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Building Construction



Building Drawings

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INTRODUCTION

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Construction drawings are prepared by designer or architect and used by contractor to transfer the paper work to the land.

- ✓ They are also used:
 - to prepare bill of quantities
 - as part of contract document
- ✓ Building construction drawings:
 - Shouldn't be unnecessarily congested or complicated
 - Clarity is most important
 - Written descriptions should be as brief as possible
 - Should be Consistent with completeness
 - Should be well dimensioned and should be drawn to scale
 - The lettering used should be clear

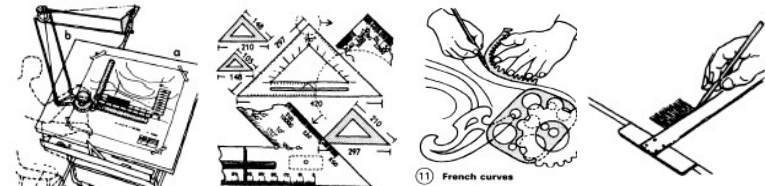
INTRODUCTION

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- ❑ Construction drawings can be prepared:
 - ✓ By hand assisted by various templates or
 - ✓ Computer software programs (Ex. AutoCAD)

Drawing Equipment

- ❑ In order to produce construction drawings manually, items like drawing board, drawing paper, drawing pencil, ruler, ink, eraser, various time saving devices such as templates, protractor, t-square, setsquares, etc. are required.



Drawing board

Set squares

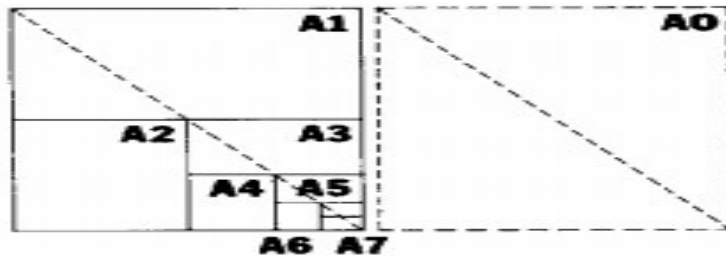
French curves

T-square

INTRODUCTION

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➤ Standard size of drawing papers



A0 1189 × 841 mm	A3 420 × 297 mm
A1 841 × 594 mm	A4 297 × 210 mm
A2 594 × 420 mm	

DRAWING FOR BUILDING CONSTRUCTION

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✓ Drawing for building construction shall include:

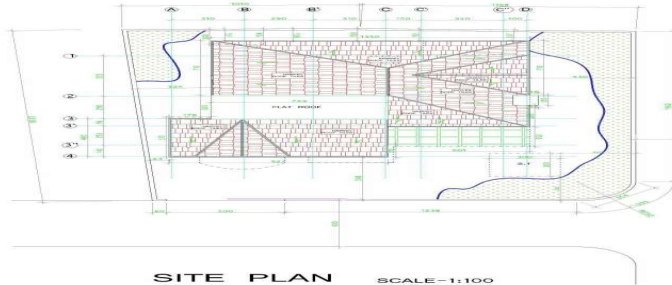
- Site plan
- Sketch drawings
- Working drawings
- Detailed drawings
- Construction drawings and
- Installation drawings

DRAWING FOR BUILDING CONSTRUCTION

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Site plan

- A site plan is a specific type of plan, showing the whole context of a building or group of buildings, **OR** is the top view of a building which shows the location of the house with all appropriate information on building outline (property) line, terraces, driveway, contours, elevations and utilities.

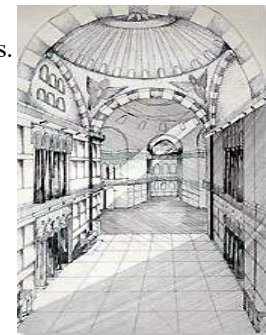
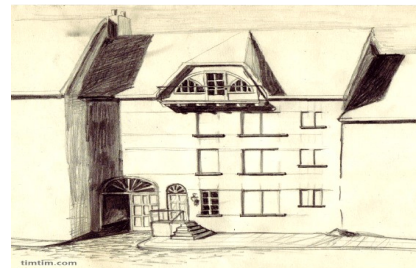


DRAWING FOR BUILDING CONSTRUCTION

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Sketch drawing

- Sketch drawings are preliminary drawings prepared for showing the general arrangements of buildings.
- They are often drawn free hand in pencils.

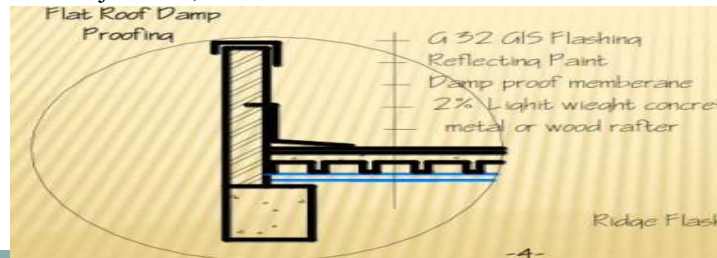


DRAWING FOR BUILDING CONSTRUCTION

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Detailed drawings

- Enlarged drawings to give more specific information
- They usually show specific details, such as in stair cases, gutter to down pipe connections, wall to foundation connection, metal and wood joineries, etc.

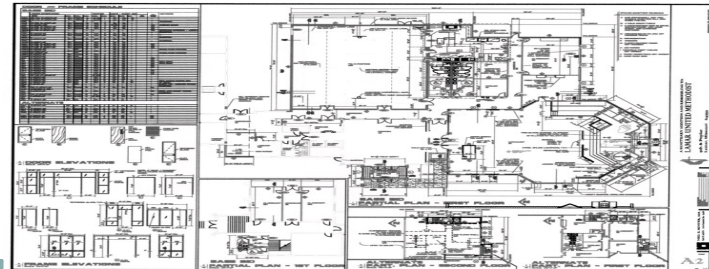


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Construction drawings

- Drawings which includes all details required per city, country, and federal guidelines. These are the documents to which the designer, owner, and/or government officials will hold the contractor responsible.

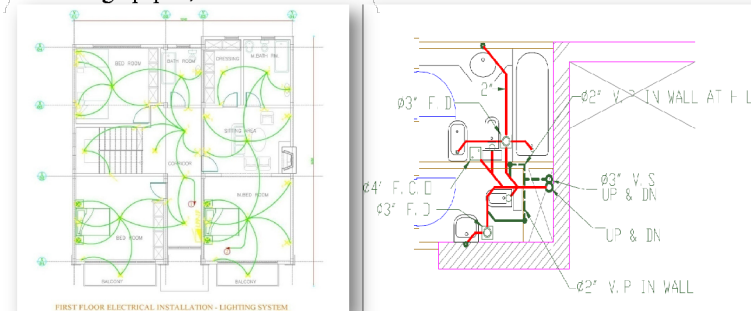


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Installation drawings

- Installation drawings comprise of drawings for water and drainage pipes, electrical installation.



Electrical Installation Drawing

Sanitary Drawing plan

DRAWING FOR BUILDING CONSTRUCTION

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Working drawings

- They are the most important components of building drawings since they provide detail information on the internal as well as the external view of a building.
- It must be
 - Clearly representative
 - Easily understood
 - Comprehensive
 - Free from unnecessary notes (repetitive details)
 - Accurately drawn (proper also in line of work)
 - Drawn with appropriate symbols and proper conventions
 - Well dimensioned

DRAWING FOR BUILDING CONSTRUCTION

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Contents of working drawing

1. Title block
2. Foundation plan
3. Floor plans
4. Elevations
5. Sections
6. Site plan
7. Typical detail

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Title block

Light Stream Consulting Architects & Engineers		1. Firm or Office Name	
2. Kind of Project	Project	Residential Building	
3. Name of the owner	Owner	Dr. Kassahun Lemma	
4. Location of the site	Location	Addis Ababa Keb. 06	Kofe Keranio H.No new Sub City
5. Name of the drawings on the paper	Drawing Title	Floor Plans, Elevation, Site Plan	
6. Scale of each drawings	Scale	1:50, 1:200	Drawn by: Esmat Daniel
7. Info. about the Designer	Designed By	Deviit Shemsi Sip. PAR 175 Tel.	Approved By: Hognu Hudu Sip. PPAR 635 Tel.
	Paper Size	A3	AR 01/05
	Date	June 20, 2008	
	10. Drawing Paper Size	11. Date	
		8. Name of Draftsman	
		9. Info. about person in charge	
		12. Drawing Number	

DRAWING FOR BUILDING CONSTRUCTION

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Foundation plan

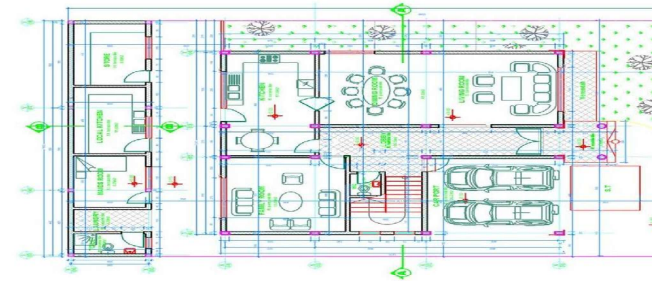
The plan which shows the relation ship between the foundation pad and the column.

DRAWING FOR BUILDING CONSTRUCTION

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Floor plan drawings

- ✓ The floor plan is a drawing of the outline and partitions of a building that would be seen when the building was cut horizontally about 1.2m above the floor level.



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Elevation drawings

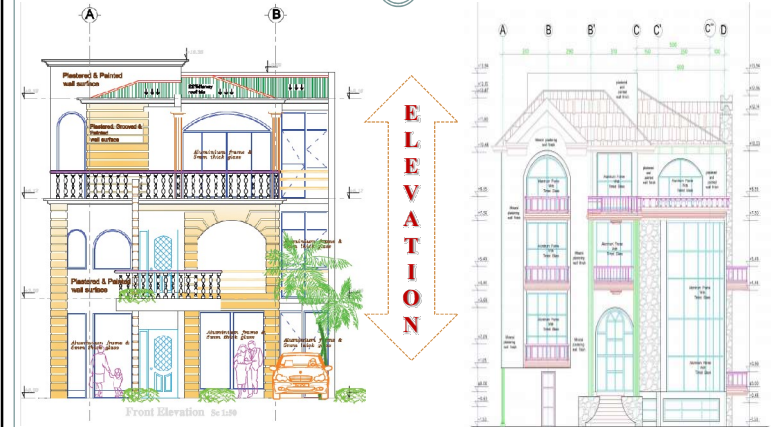
- Elevation drawings are orthographic drawings of the exterior of a building.
- They are prepared to show the design materials, dimensions, and final appearance of the exterior of a building.
- Two methods can be used to label elevation views

Front Elevation
Rear Elevation
Right side Elevation
Left side Elevation

North Elevation
East Elevation
South Elevation
West Elevation

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DRAWING FOR BUILDING CONSTRUCTION

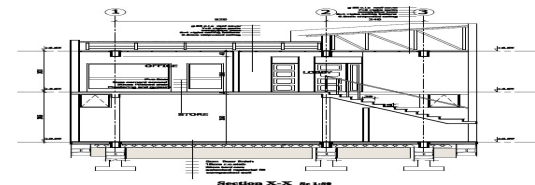
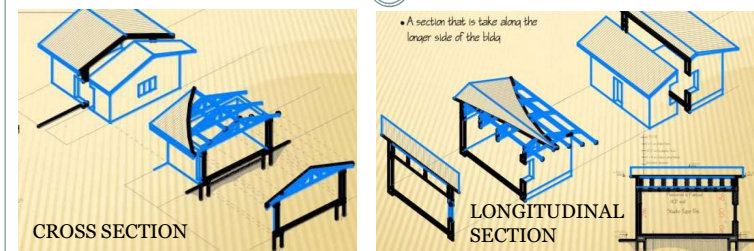
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Sectional drawings

- Sectional drawings reveal the internal construction of an object.
- Architectural section drawings are prepared
 - ✓ For the entire structure (full sections) or
 - ✓ For a specific part(s) of a building (detail sections)
- The cutting plane is an imaginary plane, which passes through the building and divides it into sections.
 - ✓ Longitudinal section
 - ✓ Building Cross section
 - ✓ Offset section

DRAWING FOR BUILDING CONSTRUCTION

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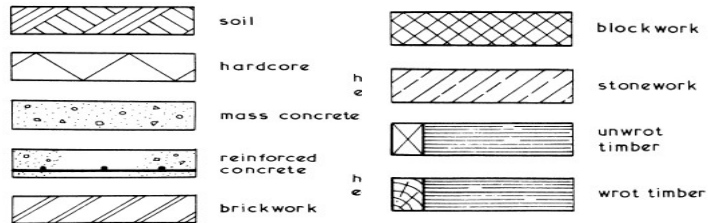


HATCHINGS, SYMBOLS AND NOTATIONS

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Hatchings

- ✓ The main objective is to differentiate between the materials being used thus enabling rapid recognition and location.
- ✓ They must be used consistently throughout the whole set of drawings.
- ✓ In large areas it is not always necessary to hatch the whole area.

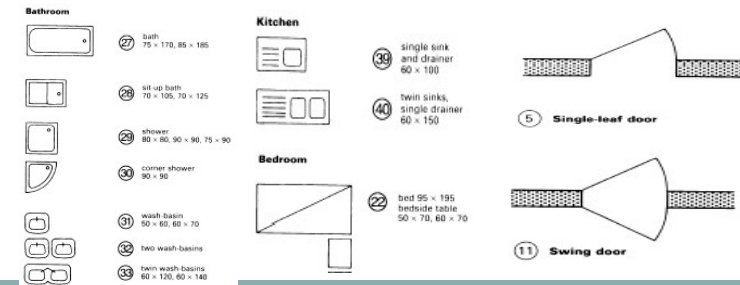


HATCHINGS, SYMBOLS AND NOTATIONS

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Symbols

- These are graphical representations and should wherever possible be drawn to scale
- They must be consistent for the whole set of drawings and clearly drawn.



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