

BUILDING 57

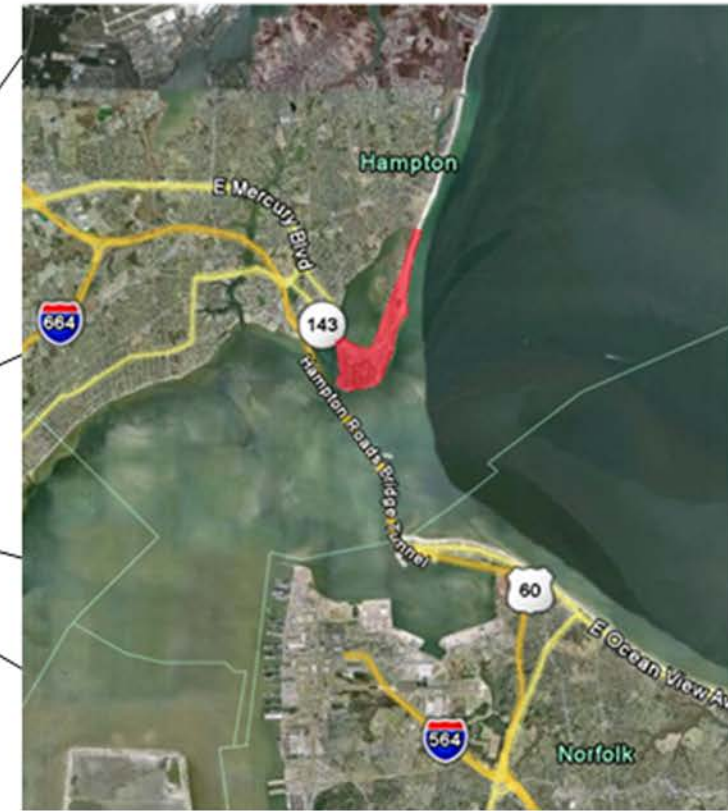
Base Closure as an Opportunity for
Community Development



Adaptive Reuse of an Industrial Building at Fort
Monroe, Virginia

Leslie K. Leffke | Master of Architecture | Final Study | Spring 2009

Site Background



Fort Monroe, Virginia

- Construction begun in 1819, oldest moated stone fort in America
- Currently an active US. Army Base
- 570 acre National Historic Landmark District
- Located where Hampton Roads Harbor & Chesapeake Bay meet, > 1 mi from I-64
- Base Realignment and Closure Commission selected this base for closure by 2011
- The Fort Monroe Federal Area Development Authority is creating a redevelopment plan for the area

Existing Site

Northgate Redevelopment Area

Historically used for
warehouses, surface
parking and garages

Area will have largest
ratio of “historically
compatible” new
construction

Mixed-Use zone, to
accomodate residential,
commercial + civic uses.



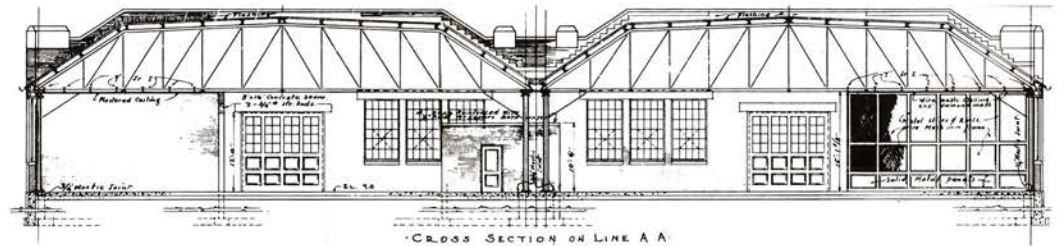
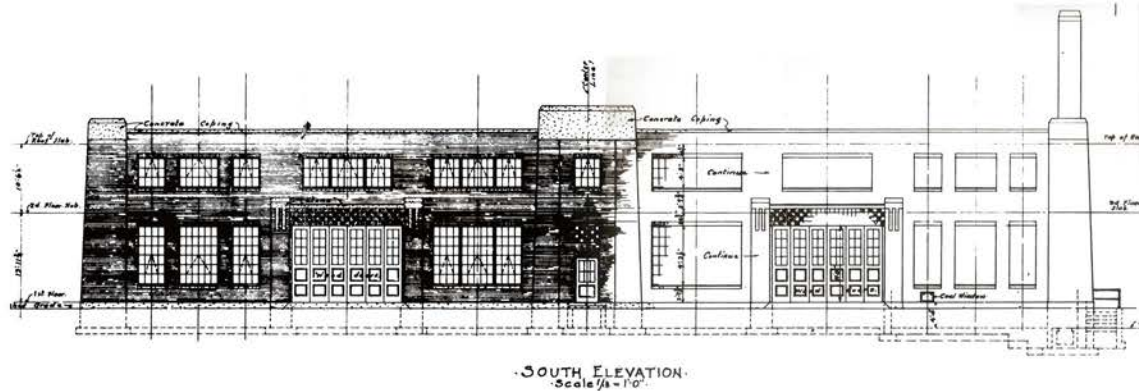
Existing Building

Two stories: 48,178 ft² |
floor 1 : 43,747.5 ft²
floor 2: 4,430.5 ft²

Built 1934

Art Deco/ Egyptian
Revival

structure features a steel
modified Howe Truss in
both bays



Project Goals

- 1 Select a use for the building that is both appropriate to + distinguishable from its original use.
- 2 Create a program + site plan that responds to and complements the community setting immediately surrounding the building.
- 3 Integrate materials + forms that are sympathetic to and can be differentiated from the original structure.
- 4 Develop adaptive reuse schemes at different scales within the building.
- 5 Advocate preservation development as sustainable development through the reuse of existing materials, layouts and with respect to methods.

Building Use

Original Use - Motor Pool Building

Repair and maintain surrounding
Military community's vehicles

Currently is also used for office space,
vehicle repair + as a conference location.



Proposed Use - Art + Entertainment Center

Gallery | Entertainment Hall | Restaurant | Educational Facility

Provide art and entertainment services
to the proposed community

Also serves large amount of visitors to site,
making it an economically sustainable use
(supported by Fall 2008 Market Analysis research)



Market Segmentation

The targeted community composition based on Fort Monroe Reuse Plan:

47% empty nesters & retirees (Senior Citizens)

28% younger single + two person households

25% traditional and non-traditional families

These are currently the 4 largest demographic populations in Hampton:

Demographics for City of Hampton, Virginia			
Age	2000	2010	2020
15-19	11,242 (7.6%)	10,941 (7.6%)	10,208 (7.0%)
20-24	13,013 (8.8%)	13,007 (9.0%)	11,042 (7.6%)
35-39	13,475 (9.2%)	9,362 (6.5%)	9,400 (6.4%)
55 +	26,883 (18.4%)	31,391 (21.7%)	38,829 (26.9%)
Total Population:	146,437	144,803	144,655

Examples:

Chamberlin Hotel renovation completed in June 2008 - 133 luxury independent living apartments

6 major Universities (3,000+ students) located within 30 mile radius:



Building Program



Restaurant: 10,132 ft² | Dining: 6,331 ft² | Kitchen: 1,170 | Capacity: 300



Entertainment Hall: 7,364 ft² | Stage: 816 ft² | Capacity: 1,200



Art Center: 6,139 ft² | 6 Classrooms | 2 Practice Rooms



Gallery Space: 10,518 ft² | Gift Shop: 797 ft² | Capacity: 680



Circulation, Add'l Storage + Mechanical: 9,594 ft²

Community Building Use

visitors



classrooms

gallery

restaurant

entertainment

residents

commercial



Visual vs Physical Movement

Visual movement

views through and into spaces

forms: windows, openings



Physical movement

the circulation through spaces

forms: corridors, pathways



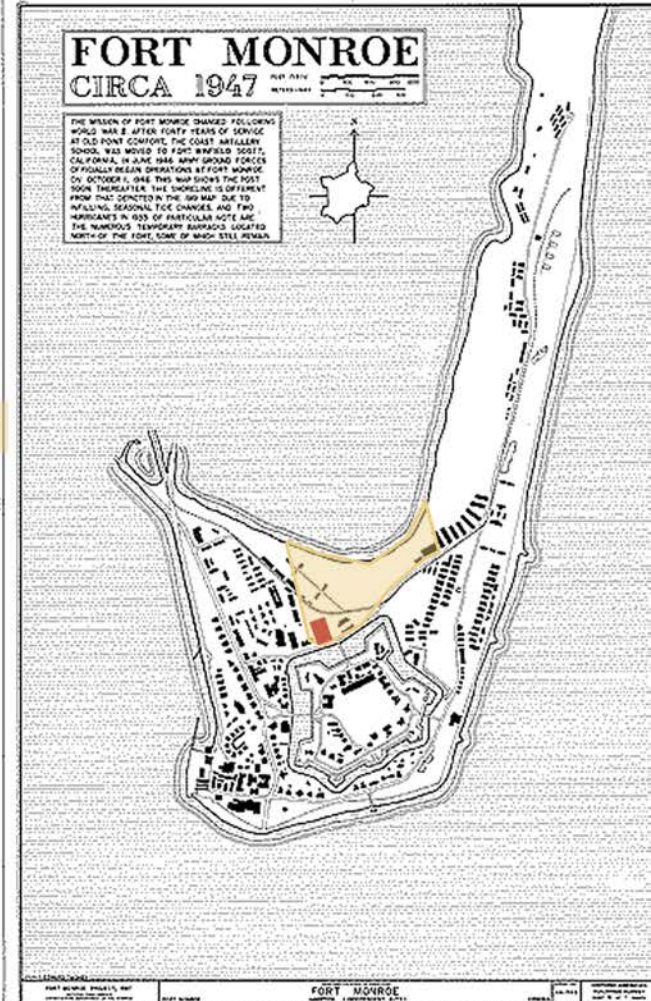
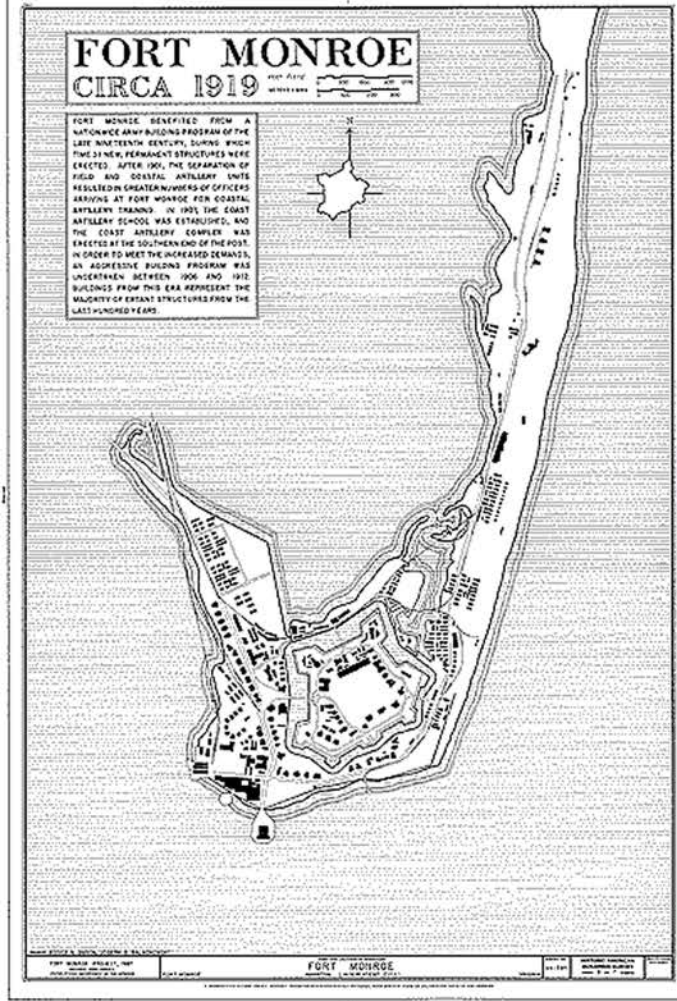
Historic Circulation

1933

New construction prompted by two devastating hurricanes. Additional room for new buildings was obtained by infilling the Mill Creek shoreline.

1934

On infilled land, three masonry buildings are built in industrial vernacular with Art Deco ornament. Motor Pool Building is one of these buildings.



Northgate Road Orientation

1 Keep existing Northgate Road configuration

pros:

- brings visitors along scenic shore of Mill Creek
- maintain existing road network
- squares up road w/ motor pool building

cons:

- less direct traffic route for visitors
- heavier traffic along Mill Creek



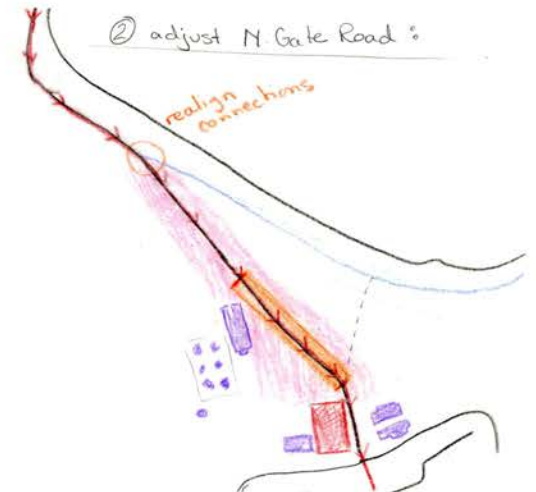
2 Adjust Northgate Road

pros:

- realigns road with original configuration
- allows for greater infill development on currently paved areas

cons:

- Brings traffic closer to residential areas
- requires construction of whole new road
- cuts green space to N. of building.



Visitor Circulation

Enter through eastern bridge

Directs visitors to south along west shores and northern Mill Creek Pond

Pulls heavy traffic away from residential areas

Could be marketed as a scenic "heritage trail."



Resident Circulation

Enter through western bridge.

Also used by those employed in development.

Residents will remain near center of designated area, preventing congestion with visitor traffic.

Western gate is the primary entrance for residents to access fort.



Commercial Circulation

Enter through western bridge.

Brings commercial visitors in along fort's northern circulation route.

Will bring traffic to Northgate zone supporting growth of commercial development

Pulls heavy traffic away from residential areas



Site Plan

existing site



new site



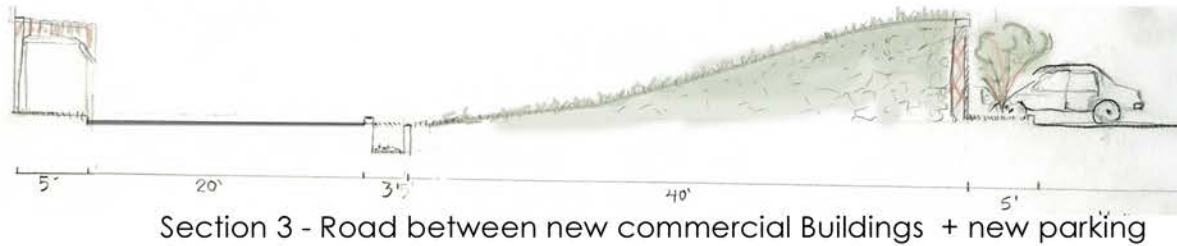
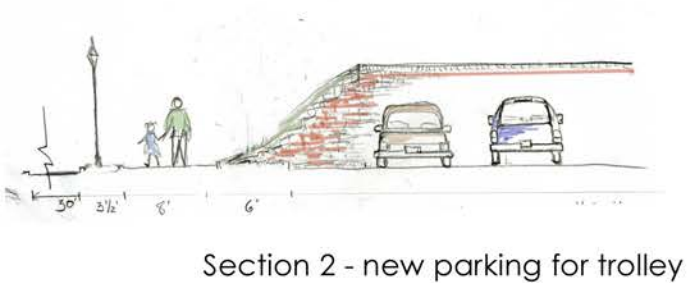
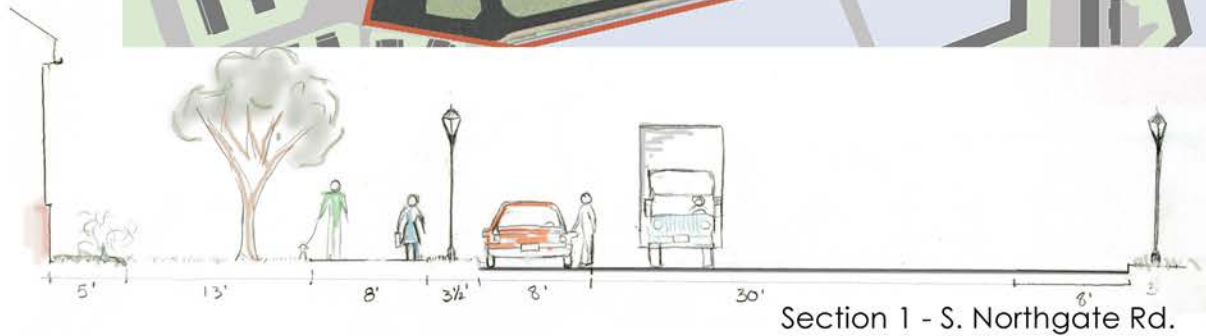
Site Plan

focus on development of Northgate Area

parking hidden behind buildings + bermed land

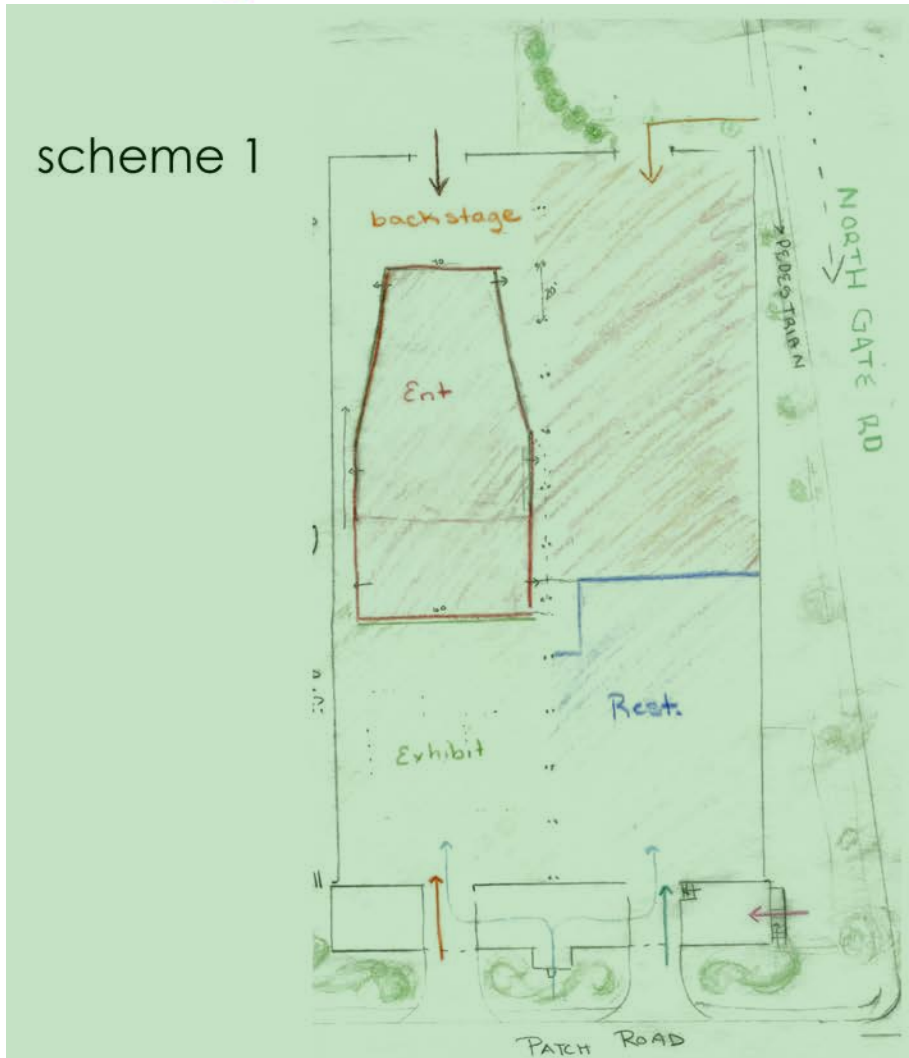
use of grass pave for parking

creation of a trolley station for visitors to the other areas of Fort.

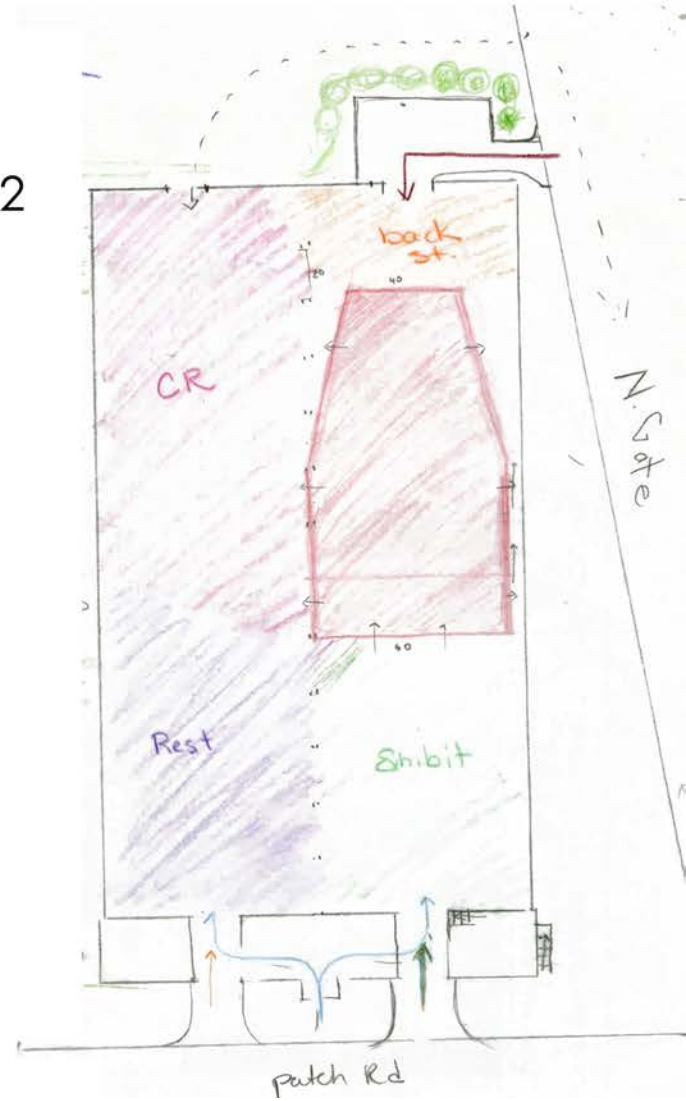


Building Use Zoning

scheme 1



scheme 2



Feature Inspiration

To be used to inspire new building forms

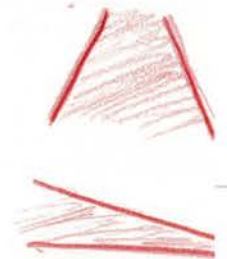
Battered columns

existing



integration

- "battered" walls in plan
- creates sense of motion when paired w/ a straight wall
- acoustically appropriate entertainment space



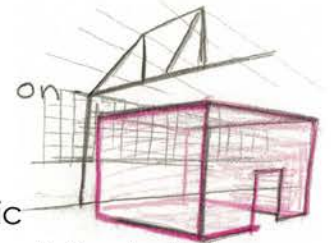
Existing structures w/in building

existing



integration

- new spaces defined by
- box-like envelopes
- materials will be sympathetic yet distinguishable from the existing building.



Wood dividing wall

existing



integration

- will be removed to allow flow between bays
- reused as wood flooring for classrooms + rest.



Features to Preserve

As defined by the Reuse Plan



Five course American Brick Bond masonry walls



Garage doors w/ concrete capped pylons + Checkerboard Brickwork



Cast concrete capping ornamentation

Other identified features to be preserved



casement windows



steel truss structural system

Materials

original uses:

- structure
- mullions

new uses:

- slatting
- raised floor frame
- skylight structure
- gallery entrance
- outdoor bar
- fire stair structure

steel

original uses:

- windows
- some box partitions

new uses:

- restaurant partition
- clearstories (channel)
- dance room walls (channel)
- office/ art room partitions
- fire stair glazing
- skylights

glass

original uses:

- floors
- large box partitions
- cappings

new uses:

- entertainment hall partition
- class room partitions

concrete

original uses:

- bay partiton

new uses:

- raised floor
- art gallery partitions
- doors
- outdoor patio

lumber

original uses:

- wall material

new uses:

- loading dock enclosures
- restaurant partitions

brick

Maintain Hierarchy of Spaces

- primary > secondary > supporting
- guides the height, visibility + setback of spaces

Visibility + Accessibility

- should be able to view or access all spaces from one another

“Boxes”

- space envelopes should be defined by a version of this form

Point of Entrance

- exterior entrances should reflect sense of new use within building.
- different uses should maintain different entrances and sense of arrival
- should maintain sense of entering or exiting the building

Differentiation

- All new additions should be able to be differentiated from the original building

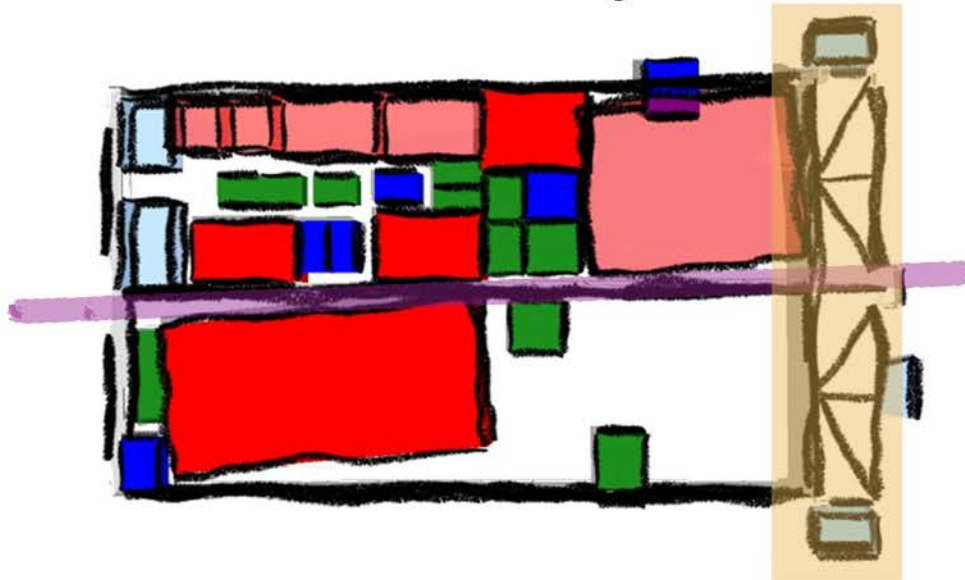
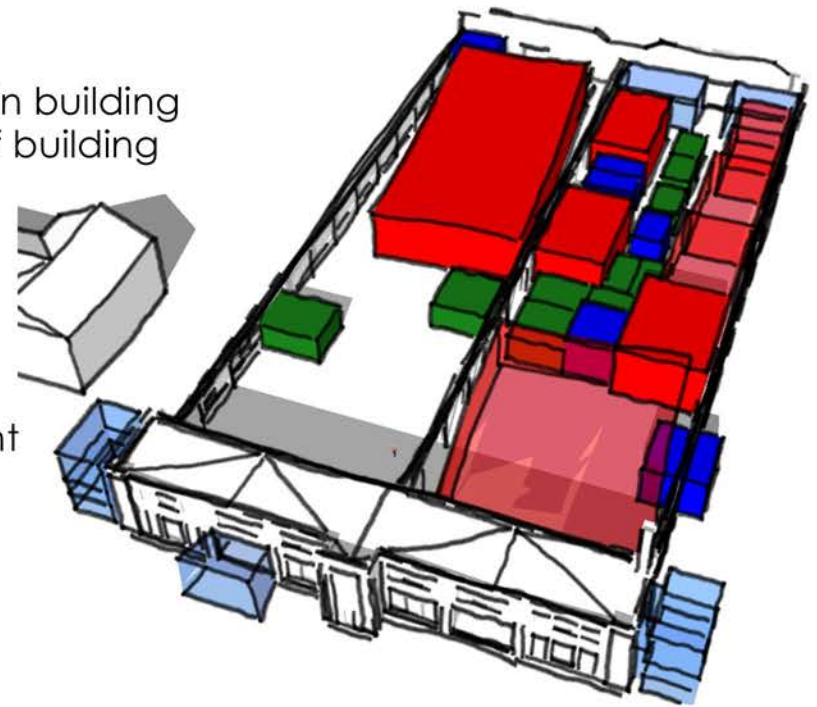
Space Planning

BOXES




- Inspired by forms defining existing uses within building
- movement of spaces within and into/out of building
- Head building:
 - Traditionally houses all office uses
 - proposed office location

Treat building as a site plan

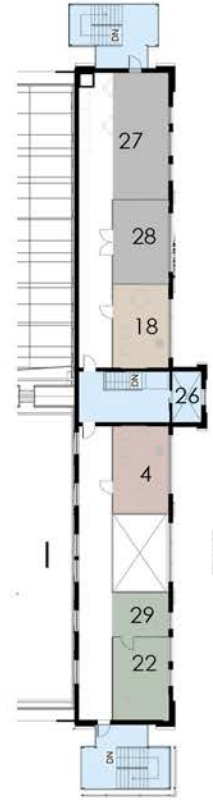
- Main street
- hierarchy of spaces displayed by box height
- each use its own "neighborhood."



Space Hierarchy

-  - Primary uses
-  - secondary uses
-  - supporting uses

Floor Plans



floor 1



perform

- 1. entertainment hall
- 2. entertainer lounge
- 3. lobby
- 4. event director office

learn

- 5. dance studio
- 6. music ensemble practice room
- 7. individual practice room
- 8. art classroom
- 9. dark room
- 10. kiln
- 11. director's office

dine

- 12. dining area
- 13. kitchen
- 14. bar
- 15. private dining room
- 16. wait lounge
- 17. outdoor dining
- 18. restaurant director office

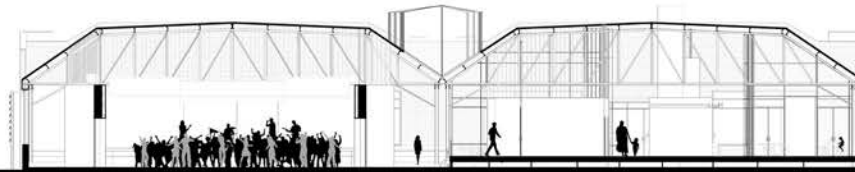
view

- 19. gallery exhibit area
- 20. box office
- 21. gift shop
- 22. curator's office

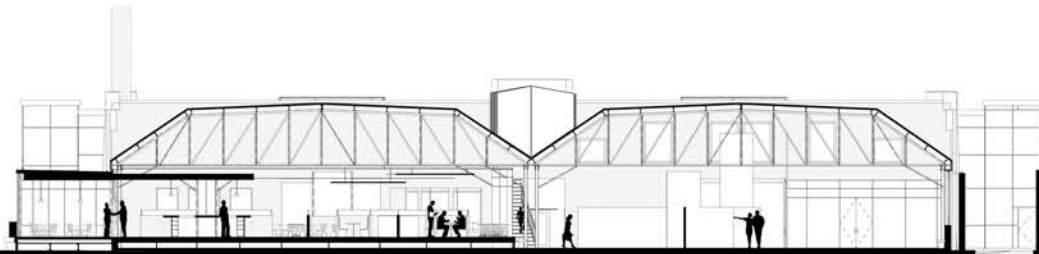
support

- 23. loading dock
- 24. storage
- 25. mechanical
- 26. elevator
- 27. lounge
- 28. conference room
- 29. assistant office

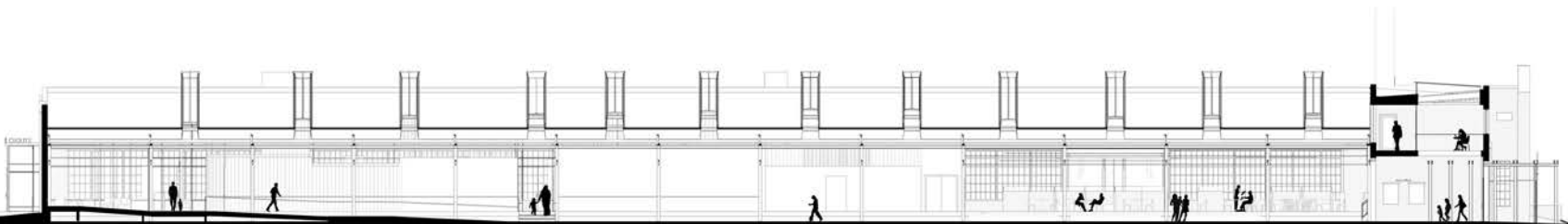
Sections



section a



section b



section c



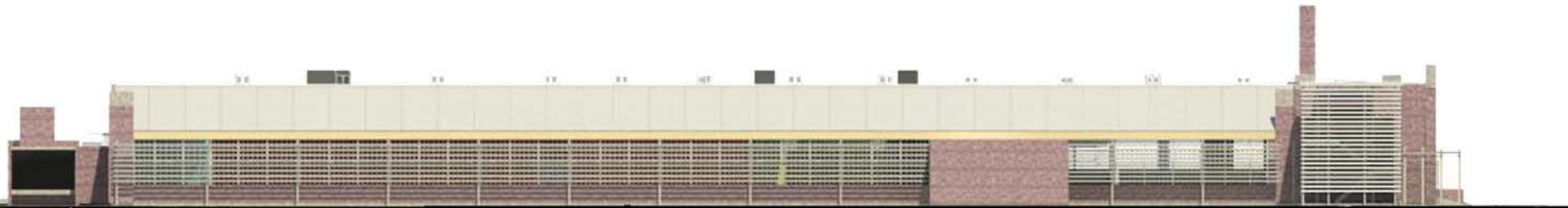
Elevations



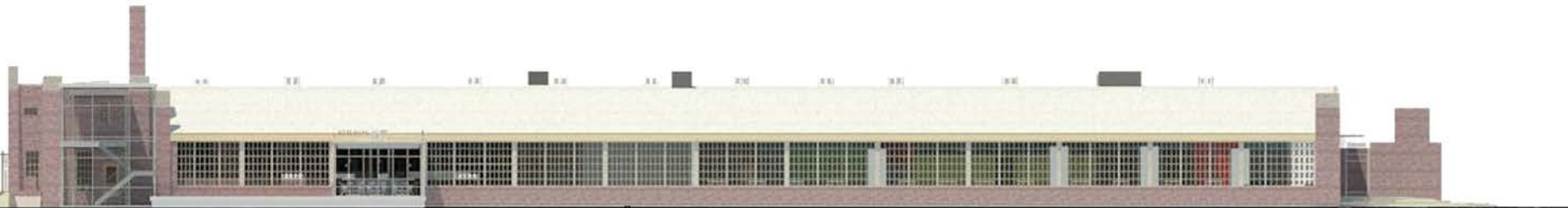
south



north

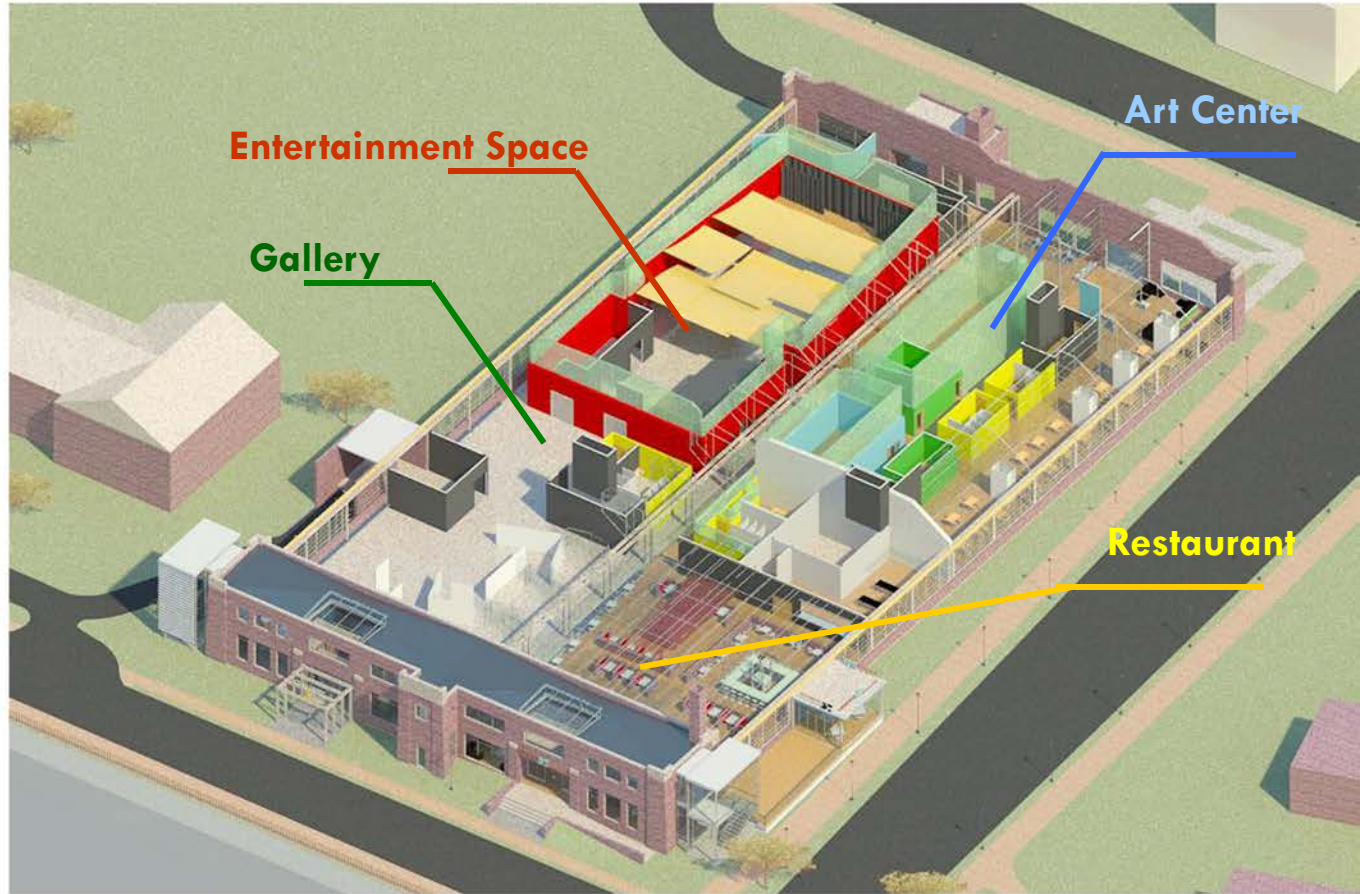


west



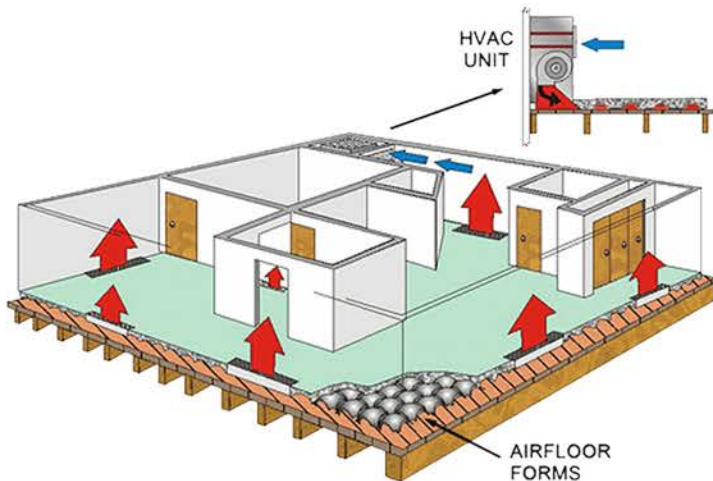
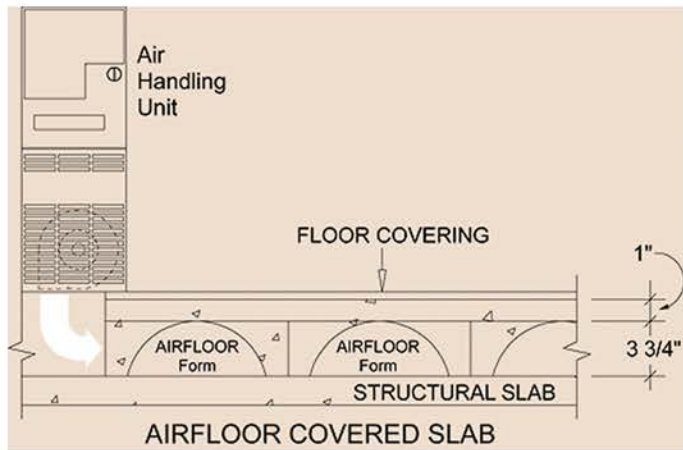
east

Axonometric



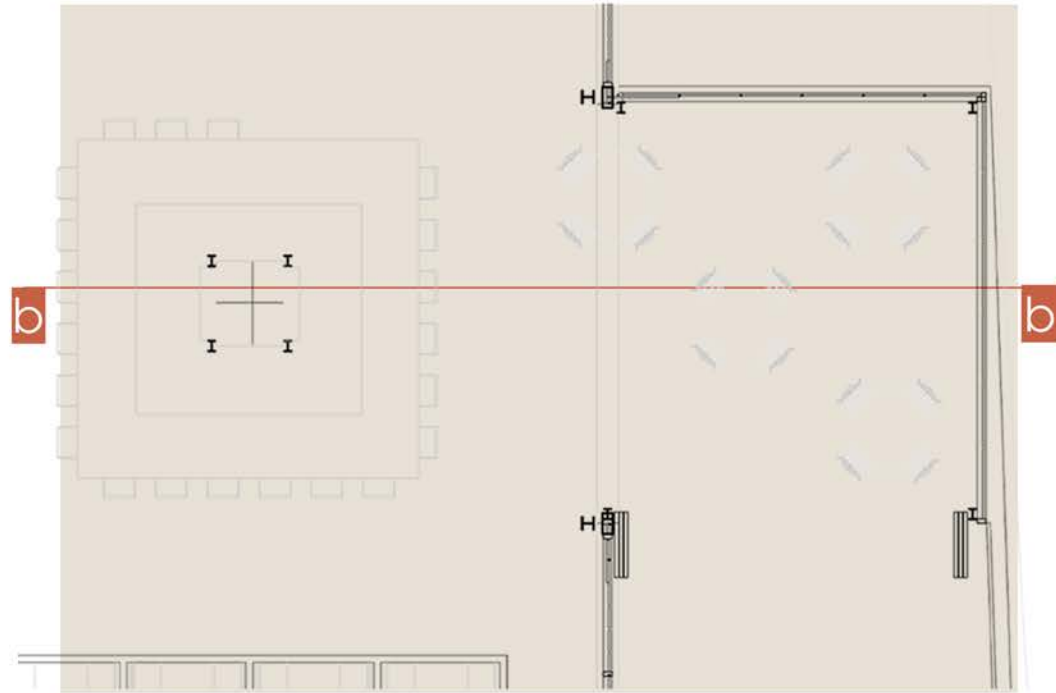
Mechanical System

use of Airfloor System to provide HVAC + heating in raised floor areas (class rooms, restaurant + portion of entertainment hall)



mechanical floor plan

Bar Area



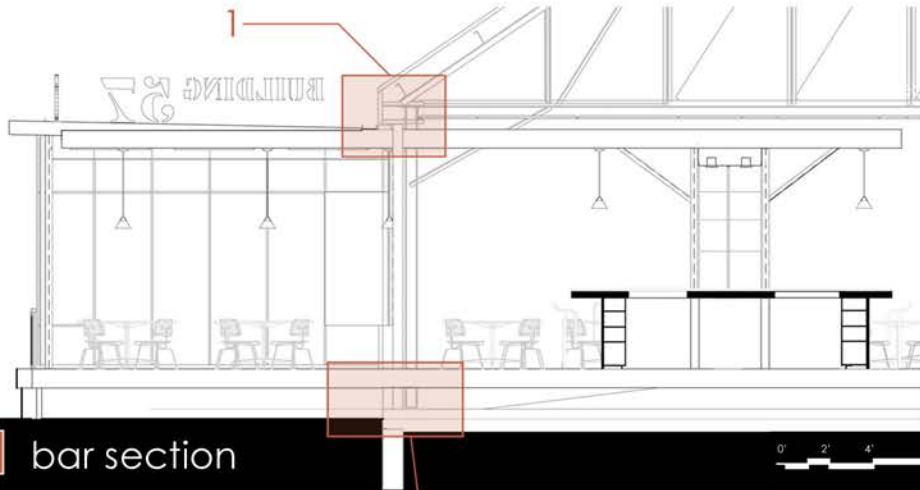
bar floor plan



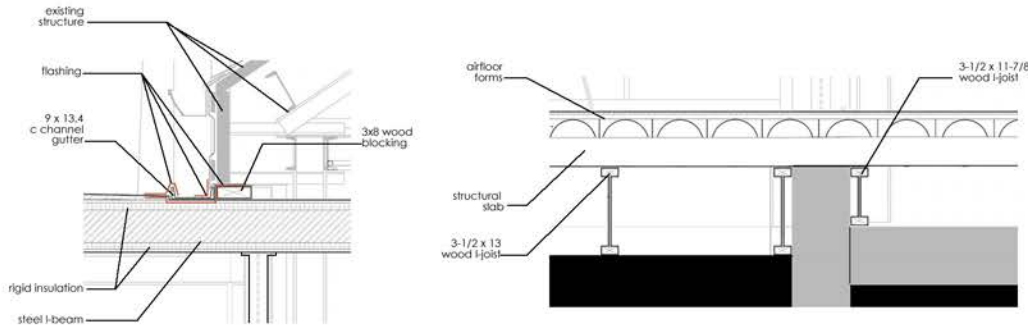
view of bar from south entrance



Bar Detail

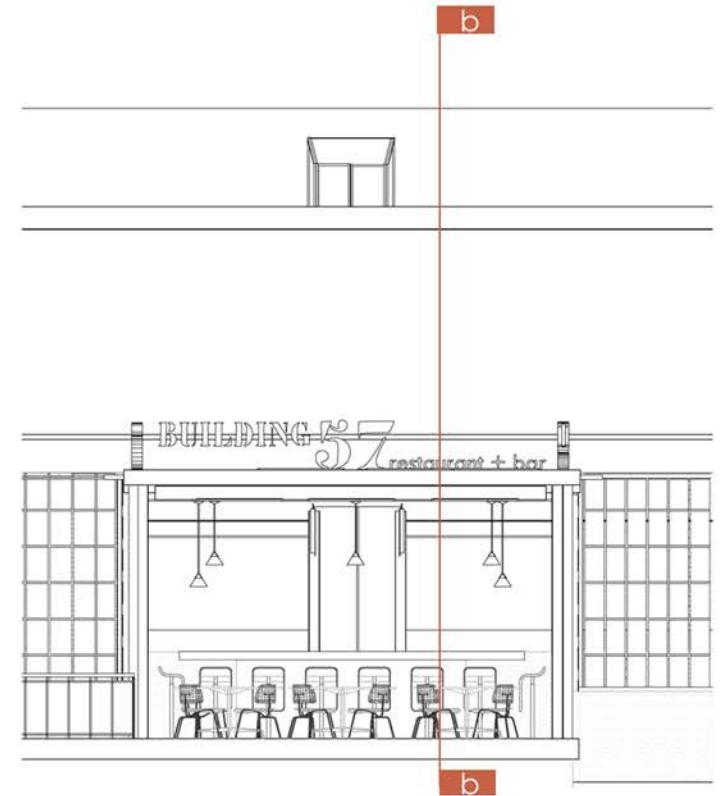


b bar section



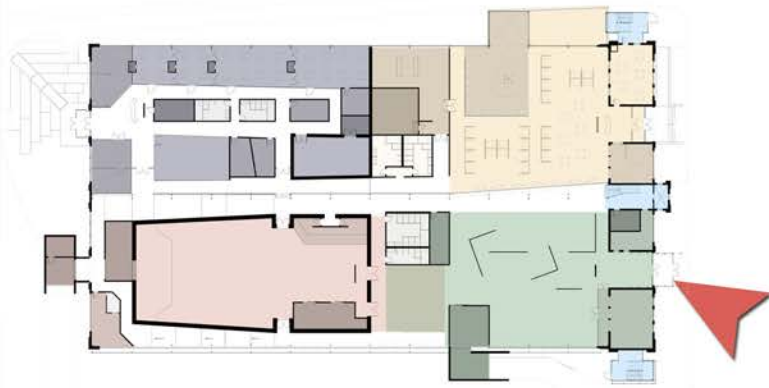
1 roof detail

2 floor detail

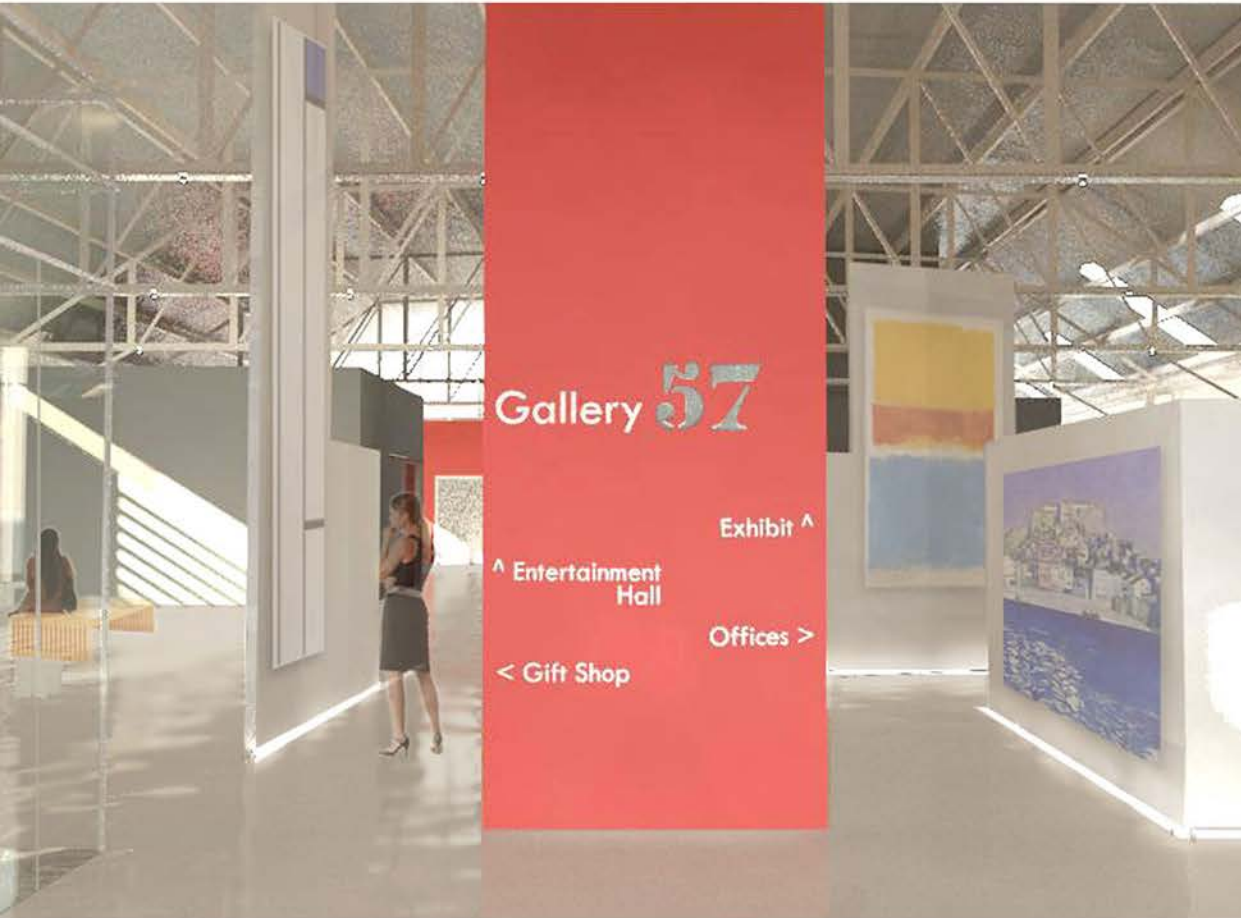
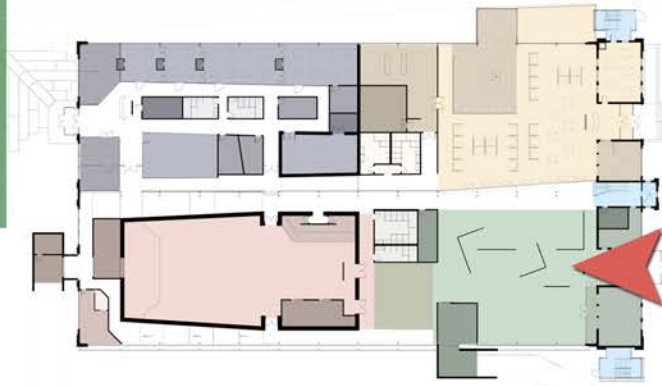


bar elevation

Gallery Entry



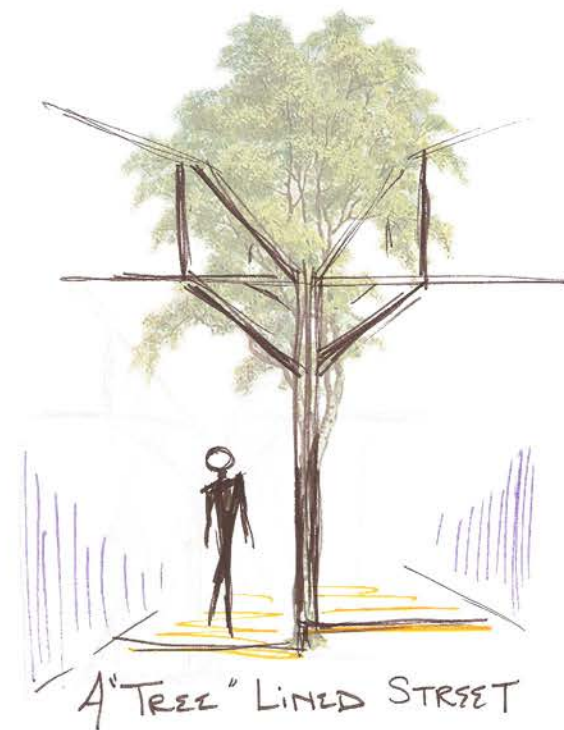
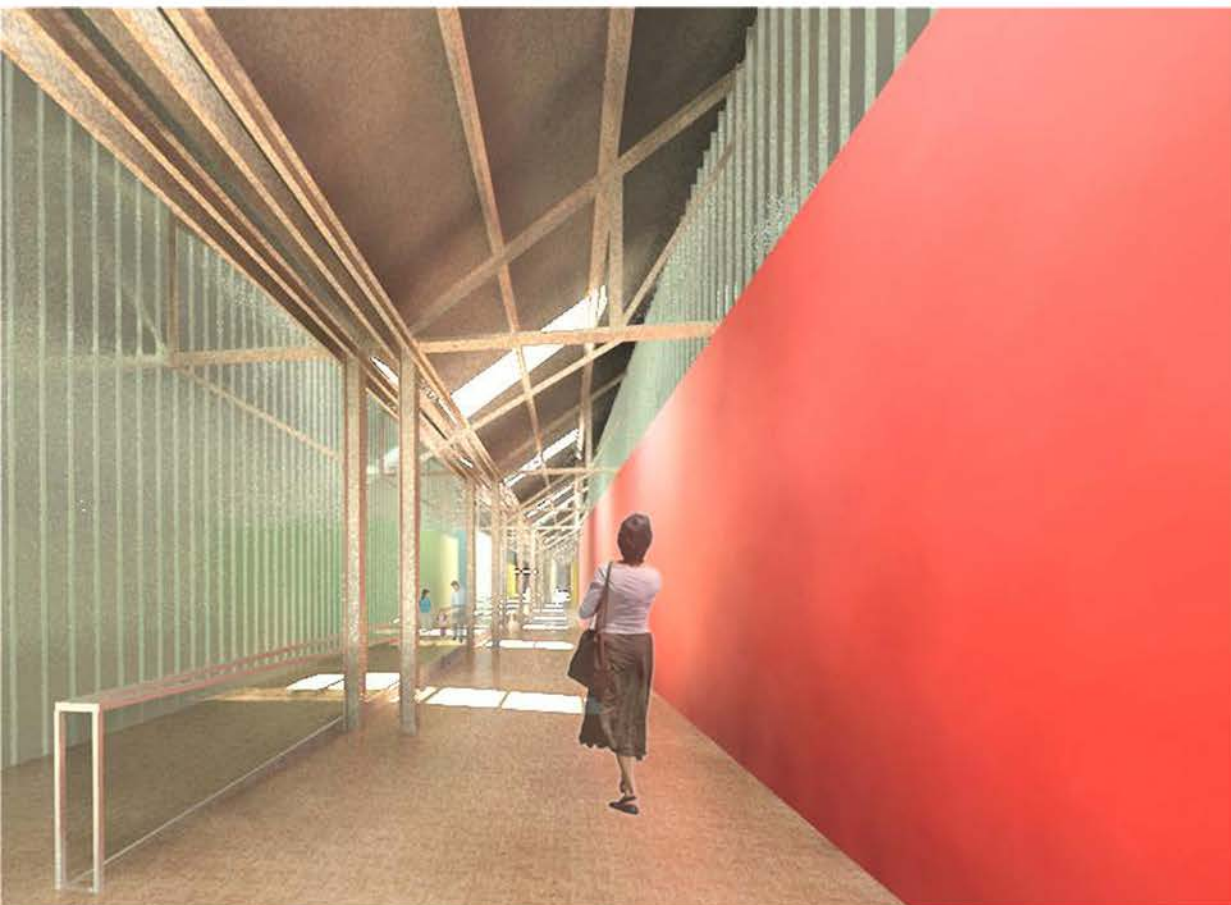
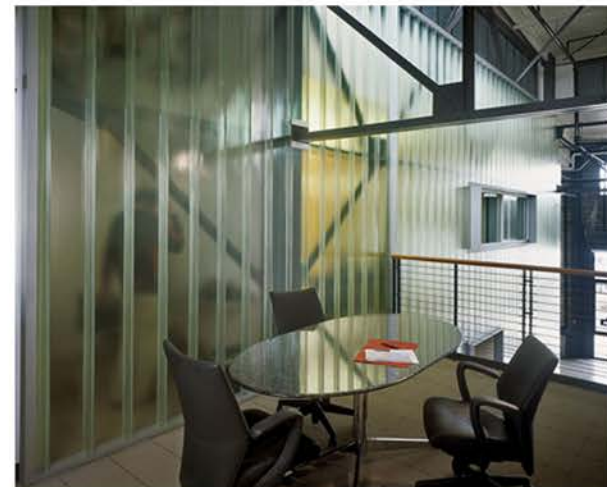
Gallery Space



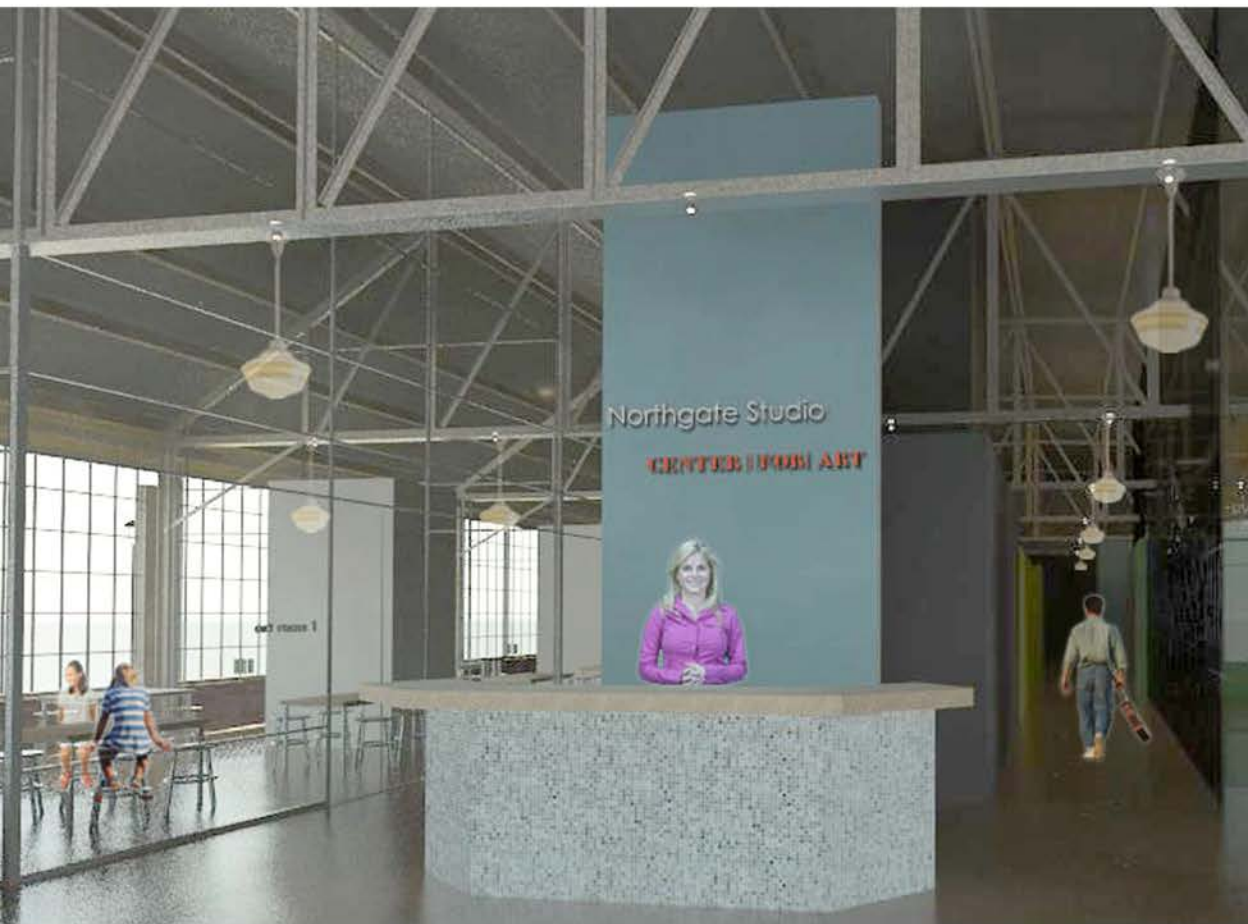
Gallery Panels



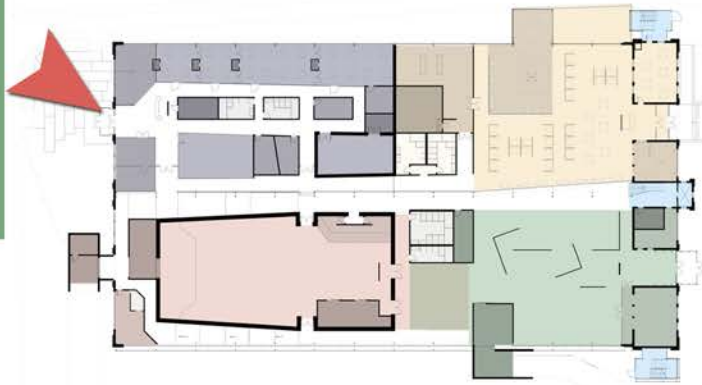
Main Corridor



Art Center



Art Center Entrance



View from Southeast



existing



View from Northeast

