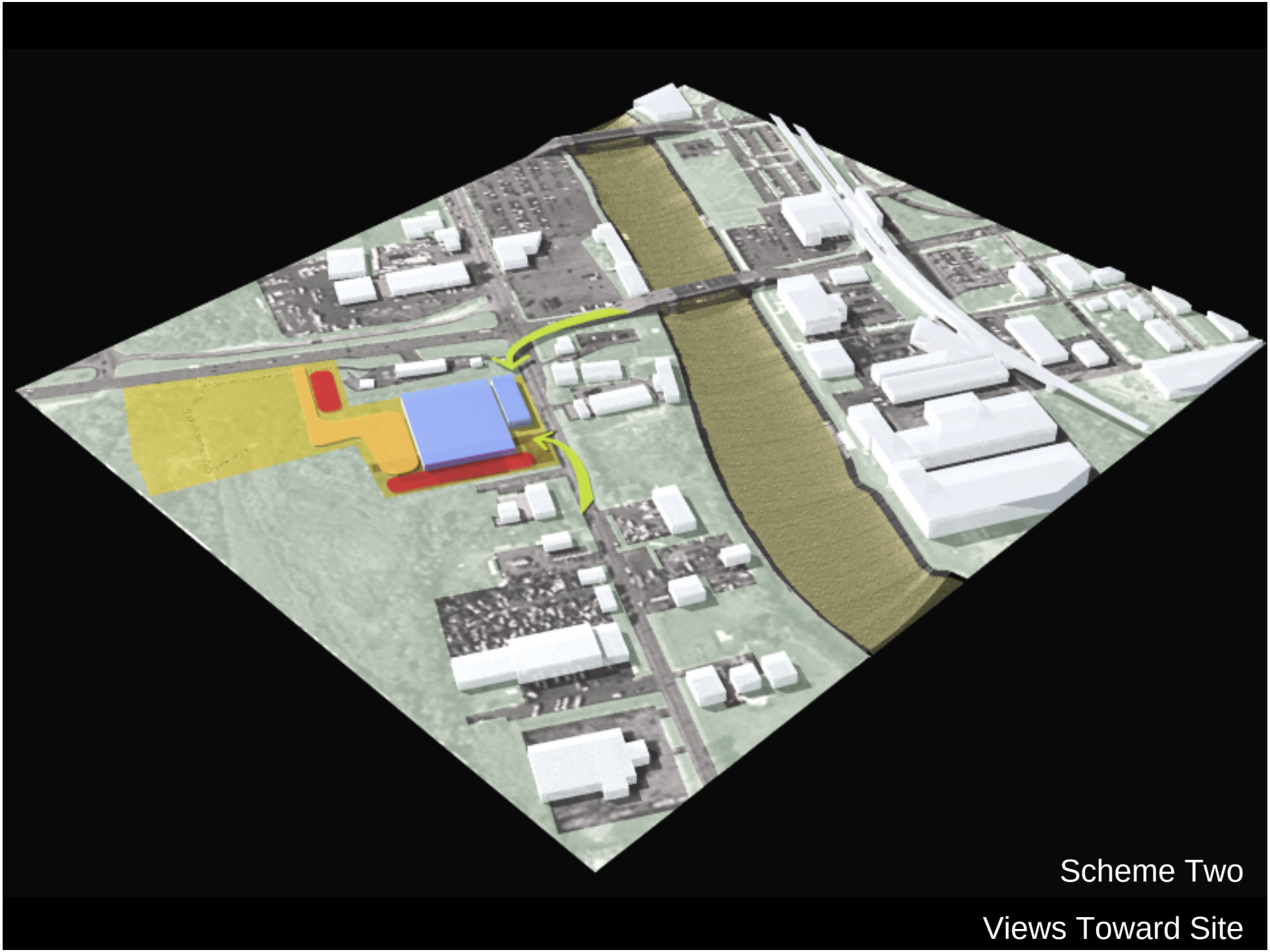

Scheme One
Views Toward Site

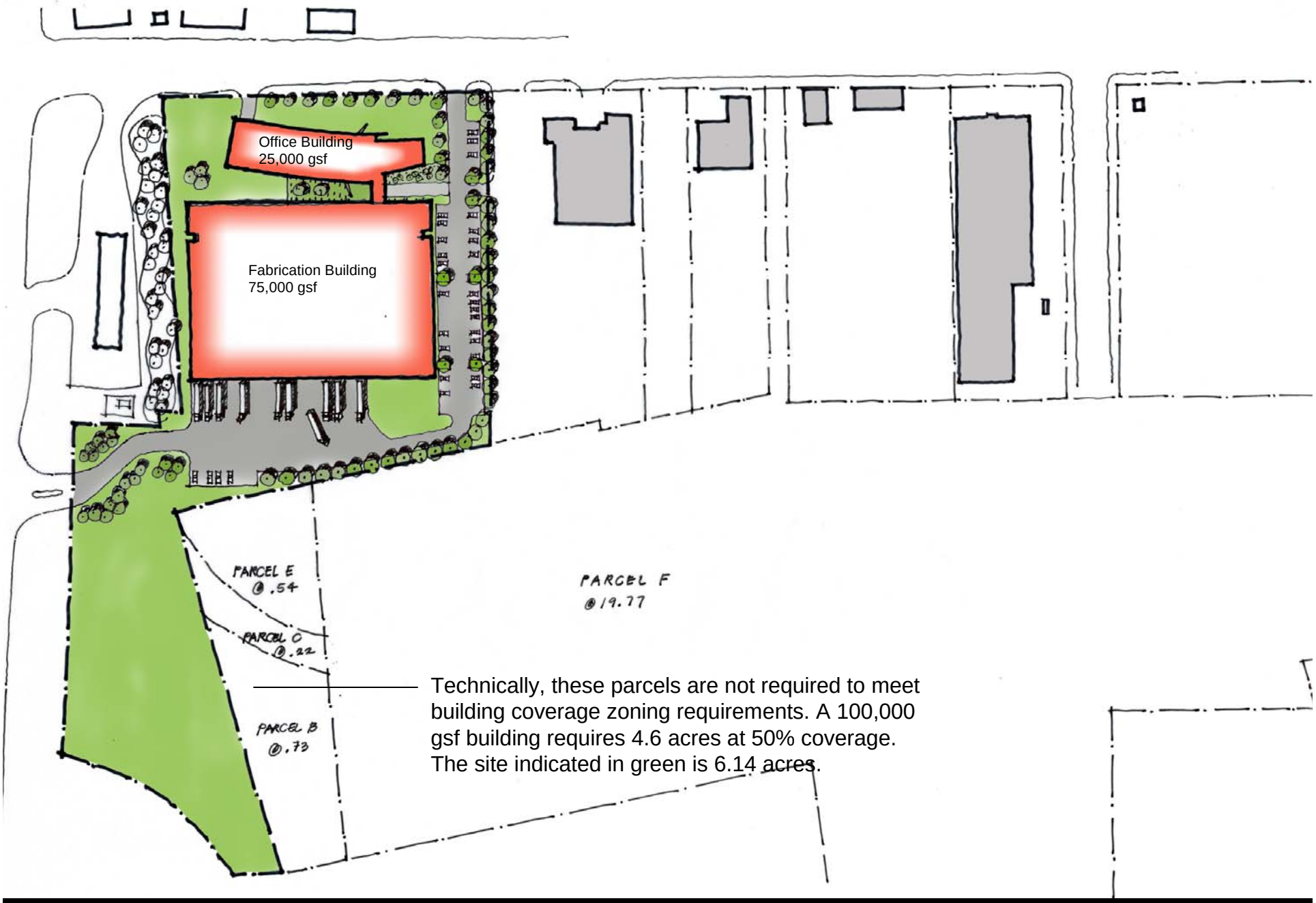

Office Building
25,000 gsf
Fabrication Building
75,000 gsf
Requires additional parcel to achieve proper truck dimensional criteria and employee parking, Total Site is approx. 8.4 acres.

Scheme One


office area
dock area
shop area
parking area
Scheme Two

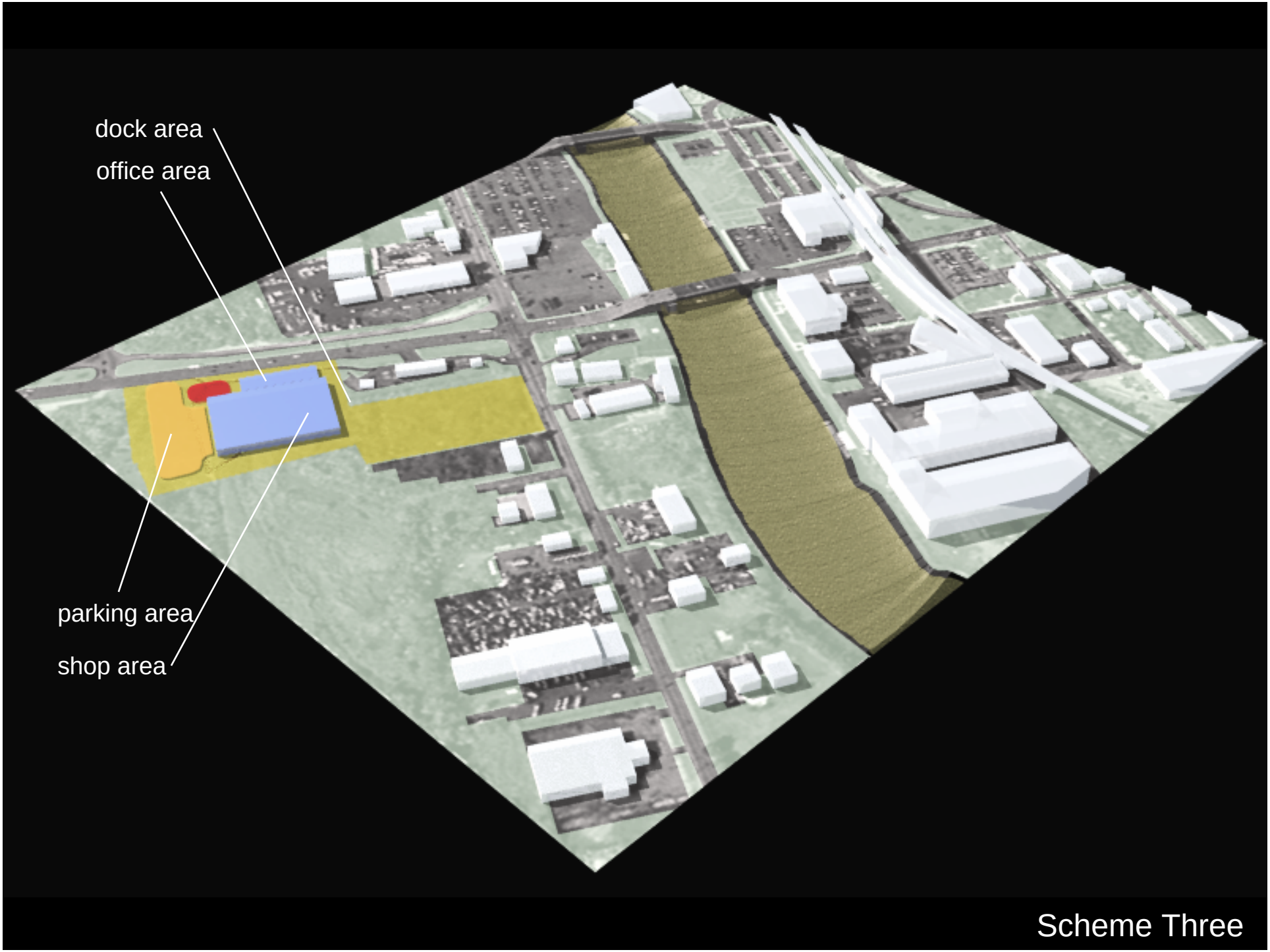

Scheme Two
Views From Site

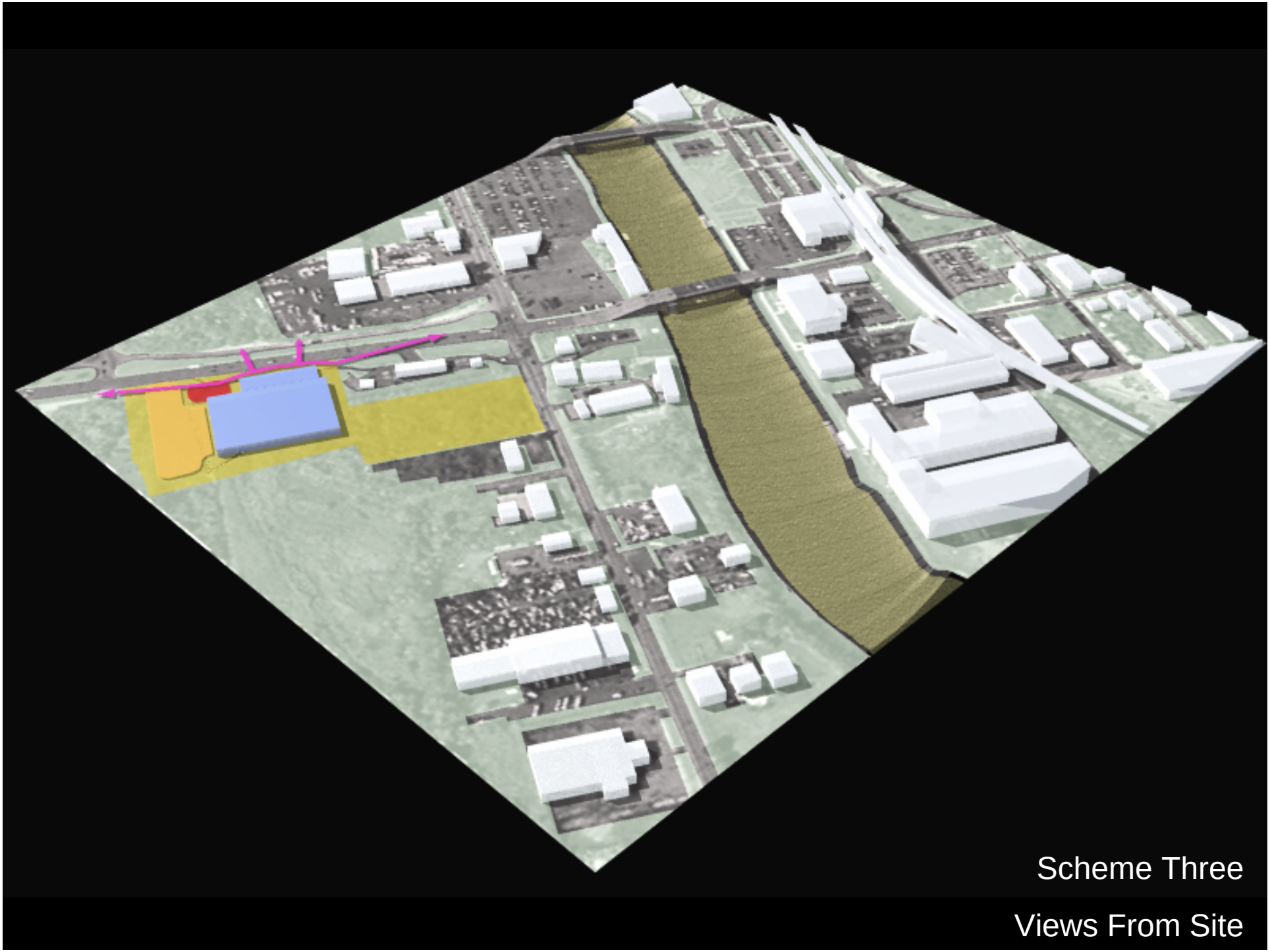

Scheme Two
Views Toward Site

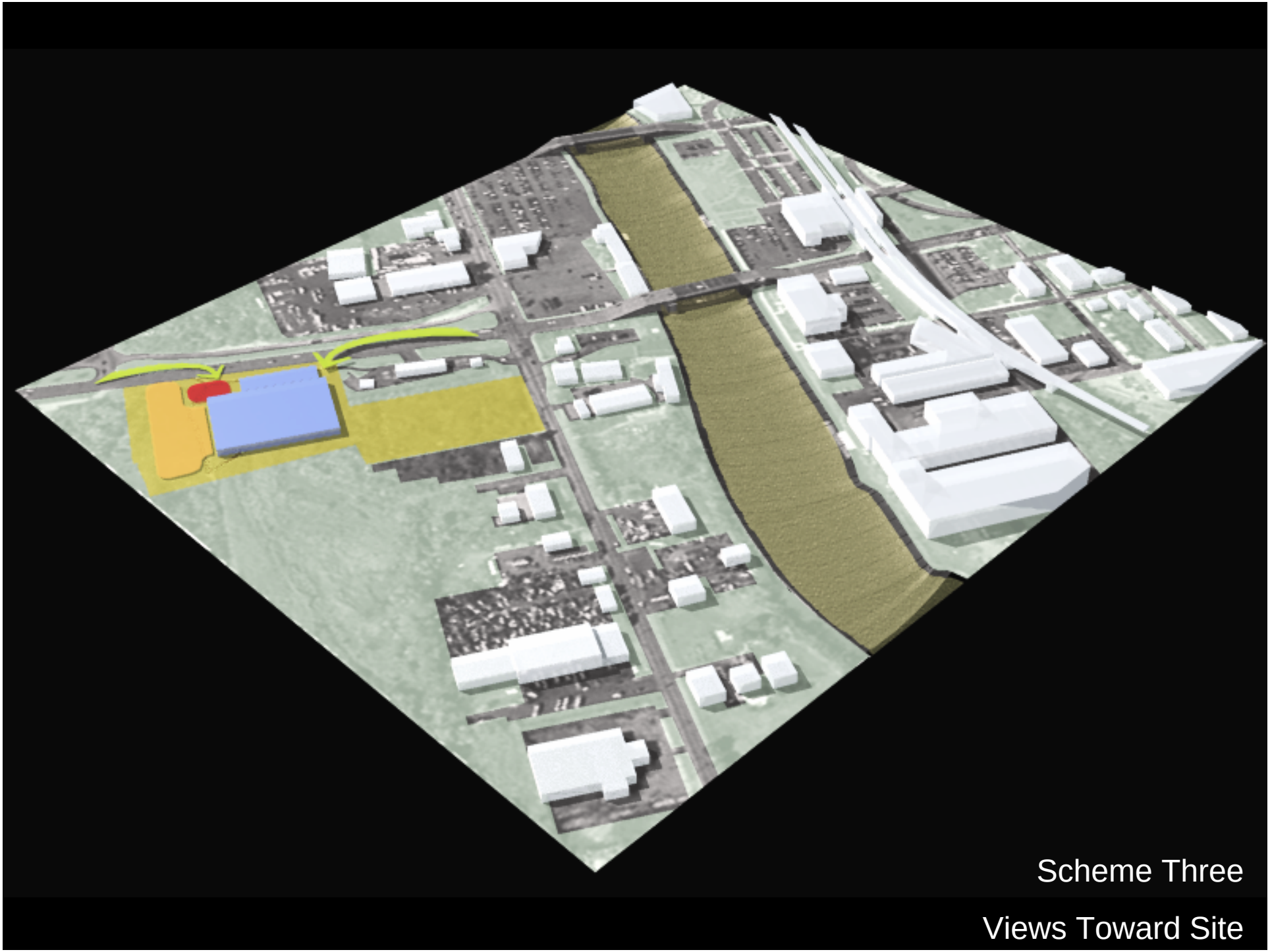



Technically, these parcels are not required to meet building coverage zoning requirements. A 100,000 gsf building requires 4.6 acres at 50% coverage. The site indicated in green is 6.14 acres.

# Scheme Two


dock area
office area
parking area
shop area
Scheme Three


Scheme Three
Views From Site

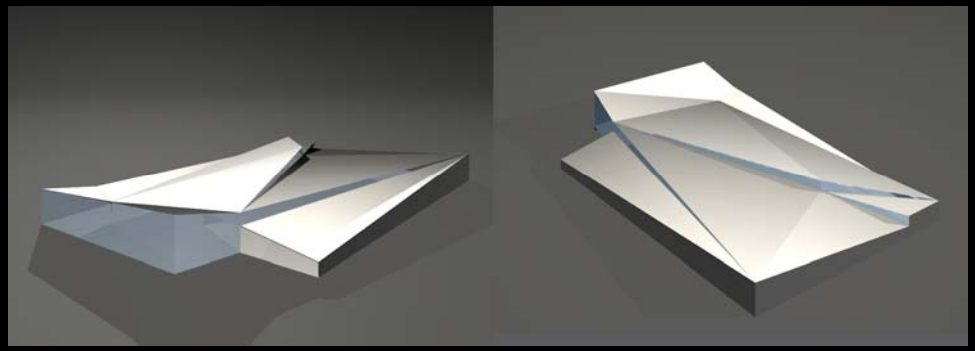

Scheme Three
Views Toward Site


This scheme does not require the additional parcel. Total site is approx. 6.7 acres.

## Scheme Three

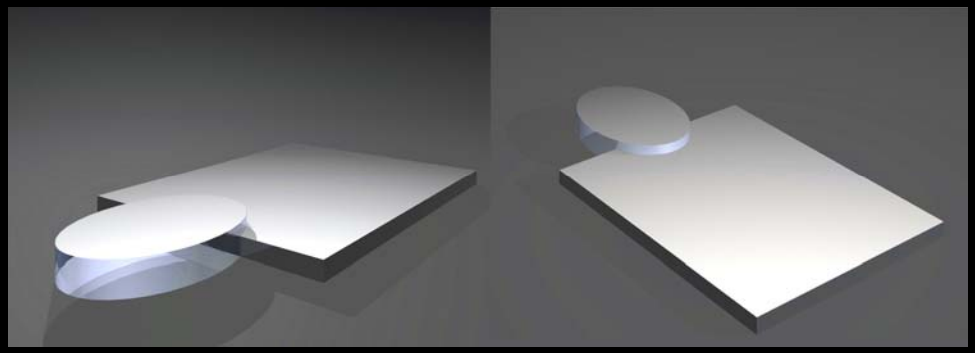
## Massing Concept “A”

The metal fabrication shop and the office area for is composed as a single architectural mass. The massing is articulated to express the different programmatic functionality.



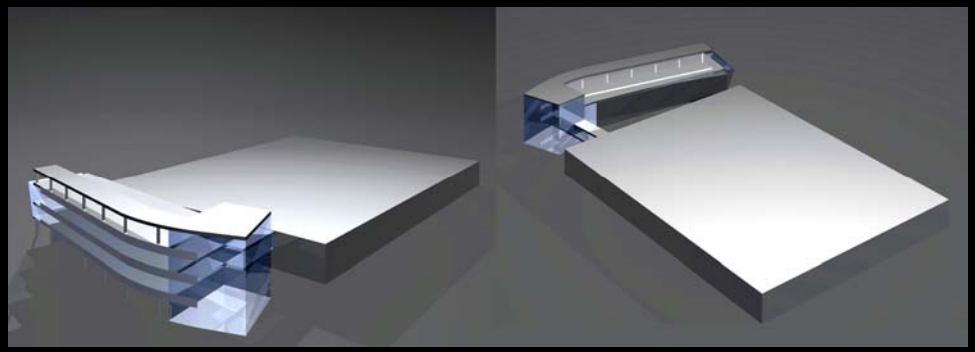
## Massing Concept “B”

The metal fabrication shop and the office area are designed as separate inter-penetrating architectural forms. The office building and the shop area maintain close adjacency relationships.



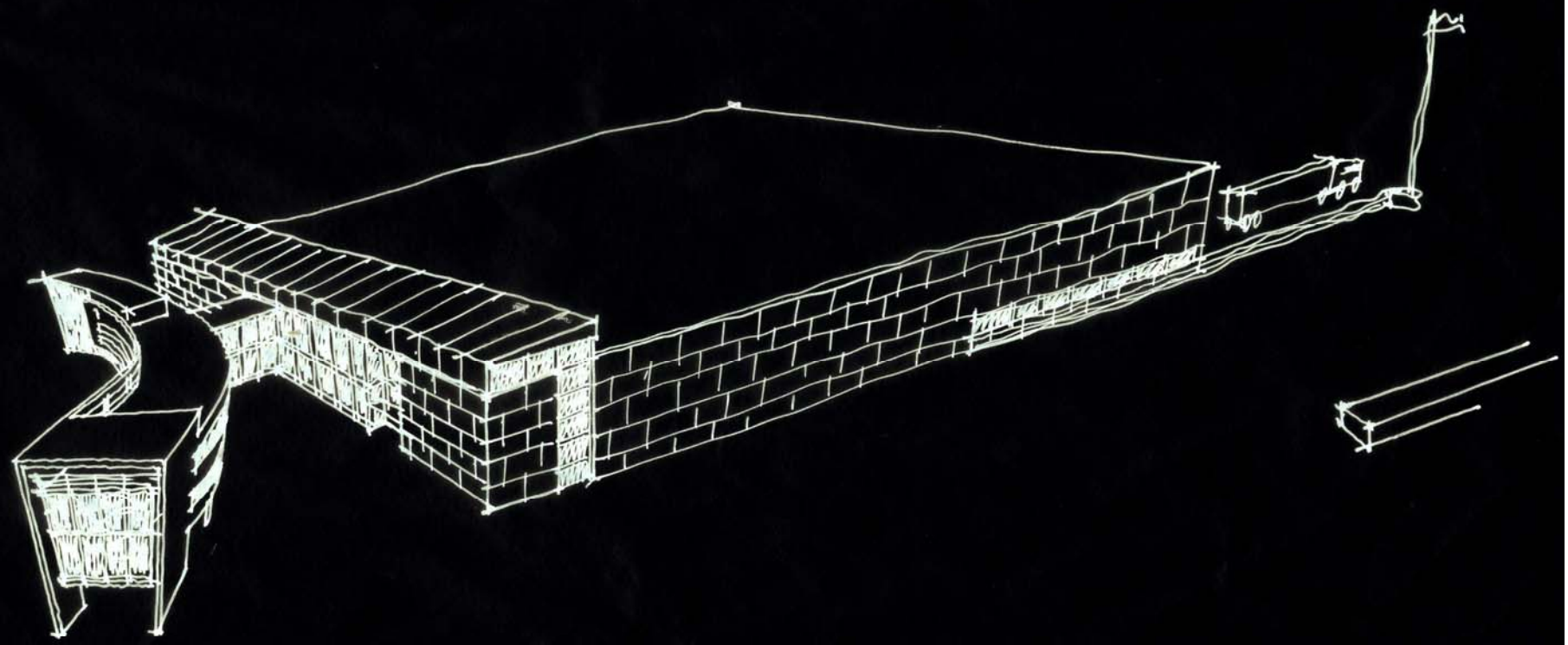
## Massing Concept “C”

The metal fabrication shop and the office area are composed as separate and distinct architectural masses. The massing of the office area is designed to take advantage of the views to the river.

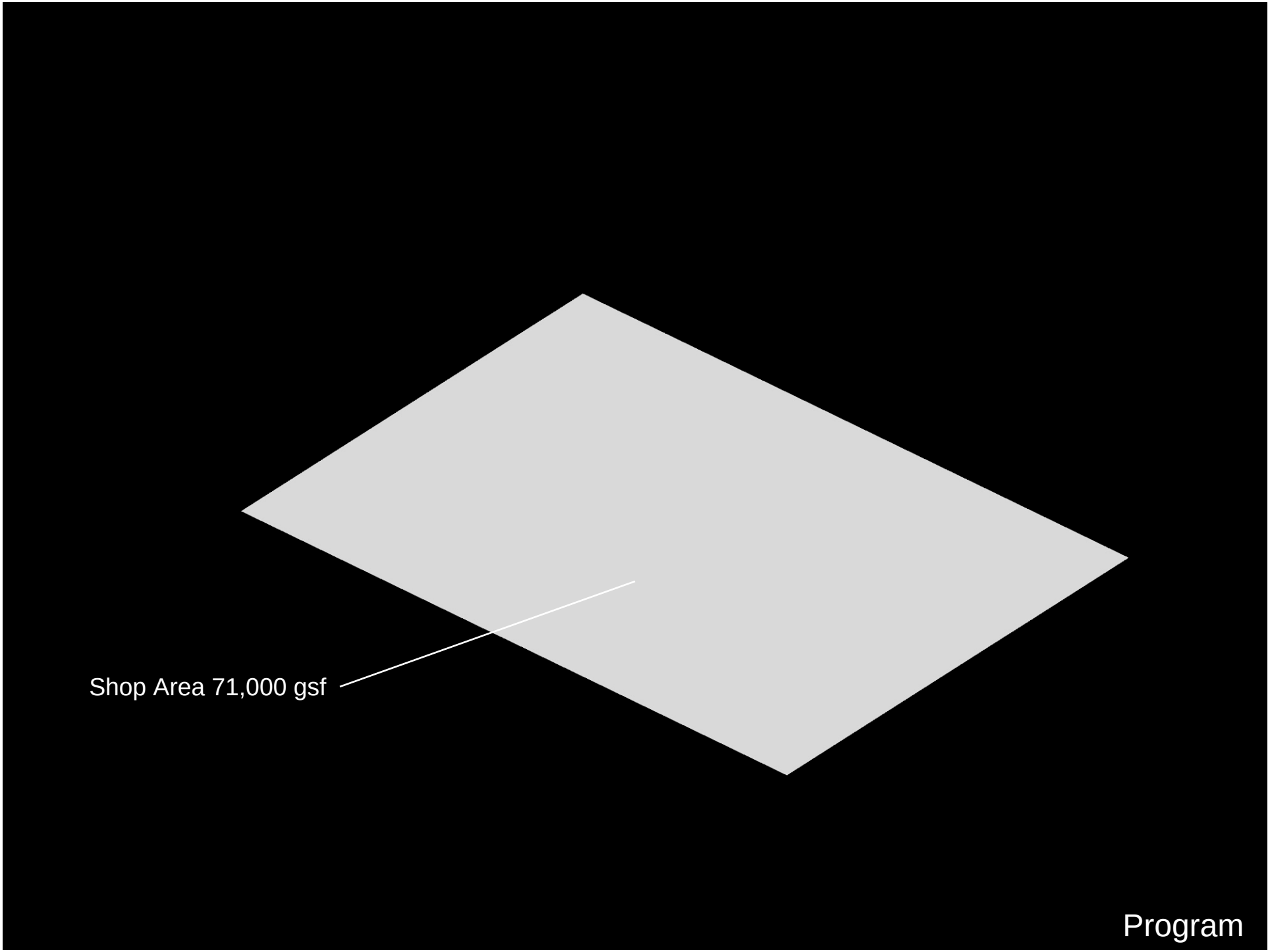


## Massing Concept “C”

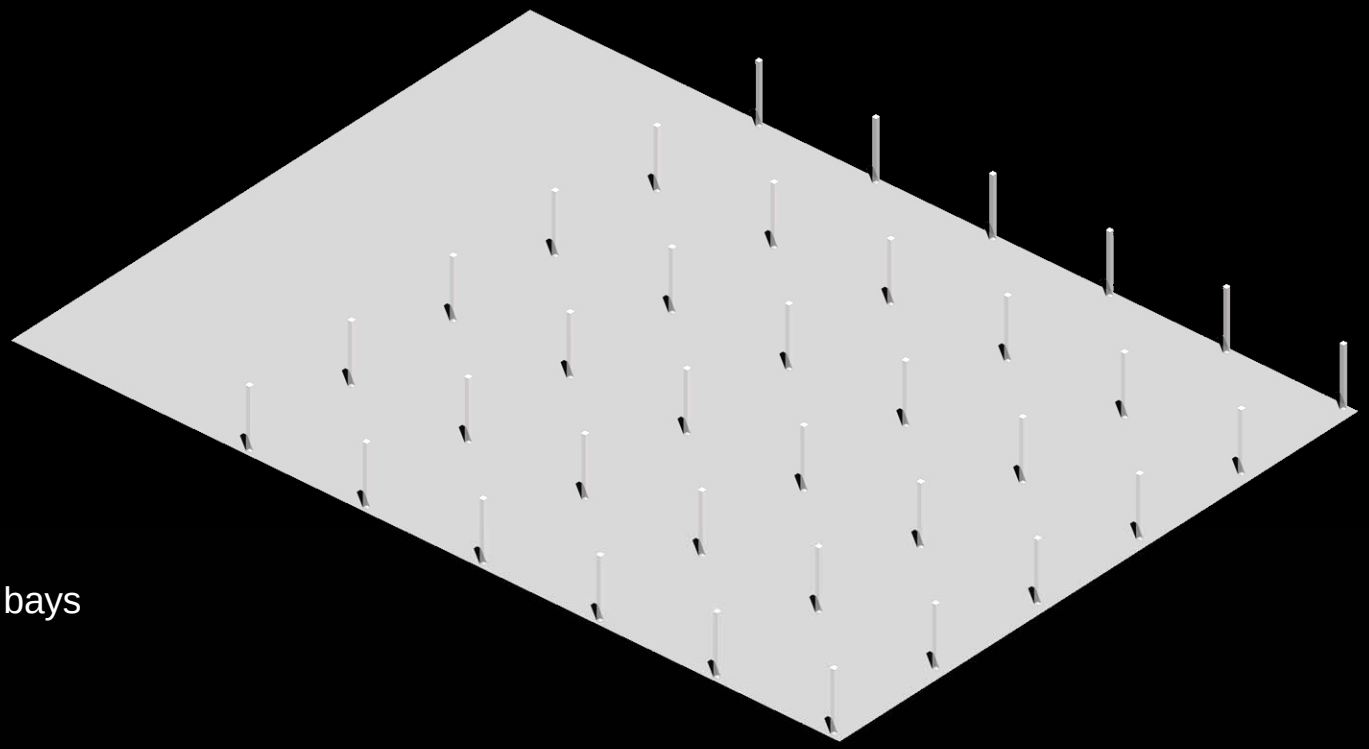
For this study, massing concept “C” was chosen to explore the building architectural expression and conceptual program organization



Building Design Sketch



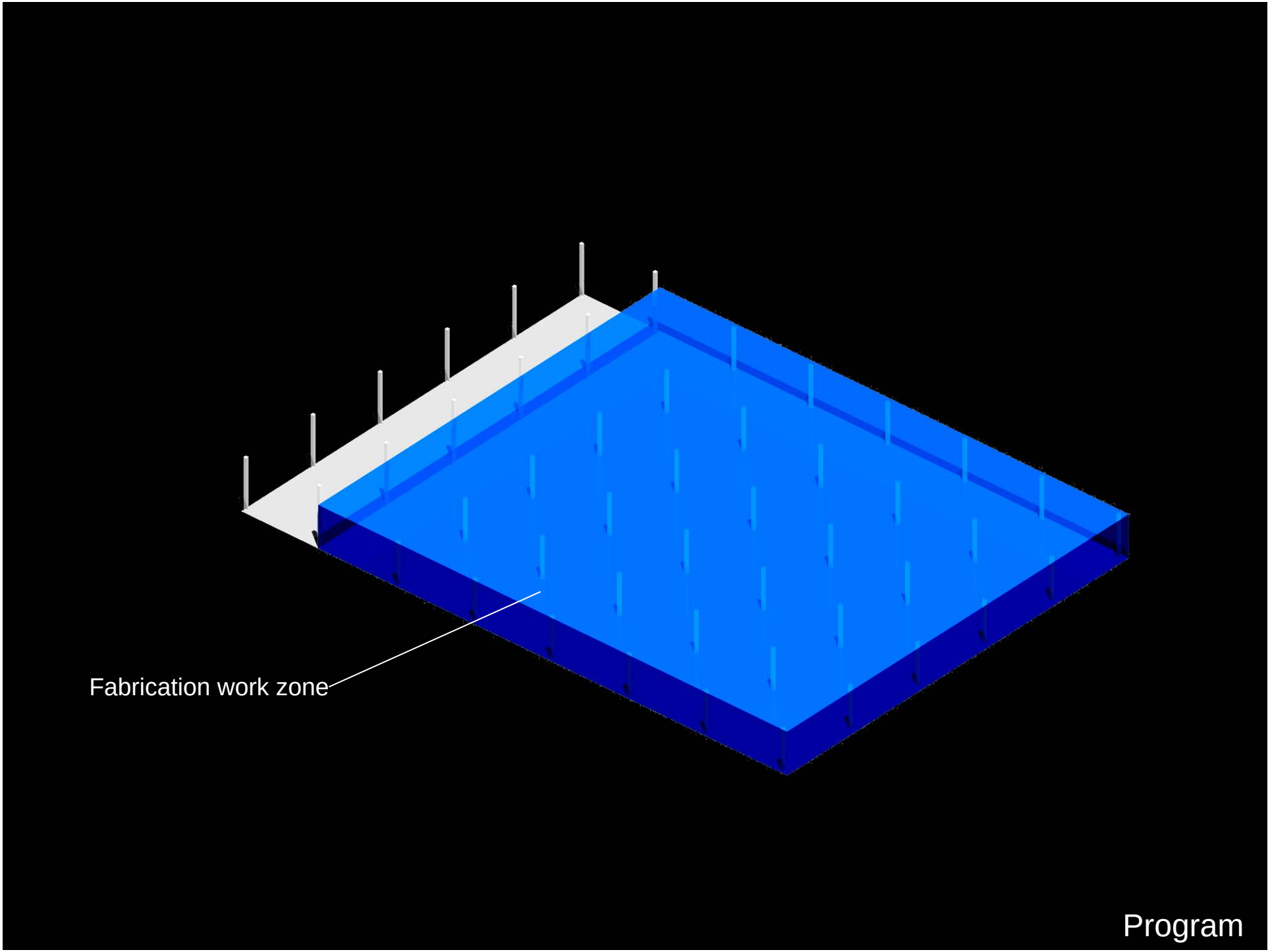

Program



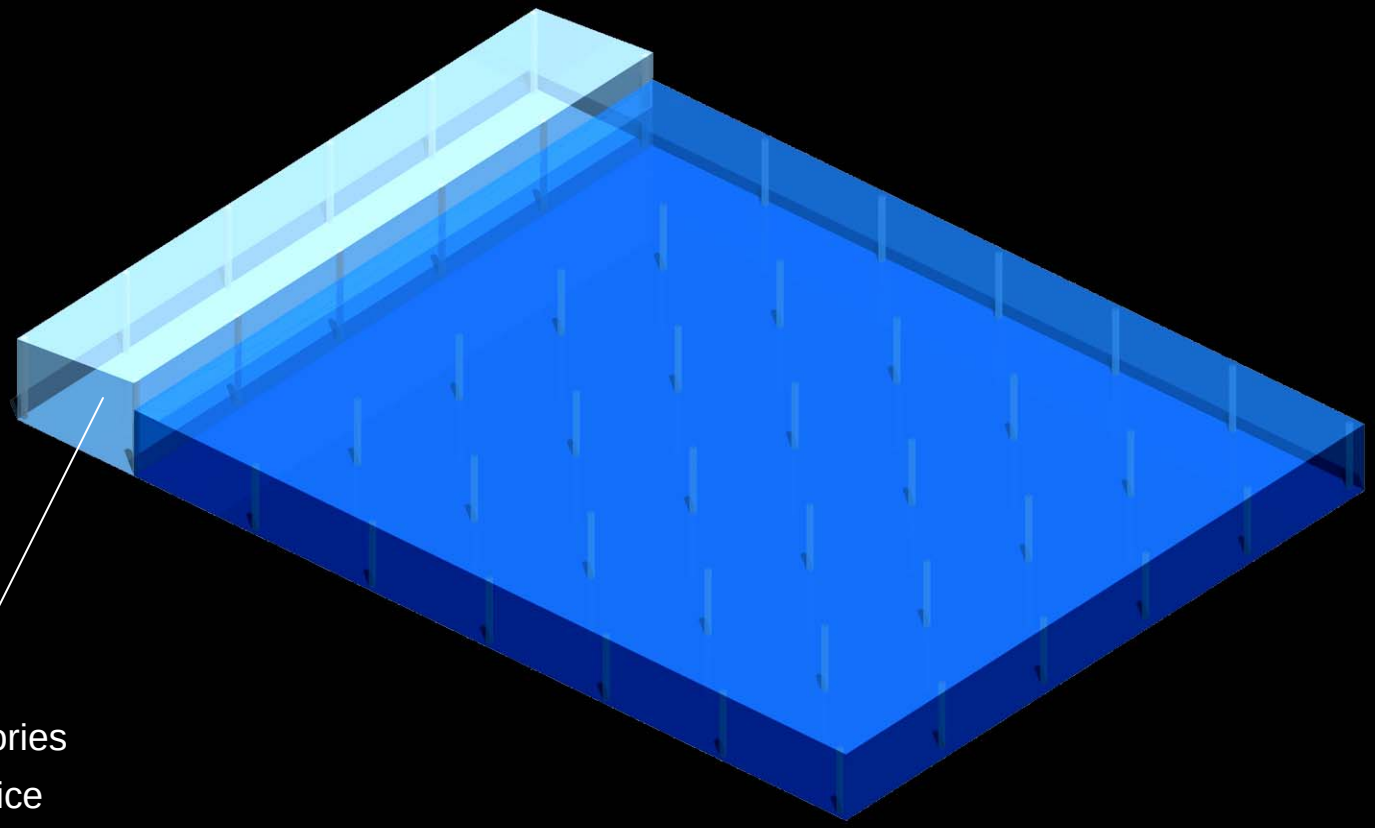
45’ structural bays

315’ x 225’

Program




Program



Lunch room

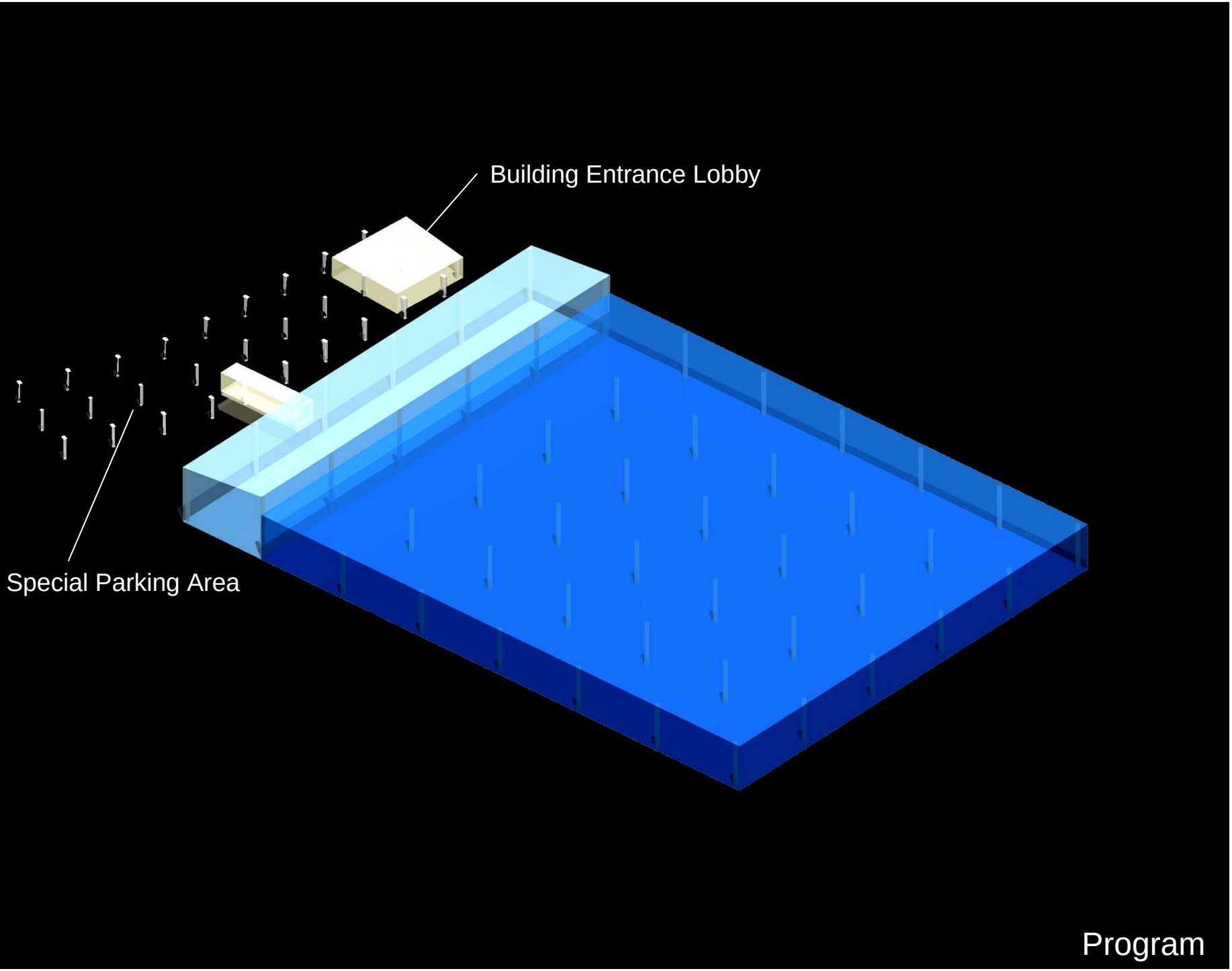
Locker/lavatories

Foreman Office

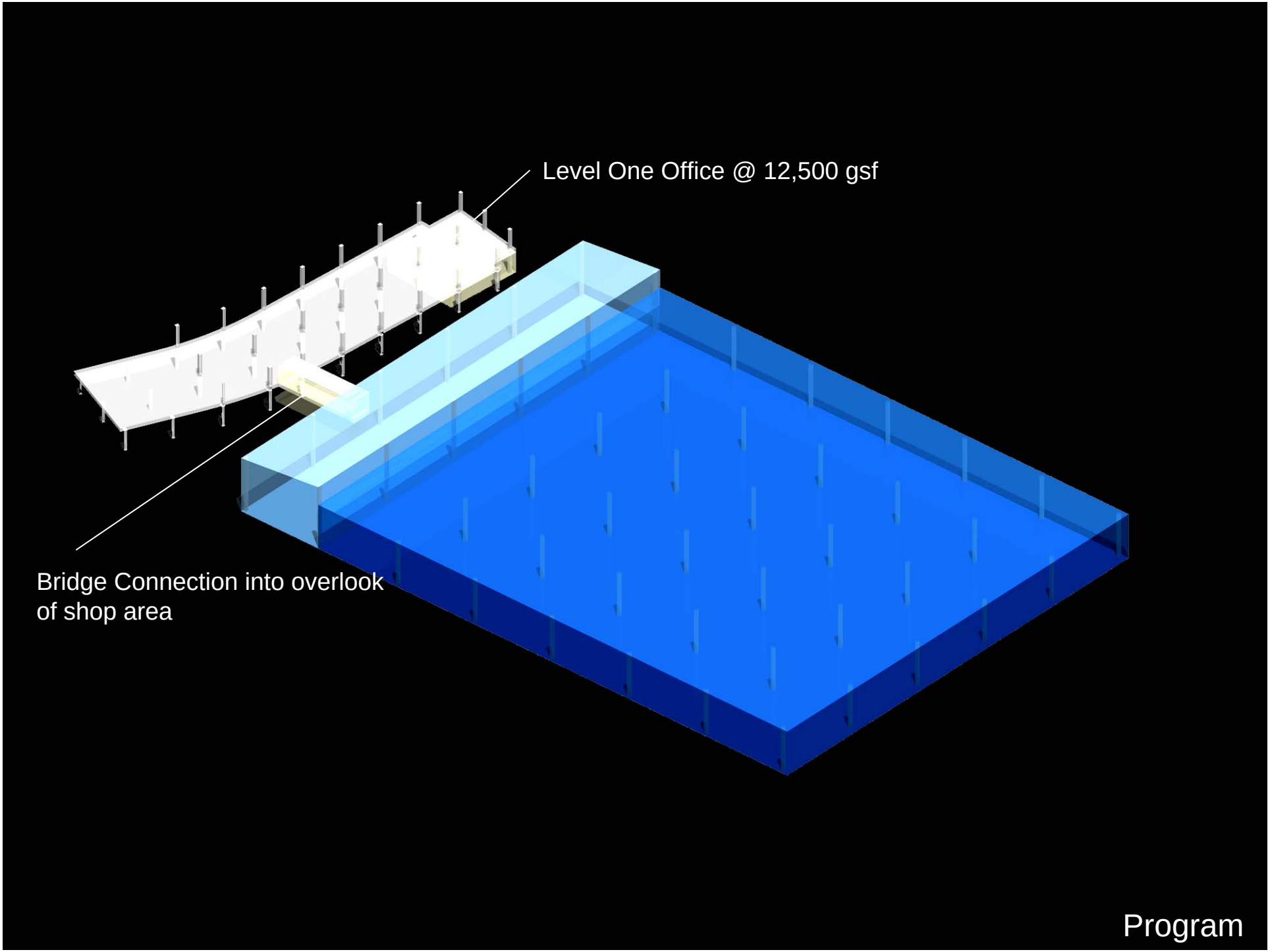
Parts storage

Finished product storage

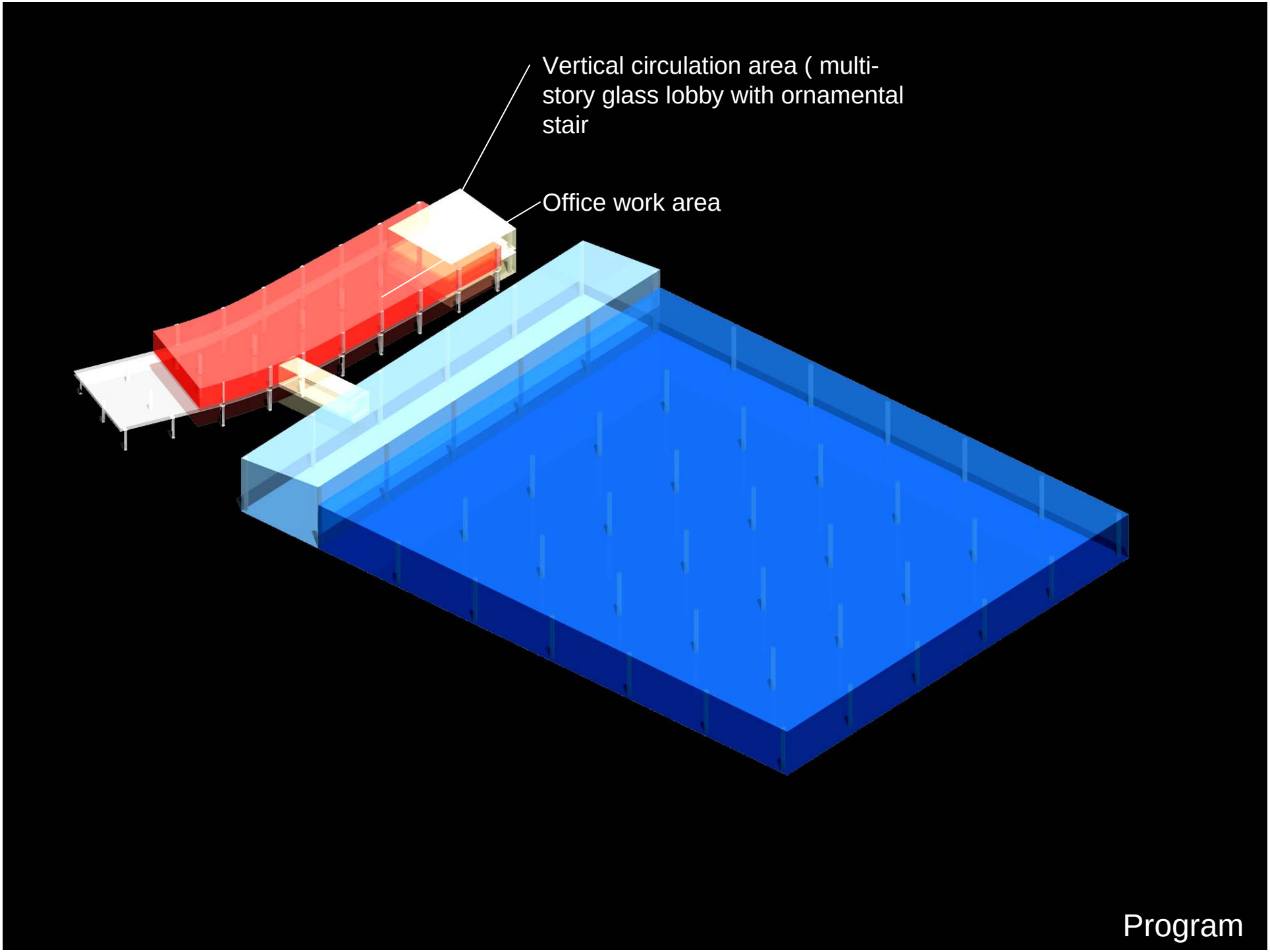
Program



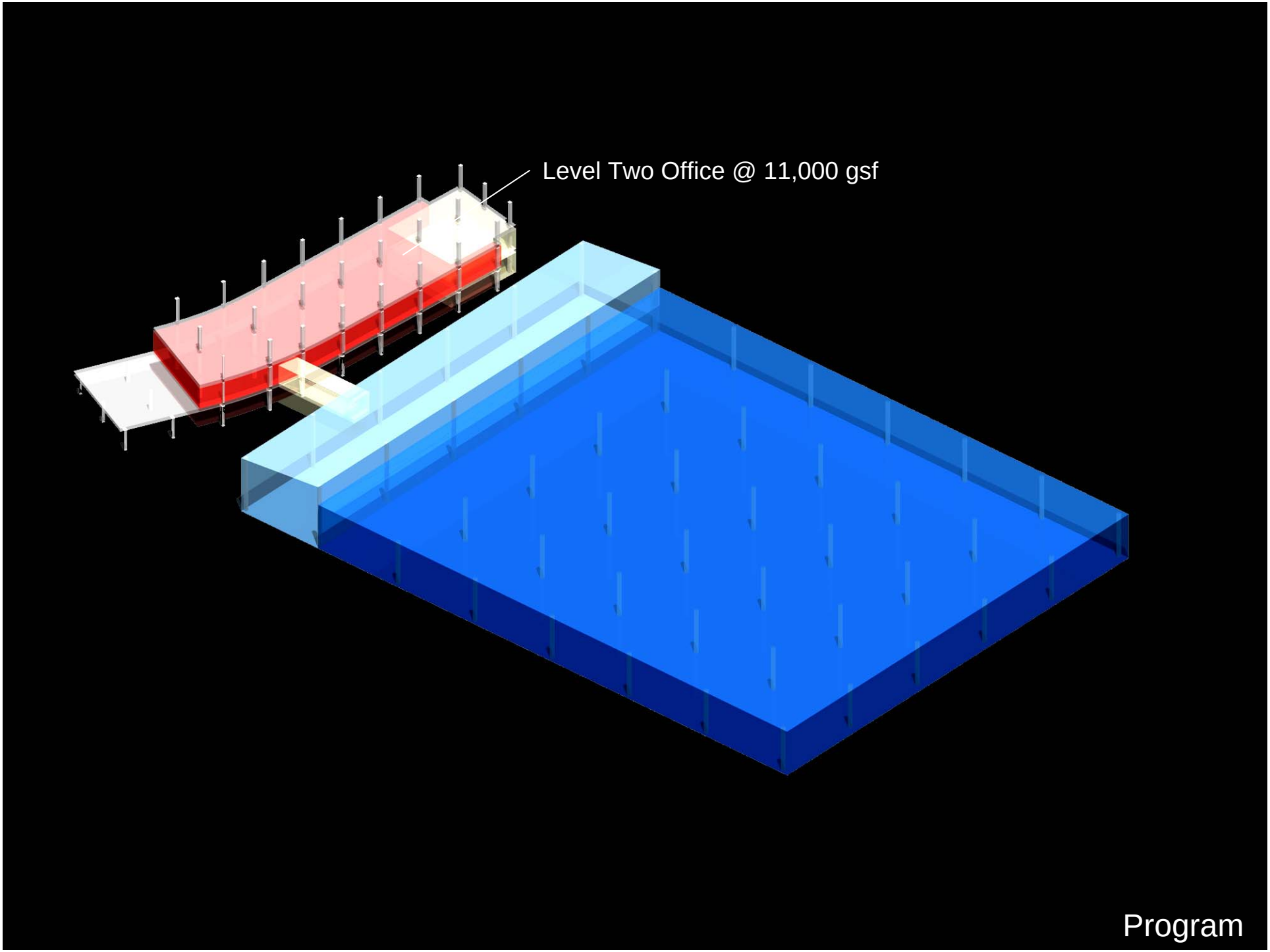

Program


Level One Office @ 12,500 gsf
Bridge Connection into overlook
of shop area

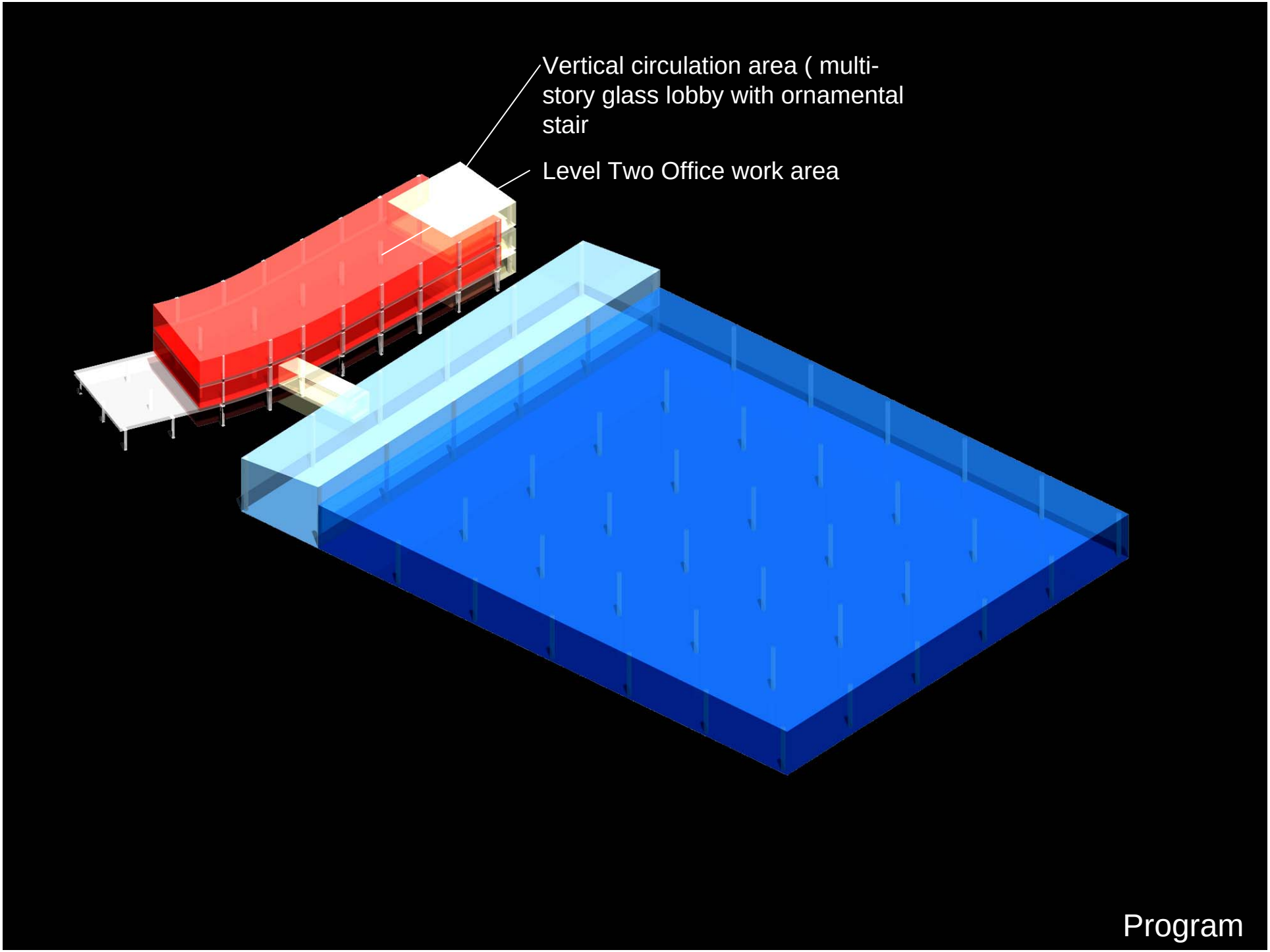
Program


Vertical circulation area ( multi-story glass lobby with ornamental stair
Office work area

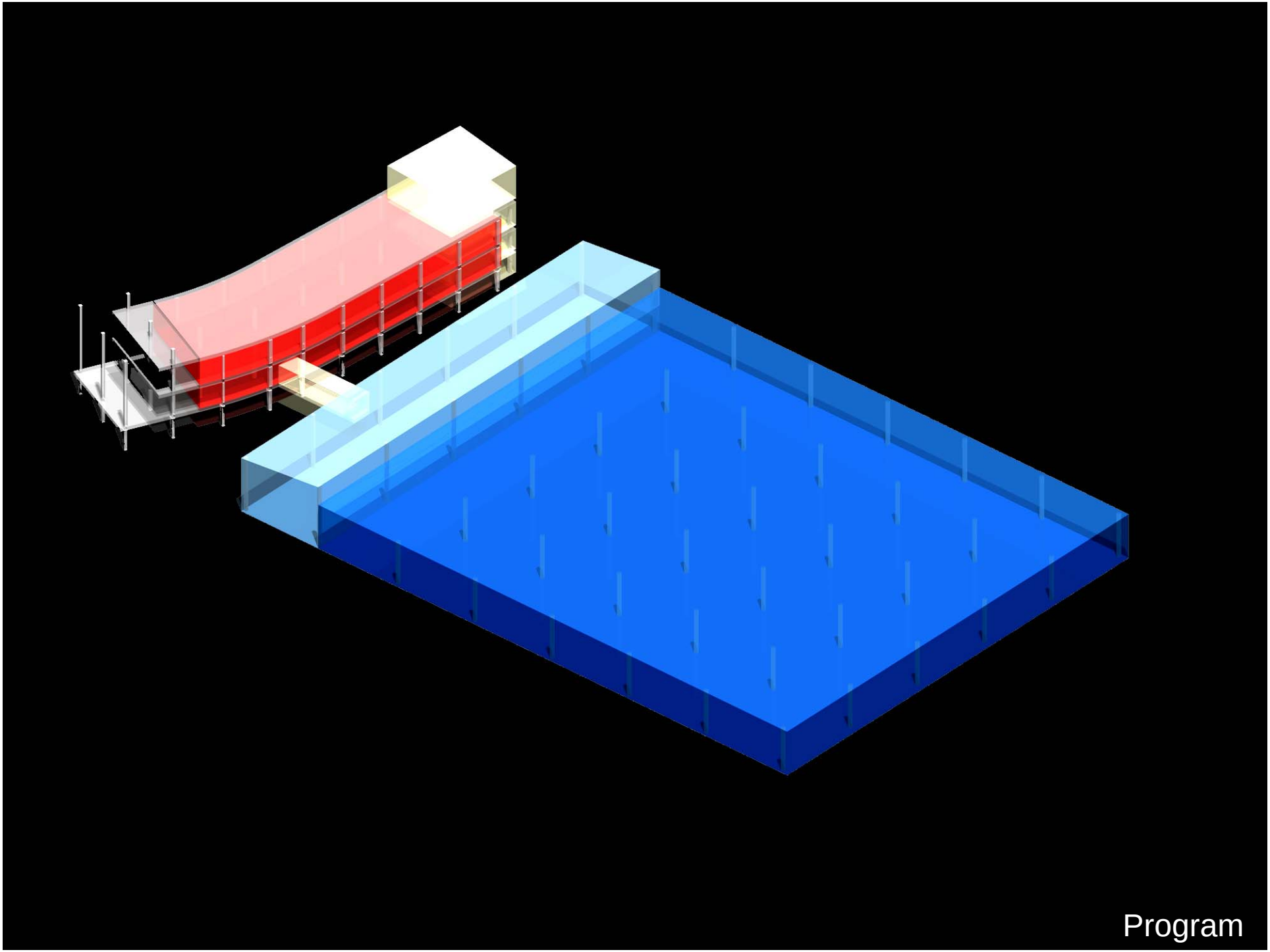
Program

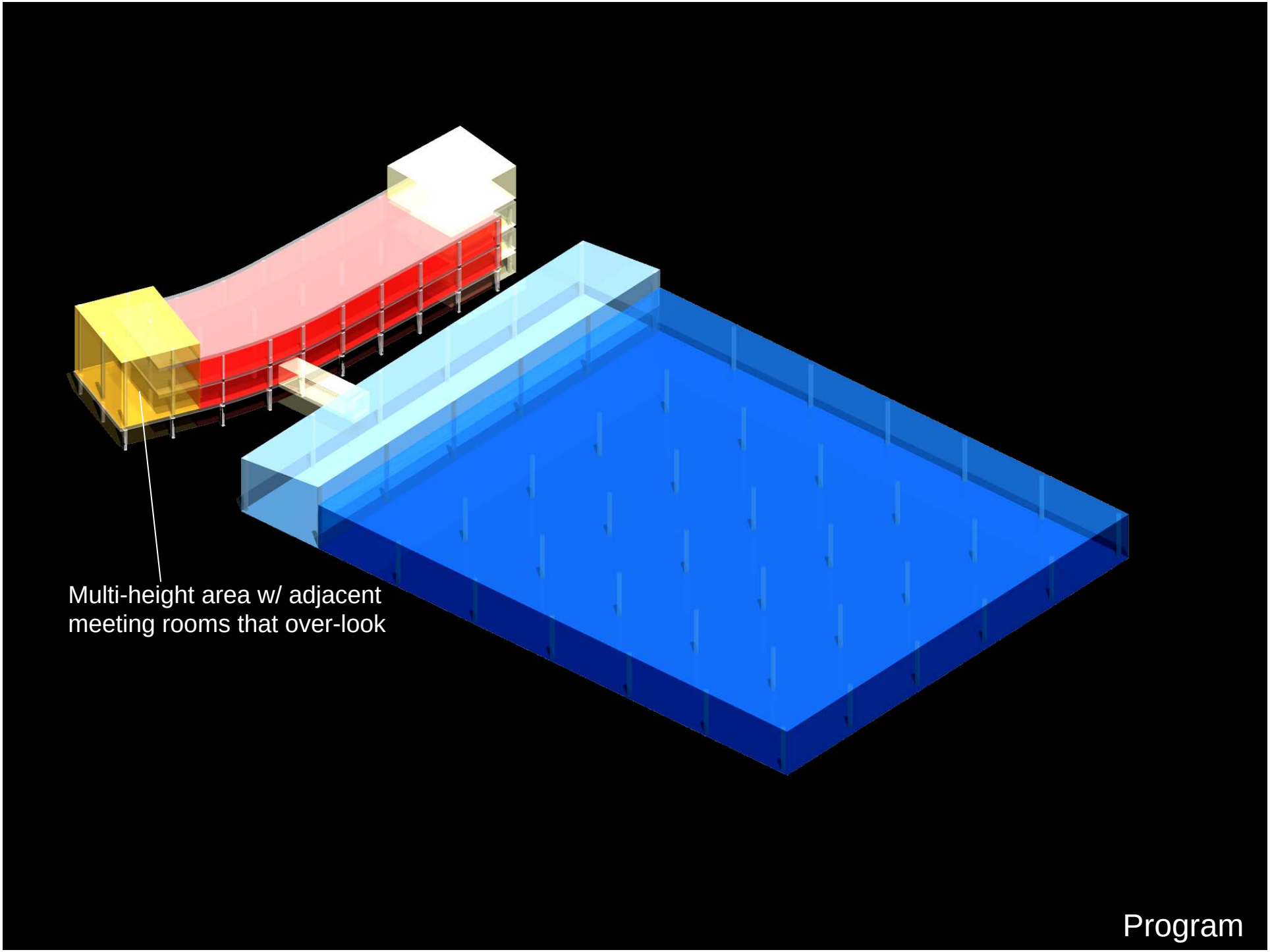



Program

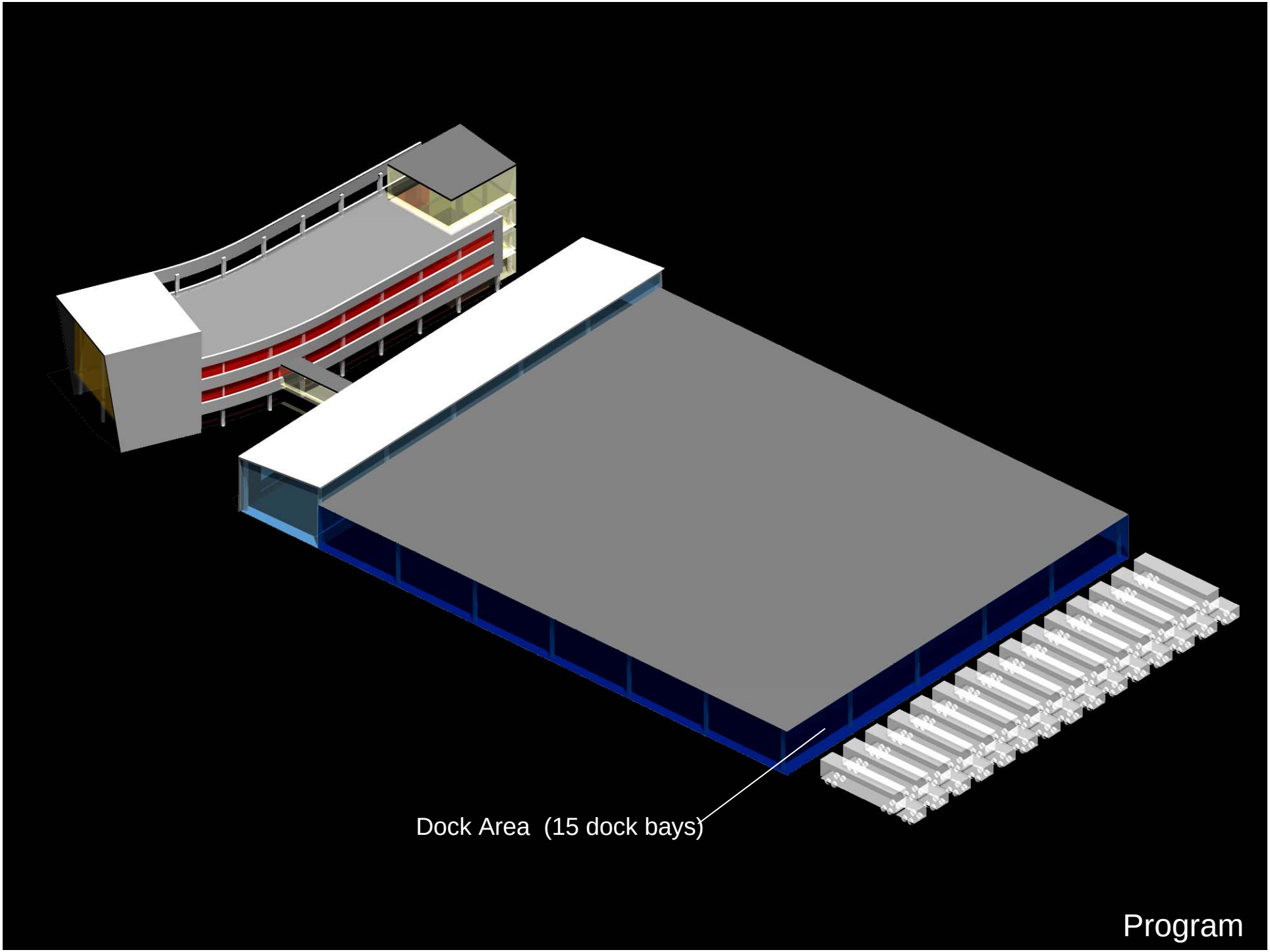

Vertical circulation area ( multi-story glass lobby with ornamental stair
Level Two Office work area

Program

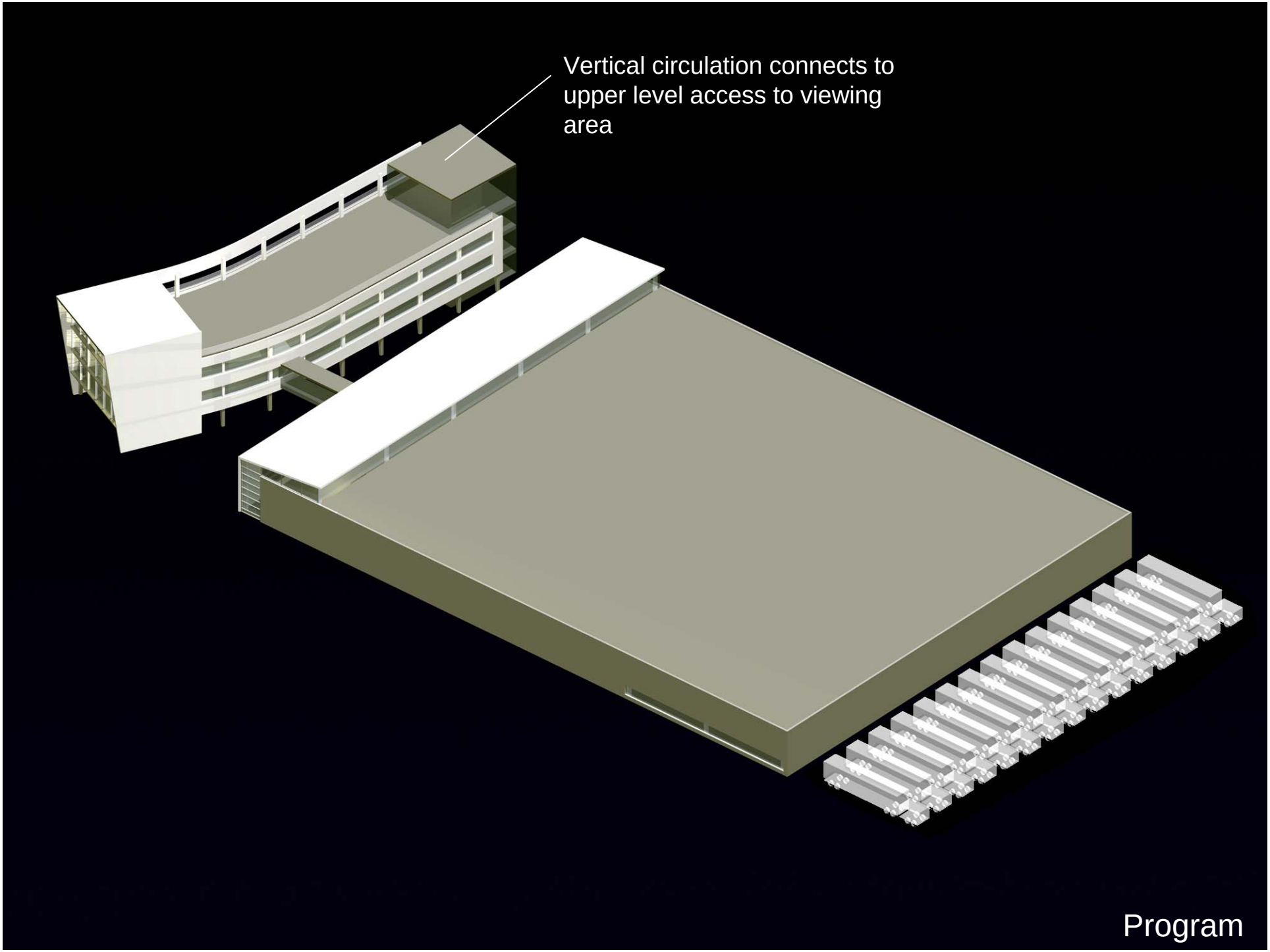

Program



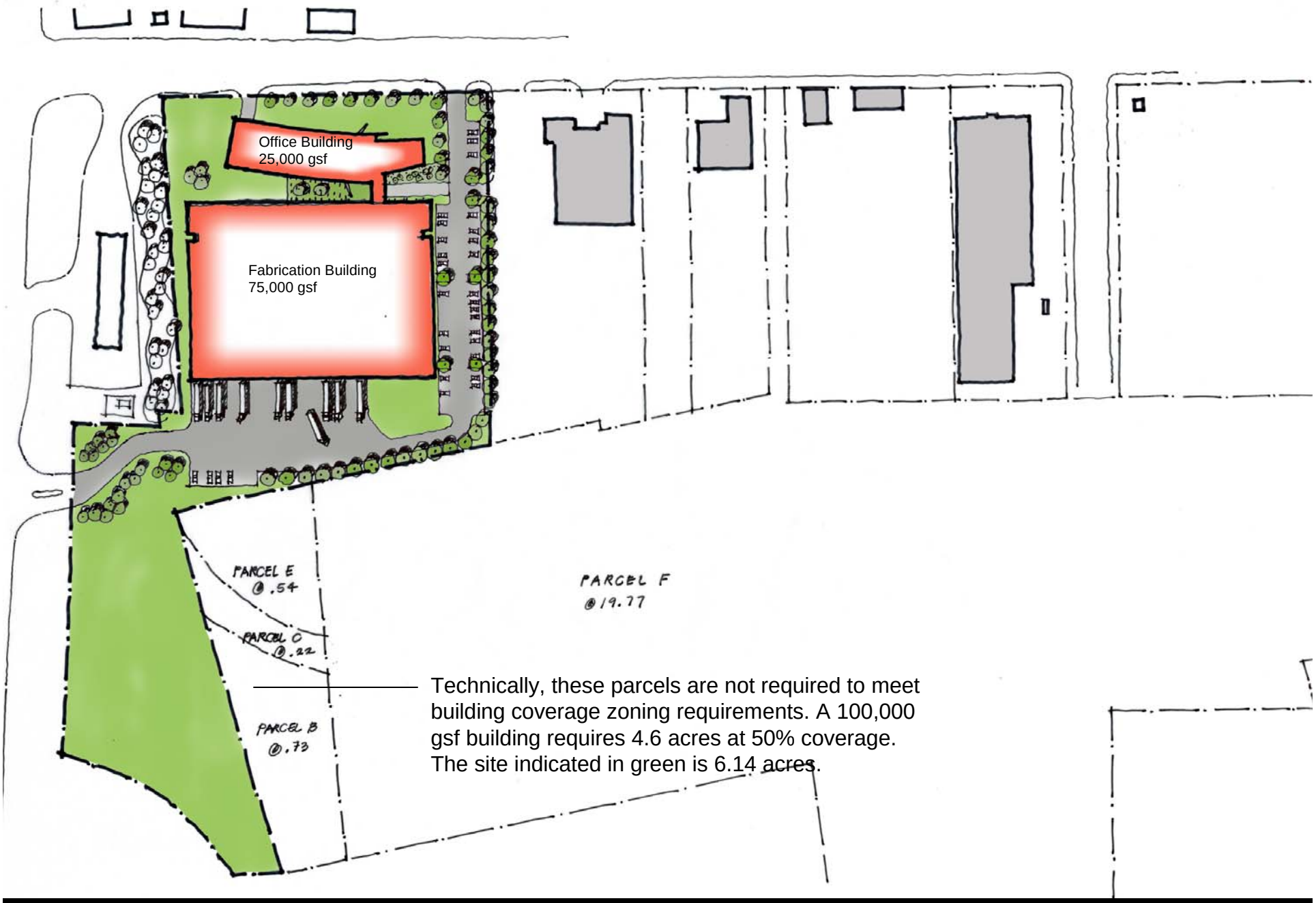

Program




Program

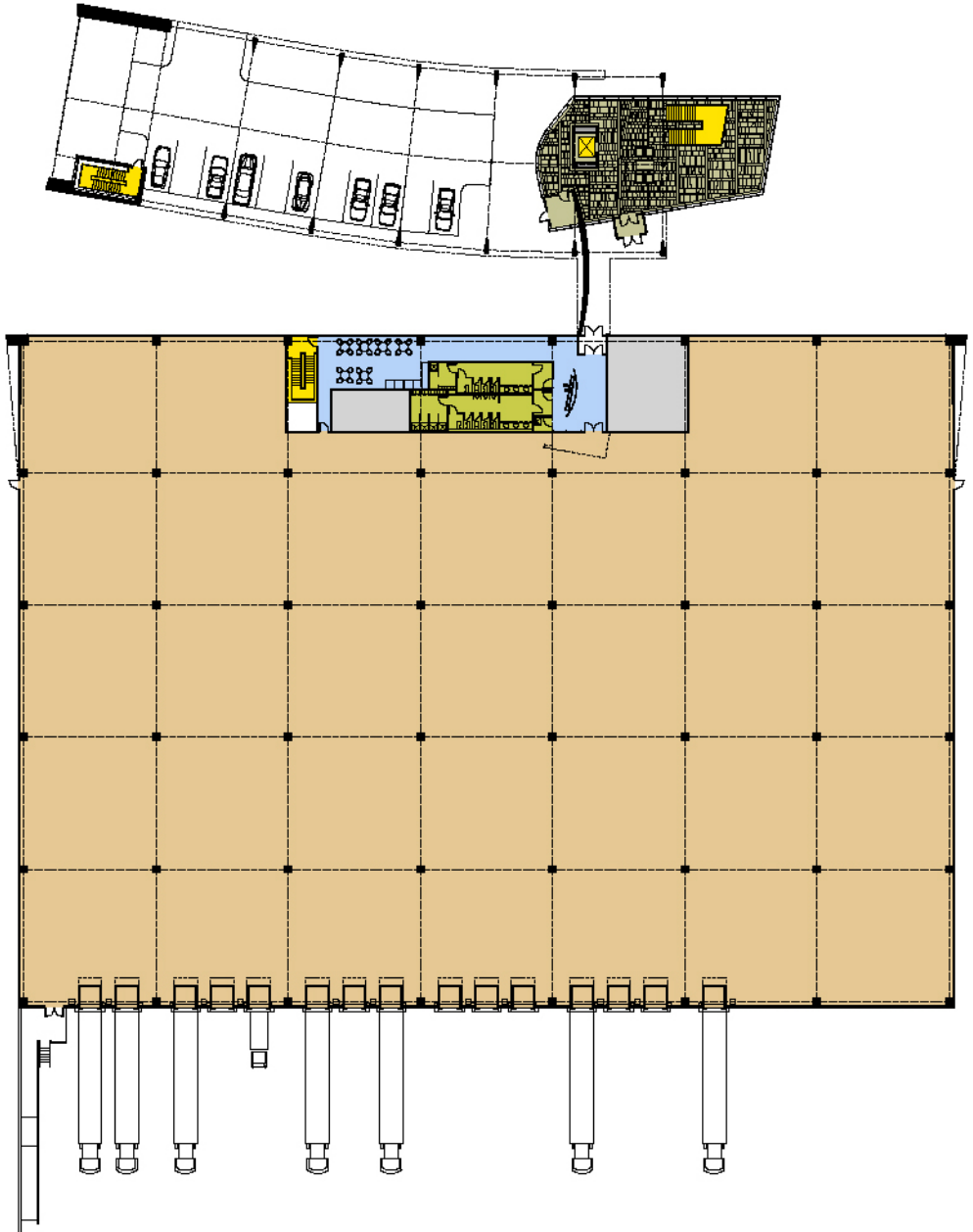

Vertical circulation connects to upper level access to viewing area

Program

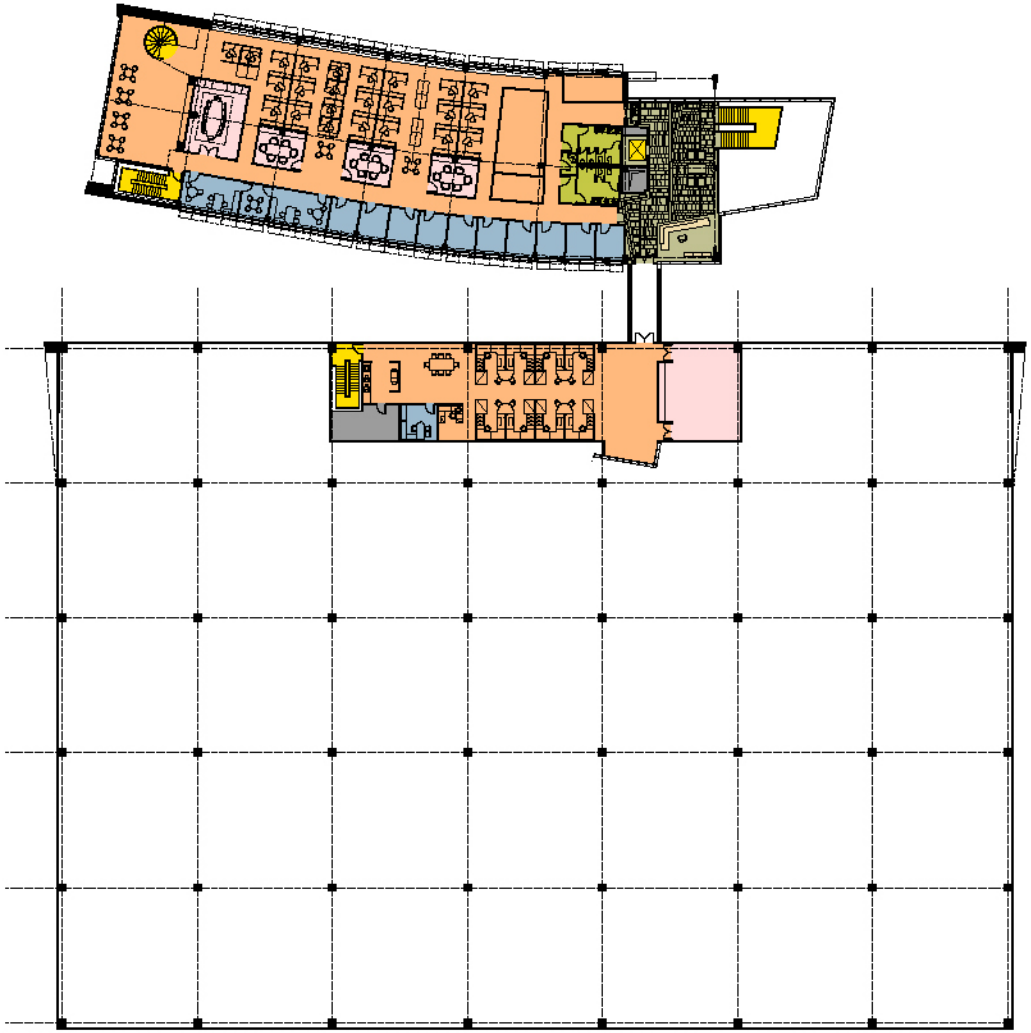



Technically, these parcels are not required to meet building coverage zoning requirements. A 100,000 gsf building requires 4.6 acres at 50% coverage. The site indicated in green is 6.14 acres.

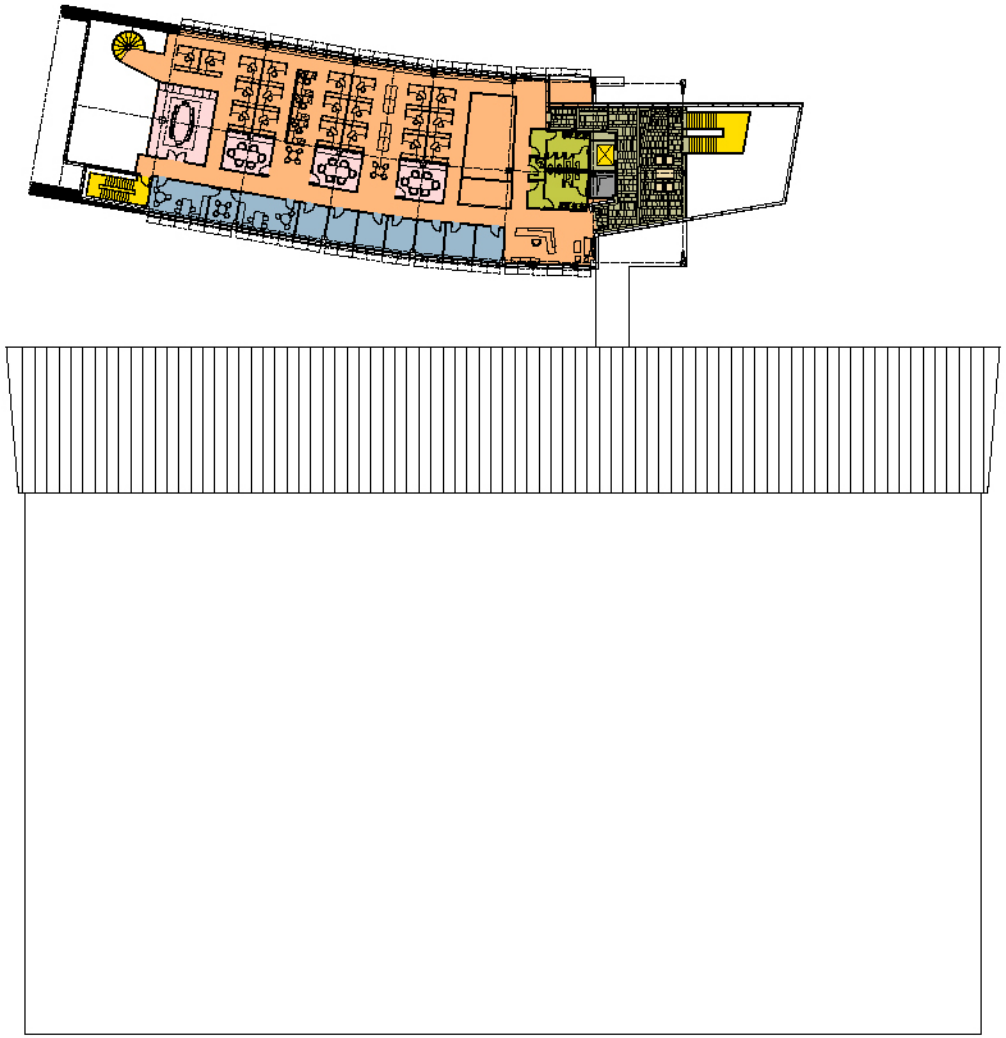
# Scheme Two



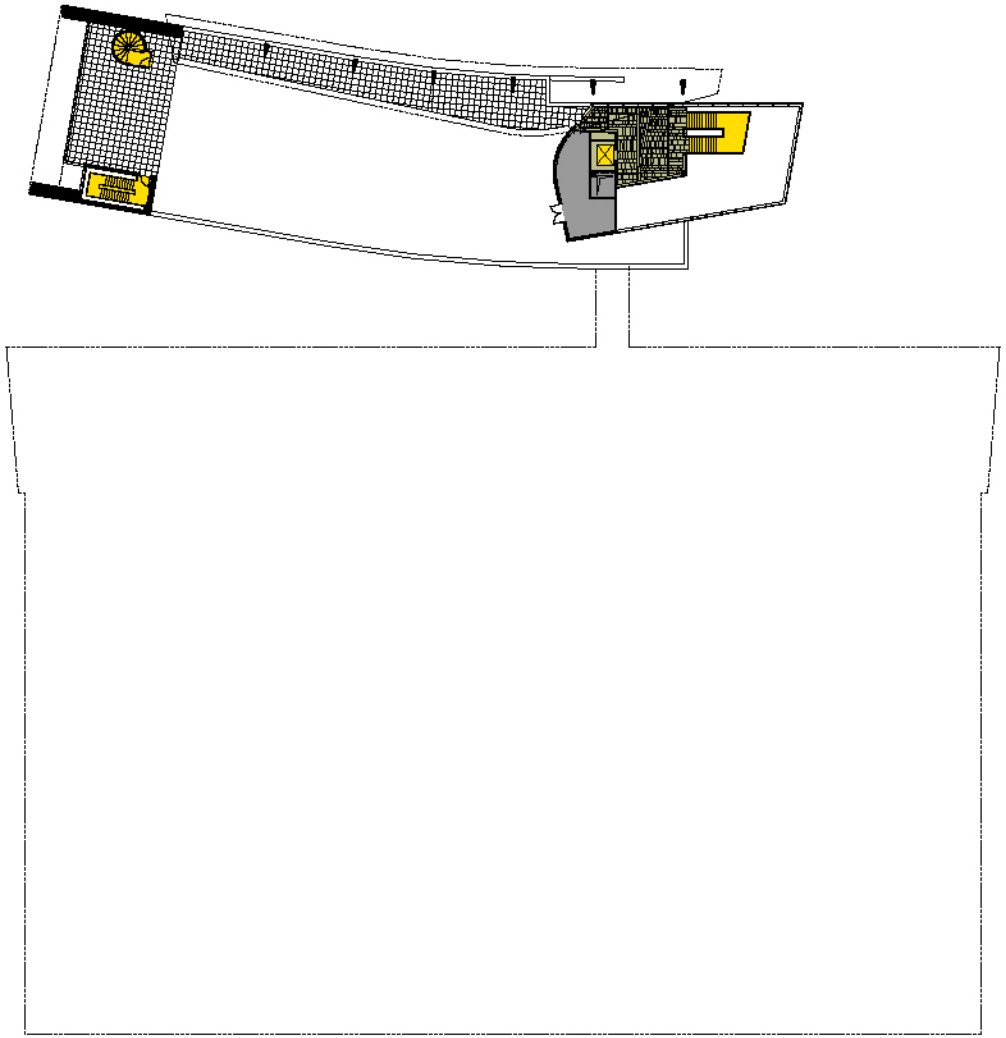
Ground Level



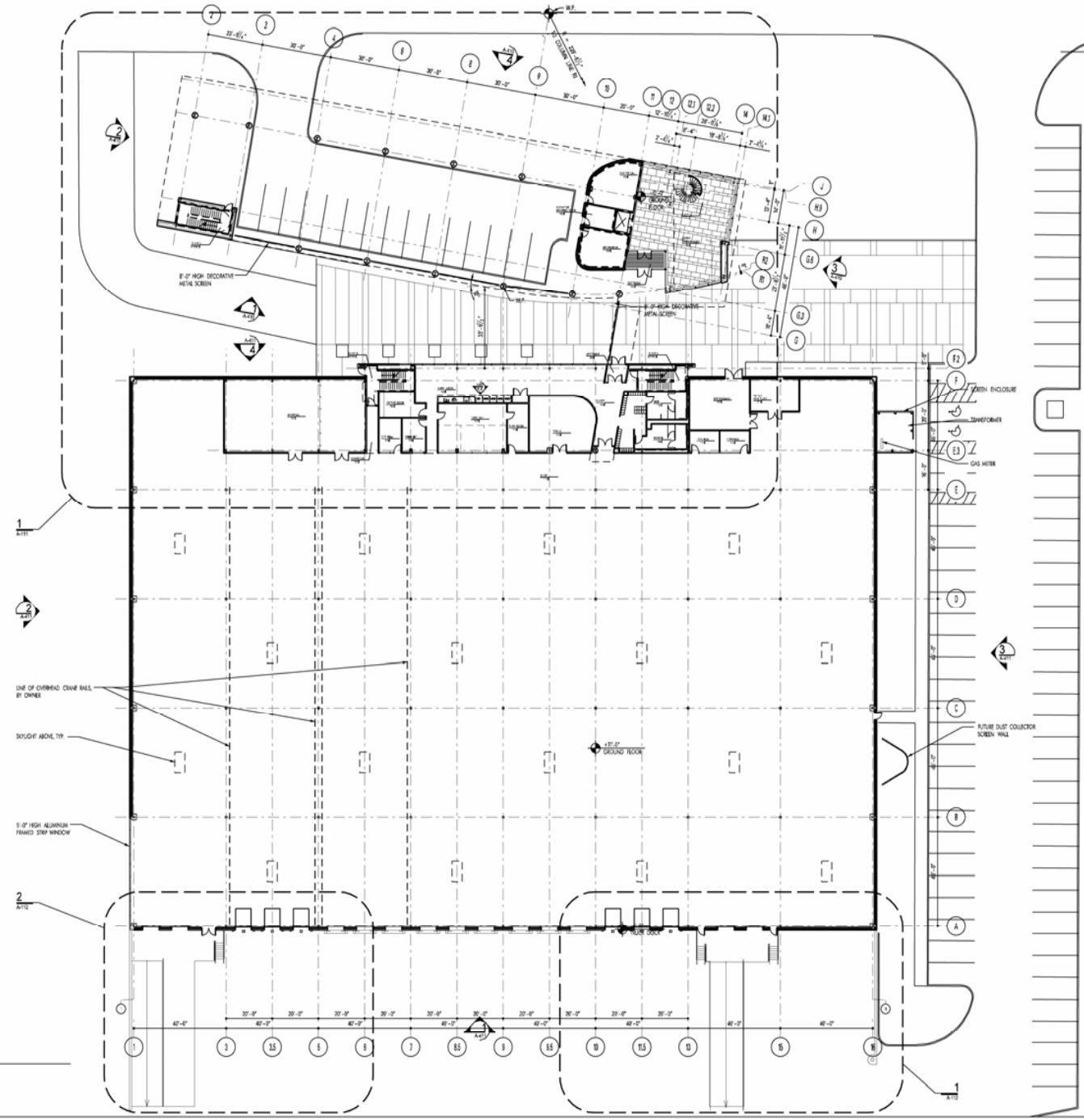
Level One



Level Two



Upper Level




1 OVERALL GROUND FLOOR PLAN
A-110 SCALE: 1/16" = 1'-0"

Kling
ARCHITECTURE ENGINEERING INTERIORS PLANNING
2301 Chestnut Street
Philadelphia, Pennsylvania
19103
P 215.569.2900
F 215.569.9163
W www.kling.us

General Notes:

| Number | Description | Date |
|---|---|---|
| | BDG | 09-03-03 |

Seals:

Projects:

322 A Street LLC
23 Industrial Boulevard
New Castle County,
Delaware 19720

Key Plan:

PROJECT NORTH

TRUE NORTH

| | |
|---|---|
| Drawn By: | |
| Checked By: | |
| Approved By: | |
| Scale: | 1/16" = 1'-0" |
| Project No: | 02.3791.44 |
| Cadd File: | |

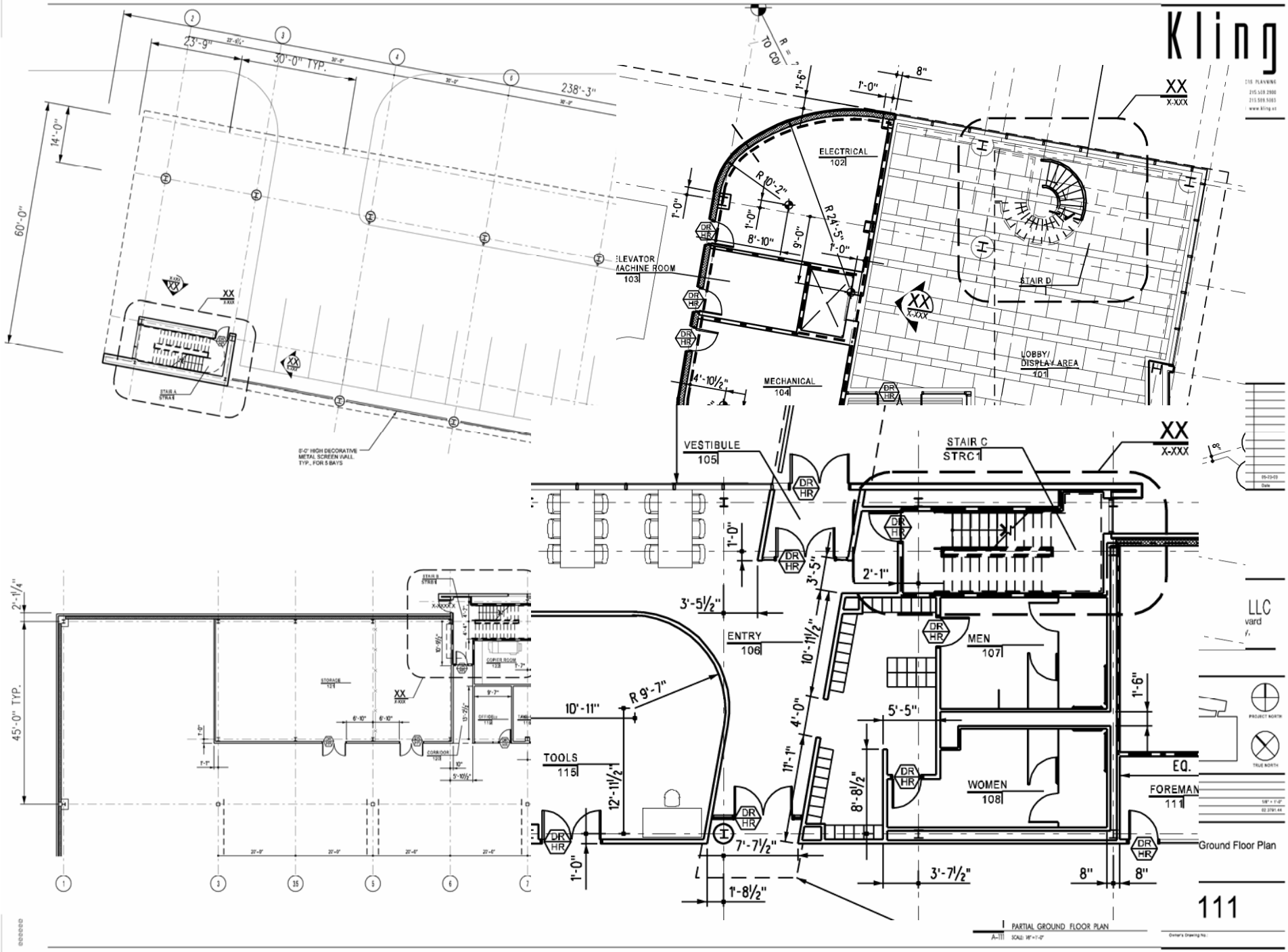
Drawing Title:

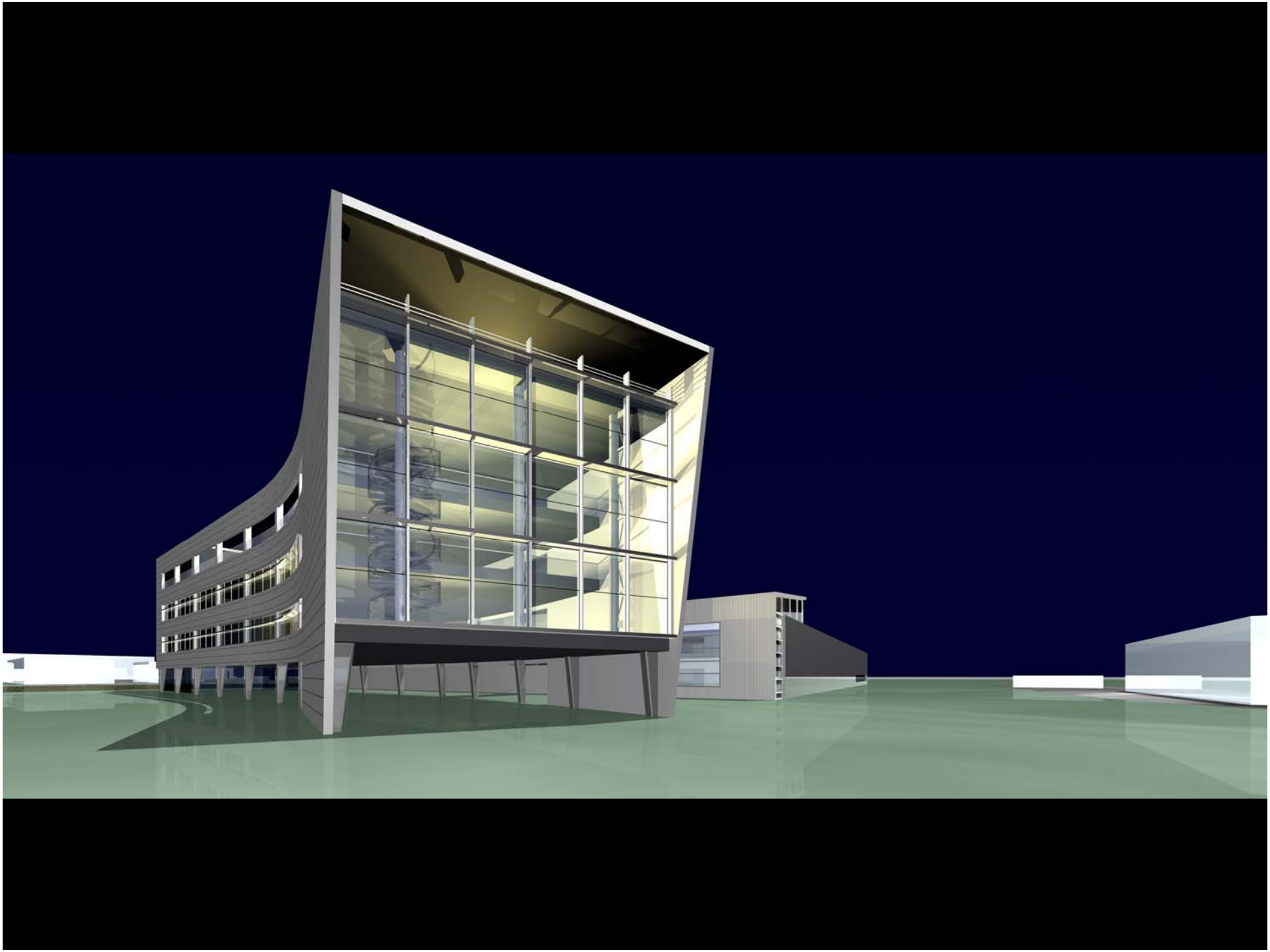
Overall Ground Floor Plan

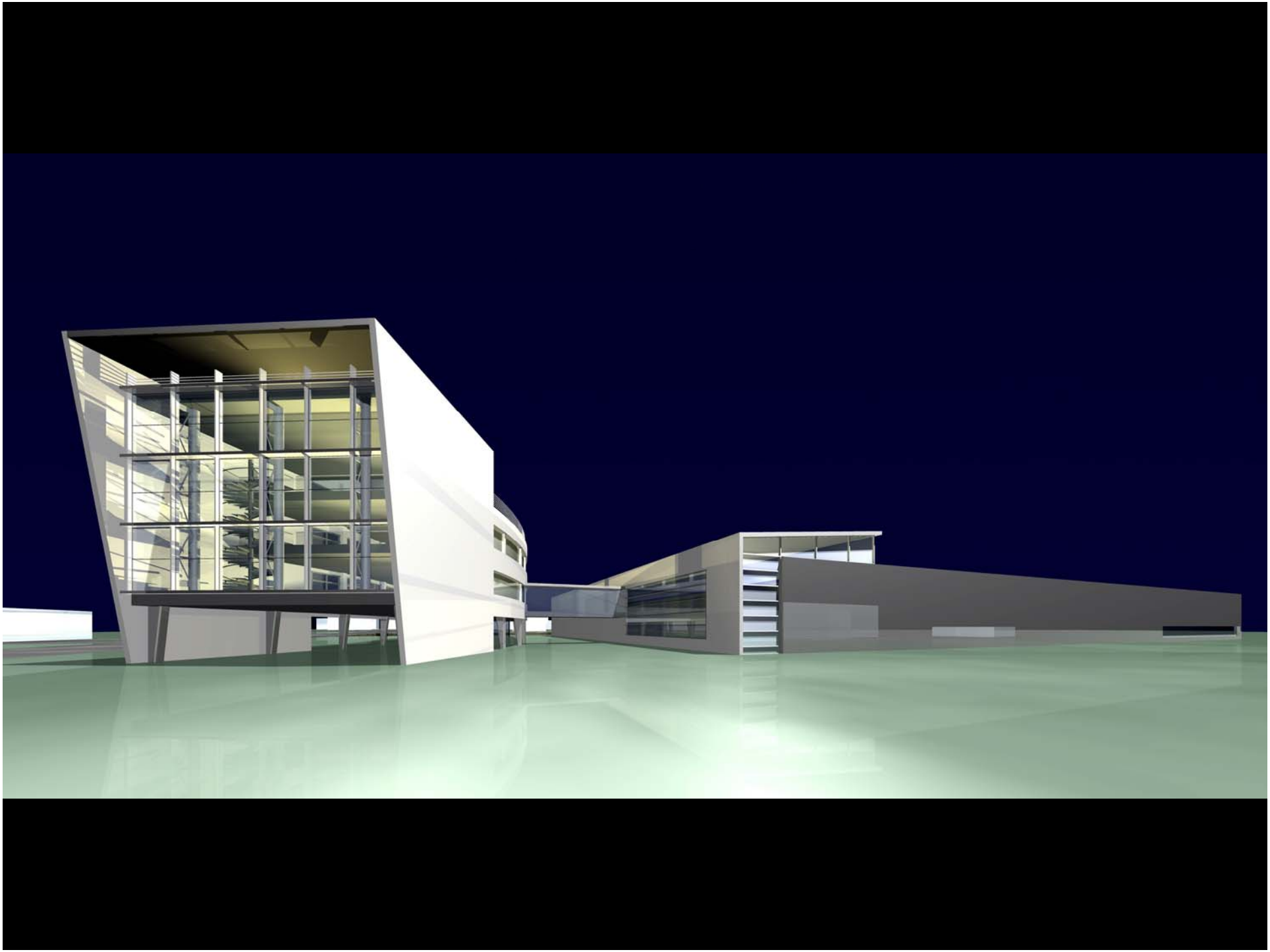
Drawing No.:

A-110

Owner's Drawing No.:


Kling
23'-9"
30'-0" TYP.
238'-3"
14'-0"
60'-0"
ELEVATOR MACHINE ROOM 103
5'-0" HIGH DECORATIVE METAL SCREEN WALL TYP., FOR 5 BAYS
ELECTRICAL 102
MECHANICAL 104
LOBBY/ DISPLAY AREA 101
STAIR D
VESTIBULE 105
STAIR C STRC1
ENTRY 106
TOOLS 115
MEN 107
WOMEN 108
EQ.
FOREMAN 111
45'-0" TYP.
Ground Floor Plan
PARTIAL GROUND FLOOR PLAN
111



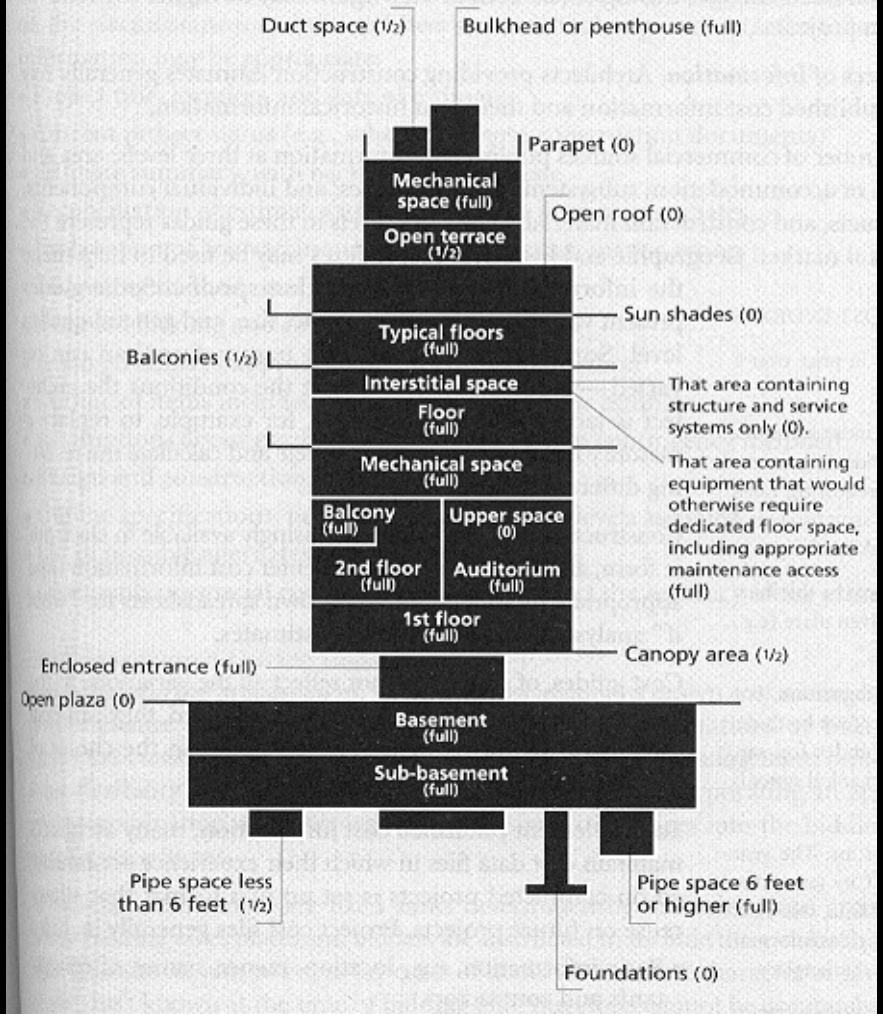


# Defining the Project – Stacking Diagram

## ARCHITECTURAL AREA AND VOLUME OF BUILDINGS

AIA Document D101, 1980 edition

AIA Document D101, Architectural Area and Volume of Buildings, provides a generally accepted set of definitions for establishing building area and volume. For example, an exterior balcony contributes one-half of its floor space to the total net assignable area, while an enclosed entrance is counted at its full floor area.



# Defining the Project – Thermal Control



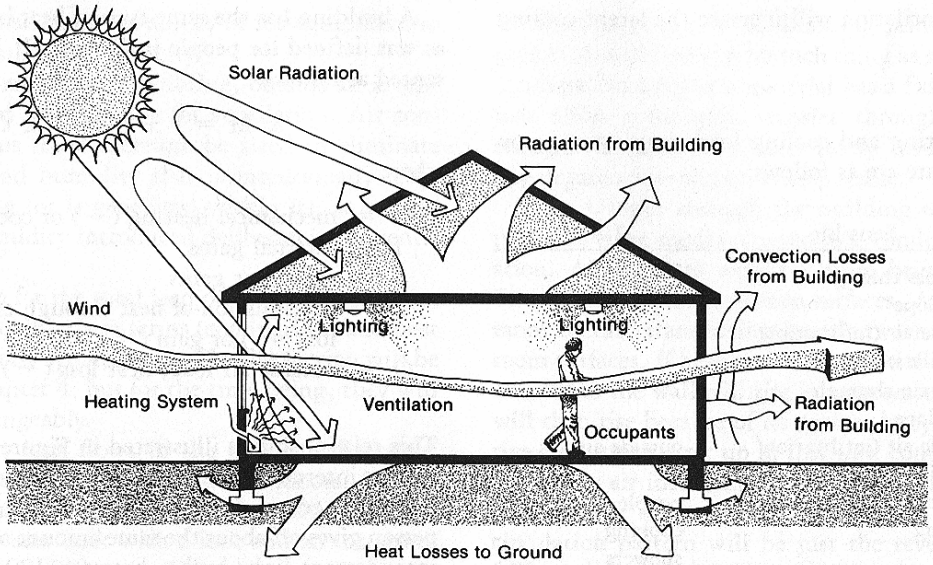
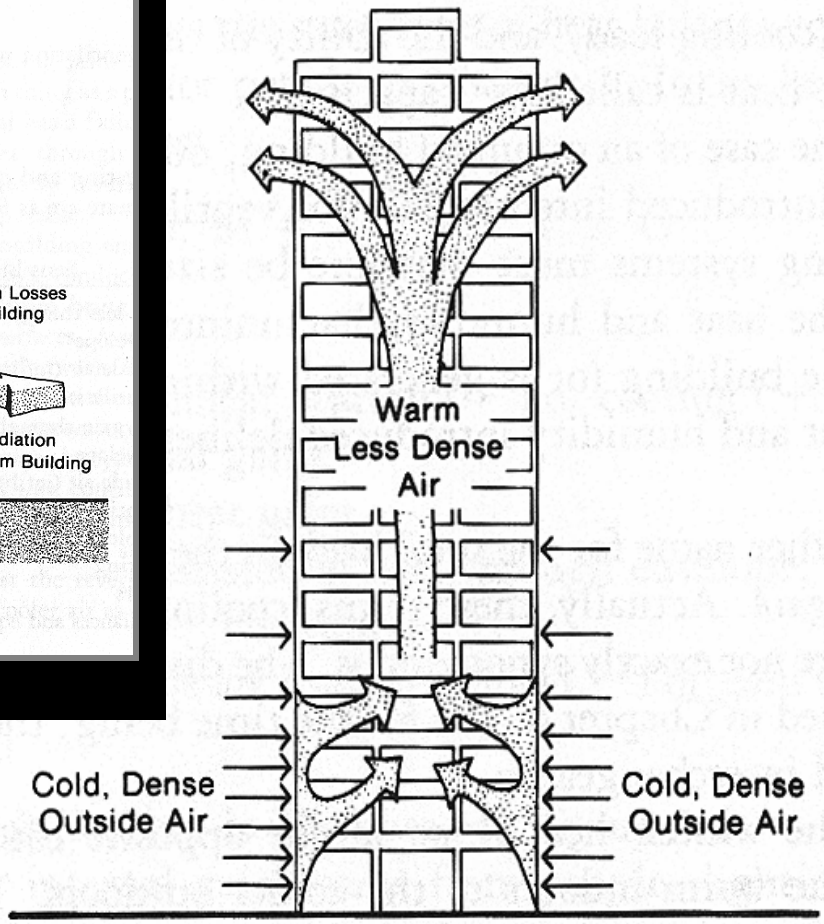



**FIGURE 3.6.** Heat gains and losses in buildings.

## THERMAL DYNAMICS OF BUILDINGS




BUILDING SECTION

**FIGURE 3.5.** Stack effect in tall buildings.

# Defining the Project – Acoustic Consideration



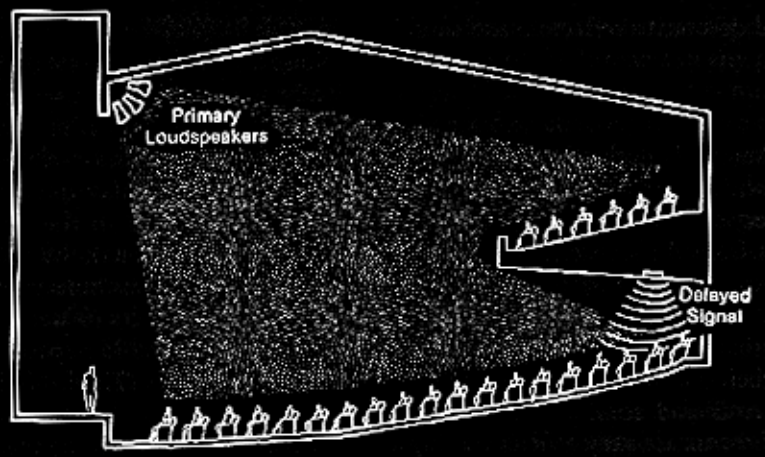



FIGURE 13.9. Spatial characteristics of electronic amplification.

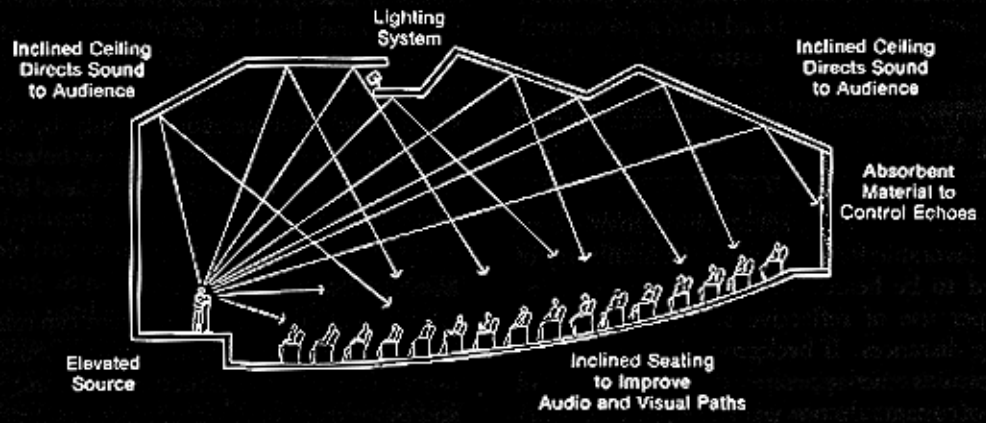
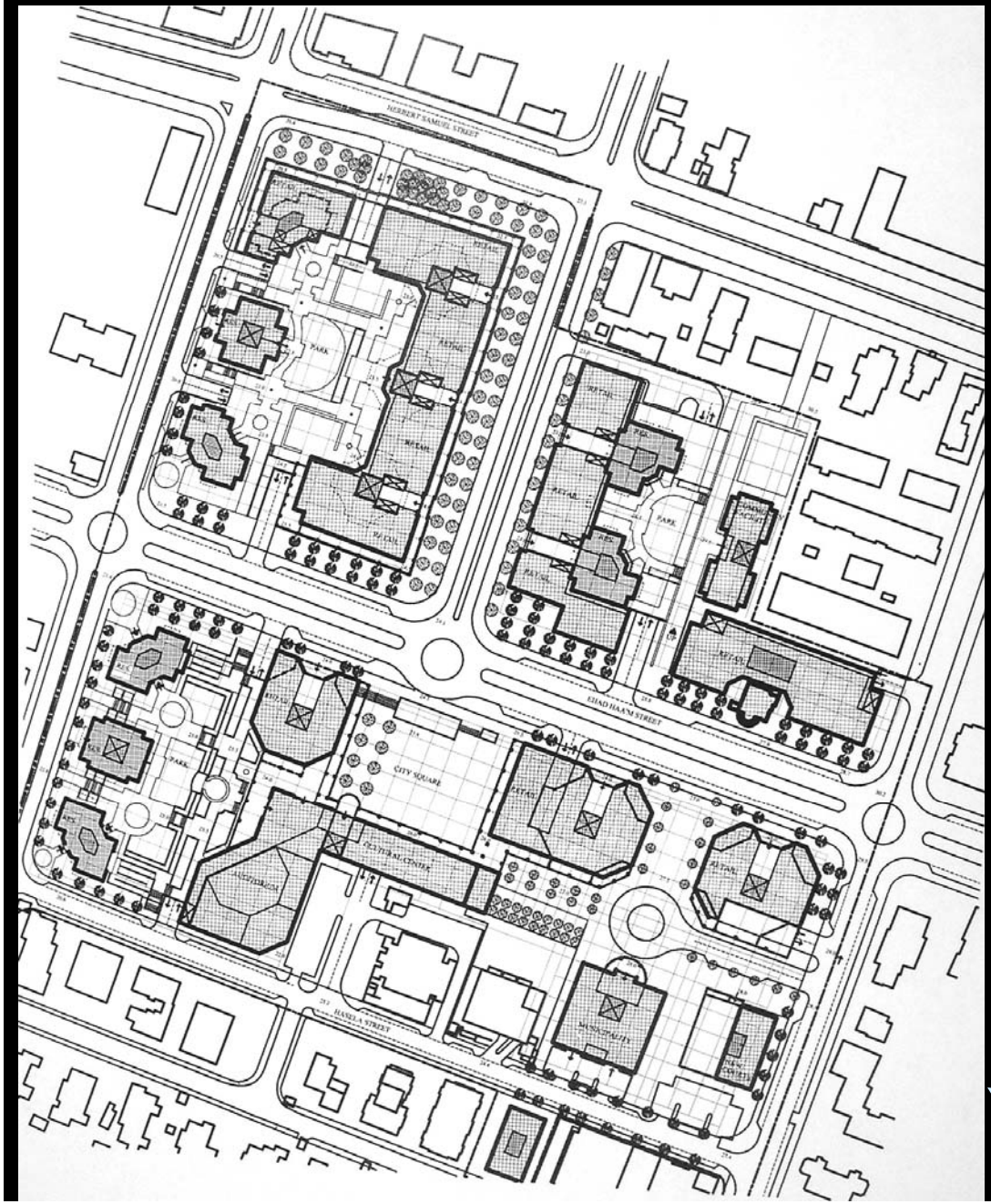


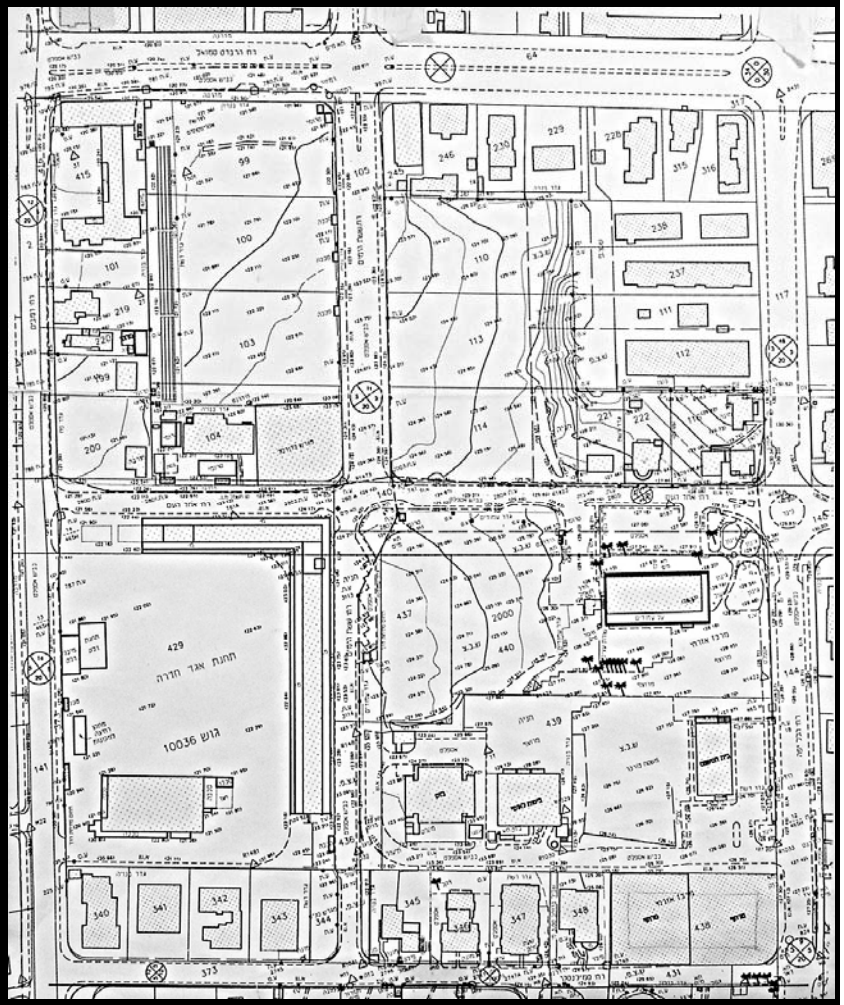

FIGURE 13.10. Auditorium shaping.

# Session IV – Developing the Plans

Schematic Design
Design Development
Working Drawings

# Site Design Development - Hadera



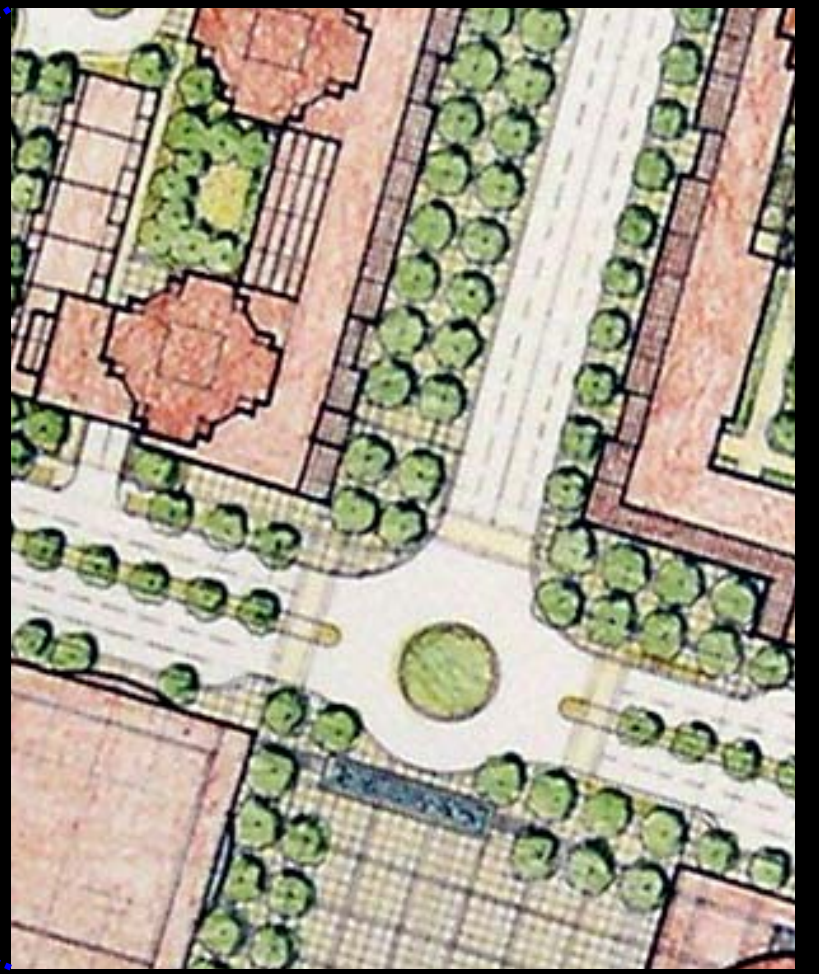



land use and topography

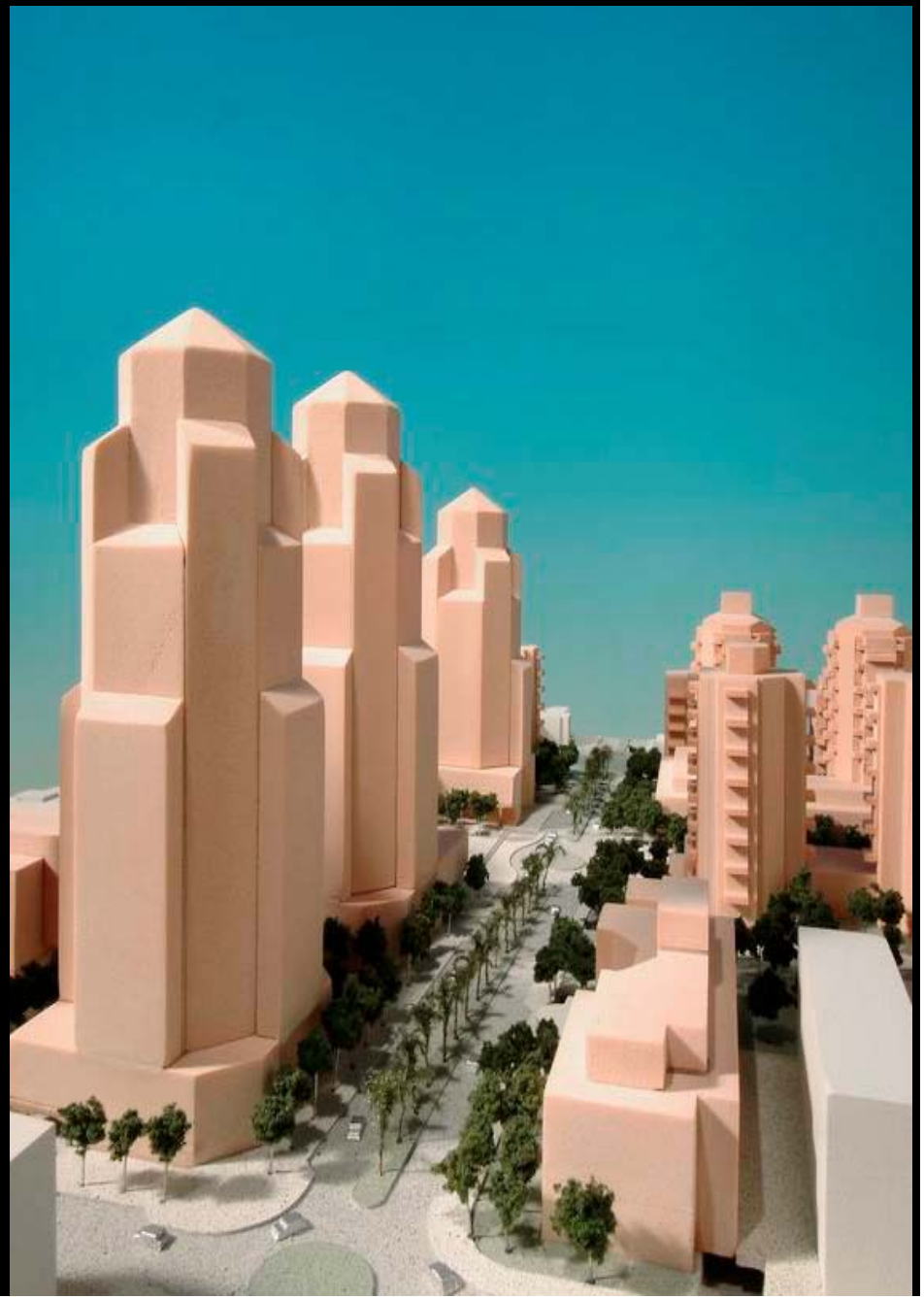
development site plan

# Land Use Development Plan - Hadera

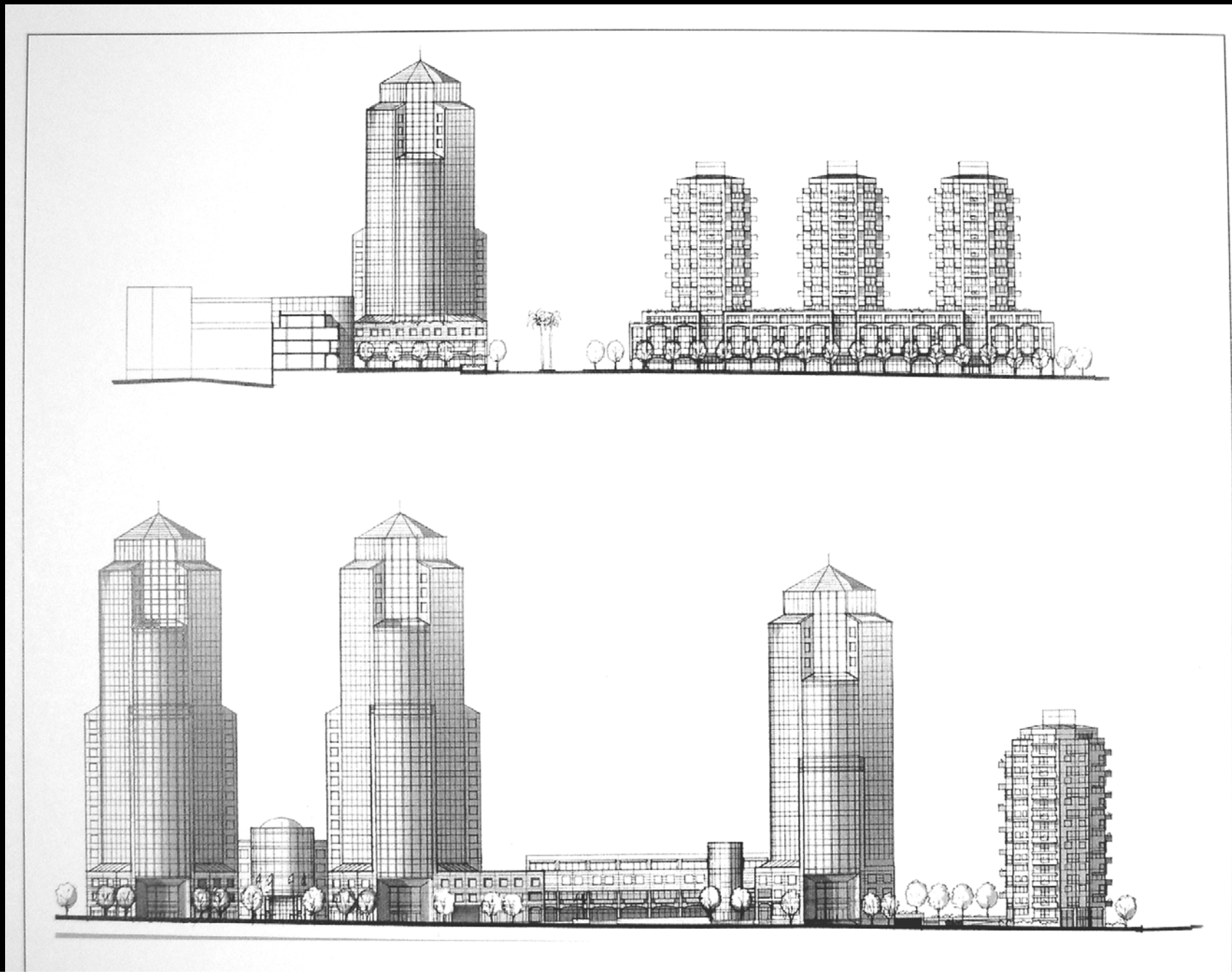
# Landscape Plan - Hadera

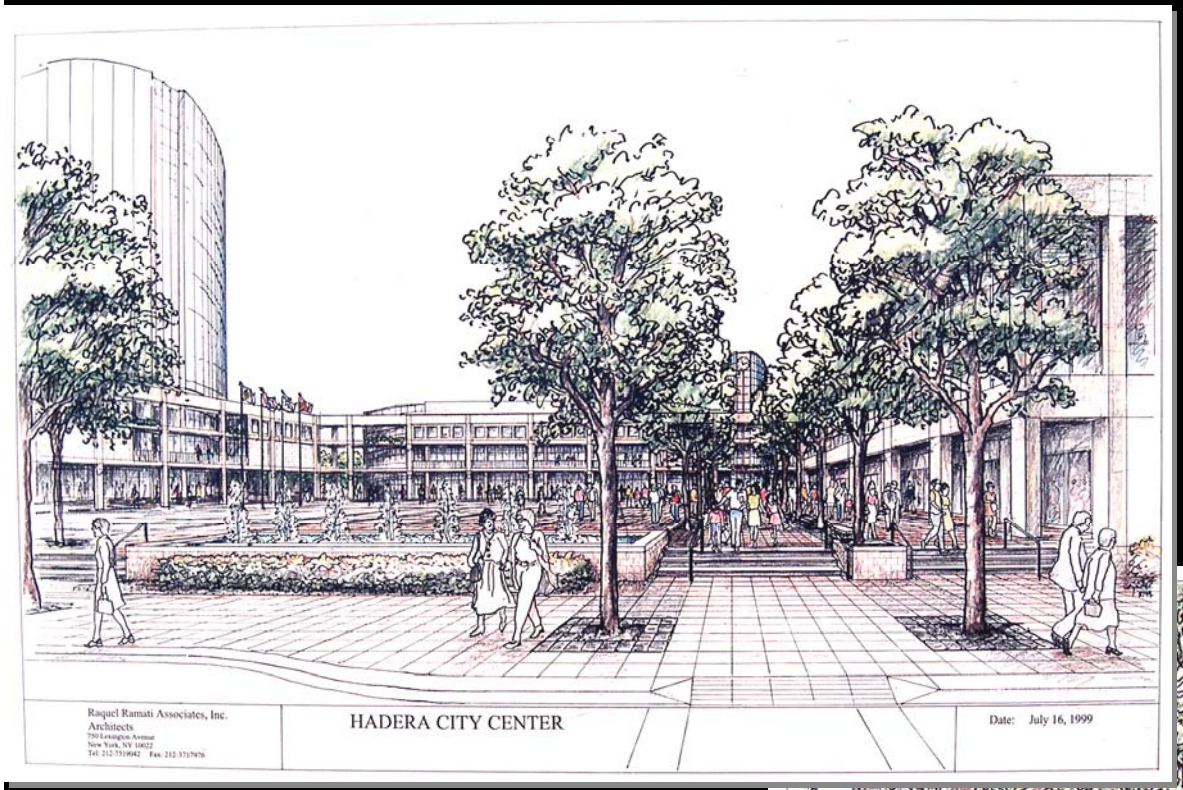
# Architectural Massing Models - Hadera

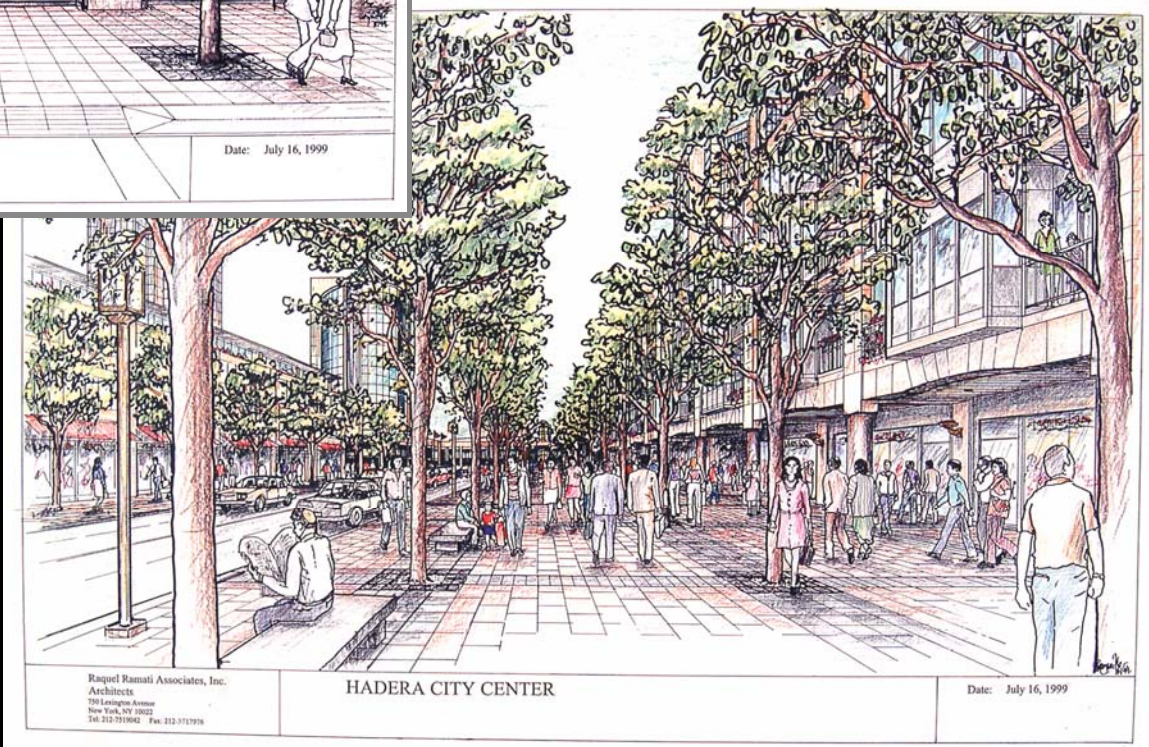


# Elevations - Hadera



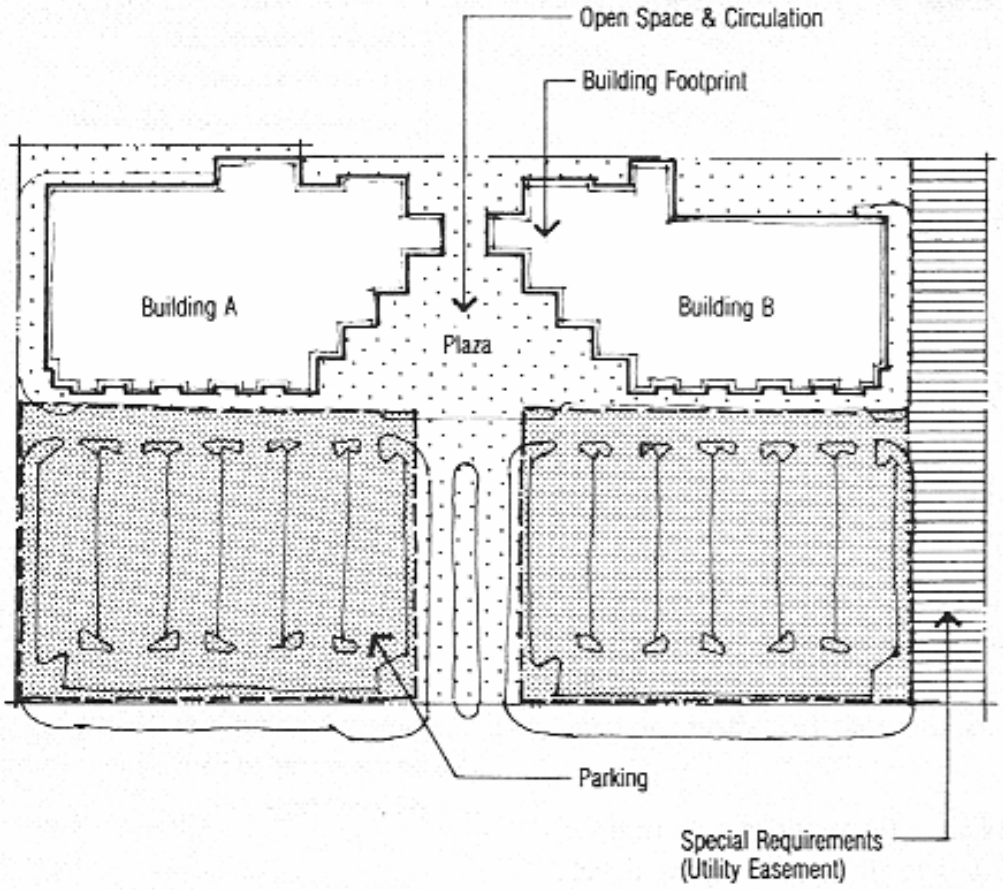
# Perspective Renderings - Hadera



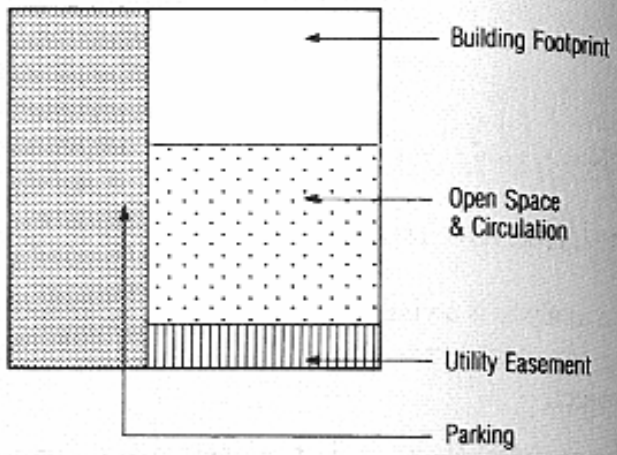



# Schematic Design – Site Plan

## PROGRAM ELEMENTS AND PROGRAM EVALUATION SUMMARY

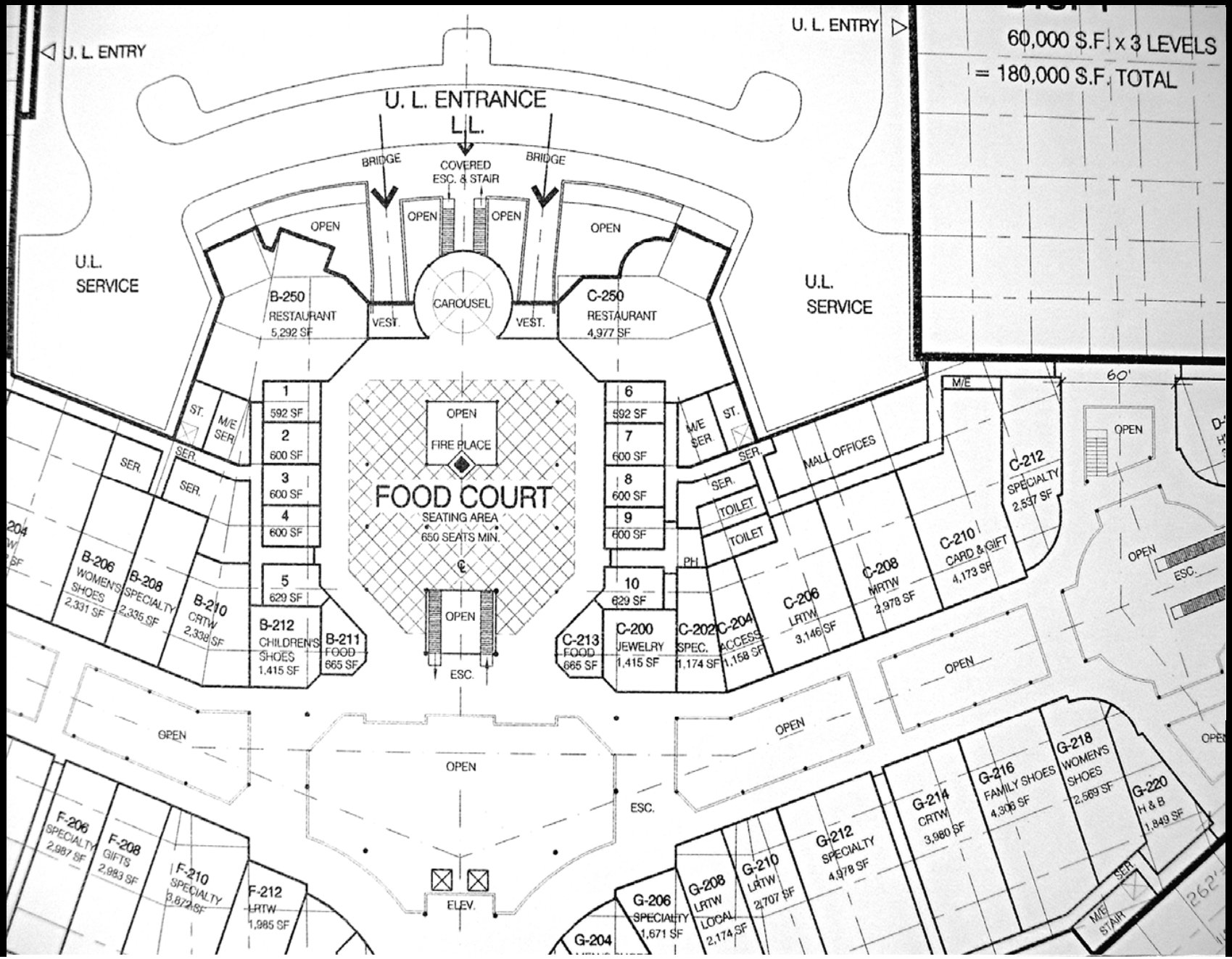



**Total Site Acreage: 10.70 Acres**




| *Program Element* | *Acreage* | *% of Total* |
|---|---|---|
| Building footprints | 2.40 | 22.4 |
| Parking | 4.00 | 37.4 |
| Open space & circulation | 3.30 | 30.8 |
| Special requirements for utility easement | 1.00 | 9.4 |
| **Total** | **10.70** | **100.0** |

# Shopping Center – Plans



# Sample Project – BEFORE Renovation

# Sample Project – AFTER Renovation

# Sample Project – COVER Sheet

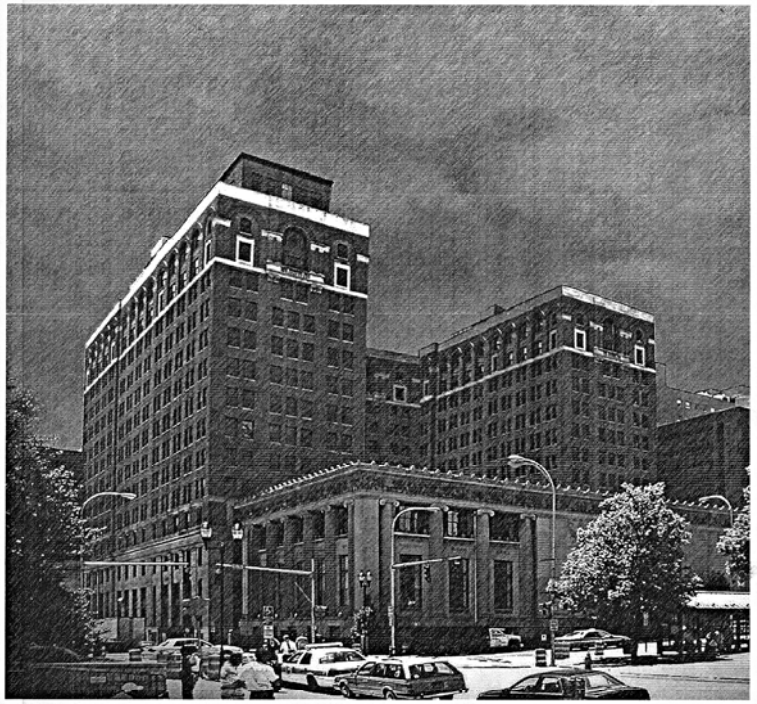
## SYMBOL LEGEND:

- 1hr RATED PARTITION
- 2hr RATED PARTITION
- 3hr RATED PARTITION
- CMU PARTITION
- GWB PARTITION, UNO
- DIMENSION TO FACE (FACE OF EXPOSED CMU FINISH FACE OF GWB)
- DIMENSION TO ℄ (NOTE IF PARTITION COINCIDES WITH COL. ℄ THEN PARTITION SHALL BE CENTERED ON THAT COL. CENTERLINE, U.N.O.
- CONSTRUCTION CONTROL POINT
- ELEVATION, WORK POINT
- XBF — BI-FOLD DOOR NUMBER (THE NUMBER IN PLACE OF X IS THE WIDTH IN FEET)
- XXXX.X — DOOR NUMBER (WHERE AN "X" APPEARS IN THE DOOR NUMBER, SUBSTITUTE WITH FLOOR NUMBER)
- ELEVATION
- WALL OR PLAN SECTION
- DETAIL SYMBOL
- AXON — AXONOMETRIC VIEW

# DELAWARE TRUST BUILDING

Wilmington, Delaware

10-16-02 PACKAGE NO. 3 - FITOUT, ISSUED FOR BID



REFLECTED CEILING LEGEND:

DELAWARE TRUST BUILDING
WILMINGTON, DELAWARE

Kling

COVER SHEET

A-001

# The Typical Document Set

**The Typical Drawing Set:**

Divisions:

A- ***Architectural*** Ex- *Existing* X- *Building/ Fire Code Plan*
S- *Structural* D- *Demolition*
P- *Plumbing* C- *Civil/Site work*
E- *Electrical* M- *Mechanical*

Sections:

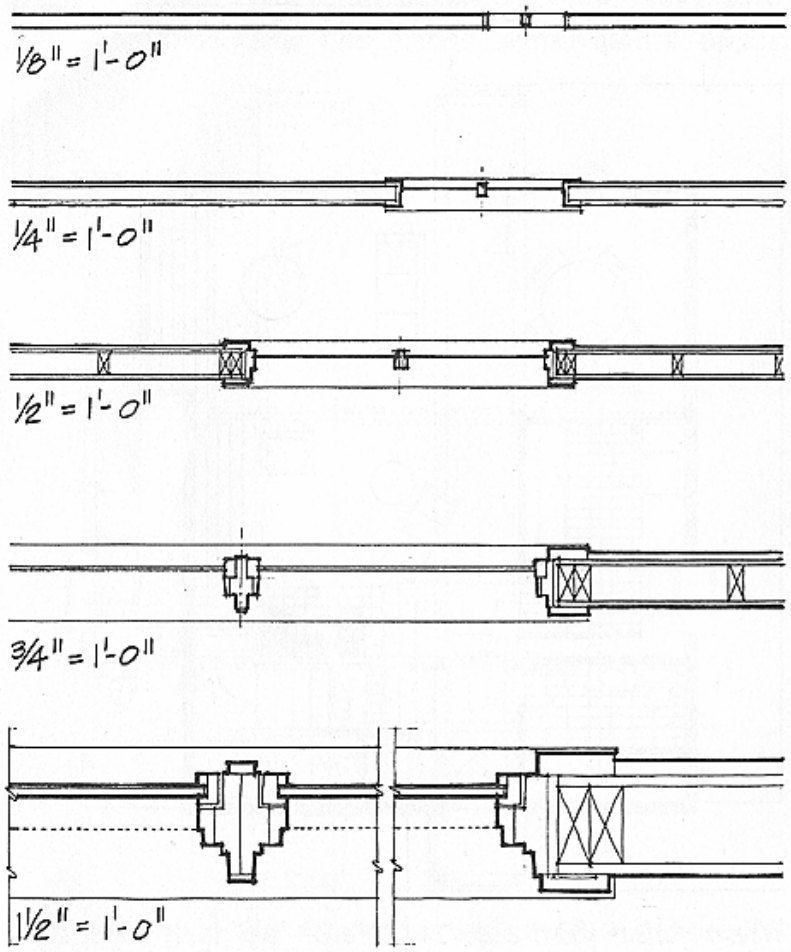
A0- *Building/ Fire Code Review Plan*
A1- ***Plans***
A2- *Exterior Elevations*
A3- *Sections*
A4- *Details*
A5- *Stairways/ Elevators*
A6- *Interior Elevations*

Sheets:

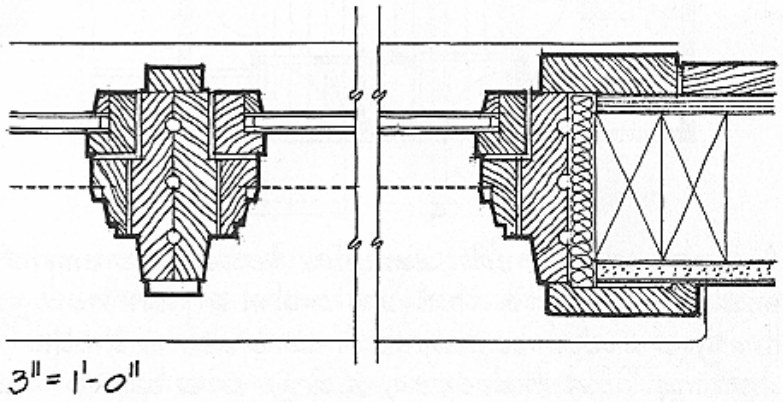
A1.0- *Foundation Plan/Basement Plan*
A1.1- ***First level/ Ground level***
A1.2- *Second level*
A1.3- *Third level*
A1.4- *Fourth level*

These numbers are located in the lower right hand corner of the drawing, alike this sheet. In this way a plan can quickly be referenced.

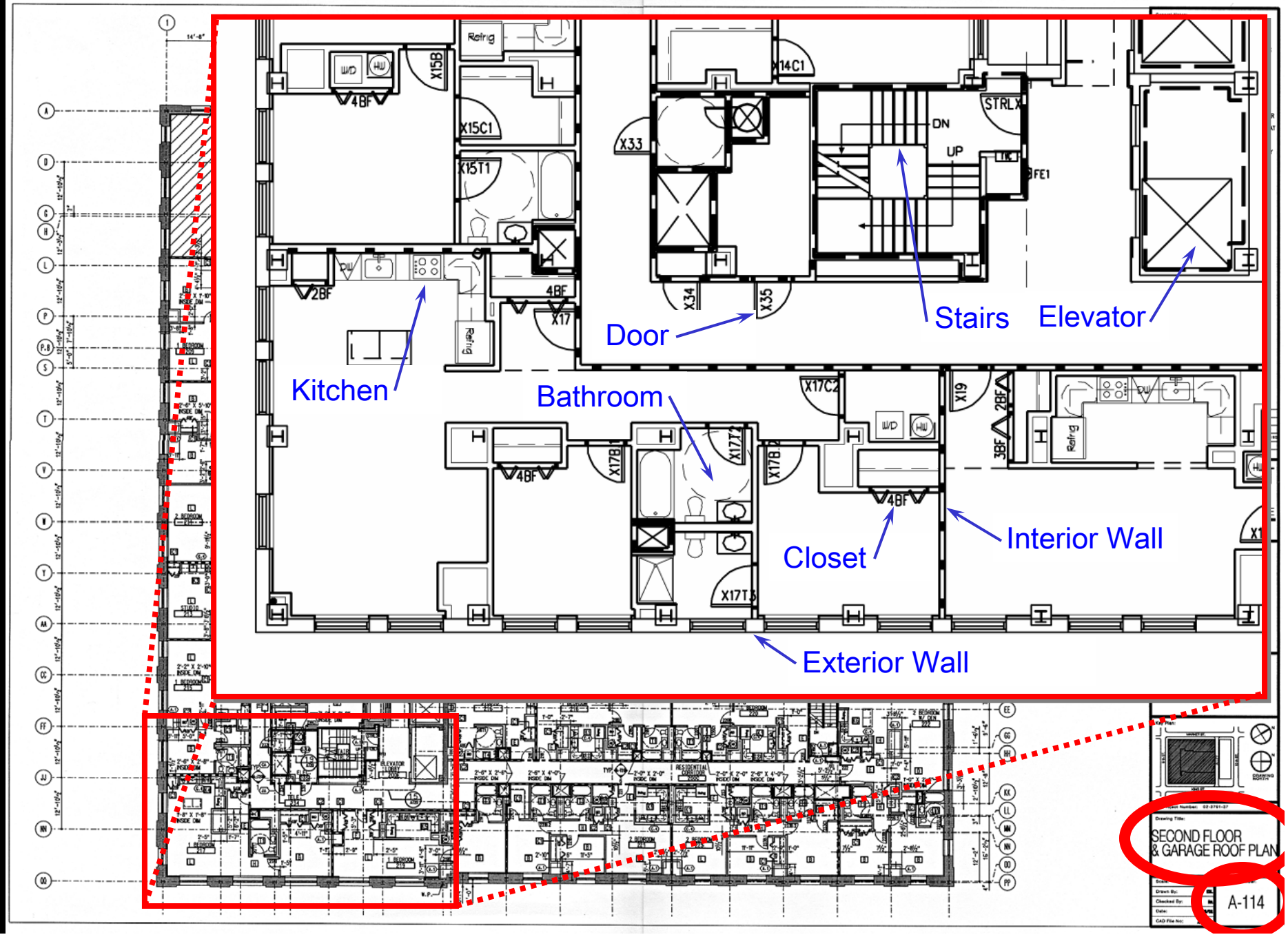
# Levels of Scale



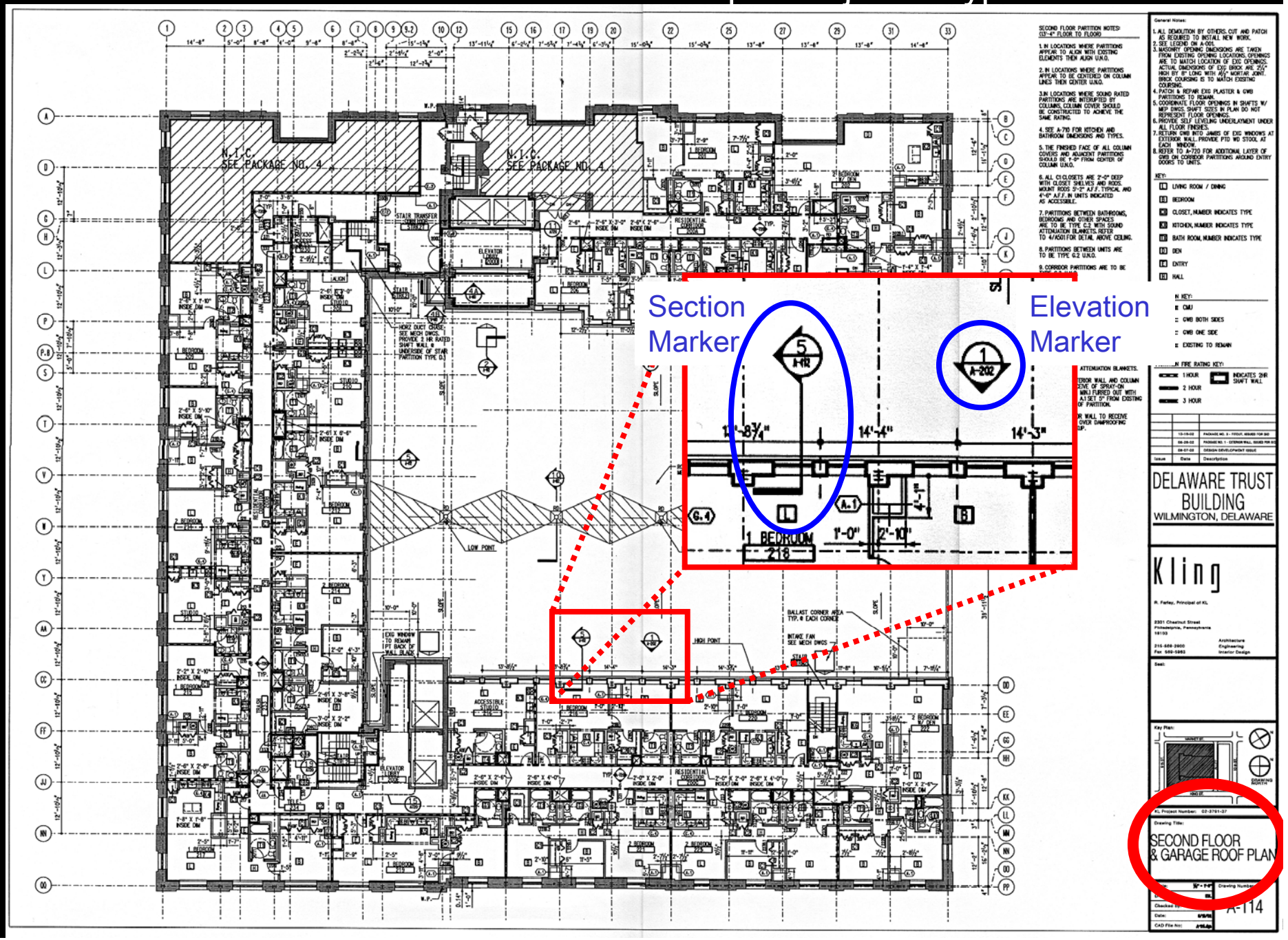

As the scale of a drawing increases, the amount of detail required to give the drawing credibility also becomes greater. This attention to detail is most critical when drawing the thicknesses of those materials that are cut in plan. Careful attention should be paid to wall and door thicknesses, wall terminations, corner conditions, and stair details. A general knowledge of building construction therefore is necessary to execute large-scale plan drawings.



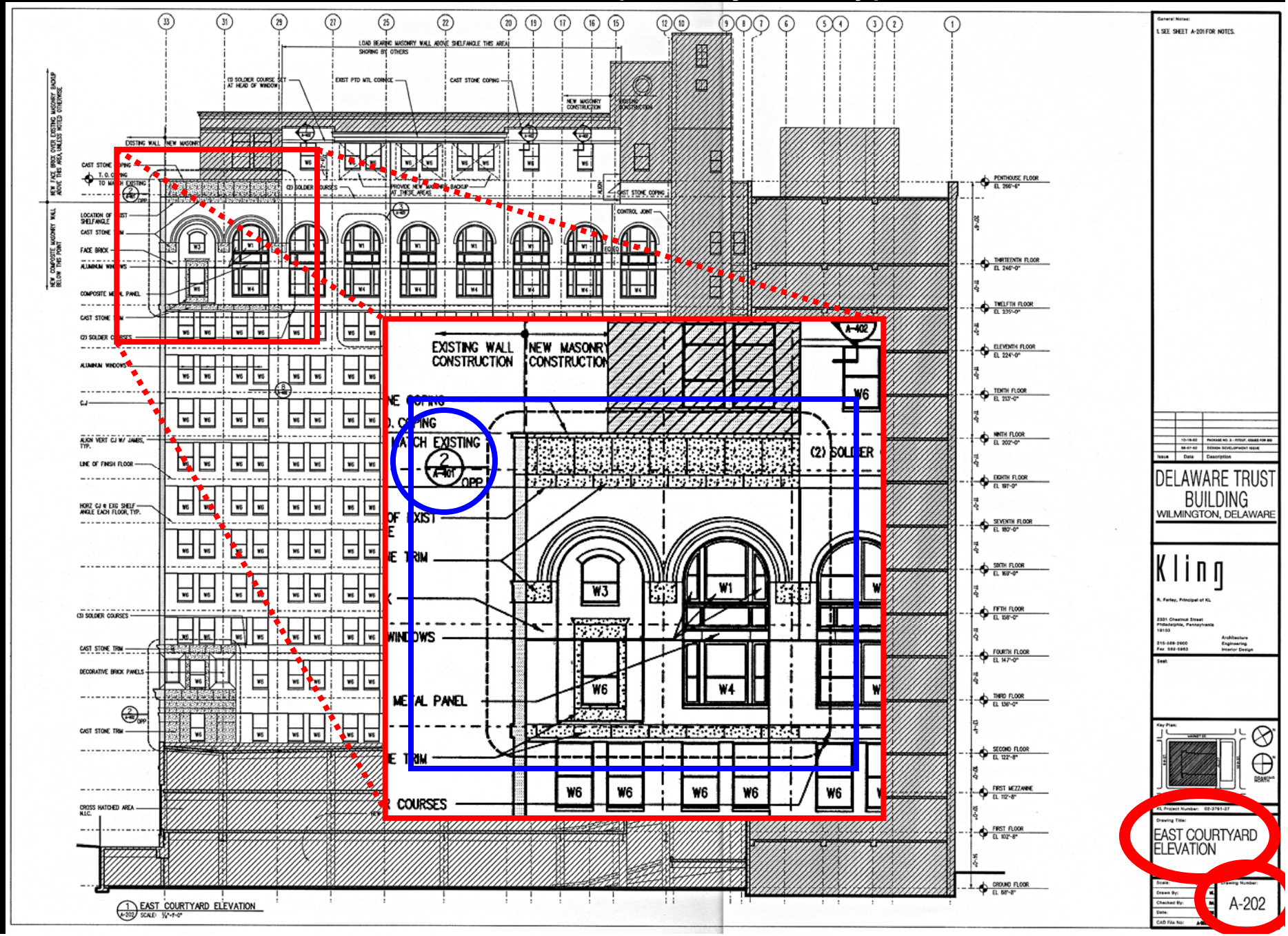
# Sample Project – Typical PLAN Sheet



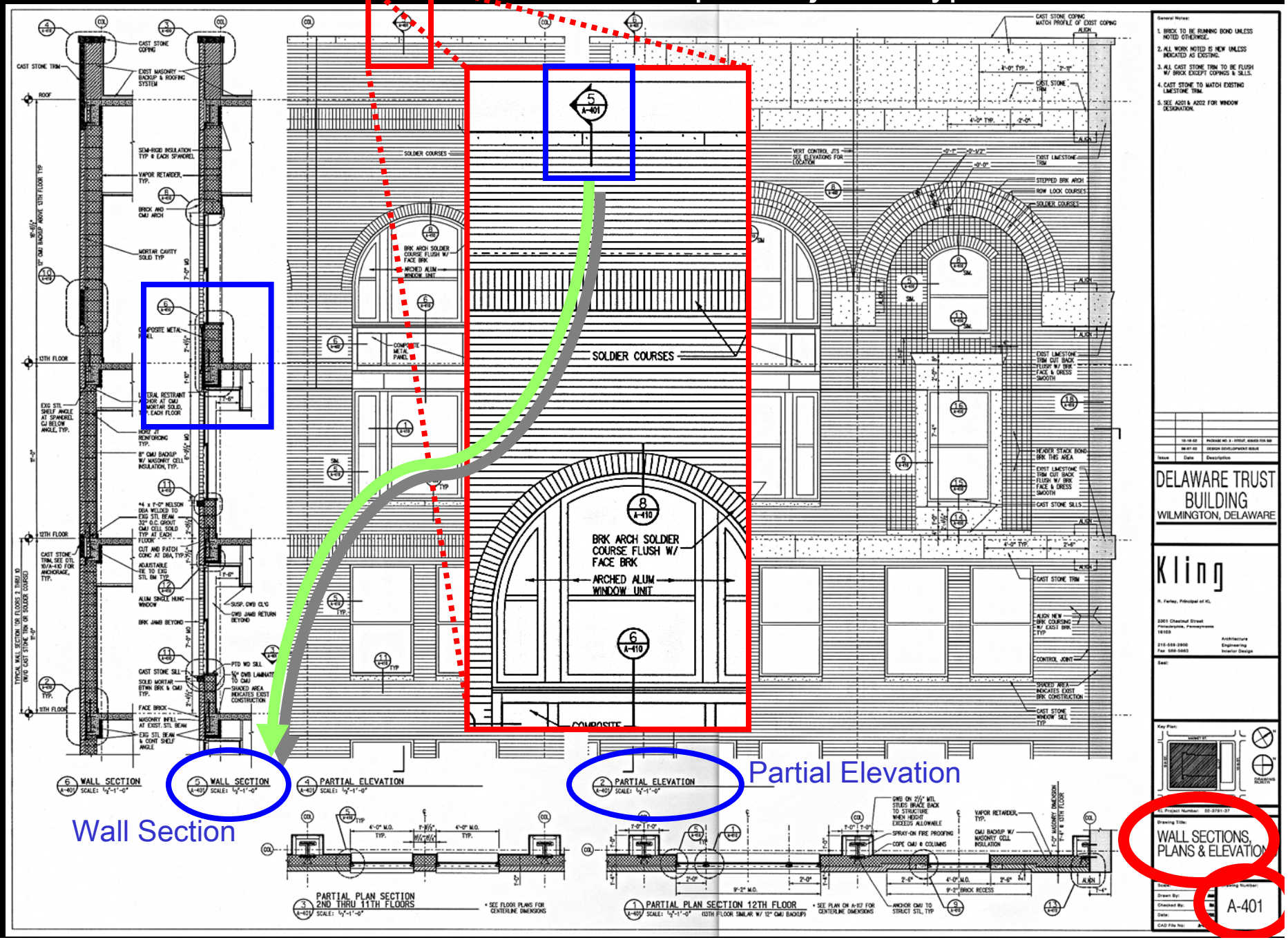
# Sample Project – Typical PLAN Sheet



# Sample Project – Typical ELEVATION Sheet



# Sample Project – Typical DETAIL Sheet



# Sample Project – Typical DETAIL Sheet