

Architecture Studio: 2nd Year Fall

Fall 2009, CMU, Arch #48-200, M/W/F 1:30-4:20
Class Website: www.andrew.cmu.edu/course/48-200

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Off. Hr: M/F 12:00-1:00pm & by appt. in MM202

(10/7/09)

PROJ. 4b – SITE ANALYSIS & MASSING PROPOSALS

Mindset:

The intent of this exercise is to begin the design process by doing specific site analysis and research for several sites simultaneously, and then begin to propose initial design ideas for each site in the form of diagrams and small massing models that are site and program specific, but do not yet have the specifics of form, materiality, or detailed architectural concept associated with them.

Project:

The donor has asked you for an in-depth evaluation of three potential building sites (Carnegie Annex North, Carnegie Annex East, and the Mattress Factory). She is seeking a thorough analysis of each site, and an initial proposal in the form of several diagrams and massing models for how you might intervene architecturally in the design of a new addition to each of the existing museums given the assigned program.

Step 1: Group Work Divide each studio into three teams, and assign one of the museum sites shown at right to be studied and analyzed by each team. Groups for each museum should coordinate with groups from other studios to collect all available site information, and create identical CAD drawings for each group of the following: 1) an overall site plan, with all site plans covering the same area size (use approx. the same area size as the Google Earth aerial views at right); 2) a lot plan of the available building site and a good chunk of the adjacent museum and buildings; 3) a 3D CAD massing model of the empty lot, the existing museum, and other surrounding buildings. All groups should agree on dimensions, software, etc, so that all CAD models are identical, and can be distributed to all individual students for easy use.

Step 2: Site Visits Over the weekend, every student should visit each of the three museum sites as well as the museum collections. Walk to CmoA, and take the 500 bus to North Side. Be aware this is an urban neighborhood, travel in groups, and be sensible. In order to access the Mattress factory site you must visit during regular museum hours, Tue.-Sat. 10:00-5:00 and Sun. 1:00-5:00; same hours for CmoA.

Bring maps of the area, preliminary site plans, as well as tools to document the site (tape measure, sketchbook, camera, etc.). Study the surrounding urban fabric and context, the constraints and opportunities of the building lot, the layout, facilities, circulation, and sequential experiences of the existing museum building. Plan adequate time to see the exhibits (the permanent installations such as Turrell's three pieces, as well as the current exhibits such as the Schulman photos).

Step 3: Site Analysis: Analyze each site based upon your visit and research into the neighborhood and the institution itself. Study the extent of the lot provided to you and understand what areas you might build on within this, and what areas you might program as open space. Think about the types of connections you wish to make on the site and with the existing museum. What views are important? What pedestrian links are possible? How will you integrate the lot you build on with the street and spaces around it? How will you react to the existing landscape? What open areas will you preserve and what areas might you modify, contain, shape? How will you address the sectional qualities of the ground as well as the relationships to building



Mattress Factory Site



Carnegie Museum Annex North



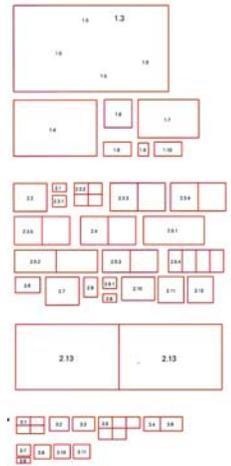
Carnegie Museum Annex East

masses adjacent to your lot? Will you connect to the existing building? What approaches to the site will you engage with? What issues of solar orientation and light are important to consider? How does sun relate to entry and open space? Sketch the important observations, relationships and forces that you have discovered on the larger site (not just the area you are permitted to build on, but the areas surrounding as well).



Step 4: Site Analysis Diagrams: Once you have focused on a series of questions that are most important to you, prepare at least FIVE diagrams in plan, section and/or axon that document these site issues for each site. These diagrams should help you shape the site, determining important nodes of activity, essential connections, and how the massing of the building can be shaped to support these.

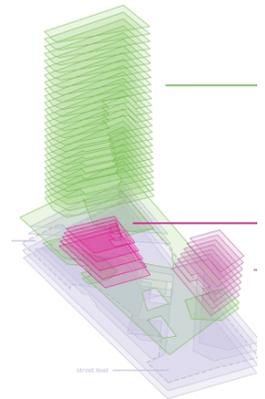
Step 5: Program Exploration: Analyze the general building program below. As you read, take visual notes of ideas for each space by sketching approaches to natural light, entry, connections between spaces, scales of spaces, locations and orientations, characteristics of spaces, etc. Compare and diagram how this museum program compares to the one you have studied in your analysis project. Use a drawing or modeling system to chart relative sizes and access requirements of each space. The simplest one is drawing a series of separate boxes with correct square-footages on paper, on the computer or in a physical model. Try to include ideas about adjacency (what is next to what), light (direction, amount), views (enclosed or open spaces), materials (dense and closed compared to light and open), and general spatial quality (long and skinny, tall or short, etc.) while imagining the implications of the program. As you create each space, keep coordinating it with the overall intent. What kinds of experiences are you trying to compose? In what relation to one another? Imagine how you might transform this list of information into three dimensions.



Koolhaas, Ca' Musica Program

ANNEX PROGRAM: **1) GALLERIES:** A series of four flexible exhibition spaces for rotating installations dealing with light in art, architecture, and the world around us, according to the following criteria: 3 fully-enclosed galleries clearly linked horizontally, vertically, or diagonally into a carefully choreographed sequence for the museum visitor, and an outdoor exhibit space that can be "secured". Each gallery should be approx. 1000sf and have distinct light conditions, including galleries with no natural light, with indirect light, and with extensive daylight; **2) STUDY CENTER:** A series of four linked study rooms and offices that together make up a museum-quality study center for art and artifacts related to light in art, architecture, and the world around us, according to the following criteria; **3) ENTRY HALL:** Access to the museum should be choreographed through a small but memorable museum entry hall, a node that connects the neighborhood and other Carnegie Museums to your gallery spaces; **4) SUPPORT SPACES:** Since the "Light Museum" has access to specialized support spaces in the main museum across the street, you will be able to keep these to a minimum.

Step 6: Building Proposal Diagrams: Organize and sketch the program into smaller groups of masses that will begin to define your museum addition. Start to include your own more conceptual ideas for a museum. Should each gallery be its own form? Or do you want them to merge into a block? How will each space be proportioned? As you abstract the groups of spaces, you should confirm a **HIERARCHY** (which elements of the program are the most important? Which are the biggest?) Think about **SEQUENCES** (which comes first, how does it lead to the next, where does it end, what is the return trip?) Stay **ABSTRACT**. Think in plan and section (you should assume your museum will be several stories tall, so spaces will be not only side-by-side, but on top of one another). Your process of reducing the complexity, abstracting the program, and organizing the pieces should eventually translate into a **DIAGRAM** of some of your spatial and programmatic thinking— hopefully with the same level of sophistication that you studied in your artist and museum. This should be a conceptual exercise more than a technical one related purely to s.f. Create at least **TWO** distinct 3D proposal diagrams by hand or digital model for each site.



Step 7: Building Proposal Massing Models: Construct a series of 3D physical massing models that include adequate volume to fit your program and that respond to the forces of the site from your contextual studies for each site. Build your conceptual ideas in relation to the context around them (you need to construct representations of the streets, surrounding buildings, and the ground plane). The model's scale may be small and gestural at this point (1/16 inch is a good scale). Keep the model open, porous, and conceptual, such that you can think of interior relationships, not just the exterior mass. Use multiple materials to represent your ideas.. Enclose space with lines, planes and masses, sometime implying rather than constructing enclosure. Choreograph the kind of spatial experiences you want visitors to have. Remember: this is **NOT** about determining a final form. Make this model about the relationships among the parts of the site and program. Work quickly and flexibly. Your first three-dimensional thinking can be done as sketches, on the computer, or in small practice models. Then translate these thoughts into physical models. Work without glue in the first model (tape is faster) so you can rearrange easily and experiment with relationships of parts. Keep this early draft. Then create a second draft, refining some of the initial discoveries or offering another variation on your ideas. You must create at least **TWO** physical massing models for each site; though you are encouraged to create a series of alternate models in either physical or digital form.



The site analysis sketches, 15 site diagrams, 6 proposal diagrams, and 6 models are due Mon. Oct. 19.