LA Section 3: Xiaowei Wang
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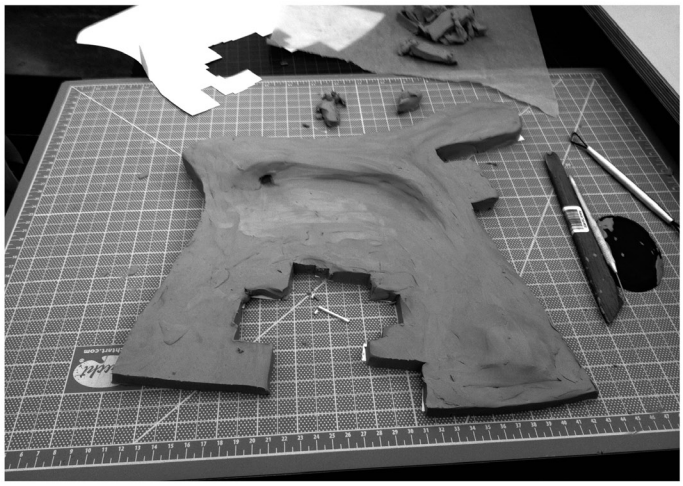
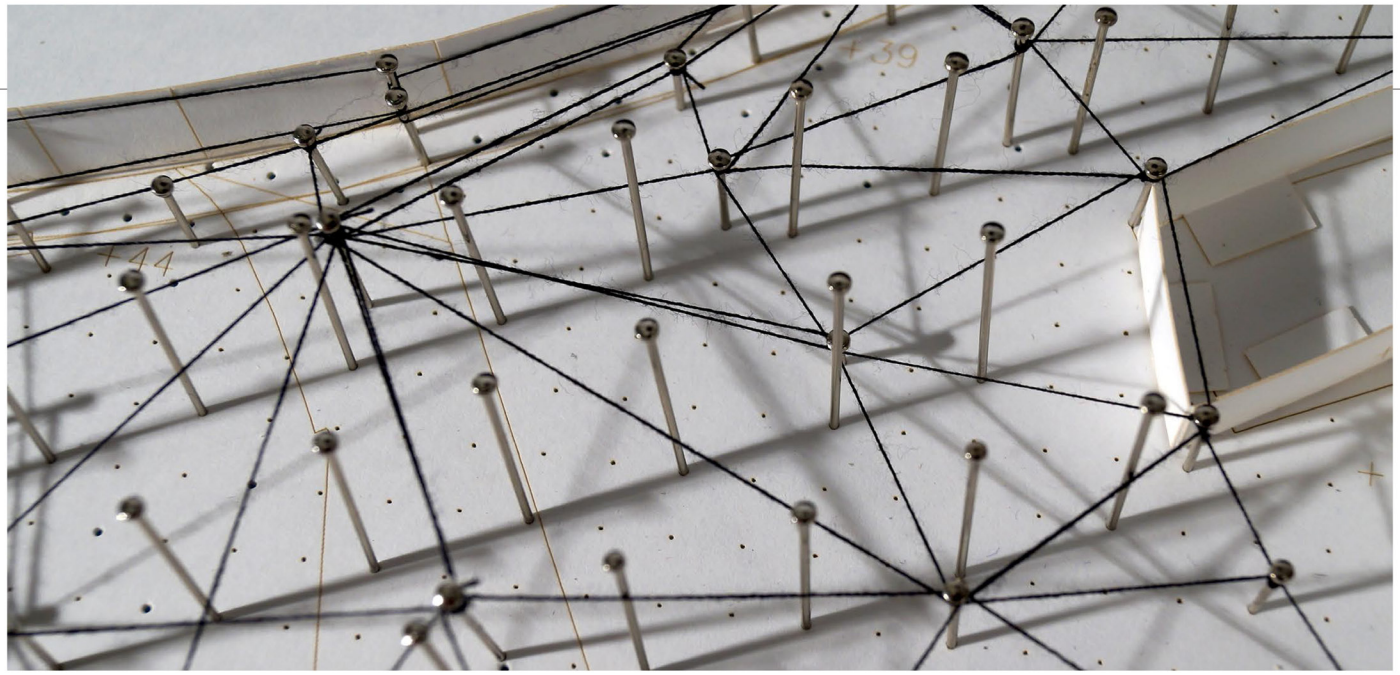
Assignment: 1/4
Issued: June 17, 2013
Due: June 21+27 2013 (PINUP)

A2: Topography





At the core of landscape architecture are two vital components that we will explore in Assignment 2: Topography and materiality. Materiality functions at several scales, from the details of paving (as we have seen in Assignment 1), to vegetation and larger systems of refuse, waste, production and subtraction. To move beyond surface and into three dimensional space, materiality has to be understood as intrinsically operative, capable of directing and engaging site in deeply embedded ways from permeability to flow.
Materiality is tied to the making and manipulation of topography. Through site grading – moving earth, redistributing material, a variety of systems from social use to ecological function can be deployed. While

flatness is a perceived condition, the actual conditions of a natural or constructed site are derived from manipulations of topography, however slight.
These two components are intertwined and addressed through the tool of model making for Assignment 2. This method of model making is to understand AT SCALE the topographic changes you are making to the site. It is not sculptural or decorative in nature, but a highly performative, abstract tool that will allow you to understand how to manipulate topography.

In Assignment 2, technical skills to be gained:

Slope/Basic site grading/Contour plans/ Model -> Drawing translation

Conceptual skills:

Materiality as a way to begin design ideas/ Iteration as a means of arriving at functional form/ Connections between topography, vegetation, hydrology and geology/ Manipulation of site through topography from several different approaches : ecological, social, programmatic, formal

Readings:

Walker, Peter "Minimalist Gardens without Walls" ed. Mark Francis in The Meaning of Gardens (London: MIT Press, 1990)
pp.120-129.
Allen, Stan "Field Conditions" in Points + Lines: Diagrams and Projects for the City (New York: Princeton Architectural Press,
1999). pp.92-103

References:

Anu Mather + Dilip da Cunha, Monsoon in an Estuary
Clemens Steenbergen, Drawing as Instrument
Balmond, The Grid
Garcia, Diagramming
Petschek, Grading for Landscape Architects

Precedents:

El Jardín Botánico / Ferrater i Figueras
Byxbee Park / Hargreaves
Mill Race Park / MVVA
Buttes Chaumont / Alphand
Franklin Park / Olmsted
Shell / Kathryn Gustafson
Vietnam Memorial / Maya Lin
Parque del Este / Burle Marx
Victor+Frances Leventritt Garden/ Arboretum / Reed Hildebrand
Landform Ueda / Charles Jencks

Assignment 2 is a further progression of the understanding of metric and logic you have gained in Assignment 1. As such, Assignment 2 is siteless and abstracted with a series of operations to be performed. The scale for all three models is 1/16"=1'(1 inch=16 feet), with each model at 6" x12".

00 : Precedents + Metrics

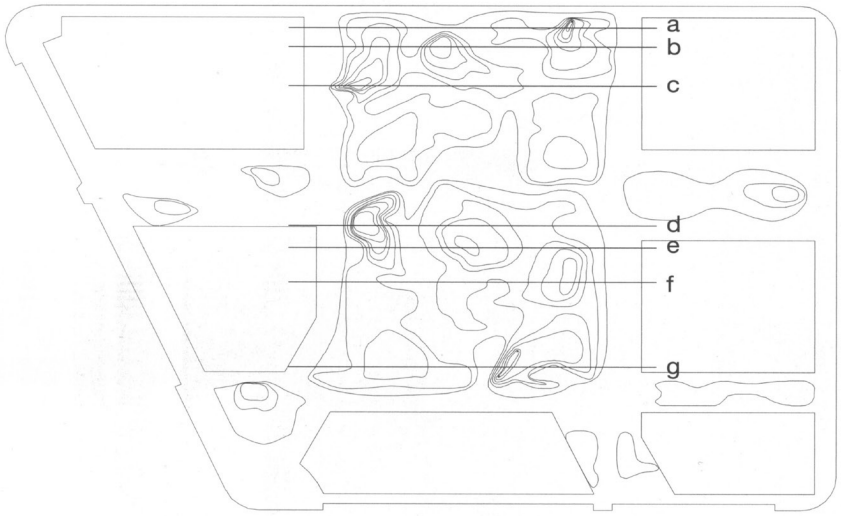
Materials needed:
Drafting vellum
Scale + Ruler

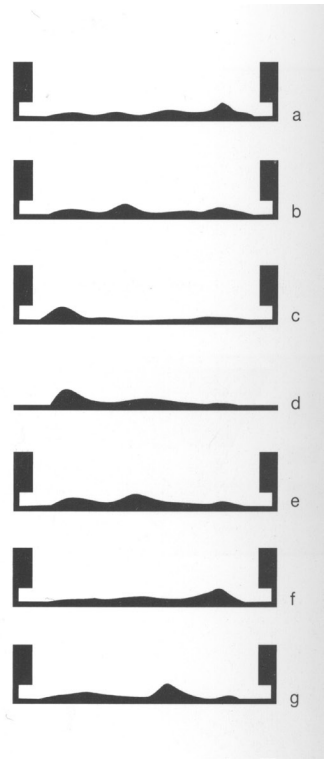
1. Spend 1 hour examining precedents. We see will a few key ones in class (see Image_00_A2 for reference after viewing). These are available on reserve in the library, some within the precedent packet I am giving you, others in the reader.

2. Draw a series of 6 sections at 1”=5’
Slope is calculated by the simple formula Rise (height)/Run (length)
Insert a scale figure in these sections.
The first section should be a 2:1 slope
Second should be a 1:1 slope
Third is 1:2 slope
Fourth is 1:3 slope
Fifth is 1:4 slope
Sixth is 1:5 slope

3. Examine the precedent contour plan that you have been given. Some of you will have the same plan. From the methods demonstrated in studio and representation, draw a series of 5 sections at even intervals. Please do not forget your scale bar. There is no North arrow on section elevations.

4. Take ONE (1) section and label 3 slopes that you find in the section.





Plaza del Desierto, Arroyo + no.Mad Architects

01 : Operations

Materials needed:
Foamcore
Clay
Museum board
Scale + Ruler

This portion will use a clay model to abstract landform, learn the process of site grading, topography and its relationship to ecological types (vegetation, hydrology, geology, etc). The model should be study model quality.

1. Clay is a malleable material that can be shaped and used to visualize topography. Take your clay, using the ½ inch white foamcore sized at 6" x 12" as your base, and put the material onto your base so that it is an even rectilinear shape. The height of this should be at least 1 inch.

2. Record these 6 pieces in section by drawing serial sections. Label each one with an indicator (ie A for the 1st piece, B for the 2nd, etc). Remember that these models are to scale. Insert a silhouette of a person or tree (at 25 feet tall) into each section.
3. Select FOUR (4) of the operations below to perform to your clay block. With these operations, you may make up to TEN (10) moves. They may be stacked on top of each other. Please keep a diagram with notations of changes made.
Mound
Excavate
Elongate
Squeeze
Pinch
Divide
Push
Join

4. Cut your model into 6 lengthwise pieces (along the long edge) using the clay wire tool. Note that this is also fulfillment of the representation assignment for the week, and you must also construct the measurement tool that is located in the rep assignment (see REP handout).

5. Record your model by drawing serial sections of each piece across the drawing vellum.
Correlate these second set of sections to your first one (ie section A should be next to section A', with A' being the changed first section).
Remember that these models are to scale. Insert a silhouette of a person or tree (at 25 feet tall) into each section.

6. With your clay sections in standing position, modify the topography of each section by scaling up and down accordingly. Each of the 6 sections should have at least ONE(1) scale transformation. You do not need to scale the entire clay section but can scale up or down one portion (ie ½ a mound)
You can scale it according to these factors ONLY:
2 ½
2
1 ½
3/4
½
¼
Note that the scaling will be achieved through a combination of using scale and the drawn sections. As a result, it will certainly be off by small portions and with consideration to the material. The key here is that you perform the scaling.

7. Reconstitute your clay model by putting the sections together. Work the clay so that it becomes a continuous surface again.

8. Slice your model again as in Step 3.
9. Record these new sections next to the sections you drew in step 5 (ie A becomes A").

10. Piece together the model again. Do not apply any transformations.

11. Slice your model horizontally.
12. Draw these pieces in PLAN, as a contour plan in 1/16"=1'
13. Now you have a series of sections and a contour plan of your model.
14. Working in pairs you will now trade contour plans and have your buttmate draw 1 section, section B" (the second section). This section should be cut at the same intervals that you have previously worked from (16 feet downwards from plan view). Compare the section that your buttmate has drawn with the one you have drawn.
If they match, you may proceed to the next step.

15. From the series of ecological land types (valley, patch, matrix, etc) presented to you via the handout (see Image_01_A2), overlay a sheet of vellum onto your contour plan and diagram the appropriate results of your transformations alongside contour lines. Note the relations between topography and ecological functions of hydrology and vegetation. At least THREE (3) different areas must be diagrammed out.

DRAWINGS AND MODELS DUE BY WEDNESDAY

Deliverables for this portion:
[1.0] 1 set of slope drawings
[1.1] 1 set of sections derived from precedent plan.
[1.2] 1 clay model
[1.3] 3 sets of serial sections (from your transformations. The first set will be nearly straight lines).
[1.4] 1 contour plan including diagram overlay
[1.5] Recordings of your operations chosen (graphical notations)

02 : Additions, Intent, Vegetation + Circulation

Working in reverse from the process outlined in Phase 01, we will look into the logics of designing topography for performativity and operative aspects (vegetation and hydrology) alongside the additional layer of circulation.

Materials needed:
Foamcore
Bristol
Museum board

1. Draft onto your foamcore a grid of 2" x 2" squares.
2. Cut 45 pieces of your museum board at 2" x 2" each. Using 2" x2" squares of museum board, build up layers onto your model. You are only allowed to use the 45 pieces that you have cut and must use all of them. This serves as the general base for your topographic moves.
3. On top of the museum board you have stacked you will now piece together the surface using Bristol.
4. Choose 3 ecological functions from this list, alongside a set of 5 operations.

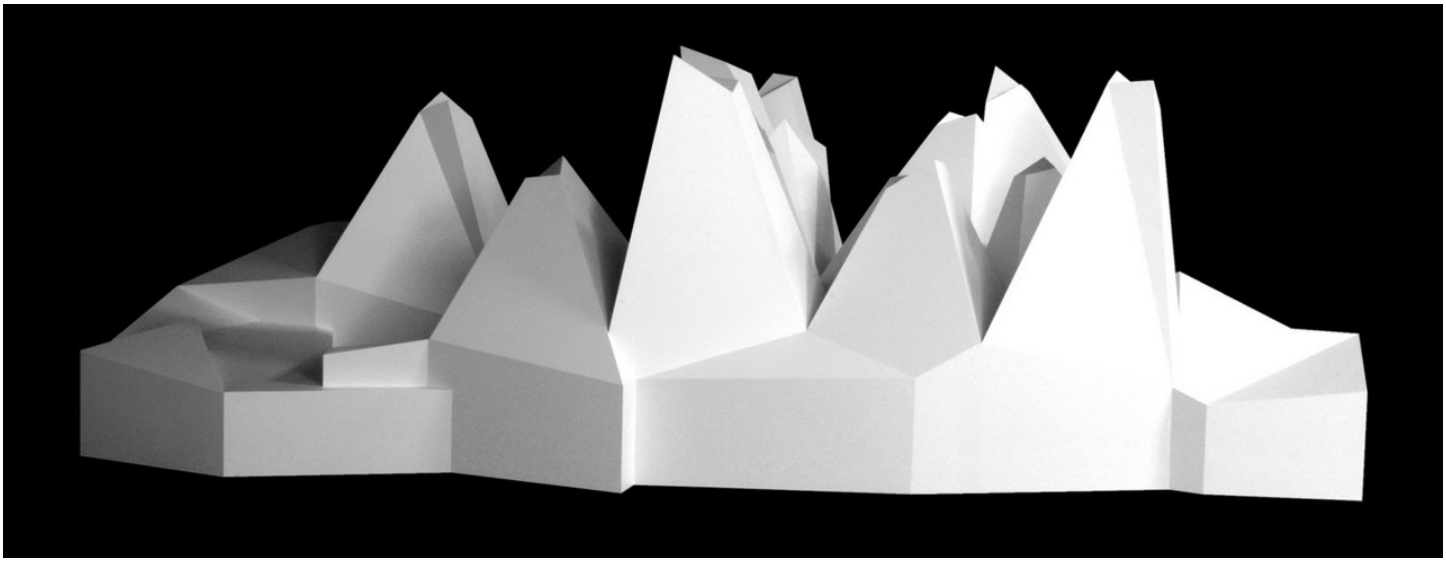
Ecological functions:
Patch
Matrix
Corridor
Valley
Ditch
Polder
Hummock
Berm
Basin
Swale
Steppe

Operations:
Cut
Fold
Score
Bend
Twist
Taper
Perforate

5. From your stacked museum board model, roughly sketch out the possible areas for your chosen ecological functions along with ONE (1) path of circulation through this site. This path of circulation may wind and bend as necessary, but it must touch a high point and a low point in your plan.
6. Using Bristol paper and the set of operations you have chosen, begin to create the terrain across your stacked museum board model. Remember that the scale of this exercise continues to be 1/6" = 1'.

Note that this Bristol model should be CLEAN and of presentation quality. Sides of the model should be covered by laying it across a piece of Bristol on its side and cutting the appropriate cross section of material. Indicate areas of vegetation by punching small holes through the Bristol (before you glue the pieces is easiest).
Using your model as a method of visualization, drawing TWO (2) sections of your model. It is helpful in the case of this paper model to look at it from the side to draw it, while using a ruler for measuring the distance of each peak, etc.
Indicate where you have cut your section across this model by lightly indicating it on the sides.

DRAWINGS AND MODELS DUE BY FRIDAY 1PM FOR MINI PINUP (INCLUDING PH01)
Deliverables for phase 02:
[2.0] 4 sections, longitudinal and transverse
[2.1] 1 diagram showing overall function of your site (from step 5)
[2.2] 1 diagram clearly indicating your chosen ecological functions in detail (think of it as a detail "type" diagram)
[2.3] 1 plan of your model
[2.4] 1 detail section of your model (to be decided with instructor input)
[2.5] 1 perspective of your bristol model



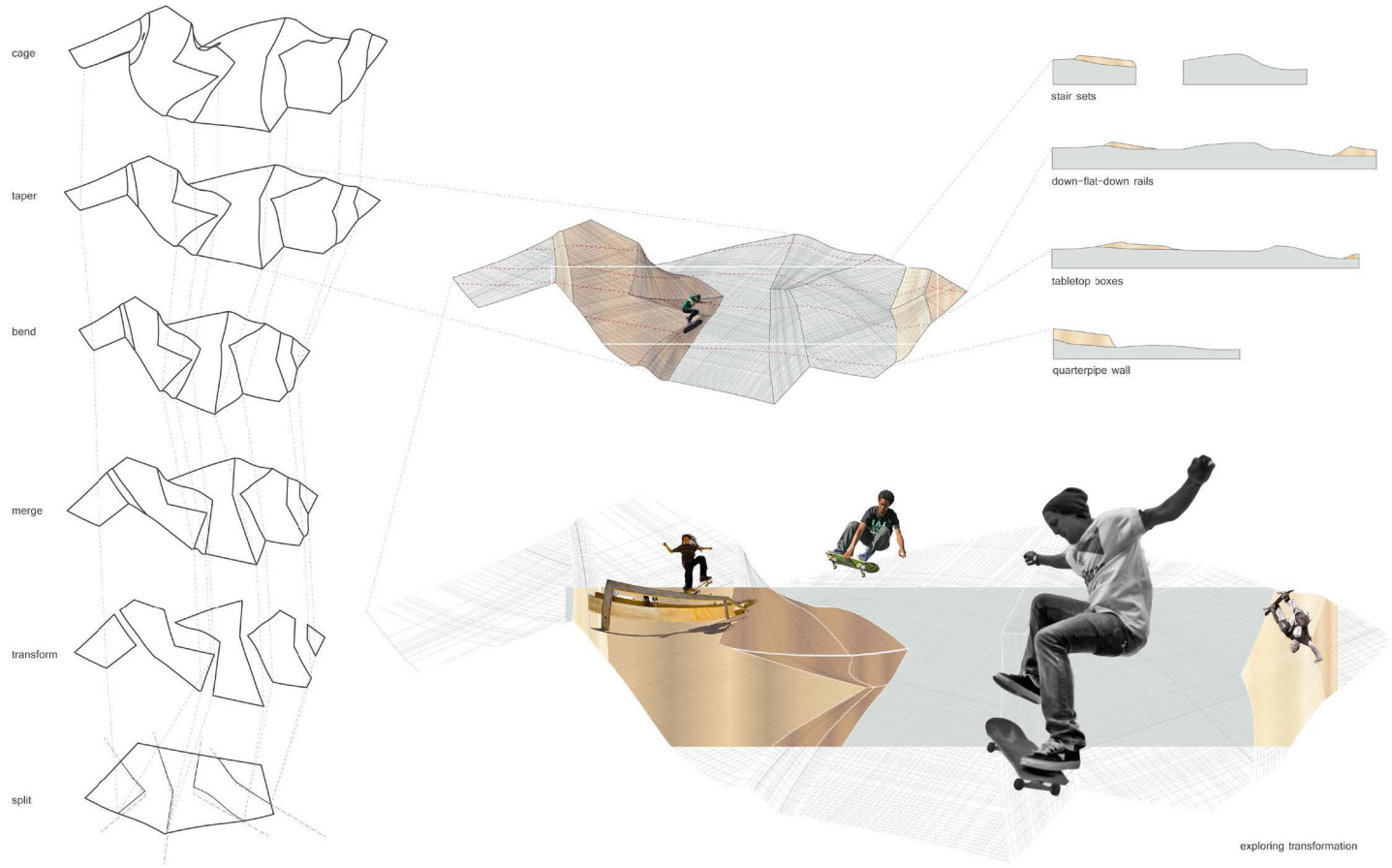
03: Compositing landscape

The final model will put what you have learned in the last two about scale, ecological function, form and circulation together with programming. This final model will also be presentation quality and clean. It will use methods that you have learned from phase 01 and 02. It is also 6" x 12" and 1/6"=1' scale.

Materials needed:
½ foamcore
Pins
Thread

Similar to the method you developed in phase 01 with pins as a form of measuring topography, you will now layer on social/public + further ecological program. The same set of drawings is expected of plan and section, alongside diagrams of your design and perspectives. Vegetation should be incorporated as well and modeled through a series of techniques from painted pins to wires.

Deliverables:
[3.0] Composite model
[3.1] model diagrams [1 plan + 6 sections]
[3.2] axonometric of topography
[3.4] analytic diagram of axonometric (at least 1, layered axonometric encouraged)



SCHEDULE [week_2-3]

MON 6.17

9am - 11am _ CD lecture
11am - 12pm_ Project launch
1pm - 2pm_ Modeling workshop with Ellen Garrett
2pm - 6pm_ Studio
2-3pm Lecture + Library
3-6pm Precedent + Models
(Ecological Types - Tentative)

TUE 6.18

9am - 11am _ CD lecture
11am- 12pm_ representation
1pm - 2 pm_ Ecological Types
2pm - 6pm_ Studio
Finish work on model, drawings
Prepare museum board pieces for bristol model (45 pieces of 2" x2") museum board.

Wednesday 6.19

9am - 11am _ CD lecture
11am- 12pm_ Lecture from Will Dibernardo
1pm - 6 pm_ Studio, including representation workshop with Frank Hu
Finish work on deliverables, begin on bristol model.
[1.0] 1 set of slope drawings
[1.1] 1 set of sections derived from precedent plan.
[1.2] 1 clay model
[1.3] 3 sets of serial sections (from your transformations. The first set will be nearly straight lines).
[1.4] 1 contour plan including diagram overlay
[1.5] Recordings of your operations chosen (graphical notations)

Thursday 6.20

9am - 11am _ CD lecture
11am- 12pm_Materials Collection
1pm - 4pm_ FIELD TRIP to ISGM [meet in lobby at 1]
[sketchbook assignment]
4pm - 6pm_ studio:
Finish bristol model + drawings

[2.0] 4 sections, longitudinal and transverse
[2.1] 1 diagram showing overall function of your site (from step 5)
[2.2] 1 diagram clearly indicating your chosen ecological functions in detail (think of it as a detail "type" diagram)
[2.3] 1 plan of your model
[2.4] 1 detail section of your model (to be decided with instructor input)
[2.5] 1 perspective of your bristol model

Friday 6.21
9am - 11am _ CD lecture
11am- 12pm_Jane Hutton lecture
1pm - 6pm_Paired pinups, rooms TBA

MON 6.24
9am - 11am _ CD lecture
11am - 12pm_
1pm - 2pm_ model demo [compilation]
2pm - 6pm_ studio

TUE 6.25
9am - 11am _ CD lecture
11am- 12pm_ representation
1pm - 2 pm_
2pm - 6pm_ studio

WED 6.26
9am - 11am _ CD lecture
11am- 12pm_
1pm - 2 pm_
2pm - 6pm_ studio+rep workshop

THU 6.27
9am - 11am _ CD lecture
1pm - ASSIGNMENT 2 DUE
1pm - 6pm_ FINAL REVIEW
[3.0] Composite model
[3.1] model diagrams [plan + section]
[3.2] axonometric of topography
[3.4] analytic diagram of axonometric (at least 1)

FRI 6.28
9am - 11am _ SITE VISIT for Assignment 3