

Graphic Skills Portal

Introduction Handout

3

DESIGNING



URBAN
GRAPHICS
SKILLS

BSP Graphic Skills Portal

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BUPS – Bartlett Urban Planning Society (Established in 2012, the Bartlett Urban Planning Society (BUPS) is a student-run organisation, subsumed under the Bartlett School of Planning (BSP). BUPS represents, reinforces and protects the interests of planning students while inspiring the community-at-large of our role in the Built Environment.)

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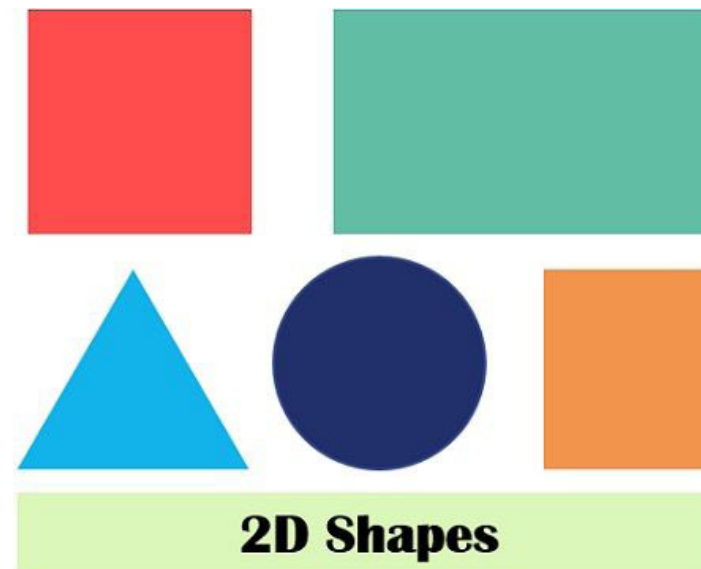
1. Differences between 2D and 3D

The primary difference between 2D and 3D shapes is that a **2D shape** comprised of two dimensions that are length and width. As against, a **3D shape** incorporates three dimensions that are length, width and height.

We can consider that the shapes which can be produced on a flat surface are said to be **2D (dimensional) Shape**. In other words, the shapes that only have length and width are the 2D shapes.

All the parallel projections and one-point perspective projections in plans of some object are made in 2D. Geological maps also made in 2 dimensions, in which we use the method of contouring to show the depth with the help of different shapes, even in oceanography also.

BASIS FOR COMPARISON	2D SHAPES	3D SHAPES
Basic	Only 2 dimensions are there that are X and Y.	Three dimensions are there, X, Y and Z.
Constructs	Square, circle, triangle, rectangle, hexagon, etcetera.	Cube, sphere, cone, cuboid, etcetera.
Represents	Top view, side view, bottom view, front view while making engineering drawings.	Isometric and orthogonal shapes.
Involves	Length and breadth	Length, breadth and height
Ease of construction	Simple to create	Quite complex
Edges	Are completely visible in the drawings.	Not visible or hidden due to overlapping.



3D shapes are solid shapes, unlike 2D shapes which are produced by combining 3 Dimensions – length, width and height. The real-life examples of these shapes are buildings, trees, etc. The 3D shapes help in showing the depth of the object.

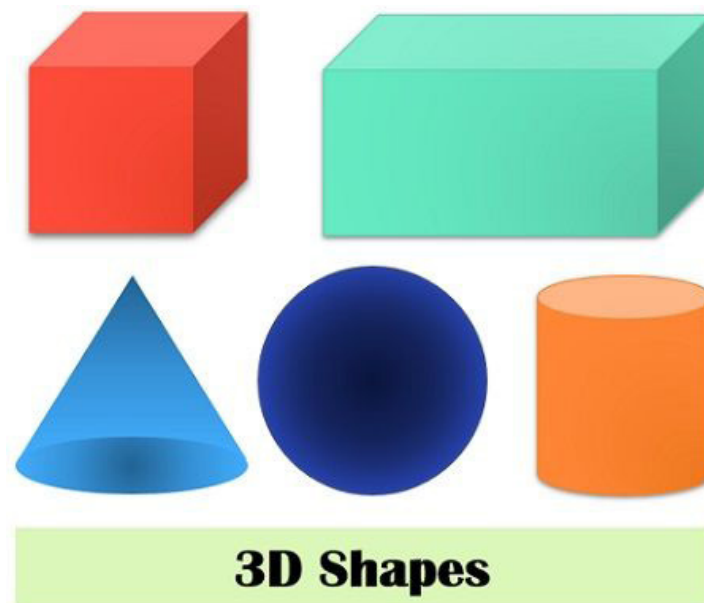
To illustrate the 3D in engineering, we use 2 and 3 point perspective projection and orthographic projection.

In urban design graphics, typical drawings in 2 dimensions are:

- Site Plan
- Masterplan
- Elevation
- Section
- Etc.

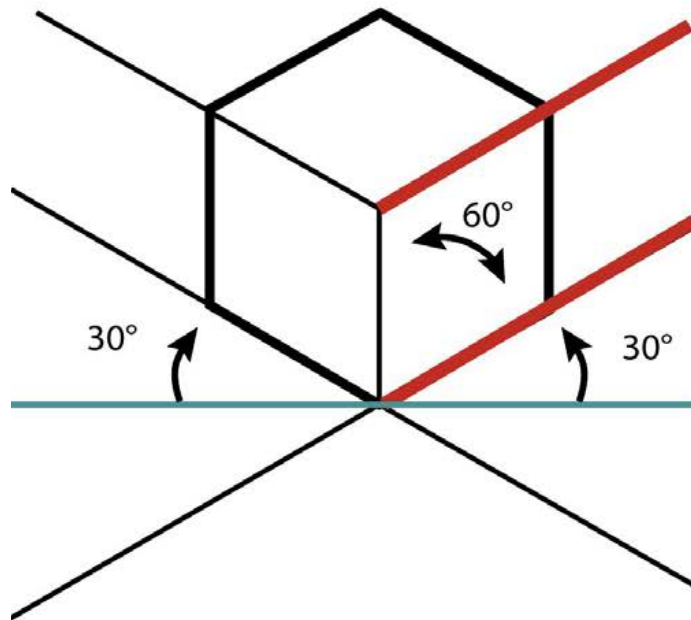
Instead, typical drawings in 3 dimensions are:

- Bird'y eye view
- Human perspective
- Axonometric view
- Etc.



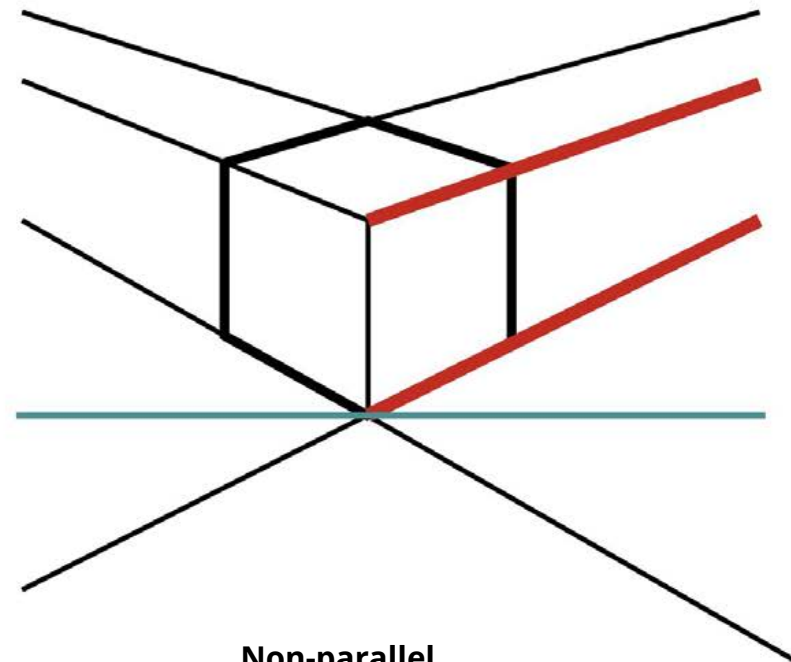
2. Different types of 3D projections

Isometric
also sometimes called
axonometric

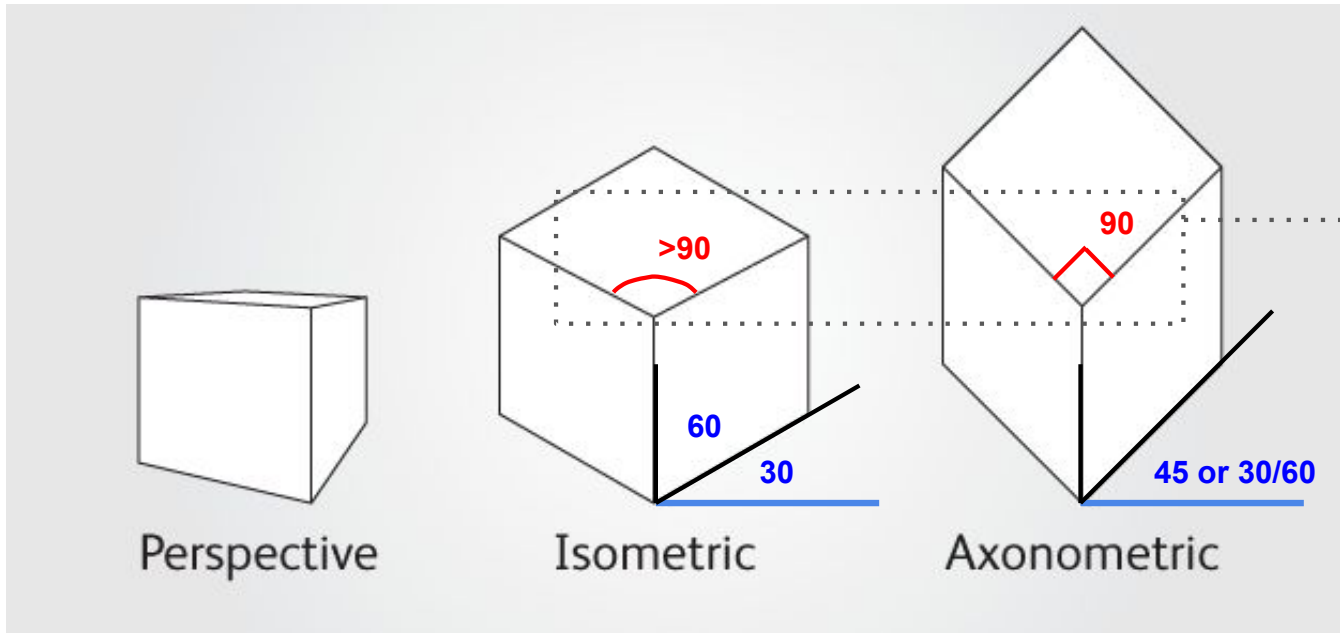


Parallel

Perspective
(two-point)



Non-parallel



Perspective

Isometric

Axonometric

Not to scale

To scale

To scale

Human view

In-between
(closer to the human view)

Schematic view
(analytical)

Axonometric:

The **plan** plane is only rotated - not deformed

Not common in urban design - what we refer to as axonometric is actually usually an isometric parallel projection

Classical Projections

Oblique:

Like an axonometric, but with one plane **not rotated**



Front elevation



Elevation oblique



Plan oblique

Perspective:

One- and three- point perspectives are rare beyond the classical, **two-point** is the most commonly used



Isometric

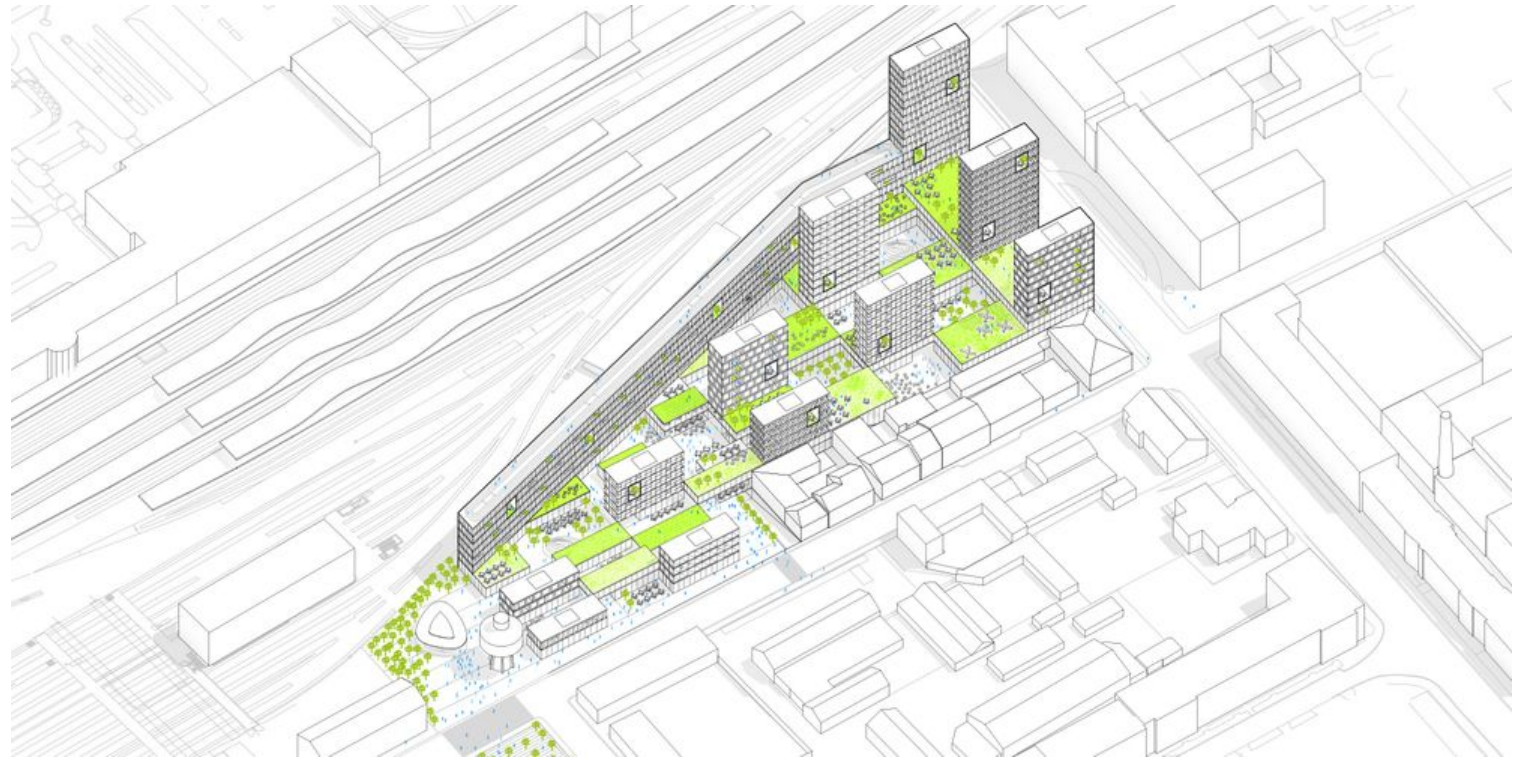


One-point perspective



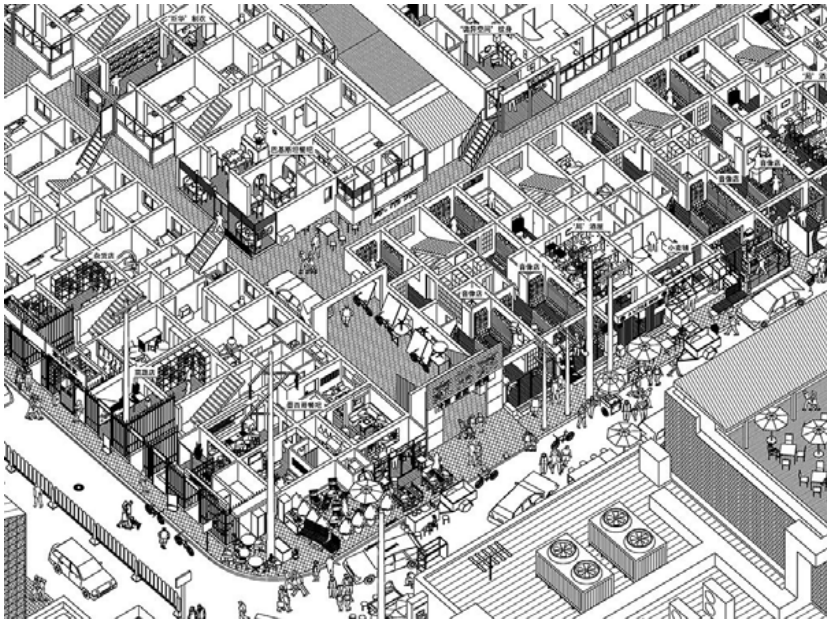
Three-point perspective

Examples in urban design:



(Iso-) Axonometric - schematic, focused on massing

Examples in urban design:



(Iso-) Axonometric - complexity!



Examples in urban design:



Perspective (eye level)

3. What is a site plan/masterplan in urban design?

What are the DESIGN TOOLS in urban design?

There are several ways of analysing and representing your analysis and design. Those 'ways' are called **architectural drawings** (yes, even in urban design!). An architectural drawing is a technical drawing used to develop a design idea into a coherent proposal, to communicate ideas and concepts, to analyse the built environment, etc. Architectural drawings are made according to a set of conventions, which include particular views and concepts, or '**tools**':

- Site plan
- Sections
- Elevations
- Masterplan
- Bird's eye view
- Human perspective
- Etc.

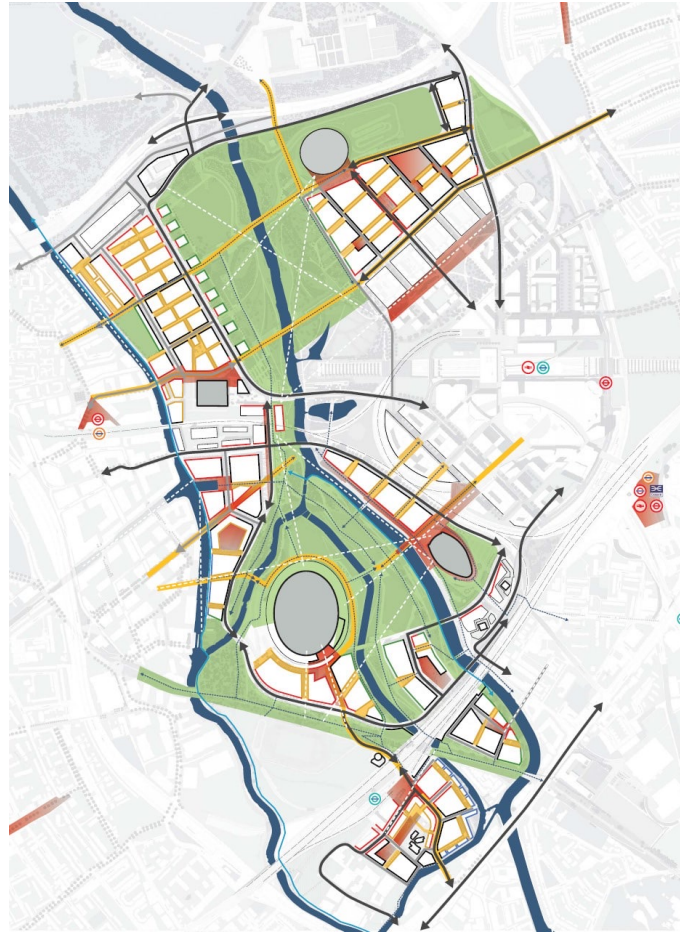
What is a **MASTERPLAN** in urban design?

A masterplan is a general plan very detailed that provides a conceptual layout to guide future growth and development. Master planning is about making the connection between buildings, social settings, and their surrounding environments

However, it can be also a planning document (<https://urban-regeneration.worldbank.org/node/51>) that includes analysis, recommendations, and proposals for a site's population, economy, housing, transportation, community facilities, and land use. It is based on public input, surveys, planning initiatives, existing development, physical characteristics, and social and economic conditions.



Strategic Masterplan



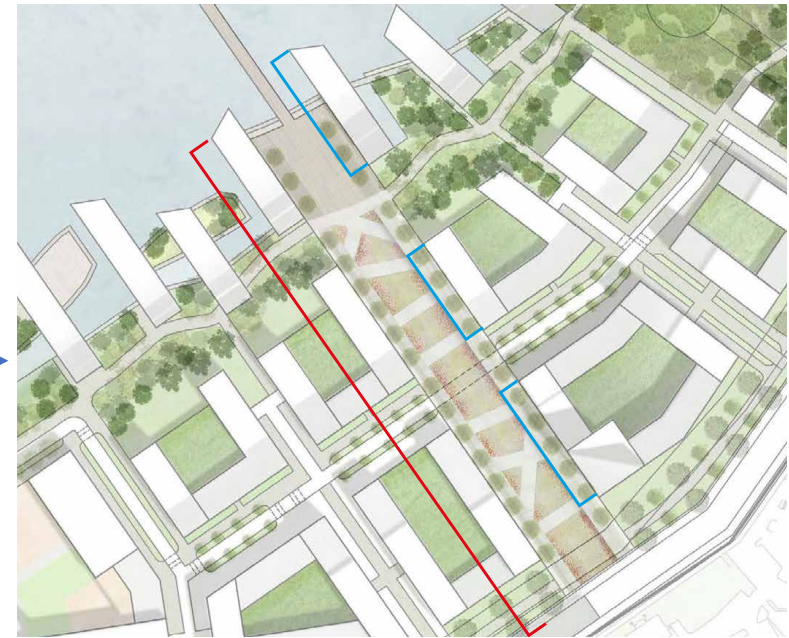
Masterplan



Masterplan



Detailed masterplan



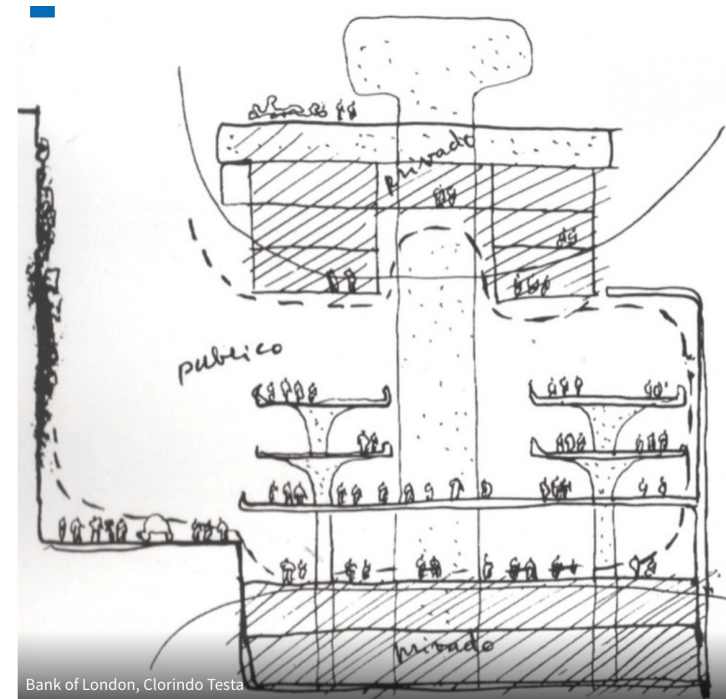
4. What is a section in urban design?

What is a **SECTION** in urban design?

In reference to **architectural** drawing, the term section typically describes a cut through the body of a building, perpendicular to the horizon line. A section drawing is one that shows a vertical cut transecting, typically along a primary axis, an object or building.

It is possible to infer that the section is, and historically has been, the most interesting drawing since it is understood as a representation of the architectural design itself.

In *Manual of Section*, Paul Lewis, Marc Tsutumaki and David J. Lewis state that "*the section is the place where space, form, and material meet with human experience.*"

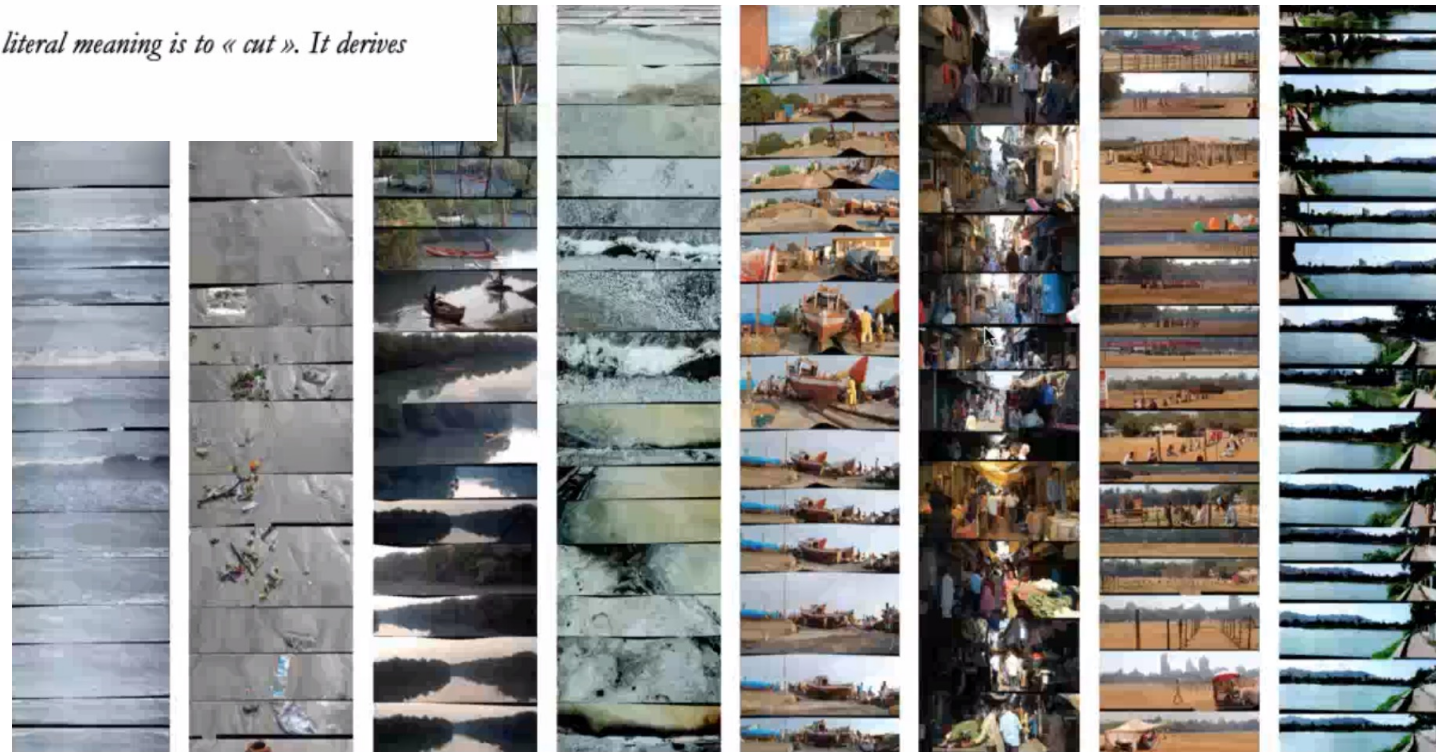


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SECTION

« Section » comes from the Latin « sectio-onis », whose literal meaning is to « cut ». It derives from « sectus », past participle of « secare », « cut ».

**Section as a way to
interpret reality**



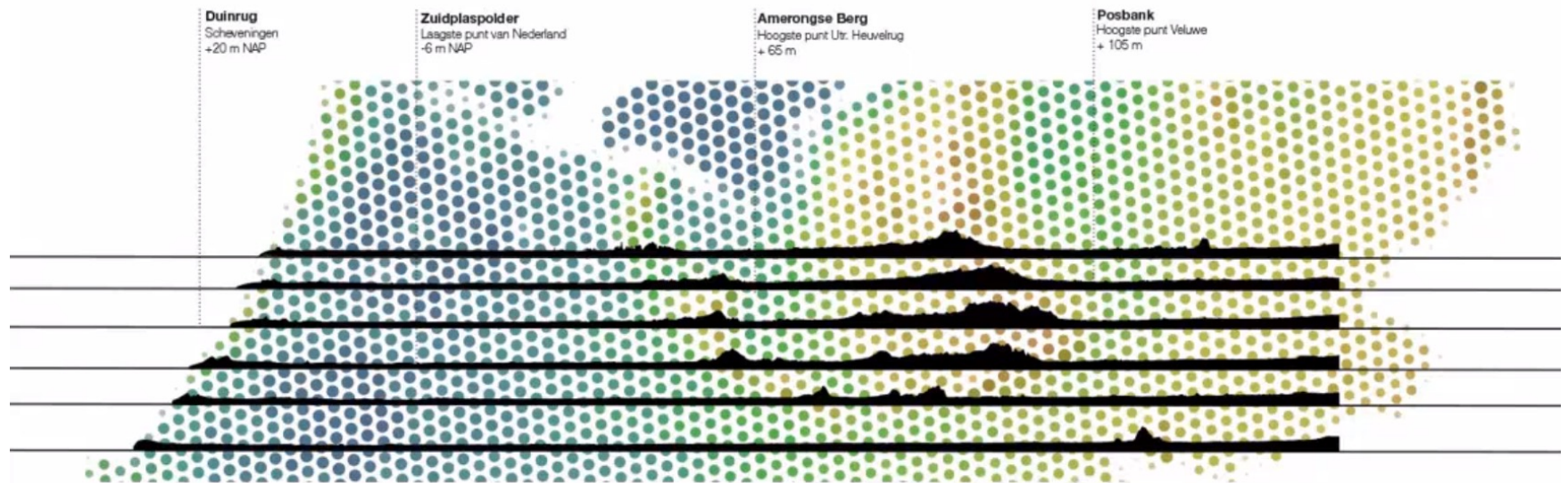
ISOTROPIC SECTIONS

Bernardo Secchi and Paola Viganò, *La ville poreuse. Un projet pour le grand Paris et la métropole de l'après-kyoto*, 2011.



TERRITORIAL SECTIONS

Delva Landscape Architects, Water infiltratie hortu, 2008.



TRANSECTS

Delva Landscape Architects, Water infiltratie hortu, 2008.



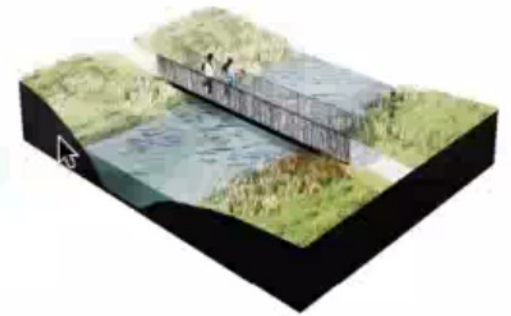
Pad tussen percolatie- en vloeiveld met zitelement



Fietsnetwerk langs de Leie



Pad tussen vloeivelden met nestpalen



Brug met vlaspatroon

DETAILED SECTION

Delva Landscape Architects, Water infiltratie hortu, 2008.



Lente



Zomer



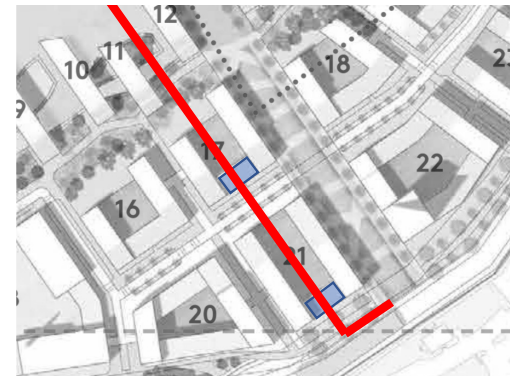
LOCAL SECTION

Delva Landscape Architects, City Plots, 2008.

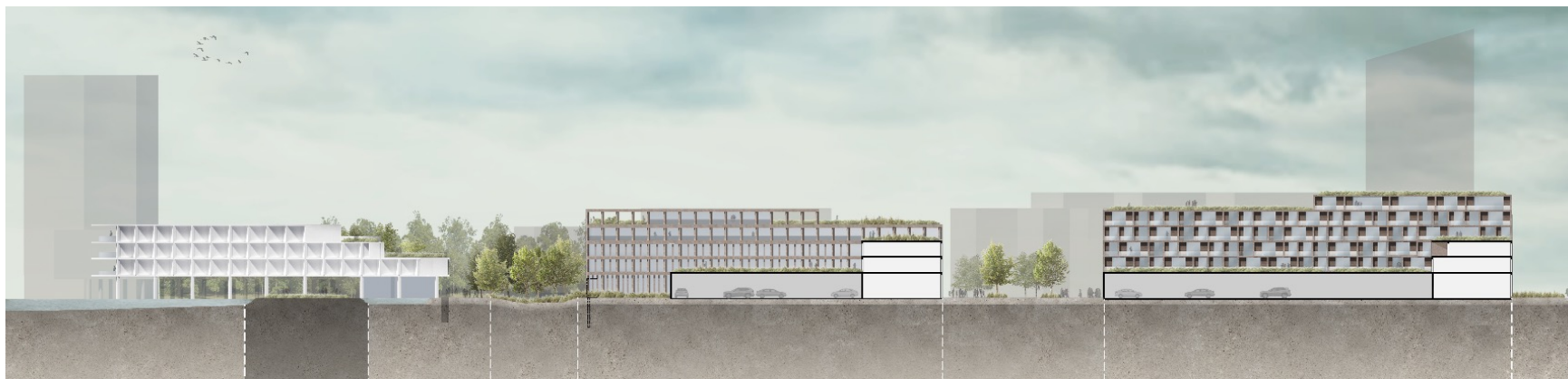


Key plan is very important when presenting a section, as it represents where exactly the section lies.

Key plans are small versions of the main floor or masterplan, to show where each of the sections lies in relation to the plan. They are essential to quickly grasp what part of the building is being shown in each section.



KEY PLAN





THE BARTLETT