How to read Plans and Do Basic Drawings

Workshop session W1

10.00 Site Orientation Exercise
10.10 Drawing Conventions
10.45 Can drawings Distort the Truth?
11.30 Summary + Coffee
11.45 Simple Drawing Techniques
12.05 My House Our Neighbourhood
12.15 Producing a Design Principles Plan
12.45 Feed back + Summary

13.00 Lunch
Site Orientation: Identify the view point
A Guide to Architectural Drawing Conventions:

Plans

Drawings: John Hewitt from Understanding Plan by Peter Murray and Michelle Ogundehin
A Guide to Architectural Drawing Conventions:

Sections

Drawings: John Hewitt from Understanding Plan by Peter Murray and Michelle Ogundehin
A Guide to Architectural Drawing Conventions:

Elevations

Drawings: John Hewitt from Understanding Plan by Peter Murray and Michelle Ogundehin
A Guide to Architectural Drawing Conventions:

Scale 1:1,250
A Guide to Architectural Drawing Conventions:

Scale 1:200-1:100
A Guide to Architectural Drawing Conventions:

Scale 1:50
A Guide to Architectural Drawing Conventions:

Scale 1:20

section AA through main hall - entrance hall - ablutions cupboard - WC 2

Image: mae
A Guide to Architectural Drawing Conventions:

Scale 1:5
A Guide to Architectural Drawing Conventions:

Three dimensional renderings

Perspective view: 1.7m above ground level

Drawings: John Hewitt from Understanding Plan by Peter Murray and Michelle Ogundehin
A Guide to Architectural Drawing Conventions:

Three dimensional renderings

Axonometric

Isometric

Drawings: John Hewitt from Understanding Plan by Peter Murray and Michelle Ogundehin
A Guide to Architectural Drawing Conventions:

Three dimensional renderings

Exploded Axonometric
A Guide to Architectural Drawing Conventions:

Verified View

Image: Foundation CGI - Stratford Hall Lower School, Vancouver
Verified View

A Guide to Architectural Drawing Conventions:

Method Statement: Foundation CGI - Stratford Hall Lower School, Vancouver

1. SITE PHOTOGRAPHY
   The photographer attended site on the 3rd September 2006 to take photographs from the positions requested by Omicron AEC. The locations were noted so that cameras could be created at the corresponding locations in our 3D modeling program. The photographer used a digital Nikon D200 with a 17-55mm zoom lens set to 17mm, which is equivalent to a 35mm focal length with 35mm film. The time and date of each exposure was recorded so that the sun & shadow positions could be recreated in the computer model.

2. CAMERA MATCHING PROCESS
   Foundation CGI created a digital 3D model of the scheme using drawings provided by Omicron AEC. This model was aligned to the survey information coordinate system and was used to render both views. For each of the site photography locations a virtual camera was positioned at the corresponding location on the site plan in the 3D software. The existing situation surveys were positioned in the 3D model and were used to confirm the target presence of the virtual cameras.

3. TEXTURING
   To create a meaningful assessment, the finished images need to be a realistic reflection of what the proposed scheme would look like after construction. The process of transforming a wire frame 3D model into one that can be used to create a realistic image is called texturing. Prior to rendering, Foundation CGI required details from the architect regarding the specified materials such as the type of glass and cladding, colours etc. to be utilised. This information is used to render the appearance and qualities of the specified materials to ensure an accurate and realistic final image.

4. RENDERING AND COMPOSITING
   Using the virtual camera, an image is “rendered” of the proposed scheme using the digital model, proposed materials and replicated lighting conditions. These renders are composited into their associated site photography backgrounds using Photoshop to produce the final images. Finishes within the site photography similar in nature to those being proposed were examined to establish how the new building should be represented. Hue, saturation and brightness values were adjusted to match the rendered image to the scene.
Can Drawings Distort the Truth?

CABE Design and Access Statements

USE: What buildings and spaces will be used for

AMOUNT: How much would be built on the site

LAYOUT: How the buildings and public and private spaces will be arranged on the site; and the relationship between them and the buildings and spaces around the site

SCALE: How big the building and spaces would be, their height, width and length

LANDSCAPE: How open spaces will be treated to enhance and protect the character of a place

APPEARANCE: What the building and spaces will look like, for example, building material and architectural details
Can Drawings Distort the Truth?

Use

Site plan in context

Image: mæ
Can Drawings Distort the Truth?

Use

Layered site plan

Image: mæ

Drawing Workshop W1.
Can Drawings Distort the Truth?

Use

Green spaces public and private
Can Drawings Distort the Truth?

Use Public external spaces

Image: mæ
Can Drawings Distort the Truth?

Use

Private green spaces

Image: mæ
Can Drawings Distort the Truth?

Use

Tree survey
Can Drawings Distort the Truth?

Use

Site roads and semi-private routes
Can Drawings Distort the Truth?

Amount

Simple unit mix massing model
Can Drawings Distort the Truth?

Amount

Simple unit mix massing model

Images: mae

urban design london
Drawing Workshop W1.
Can Drawings Distort the Truth?

Layout

Image: mae
Can Drawings Distort the Truth?

Layout

Option B
Can Drawings Distort the Truth?

Scale
Can Drawings Distort the Truth?

Scale
Can Drawings Distort the Truth?

Landscaping

Resin bonded gravel
Charcoal
Shared Surface

Resin bonded gravel
Golden Pea Gravel
Shared Surface

Resin bonded gravel
Buff
Private Driveways

Grabie setts
Footpath

Grabie setts and pebble paving
Paved serice bench

Bituminous Macadam
Access Roads

Gabions
Frogtaners block D,
Central water feature and
Water retention strip at Eastern
boundary.

Dry stone Crushed walls with coping stone
General retaining walls and garden boundary walls

Grooved FSC hardwood with flush
Carborundum anti-slip inserts
Amenity lock and Cycleway through
wetland

Drawings: Kinnear Landscape Architects
Can Drawings Distort the Truth?

Landscaping

**Hedge**
- Hawthorn (Crataegus monogyna)
- Blackthorn (Prunus spinosa)
- Goat Willow (Salix caprea)
- Hazel (Corylus avellana)
- Sycamore (Acer pseudoplatanus)
- "Double Brushed" Boundary hedge

**Chalk grassland**
- Early Gentian (Gentianella anglica)
- Traveler's Joy (Clematis vitalba)
- Eyebright (Euphrasia nemorum)
- Dwarf Thistle (Cirsium arvense)
- Holm Plantain (Plantago media)
- Honeysuckle Vetch (Hippocrepis comosa)
- Meadow Crane's Bill (Geranium pratense)

**Swale**
- Sweet Fored Grass (Dactylis maximus)
- Soft-Rush (Juncus effusus)
- Hard Rush (Juncus inflexus)
- Flowering Rush (Butomus umbellatus)
- Marsh marigold (Caltha palustris)

Drawings: Kinnear Landscape Architects
Can Drawings Distort the Truth?

Landscaping

Drawings: Kinneal Landscape Architects
Can Drawings Distort the Truth?

Appearance

Option A

Option B

Images: mæ
Can Drawings Distort the Truth?

Appearance
Summary:

All drawing conventions give rise to their own inherent perceptual distortions, it just depends what you are used to seeing.
Useful Drawing Skills: Simple Drawing Techniques
A Guide to Architectural Drawing Conventions:

Orthographic Projection

Multi-view Drawings: The Principal Face in Each View is Orientated Parallel to the Picture Plane.

A Guide to Architectural Drawing Conventions:

Axonometric Projection

Isometric: The three major axes make equal angles with the picture plane.

Dimetrics: Two of the three major axes make equal angles with the picture plane.

Trimetrics: The three major axes make different angles with the picture plane.

A Guide to Architectural Drawing Conventions:

**Axonometric Projection**

- **Isometric**: projection of a three-dimensional subject, inclined to the picture plane in such a way that its three principle axes make equal angles with the picture plane and are equally foreshortened.

- **Dimetric**: projection in which two of the principle axes are equally foreshortened and the third appears longer or shorter than the other two.

- **Trimetric**: projection in which all three principle axes are foreshortened at a different rate.

A Guide to Architectural Drawing Conventions:

Oblique Projection

Elevation obliques: A principle vertical face is orientated parallel to the picture plane.

Plan obliques: A principle horizontal face is orientated parallel to the picture plane.
A Guide to Architectural Drawing Conventions:

Perspective Projection

One Point Perspective: One horizontal axis is perpendicular with the picture plane, the other horizontal and the vertical axes are parallel with the picture plane.

Two Point Perspective: Both horizontal axes are oblique to the picture plane, and the vertical axis remains parallel with the picture plane.

Three Point Perspective: Both horizontal axes as well as the vertical axis are oblique to the picture plane.

A Guide to Architectural Drawing Conventions:

**Perspective Projection**

One Point Perspective projection portrays a threedimensional form by projecting all of its points to a picture plane by straight lines that converge at a fixed point representing a single eye.

Two Point Perspective projection more closely mimics a binocular image.
A Guide to Architectural Drawing Conventions:

Quick on the Draw

My house our neighborhood

Image: mæ
Design Principles Plan:
Design Principles Plan:

View A
Design Principles Plan:
Design Principles Plan:

View B
Design Principles Plan:
Design Principles Plan:

View C
Design Principles Plan:

View D

Image: mæ
Design Principles Plan:

View D
Feedback: