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CODE OF PRACTICE FOR ARCHITECTURAL AND BUILDING WORKING DRAWINGS

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BUREAU OF INDIAN STANDARDS
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Indian Standard

CODE OF PRACTICE FOR ARCHITECTURAL AND BUILDING WORKING DRAWINGS

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Panel for the Composition of Working Drawings, BDC 1 : P3

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CODE OF PRACTICE FOR ARCHITECTURAL AND BUILDING WORKING DRAWINGS

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 21 February 1976, after the draft finalized by the Terminology, Notations and Drawings Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 The working drawings, together with the specifications, are important documents constituting the contract. They translate concept into accomplishment. On their quality depend exactness in estimating and effectiveness in building what was planned. Their careful preparation is the best insurance for the trouble free execution of the work.

0.3 It is the architect's or engineer's responsibility to determine whether construction work is executed in accordance with the intent of the contract documents, and he must take special care to see that these documents are complete and accurate so their intent is clearly discernable. As interpretation largely takes place in the field, and is predominantly dependent upon the working drawings, the need for clarity and accuracy in the working drawing is self evident.

0.4 In the preparation of this standard, due weightage has been given to international co-ordination among the standards and practices prevailing in different countries in addition to relating it to the practices in this field in the country. This has been met by deriving assistance from ISO 1046-1973 ' Architectural and building drawings — Vocabulary ', issued by the International Organization for Standardization.

0.5 This standard is one of a series of Indian Standards on terminology, notations and drawings. Other standards published so far in the series are given on page 8.

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1. SCOPE

1.1 This code lays down recommendations for the preparation of architectural and building working drawings.

2. TERMINOLOGY

2.0 For the purpose of this standard, the following definitions shall apply.

2.1 Elevation — A vertical view of a building, of a building element or of a building component.

2.2 Nomenclature of Drawings

2.2.1 *Preliminary Drawings* — Drawings adequate to serve as a basis for more definitive drawings and showing the designer's general intentions.

2.2.2 *Diagram* — A drawing, either to scale or not, giving only a simplified representation relating to the functions of the parts of the building to show access, circulation, installations and their mode of operation, etc.

2.2.3 *Working Drawings* — Set of drawings for the construction of a building including architectural, structural and service drawings which usually include site drawings, general location drawings (plans, sections, elevations), assembly drawings and details completely dimensioned and bearing all the indications required for construction.

2.2.4 *Location Drawings*

2.2.4.1 *Layout plans* — Plans used to identify site in relation to town plan or other wider context.

2.2.4.2 *Site plans* — Plans used to locate the position of buildings in relation to setting out point, means of access, and general layout of site. These plans may also contain information on services, drainage networks, etc.

2.2.4.3 *General location plans* — Plans used to show the position occupied by various spaces in a building, the general construction and location of principal elements, components and assembly details.

2.2.5 *Building Component Drawings*

2.2.5.1 *Ranges* — Drawings used to show the basic sizes, system of reference and performance data on a set of standard components of a given type.

2.2.5.2 *Details* — Drawings used to show all the information necessary for the manufacture and application of components.

2.2.5.3 *Assembly drawings* — Drawings used to show in detail the construction of buildings, junctions in and between elements and components, and between components.

2.2.5.4 *Shop drawings* — Drawings used to assist the workman in the manufacture, fabrication or assembly of various parts.

2.3 Plan

a) A horizontal section of a building, at a given height, seen from above.

b) A horizontal view of a site or of a building, of building components, of elements, of installations, etc.

2.3.1 *Reflected Plan* — A horizontal section of a building, at a given height seen from below.

2.4 Sections

a) A view of the parts contained in an intersecting surface, usually a plane surface.

b) A section completed by the view of the parts behind the intersecting surface.

2.5 View — Representation on a plane of how an observer, situated at infinity and looking in a direction perpendicular to the plane, sees a building element or a building component.

NOTE — This form of representation corresponds to the orthogonal parallel projection used in descriptive geometry.

3. COMPOSITION OF WORKING DRAWINGS

3.1 General Requirements

3.1.1 The purpose of the working drawings is to show how the design is to be materialized. Working drawings should give the contractor exactly the information he needs. To accomplish this purpose the drawings should be neatly arranged and systematically numbered, should be clear, simple, and clean; should have only relevant and necessary notes; should be accurately drawn so that scaled measurements agree with figures; and should be free of repitious details.

3.1.2 The preparation of working drawings require considerable skill. A thorough knowledge of building materials, methods of construction and the ability to comprehend the designers intent are prime requirements of good drafting. In addition, neatness, an ability for correlating details and their arrangement in a logical sequence are required.

3.1.3 During the production of working drawings their relationship with the specifications should be kept in mind and the decision regarding specifications should be transmitted to those engaged upon working drawings.

3.1.4 Information relative to design, locations and dimensions of the elements of a product is the province of working drawings and that having to do with quality of materials and workmanship belongs in the specification. Details should indicate the filling together of materials and the precise shape of the various parts.

3.1.5 The sizes of trimmed drawing sheets shall be as specified in Table 1. For information the sizes of untrimmed sheets are also given against each of them.

TABLE 1 SIZES OF WORKING DRAWINGS

Designation	Trimmed Size	Untrimmed Size, *Min*
(1)	(2)	(3)
	mm	mm
A0	841 × 1 189	880 × 1 230
A1	594 × 841	625 × 880
A2	420 × 594	450 × 625

3.2 Scales

3.2.1 For the preparation of working drawings the following scales shall be used. Other scales for the preparation of different types of drawings are given in IS : 962-1967*.

1 : 200	(5 mm = 1 m)	For working drawings, plans, elevations and sections
1 : 100	(10 mm = 1 m)	
1 : 50	(20 mm = 1 m)	
1 : 20	(50 mm = 1 m)	For large scale drawings general details
1 : 10	(100 mm = 1 m)	
1 : 10	(100 mm = 1 m)	For enlarged details
1 : 5	(200 mm = 1 m)	
1 : 1	(full size)	

3.3 Presentation of Drawings

3.3.1 The presentation of architectural and building drawings and their details should be done with the minimum number of drawings which are necessary for the complete and unequivocal definition of the building to be constructed. The drawings mentioned above shall include plans, elevations and sections.

3.3.2 It is not always possible to present all the necessary drawings on one sheet. It is, therefore, recommended that plans should be grouped separately from elevations and sections. Drawings shall as far as possible be of uniform size and such which could be conveniently used at site.

3.3.2.1 When a project comprises of a number of blocks/buildings and cannot be accommodated on one sheet, a key plan at a small scale shall be drawn indicating by shading the portion of the said block/building detailed on the particular sheet.

*Code of practice for architectural and building drawings (*first revision*).

3.3.3 When several plans are presented on the same sheet it is recommended to align them either vertically or horizontally and title each of them separately.

3.3.4 When several elevations and sections are included on the same sheet it is recommended to align them horizontally. Each section and elevation should always receive an adequate designation and cross reference.

3.4 Details — As the work develops, rough details of parts at large scale should be made when necessary. These details aid in the preparation of the final details. Details should indicate the fitting together of the materials and precise shape of the parts. Each detail should be clearly keyed, or referenced to the particular general drawing.

3.5 Dimensions — Dimensions should be related to an established reference plane and its relationship to the established bench mark should also be shown. All dimensions should read from the bottom or right hand side of the sheet and should extend in single lines across the plans and from bottom to top of the elevations and sections.

3.6 Notes — Notes on the drawings should be held in the minimum required to support the drawings. A simple rule on the use of notes is to ask first if the drawing conveys the designer's intent. If it does not, can the drawing then be improved or clarified. If the drawing cannot be improved or clarified only then a note is required.

3.7 Schedules — Schedules are of value in covering subjects more clearly than do drawings and specifications. Schedules may be applied to columns, footings, windows, doors, hardware, room finishes, plumbing fixtures, lighting fixtures, etc.

3.8 Graphical Symbols — Graphical symbols as given in IS : 962-1967* shall be used.

3.9 Revisions — There are two basic methods of recording changes — to provide substitute drawings or to revise original drawings. In either case a print of the original drawing should be retained as a record. Substitute drawings should be dated, and the superseded drawings should be listed thereon. The number and date of revision shall be added in the revision panel in accordance with IS : 962-1967*.

3.10 Title Block — The title block is an important feature in a drawing since it facilitates obtaining uniformity and represents details like title of drawing, name of organization or firm, drawing number, scale, date of drawing, etc, in a definite manner. The title block shall be placed at the bottom right-hand corner of the drawing sheet where it is readily seen when the prints are folded in the prescribed manner. Layout of title block shall be in accordance with IS : 962-1967*.

*Code of practice for architectural and building drawings (*first revision*).

INDIAN STANDARDS
ON
TERMINOLOGY, NOTATIONS AND DRAWINGS

IS:

962-1967 Code of practice for architectural and building drawings (*first revision*)
2695-1974 Drawing filing equipment (*first revision*)
4204-1974 Functional requirements for drafting chairs (*first revision*)
4205-1975 Drafting stools (*first revision*)
4212-1967 Drafting tables and reference tables for drawing offices
4919-1968 Glossary of terms applicable to landscape and horticultural work
4920-1968 Glossary of terms applicable to roof coverings
5197-1969 Recommendations for layout and planning of drawing offices
7881 (Part I)-1975 Glossary of terms relating to builder's hardware: Part I Locks

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