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2010

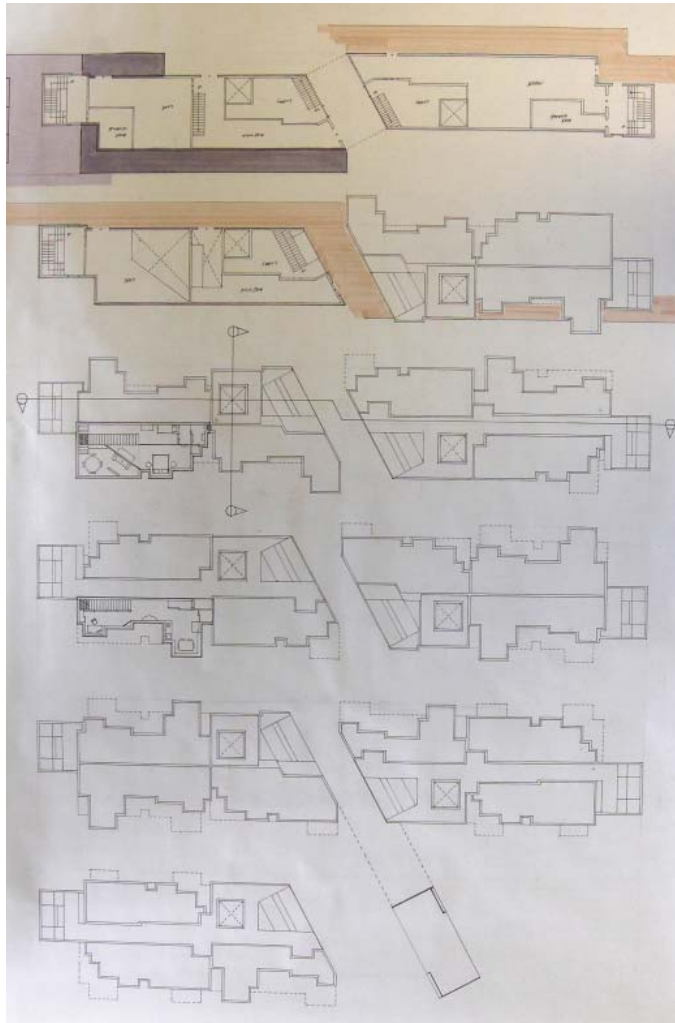
Kent State University
College of Architecture and
Environmental Design

2nd year design studio

design studio

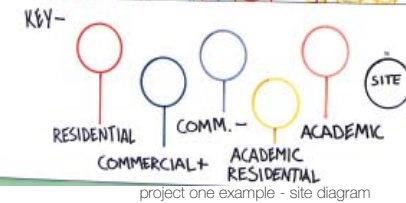
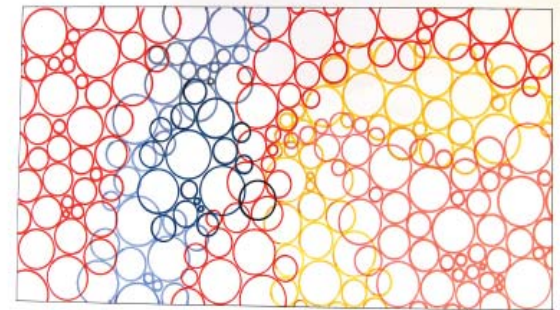
adjunct professor

The primary goal of the second year fall design studio is to introduce the assimilation of program into the previous form based curriculum. Following a transitive pattern of analysis, synthesis and execution, students were asked to study the site and program, determine congruent and dissonant characteristics and develop a basic design and diagramming scheme. The preliminary design and diagramming were then utilized to create an organizing rule set from which an architectural language of hierarchy, rhythm and facade can be established. Students were required to develop ideas in both physical model and hand drafted form eventually creating a set of hard-line documents which were then presented in a public review. The design studio consisted of 7 sections of 15 students.



project one example - building plans

SITE PROXIMITY + IDENTIFICATION



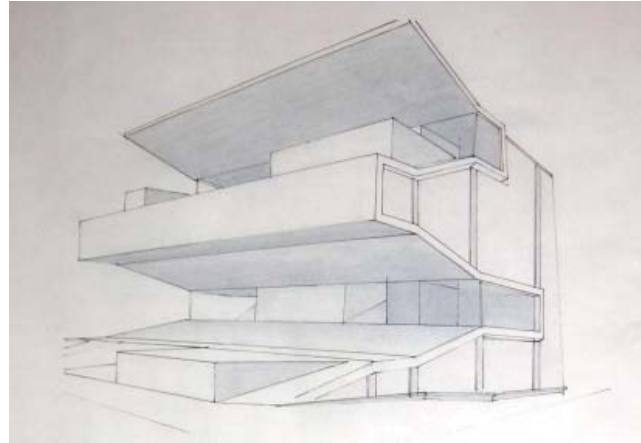
project one example - building model

2nd year design studio

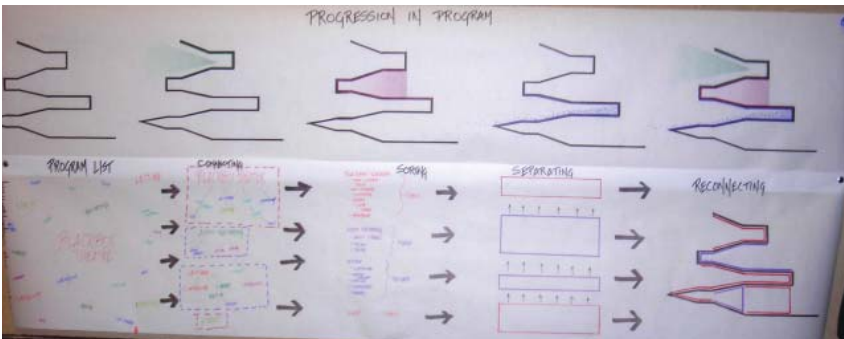
The fall semester was broken into 2 separate projects. The first project (7 weeks) consisted of a 14 unit apartment building with a commercial (public) ground floor which was to reinforce a proposed pedestrian esplanade connecting the campus of Kent State University with downtown Kent. The second projects (8 weeks) consisted of creating an arts building celebrating "new media" (as defined by the students) to be located within downtown Lakewood, Ohio (a dense and pedestrian friendly inner ring suburb to the west of Cleveland, Ohio). Special consult was granted by Dru Siley, Assistant City Planner (Lakewood) who also took part in the final review process. Select projects were retained for NAAB accreditation.



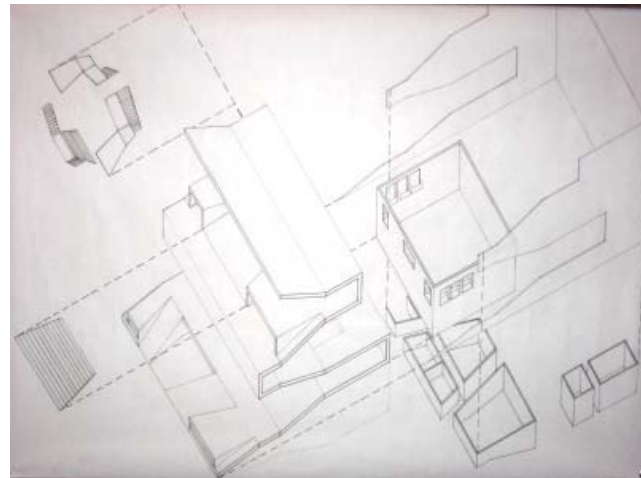
project two example - student model in shared site model demonstrating specific project and expected affect on future adjacent development.



project two example - perspective



project two example - program diagram



project two example - exploded axonometric

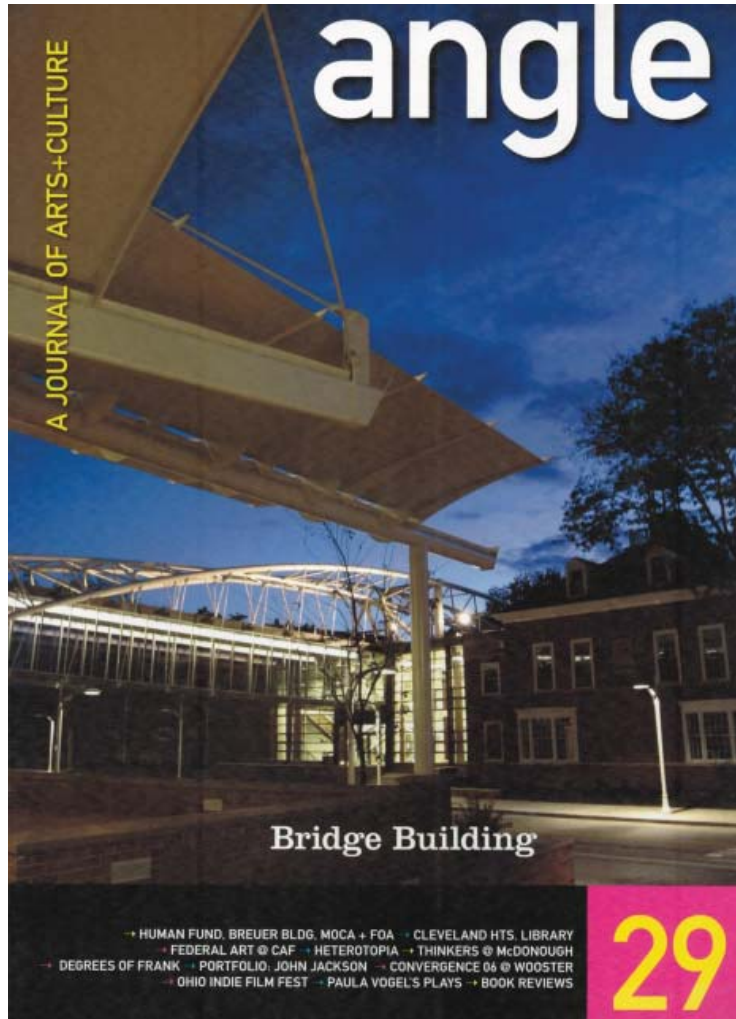
2004-2006
2345 Lee Road
Cleveland Heights
Ohio 44118

cleveland heights / university heights library

renovation/addition
66,566 sf existing (renovation)
12,053 sf addition

designer

This was the first project completed at a commercial firm after graduate school. As a newly employed intern architect, primary duties concentrated upon integrating a proposed pedestrian connection spanning Lee Road for the Cleveland Heights/University Heights Library Expansion, the exterior cladding and entry canopies. The elevated walkway was to create a safe passage between the existing main library and the newly acquired YMCA. The resulting solution profited from the reorganization of the central portion of the Georgian YMCA structure. These drastic changes allowed for a non static form to be introduced through modern elements. The curtain wall and structure mark both the front and rear entry of the YMCA. The addition borrows from the vernacular of the renovated library; stacking a larger volume on a clerestory, giving the effect of masonry corbeling.



angle journal cover: v3 #29 nov/dec 2006

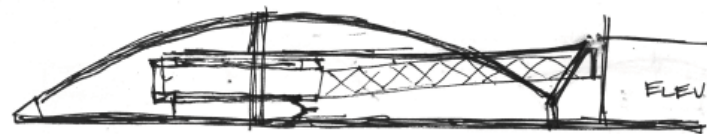
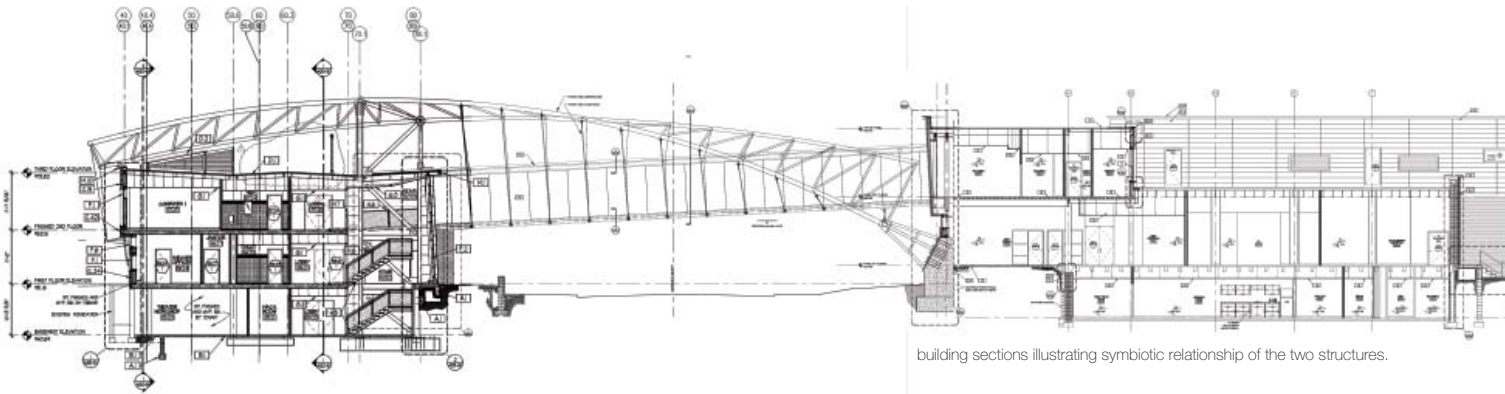


YMCA addition mimics Main Library Building language and rhythm.



YMCA entry, new construction interjected into an existing Georgian building

cleveland heights / university heights library



2007-2010
Oberlin College
Oberlin
Ohio 44074

bertram and judith kohl building

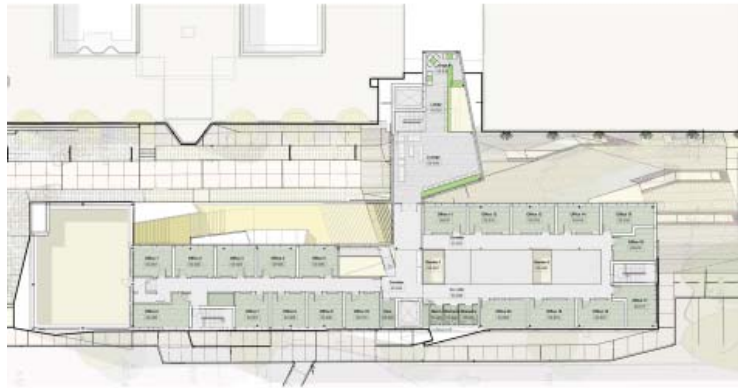
new construction
34,575 sf
LEED Gold

designer
BIM manager

As project designer and BIM manager there was an intentional attempt to utilize software applications to test environmental and building systems reinforcing various design strategies. Primary goals included utilizing ground plane manipulation to create exterior rooms for gathering and reinvigorate the entries into the existing Yamasaki buildings, from which the Kohl Building derives its rhythmic vertical and reflective vernacular. The folded skin reflects the compressive tension created by the exterior stair, an attempt to pull exterior greenspace to a vertical datum which is typically absent above ground plane. A terrarium opposite the roof garden creates a counterpoint to public exterior space by creating contained exterior



first floor - building form reacts to alley as main entry and exterior room



third floor - exterior connections made on datum physically disconnected from ground plane via intersection accessible exterior space.



study presentation model



study presentation model

bertram and judith kohl building

space. The building's long and thin shape takes full advantage of natural light infiltration while the strategic placement of fenestration follows the interior logic of the spaces, controlling light and privacy. The building takes full advantage of the clustering of the Jazz Program by reinforcing a physical connection between the existing buildings and the new structure. A third floor room connects an elevator at each end creating a loop (via a tunnel in the basement) that allows for students and equipment to move effortlessly through the complex. The stairs/lobbies and bridge room act as a public mixing area, gallery and collection space further accentuating the public import of this campus building while capably handling strict environmental, acoustic and privacy concerns.

Awards:

- 2007 AIA Ohio Design Merit Award - Unbuilt Work
- 2009 AIA West Mountain Division Design Honor Award - Unbuilt Work
- 2010 AIA Cleveland Design Honor Award
- 2010 AIA Ohio Design Honor Award
- 2010 AIA West Mountain Division Design Honor Award

photos on this page were published in Architect Magazine Oct. 2010 issue.



photo by Nic Lehoux



photo by Kevin Reeves



photo by Kevin Reeves

2007
Vancouver, BC

poto:type international design competition

competition:
winner

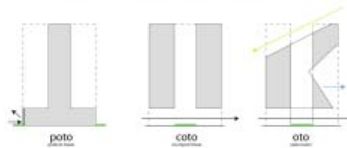
designer

AIA Cleveland unbuilt work - Merit Award 2007

Vancouver based international competition which explored the building typology that has evolved in Vancouver BC of a residential tower placed upon a commercial/retail plinth referred to as the podium/tower (poto). The design supposition infers that the typical solution was inherently a failure in generating connections between the multiple faces of the city block as well as creating a separate identity for the residential unit. This was the generated the plan to actively engage the ground plane, allowing access above and through the commercial plinth while isolating the residential tower in such a way as to make the barrier expressively public.

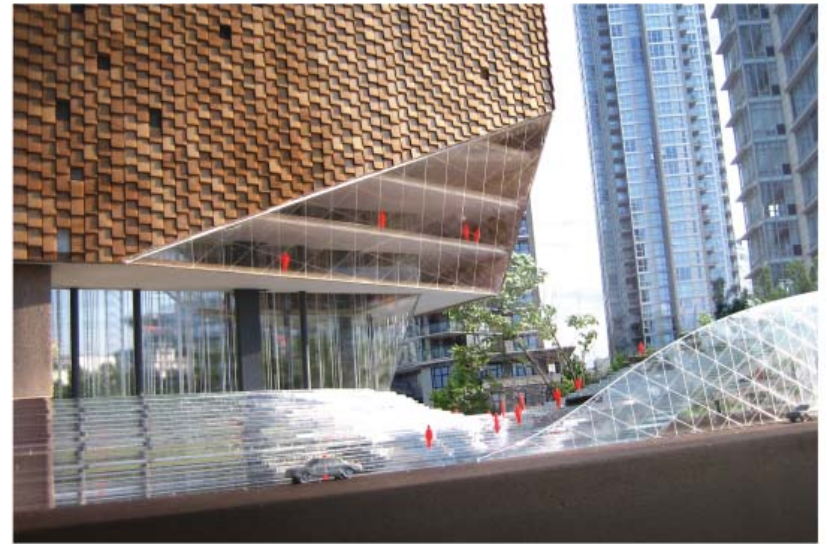
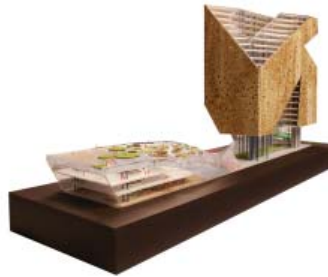
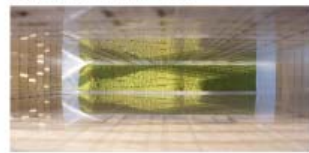


oto



To establish an identity as a generator of possibility, each physical mass an asset and barrier to a viable alternative, one proposal begins by learning the existing building's role and the effect of the geographic context. In a sense of 'form follows function', while their individual architectural vocabulary may differ, the cultural space is defined by existing conditions in an architectural vocabulary that is to be reimagined within a new context. The goal is to be a building, a building that is a building, through its form, its structure, its use, its relationship to the city.

The existing building's role is to be reimagined through its form, its structure, its use, its relationship to the city. The building's role is to be reimagined through its form, its structure, its use, its relationship to the city. The building's role is to be reimagined through its form, its structure, its use, its relationship to the city.



submission poster

lifecycle building challenge

A call for entries asked to develop a building, building system or building component that maximizes the use of the embodied energy need to implement or create said system or component. TOIstudio decided that the competition was a little silly when confronted with the enormous local building stock currently in danger of being torn down and thrown out and instead offers a case study in reusing components from an existing building for new structures.

“While the idea of being the one who creates a whole new way of designing and building would do much to stroke my ego, I find the idea of developing and replacing (sometimes regional) traditional building practices rather preposterous. Instead I would rather we find a way to reuse the structures that are already at our disposal and are being torn down anyway.

With this in mind I offer the re-use of one of Cleveland’s more iconographic structures currently being slated for demolition by a rather obtuse county government in order to ironically replace it with a structure that more embodies the spirit of the ‘green’ movement. The hope is to re-awaken the childhood spirit of rearranging given building blocks in an attempt to create something entirely new.

I could go on into why re-using existing structures is better for the local economy, creates more jobs and stimulates growth all while allowing the existing fabric to continue to define the sense of place but space and time are limited. Instead, I offer a simple solution to the problem of energy and material conservation, disposal costs and loss of ‘image.’

- Submitted project description

DESIGNED OBSOLESCENCE

AVERAGE 1.5 TON CAR EMBODIED ENERGY = 150 GIGAJOULES
= 24.6 BARRELS OF OIL (6.1 GJ PER BARREL)
= 1033 GALLONS GASOLINE (42 US GALLONS PER BARREL)

AMERIBURST TOWER, CLEVELAND, OHIO
BUILT - 1971
ARCHITECT - PHILIP H. HARRIS ARCHITECT
CONSTRUCTION - STEEL FRAME, CONCRETE/GLASS FACADE
DEMOLITION - 2009 (PROPOSED)

AVERAGE BUILDING EMBODIED ENERGY = 10 - 15 GALLONS PER SQUARE FOOT.
ONE AVERAGE 1.5 TON CAR = 82.62 SQUARE FEET OF BUILDING (EMBODIED ENERGY)

AVERAGE AMERICAN HOME = 2420 SQUARE FEET
= 29.25 1.5 TON AUTOMOBILES

Currently there are many existing construction materials that can be recycled, such as concrete, glass, steel and brick.

There are also many components used in construction that can be reused such as door and windows.

With all of the existing building stock already in place, wouldn't a better solution for sustainable design be the re-use of the components of an existing structure already on the eve of its demolition instead of wasting the energy and materials already utilized to create said structure in the first place and utilize even more energy and materials fabricating a replacement part?

Intent: Utilize existing modular facade for new use.

Instead of creating a new building module, designs for street furniture, bus and light rail transit stations were created with an existing successful facade component to be reclaimed from a building slated for demolition.

This strategy not only removes the necessity for the creation of a new component but also recaptures the materials and energy that were initially utilized in creating the facade panel.

competition:
honorable mention

designer

submission poster

2008-2010

8415 Broadway Ave.
Cleveland
Ohio 44105

community assessment & treatment services

new construction
13,500 sf
LEED Silver

designer
project manager (CA)

The 13,000 sf new Women's Dorm Building was constructed adjacent to the existing Men's Dormitory in order to consolidate services and maximize efficiency. The CATS agency fulfills a niche in the region and is seen as a local business investing in its local community, as such careful attention was paid to deliver higher operational standards by delivering a high efficiency building at as minimum a cost as possible. The construction of the building shell utilizes a SIP (structurally integrated panel) system provided R40 value in the walls and R50 in the roof. The scattering of fenestration reinforces the rainscreen grid and provides soft diffuse light in concert with visual privacy (a strict need for a treatment center). Special attention was paid to create interactive landforms to foster rehabilitation.



dorm wing on left, office wing on right, entry at knuckle : provides security for entire building from one location



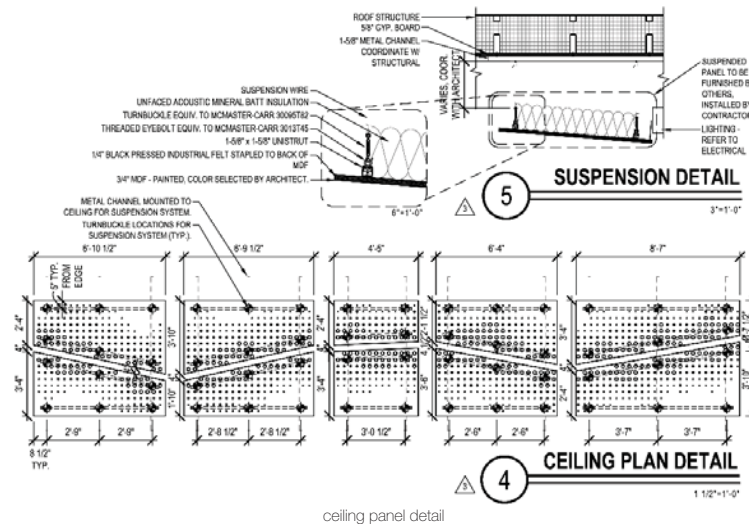
dorm area under construction



office wing w/ operable windows

community assessment & treatment services

An integral portion of the projects was the aspect of custom fabrication of many components in building undertaken by the design team to maintain a level of quality and to clarify construction documents which when misunderstood typically result in artificially hid bids. The partitions between beds in the dormitory were designed to be quickly installed and cheaply replaced when damaged (constructed from hardboard). The perforated reception desk and ceiling cloud was designed to reflect a flexible sensibility to changing tastes, both systems were designed based upon CNC milled mdf which can receive different patterns.



interior partitions



rendering of custom ceiling and desk panels

2007

1 Wade Oval Drive
University Circle, Cleveland
Ohio 44106

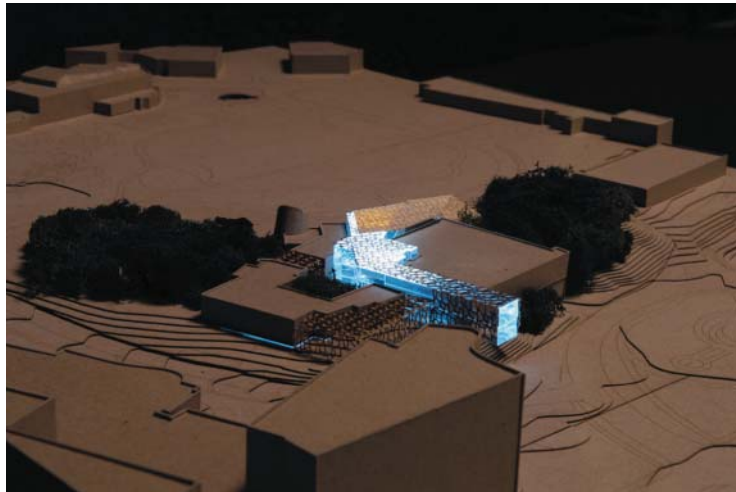
cleveland museum of natural history

addition / renovation

designer

AIA Cleveland unbuilt work - Merit Award 2007

Responding to call for qualifications the design team attempted to reorganize the existing structure (comprised of multiple expansions) increasing the efficiency of the building's mechanical systems, reorganizing the display path, centralizing storage (while making portions of the stored collection portion of the exhibit), giving the museum a new image by creating a grander entry from Wade Oval and turning the "back" of the museum into prominent display component.



site model illustrating how new addition interacts with MLK round-about



presentation model - MLK round-about elevation



presentation model - opened to demonstrate new entry and lobby



presentation model - wade oval entry

cleveland museum of natural history

Integral to the image of the museum is offering alternative educational components. Proposed in the submission was an interchangeable exterior skin which allowed for reconfiguration of new addition facade to act as exhibit, signage, and to host modular components such as pv panels. The output from the new systems (ground source heat exchange, wind turbines and pv panels) were to be available via online resources so that energy creation and use could be tracked and illustrated to the general public in an easy to understand graphical interface (demonstrated as units of typical and average household consumption).



educational interface - geothermal



educational interface - wind power



educational interface - photovoltaic

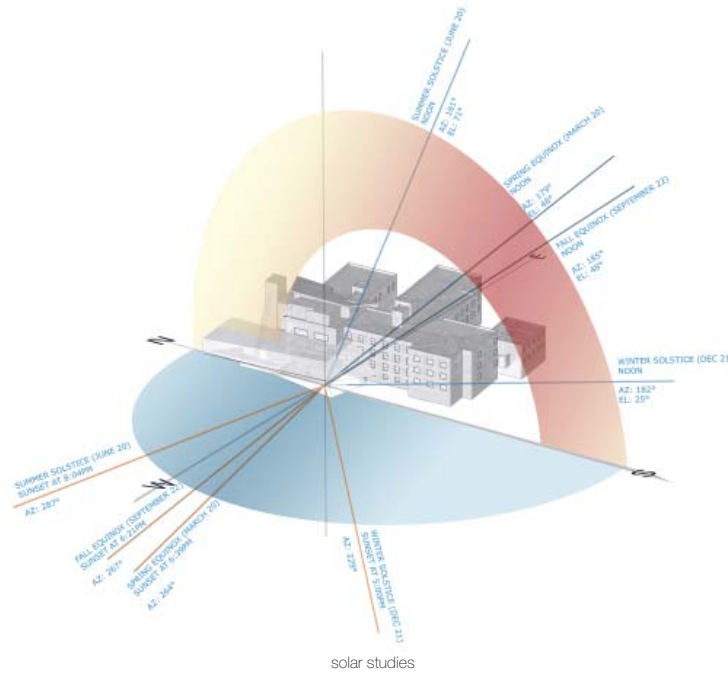
2008
2307 W 14th St.
Cleveland
Ohio 44113

grace hospital entry / lobby addition

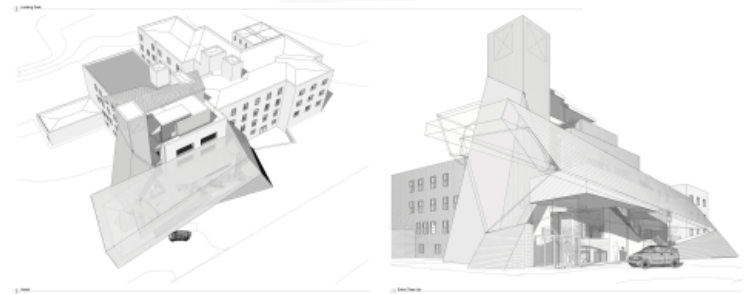
new construction
2,000 sf

designer
project manager

Grace Hospital on West 14th asked for a proposal for a new entry that would allow for accessible vertical circulation and present the idea of healthy environment/healthy body. The exposure of the new lobby was based upon the most intensive solar angles to be found on the western side of the site that can reach the translucent embedded pv skin. The brick tower contained the 7 stop elevator that had to navigate half stops as well as a naturally ventilated system which allowed the hot air from the lobby to escape and pull in cooler air from the northern (shaded) side yard. The lobby also became a public meeting area with a vegetated wall in an attempt to mix exterior and interior spaces, creating a connection to the healing potential of nature.



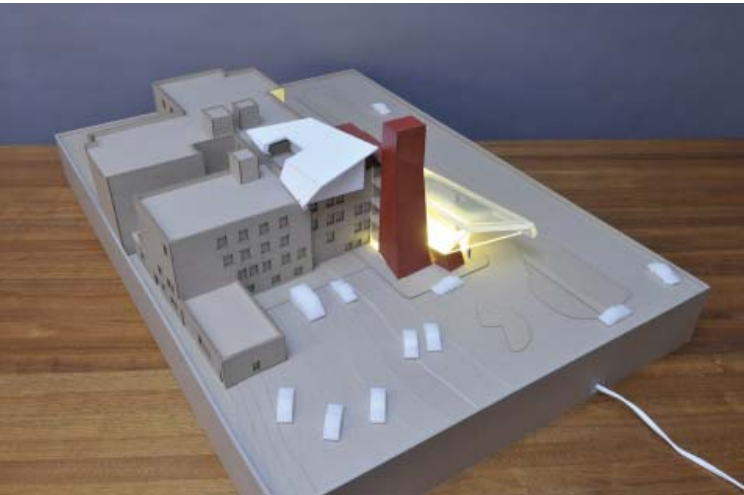
rendering of western elevation



BIM computer models

grace hospital entry / lobby addition

Phase 2 of the proposal was for a public meeting room to be housed on the existing building, accessible by the new elevator tower, which provided views of Downtown Cleveland over the Innerbelt Bridge and Cuyahoga River.



presentation model



presentation model - entry, elevator tower & meeting space



presentation model (west 14th)

2009

Glenville Neighborhood
Cleveland
Ohio 44108

superior neighborhood project

community planning

project manager

In order to maximize the impact of the deployment of multiple affordable housing units (including a handful rehabs) a study of concentrated vacant properties in close proximity to community amenities indicated that the Glenville neighborhood offered the most potential. Proximity to the expanding VA hospital creates the opportunity to intermix housing that can support intergenerational families allowing for whole families to reinforce the community fabric. The intent is to concentrate redevelopment so that the existing neighborhood can be reinforced with a visible injection of investment and creating a critical mass for the community involved to rally around.



vacant parcel study



vacant parcel study (concentrated)



neighborhood amenity study



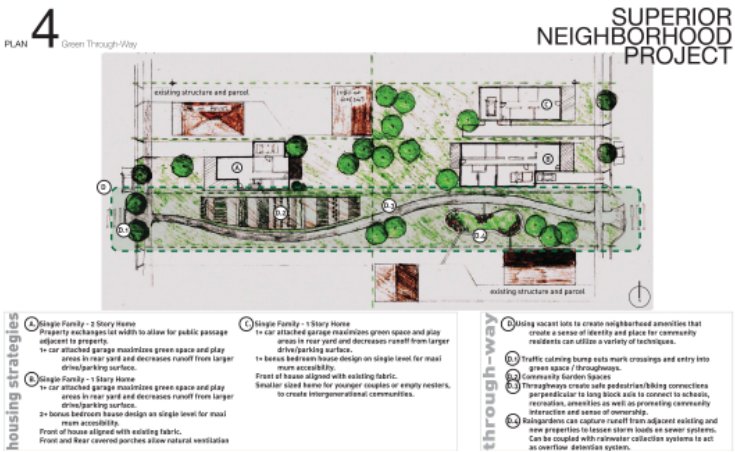
neighborhood interventions

superior neighborhood project

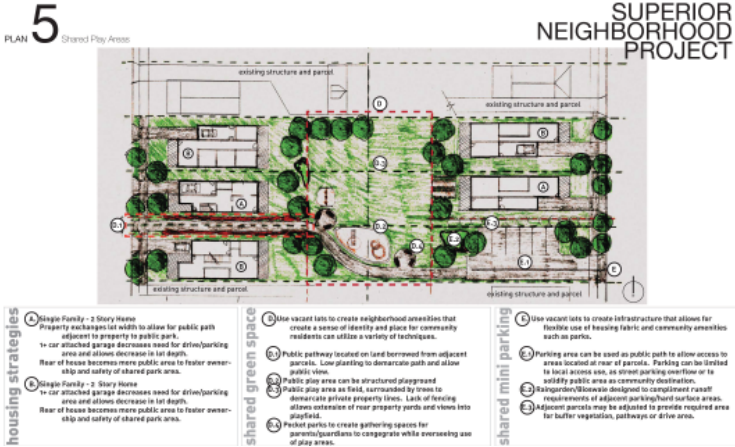
A more concentrated study of the region points to few potential issues that can easily be overcome via neighborhood planning and involvement. In order to lessen the burden of automotive ownership (consuming up to \$9000 annually of a family's budget per auto) improvement in the public transit of the main corridor must be considered. The transit station has to provide basic services more completely than a typical bus stop. Climate protection, safety and convenience all must be provided, necessitating the conversion of a small triangular shaped block into a full service transit station. Vacant commercial storefront can be repurposed to provide a neighborhood watch headquarters and mini police station.

Some existing parcels may be required to be recombined and resplit in order to create the proper orientation of buildings sites, making the entire perimeter of the city block a scrutinized public space.

New construction can take advantage of lessened vehicular needs providing more exterior greenspace and coordinating development efforts to provide amenities such as pocket parks, small parking areas, geothermal well locations, gardens and cut throughs.



underutilized land study 1



housing study with shared public space / path & amenity

2009

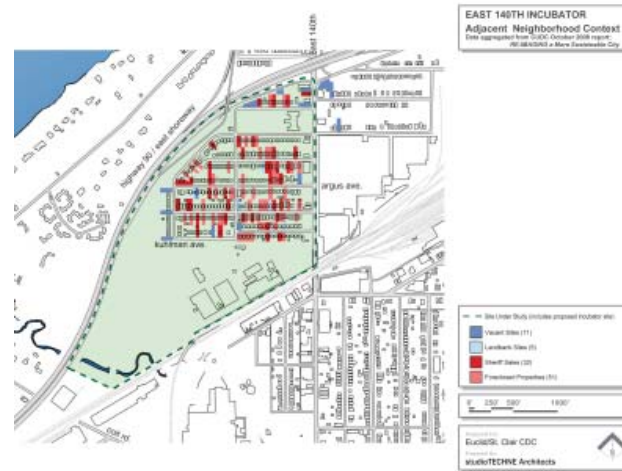
Collinwood Neighborhood
Cleveland
Ohio 44110

technology incubator

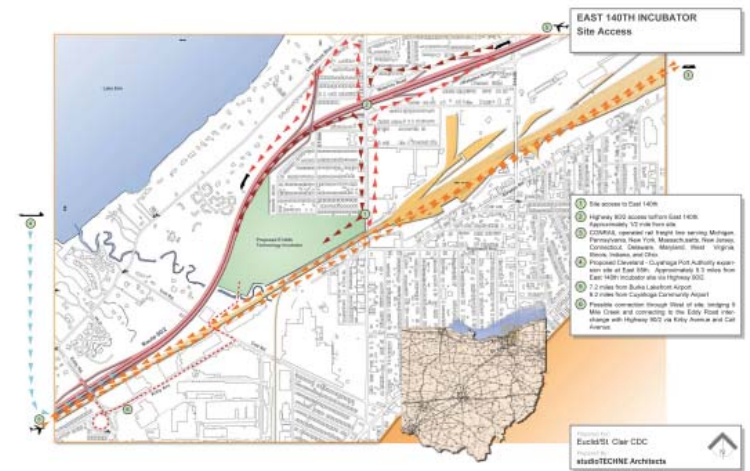
community planning

project manager

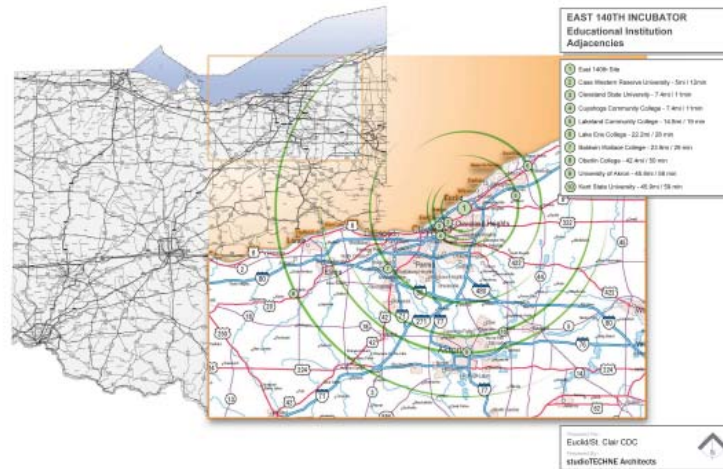
Good planning can foster job creation specifically when attempting to develop speculative technology incubators. Based on of the campus model, where groups of multiple disciplines are forced into proximity, the interaction allows for the free exchange of ideas and “accidental happenstance” from which breakthroughs can be derived. The driving force behind the incubator proposal was leveraging existing infrastructure, educational resources and history to redevelop manufacturing and innovation on a smaller scale than traditional rust belt manufacturing.



vacant parcel study



site connection study



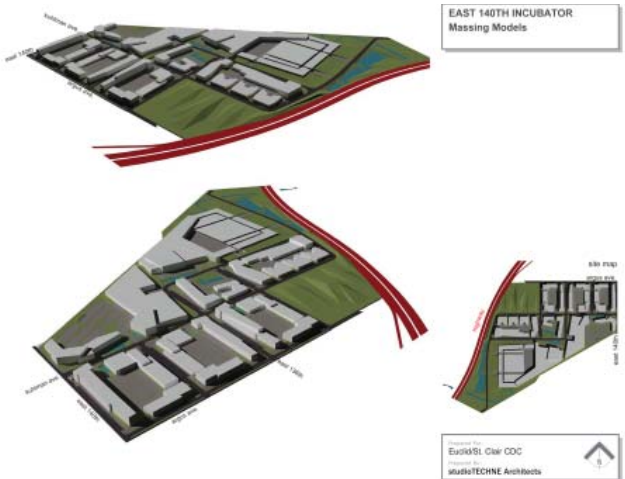
regional education study



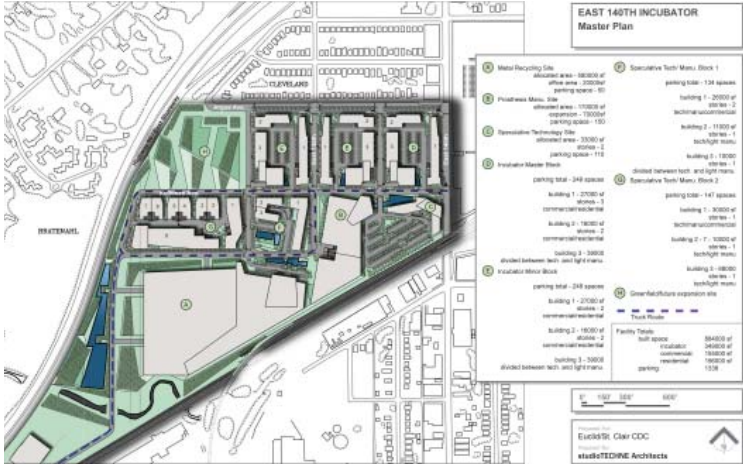
existing condition photo montage

technology incubator

The master plan proposes an eight stage phased development schedule centered around creating not only a technology campus but also a live/work opportunity in which growth of a company, from small start up to stand alone (50+ employees) is supported in one location allowing for multiple levels of expansion, not only for the company but also for the necessary residential neighborhood. Providing affordable housing to support the incubator requires commercial/retail investment which can be used to reinforce the North/South artery of East 140th connecting the interstate Highway to southern neighborhoods such as Euclid, Cleveland Heights and University Heights. The investment in such a concentrated area should spread to the surrounding community as the incubator grows and various companies expand allowing for employees and owners to migrate from the incubator center to the residential areas surrounding the site.



masterplan massing study



proposed masterplan

