TECHNICAL STANDARDS FOR THE PRACTICE OF INTERIOR DESIGN

A Referral Code
Of the
National Building Code
Of the Philippines
(P.D. 1096)

Republic of the Philippines
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
Manila, Philippines

THE TECHNICAL STANDARDS FOR THE PRACTICE OF INTERIOR DESIGN IN THE PHILIPPINES

AS A REFERRAL CODE OF THE NATIONAL BUILDING CODE OF THE PHILIPPINES

Pursuant to the General Powers given to the Secretary of Public Works and Highways vested in him by Section 203 of Presidential Decree 1096, otherwise known as the National Building Code of the Philippines, the National Interior Design Code of the Philippines as prepared by the Philippine Institute of Interior Designers (PIID), and passed upon by the Professional Regulation Commission (PRC), is hereby adopted as a Referral Code of PD 1096.

Table of Contents

Approved in the City of Manila, Philippines
This _____ day of _____, _____

Introduction

The enactment of the Philippine Interior Design Law (RA 8534) in 1998 gave Interior Design practice the dignity and prestige of a legitimate profession, duly recognized by the state.

Pursuant to the provisions of RA 8981 “PRC Modernization Act of 2000” and RA 8534 “Philippine Interior Design Act, “ and their Implementing Rules and Regulations, this NATIONAL INTERIOR DESIGN CODE was compiled by the Philippine Institute of Interior Designers (PIID) Committee on Legislation & ID Code, the Professional Organization of Interior Designers in Philippines accredited by PRC. This will serve as Referral Code for the implementation and enforcement of PD 1096: The National Building Code (NBC). It prescribes rules and regulatory measures to ascertain a functional, orderly and aesthetic arrangement and development of interiors of buildings and residences. The detailed provisions in this Code are designed to be of minimum standards and compatible to related publication standards that are internationally accepted.

This Code may, however, be subjected to periodic changes, when necessary, without legislative fiat, in accordance with the universal advancements in science and technology. All proposed amendments shall be transmitted to the NBC review Committee of DPWH, and when approved, shall be published as supplement for ready adoption by the local government units as applicable to the National performance standards.

CHAPTER 1

GENERAL PROVISIONS

SECTION 1. Title

This document shall be known as the National Interior Design Code of the Philippines and shall hereinafter be referred to as the “ID CODE.”

SECTION 2. Declaration of Policy

This INTERIOR DESIGN CODE is designed to be consistent, complementary and compatible as a referral code to NBC and all allied referral codes under purview of NBC. It being organized and founded on broad performance principles and standards, it is presumed to be reviewed periodically for changes in accord with universal advancement in science and technology, to allow the use of new materials, innovative systems and methods of construction, without infringing into the Interior Designer's creativity, innovations and keen aesthetic sensibilities in the total design of buildings and other structures.

SECTION 3. Use of this National Interior Design Code

3.1 The following considerations should guide the Interior Designer in the total interior design of building and other structures; cultural and historical aspects, light and ventilation, accessibility and information technology.

3.2 The Interior Designs shall be aesthetically, functionally and structurally designed to completely and efficiently serve its purpose while protecting life, health, property and general public welfare and concomitant resource of civic pride and aspirations.

3.3 Interior Design facilities, utilities and equipment therein shall be maintained in good repair, safe, sanitary, and good working condition as originally approved for occupancy.

3.4 Refer to the Interior Design Law and the By-Laws of the Accredited Professional Organization. (APO)

SECTION 4. Licensure Required for Design Professional

4.1 Definition

4.1.1. Interior Design – is the science and art of planning, specifying, selecting and organizing the surface finishes and materials including furniture, furnishings and fixtures and other items of décoration of an

architectural interior for the purpose of space allocations to suit, enhance and meet the intended function, movement and character for which the interior of the building is designed.

4.1.2. Professional Interior Designer – refers to a natural person who holds a valid certificate of registration and a valid professional identification card issued by the Board of Interior Design and the Professional Regulation Commission pursuant to this Act.

4.1.3. IDr – (Interior Designer) official title adopted for registered/licensed Interior Designers thru PIID Resolution No. 20-2007

4.2 Scope of the Professional Practice of Interior Design

The practice of interior design is the act of planning, designing, specifying, supervising and giving general administration and responsible direction to the functional, orderly and aesthetic arrangement and for the enhancement of interior spaces. It shall include, but not limited to, the following activities:

4.2.1 Consultation, advice, direction, evaluation, budgetary estimates and appraisals;

4.2.2 Schematic interior designs, design development, professional contract documents and programming of construction phases;

4.2.3 Preparation of interior design plans, design drawings, interior construction details, and technical specifications;

4.2.4 The practice of interior design shall also include all other works, projects and activities which require the professional competence of the professional interior designer, including teaching of interior design subjects.

The Board, subject to approval by the Commission, may revise, exclude from, or add to, the above enumerated acts or activities as the need arises to conform to the latest trend in the practice of interior design.

4.3 **Who may Practice Interior Design in the Philippines?**

The Philippine Interior Design Law (RA 8534) stipulates that only Filipino Citizens who passed the Licensure Examinations for Interior Design and/or who have been registered and licensed by the Professional Regulation Commission.

4.3.1 How may Foreign Interior Designer or Consultant Practice in the Philippines?

4.3.1.1 By Law, a foreign Interior Designer cannot practice his profession nor be issued a temporary license to practice Interior Design or consultancy, nor be entitled to any of the rights and privileges under this Act unless the country of which he is a subject or citizen specifically permits Filipino Interior Designers to practice within its territorial limits on the same basis as the subjects or citizens of such foreign state or country.

4.3.1.2 Foreign nationals who have gained entry in the Philippines to perform professional services as interior designers or consultants in foreign-funded or assisted projects of the government, or employed or engaged by Filipino or foreign contractors or private firms, shall before assuming his duties, functions and responsibilities as interior designer or consultant, secure a special temporary permit from the Professional Regulation Commission through the Board of Interior Design, to practice his profession in connection with the project to which he was commissioned: Provided, That certain conditions are satisfied as follows:

(a) That he is a citizen or subject of a country which specifically permits Filipino professionals to practice his profession within their territorial limits, on the

same basis as the subjects or citizens of such foreign state or country;

(b) That he is legally qualified to practice interior design in his own country, and that his expertise is necessary and advantageous to our country particularly in the aspects of technology transfer and specialization; and

(c) Foreign nationals shall be required to work with an established Filipino counterpart/firm that has been in existence for at least ten (10) years prior to the start of this project. All professional fees, services, and expenses of documentation pertaining to the project shall be shared by both foreign and Filipino interior designers, including liabilities and taxes due to the Philippine government, if any, according to their participation in, or professional services rendered to the project.

CHAPTER 2

ADMINISTRATION and ENFORCEMENT

SECTION 5. Title

5.1 General. Chapter 2, Sections 201 up to Section 216 inclusive of the National Building Code – NBC is adapted verbatim in this referral Interior Design Code and shall have mandatory force and effect as if fully embodied hereunder. Amplifications in any of its original provisions, objectively to cope-up with the latest advancements in science and technology shall apply.

5.2 Objectively, as a referral Code under the purview of NBC, some of the original provisions and measures therein are complimentary and compatible with the section 102, Declaration of Policy of said law and more consistent in the practice of the Interior Design profession as embodied in RA8534, The Interior Design Law which shall have equal force and effect as a referral code embodied in the law.

SECTION 6. Purpose and Scope of this National Interior Design Code

6.1 This Code shall apply to the design and construction, repair, alteration, renovation and use of any building and other structures for human habitation and all other activities of human endeavor.

6.2 Where different sections in this Code are in conflict as to provisions, systems, methods, procedures, materials, and site assemblies as embodied in NBC, the most restrictive shall govern. When conflict between general requirements and specific requirements occurs. The specific requirements shall be applicable.

6.3 Since this Code is designed to be compatible with NFC and other applicable National Laws of the Philippines or the latest edition of the universally accepted provisions in the Uniform Building Code, the regulatory measures or provisions that are most restrictive shall apply as may be ascertained in writing by the Secretary of Public Works and Highways.

6.4 Furthermore, in the absence of any regulatory provisions in this Code as in innovative or creative design, the case shall be referred to for approval by the Secretary of Public Works and Highways.

SECTION 7. Application to Existing Buildings and Other Structures

7.1 General: Existing Building and other structures subject to additions, alterations, repairs or renovations shall comply with all requirements of this code as to regulatory measures on type of occupancies and/or type of construction, fire safety, required number of exits and safety measures in construction assemblies, and such shall be properly done in a manner as to preserve its structural integrity, stability, soundness, aside from the Interior Design character and legacy of buildings of historic significance.

7.2 Historic buildings subject to alteration, repairs, renovations, additions, upgrading necessary for the preservation, restoration, rehabilitation or continued use or need not

conform to all requirements of this code. However, such shall be subject to regulation of the government agencies concerned like the National Commission for Culture and the Arts (NCCA), National Historical Institute (NHI) or National Museum, the DPWH (thru the recommendation for approval of the PIID Interior Design Code Committee).

SECTION 8. Seal and Use of Seal - A duly registered interior designer shall sign and affix the seal approved by the Board of Interior Design on all plans and specifications prepared by him, or under his direct supervision.

8.1 No officer or employee of the government, chartered cities, provinces and municipalities now or hereafter charged with the enforcement of laws, ordinances or regulations relating to the construction or alteration of the interiors of buildings, shall accept or endorse any interior plans or specifications which have not been prepared and submitted in full accord with the provisions of this Act, nor shall any payment be approved by any such officer for any work, the plans and specifications of which have not been so prepared, signed and sealed by a duly licensed interior designer

Violation of the foregoing shall be a ground for administrative and/or criminal action.

SECTION 9. Indication of License and Professional Tax Receipt. The interior designer shall be required to indicate his professional license number, the duration of validity, including the professional tax receipt number on the documents he signs, uses or issues in connection with the practice of his profession.

SECTION 10. Pre-Design Services
Design Services
Schedule of Minimum Basic Fees
Payment Schedule
Owner's Responsibility
Comprehensive Planning services
Construction Services
Design-Build Services
Selection of the Interior Designer and Systems of Remuneration

SECTION 11. Enforcement by National Government Agencies (NGA's), Local Government Units (LGU's), Administrators of Special Economic Zones (SEZ), Administrators of Special Administrative Zones (SAZ), Department of Interior and Local Government (DILG) and others.

11.1 In cases where no duly-registered Interior Designer are available in the NGA, LGU, SEZ and SAZ offices to properly interpret and enforce this Code, any active member of the APO and its Chapters may be deputized by the LGU authority to perform said function through a Memorandum of Agreement between the APO and the DILG.

CHAPTER 3

PERMITS AND INSPECTION

SECTION 12. Ancillary Permit for Interior Design Works

12.1 The Ancillary Permits duly signed and sealed by the corresponding professionals and the plans and specifications shall be submitted together with the duly notarized application for Building Permit. The Building Permit is null and void if not accompanied by the Ancillary Permits. The prescribed Ancillary and other Accessory Permit/forms shall likewise be used whenever applicable. The Ancillary Permits are the following:

i. Interior Design
ii. Architectural Permit
iii. Civil/Structural Permit
iv. Electrical Permit
v. Mechanical Permit
vi. Sanitary Permit
vii. Plumbing Permit
viii. Electronics Permit

12.2 General. Chapter 3, Sections 301 to Section 309 inclusive of the National Building Code (NBC) is adapted verbatim in this referral National Interior Design Code and shall have mandatory force and effect as if fully embodied hereunder.

Amplifications in any of its original provisions, objectively to cope-up with the latest advancements in science and technology shall apply.

12.3 No person, firm or corporation, including any agency instrumentality of the government shall alter, repair, demolish, renovate, move, or convert any structure or cause the same to be done without first obtaining an Interior Design Construction Permit therefore from the Office of the Building Official of the LGU having jurisdiction over the locality. Government agencies and/or Civic projects exempted from payments of said permits, as provided for in PD 1096-NBC shall acquire the same from the OBO of the LGU for purposes of record to ascertain responsibility for the building's design and construction under the law.

SECTION 13. Application for Ancillary Permit for Interior Design Construction

13.1 In order to obtain an Ancillary Permit for Interior Design Construction the applicant shall submit an accomplished form duly signed and sealed only by the Interior Designer.

13.2 All plans, Specification, and all other Contract Documents to be submitted as required in the processing of the Permit shall be signed and sealed by the Interior Designer who prepared them.

13.3 Floor Plan

Show all floors including basements. Show all rooms, with their use, finishes, overall dimensions, and locations of all structural elements and openings. Show all doors and windows, including door and window schedules, if applicable. All fire assemblies and area and occupancy separations shall be shown.

Reflected Ceiling Plan

Show all electrical fixtures, diffusers and grills, sprinkler heads, and other required devices as applicable.

Electrical Fixture Location Plan

Show all power and lighting plans, including all interior electrical fixtures and devices.(Note: No part of the electrical design may be delegated by the design professional via a “performance specification” to an electrical contractor who is not a licensed design professional.)

Utility Openings

Show all utility openings in floors, ceilings and walls and roofs, including fire stopping.

SECTION 14. Processing of Building Permits

14.1 The Interior Designer shall accomplish and submit the Ancillary Permit for Interior Design Construction to the Office of the Building Official (OBO) as per the revised Implementing Rules and Regulations of the National Building Code.

14.2 Incomplete information or data in the above application for an Ancillary Permit for Interior Design Construction shall be returned to the Interior Designer until satisfactorily completed.

SECTION 15. Validity of Interior Design Construction Permit

15.1 Pursuant to PD 1096 the NBC and its IRR, an Ancillary Permit for Interior Design Construction issued under the Provisions of the NBC shall expire and become null and void if the work therein is not commenced within a period of one year from the date of issuance of such permit, or if the work so authorized is suspended or abandoned at any time after it has been commenced, for a period of 120 days.

15.2 The issuance of an Ancillary Permit for Interior Design Construction shall not be construed as an approval or authorization to the applicant to disregard or violate any of the provisions of this Code or the NBC.

15.3 Any deviation, defect or change in the original construction plans, for which the Ancillary Permit for Interior Design Construction is issued shall be authorized in writing or corrected only by the Interior Designer who prepared, signed and sealed them. He shall countersign all corrections and changes made there on; indicating the date/s therein and all such information shall be recorded in the official Building Construction Log Book as required under PD 1096-NBC.

SECTION 16. Non-Issuance, Suspension or Revocation of the Interior Design Construction Permit

16.1 Pursuant to PD1096-NBC and its IRR, the Building Official may order or cause the non-issuance, suspension or revocation of Interior Design Construction Permit for any or all of the following reasons:

16.1.1 Errors found in the Plans, Specifications, and other Construction Documents.

16.1.2 Incorrect or inaccurate data or information found in the application (Supplied in the Ancillary Permit for Interior Design Construction).

16.1.3 Non-compliance with the Terms and Conditions of the Permit.

16.2 Notice of non-issuance, suspension or revocation of the Interior Design Construction Permit shall always be made by the Building Official in writing, stating the reasons or grounds therefore.

SECTION 17. On-Site Inspection and Supervision

17.1 The office of the Building Official (OBO) shall monitor the progress of the Construction operations or work for the faithful compliance with all the conditions, rules and regulations governing the issuance of the Interior Design Construction Permit and act on any violation therein by

stopping, suspending, and/or ordering the necessary rectification or correction of any faults.

17.2 Interior Designer for his protection under Civil Code CC Article 1723 shall periodically inspect the construction operations to see to it that the works are executed in faithful compliance with all the construction documents for which the Interior Design Construction Permit was issued as stipulated in this Code and/or PD 1096-NBC, and it's IRR. He shall attest to all final inspection permits as accepted and accomplished, signed and sealed the Certificate of Completion, for submission to the Office of the Building Official through his Designer-in-Charge of the division, section, or unit, who shall recommend the issuance or non-issuance of the Certificate of Occupancy.

CHAPTER 4

LIGHT AND VENTILATION

SECTION 18. General Requirements on Natural Light and Ventilation

(a) Subject to the provisions of the Civil Code of the Philippines on Easements of Light and View, and to the provisions of this part of the Code, every building shall be designed, constructed, and equipped to provide adequate light and ventilation.
(b) All buildings shall face a street or public alley or a private street which has been duly approved.
(c) No building shall be altered nor arranged so as to reduce the size of any room or the relative area of windows to less than that provided for buildings under this Code, or to create an additional room, unless such additional room conforms to the requirements of this Code.
(d) No building shall be enlarged so that the dimensions of the required court or yard would be less than that prescribed for such building.

(e) For Natural Ventilation and Thermal Comfort Analysis, use Computational Fluid Dynamics (CFD) to integrate effective natural ventilation strategies into building design. Detailed analysis of airflows in buildings and use of natural flow patterns can enhance thermal comfort and air quality.

SECTION 19. Measurement of Site Occupancy

(a) The measurement of site occupancy or lot occupancy shall be taken at the ground level and shall be exclusive of courts, yards, and light wells.
(b) Courts, yards, and light wells shall be measured clear of all projections from the walls enclosing such wells and yards with the exception of roof leaders, wall copings, sills, or steel fire escapes not exceeding 1.20 meters in width.

SECTION 20. Percentage of Site Occupancy

(a) Minimum site occupancy shall be governed by the use, type of construction, and height of the building and the use, area, nature, and location of the site; and subject to the provisions of the local zoning requirements and in accordance with the rules and regulations promulgated by the Secretary

SECTION 21. Ceiling Heights

Habitable rooms provided with artificial ventilation shall have ceiling heights not less than 2.40 meters (8' –0") measured from the finish floor up to the ceiling. Provided that for buildings of more than one storey, the minimum height of the first storey shall be 2.70 meters (9' – 0") and that for the 2nd storey 2.40 meters and the succeeding storeys shall have an unobstructed typical head room of clearance of not less than 2.10 meters (7' –0") above the finish floor. Above stated rooms with only 2.70 meters.

Mezzanine floors – Area of mezzanine (a floor between a main floor and its ceiling) shall not exceed 50% of the area above and below it.

Mezzanine floors shall have a minimum clear ceiling height of 1.80 meters above and below it.

Mezzanine when enclosed shall have a minimum opening into its main floor of not less than 65% unless otherwise provided with artificial means of ventilation – as provided for in this code.
Lower clear ceiling heights than specified above shall not be used for habitation except as for storage purposes.

SECTION 22. SIZE AND DIMENSION OF ROOMS (Natural Ventilation)

Minimum sizes of rooms and their list of dimensions shall be as follows:

Rooms for human habitations shall be of minimum area of 6 sq.mts. (64 sq.ft.) with at least dimension of 2.00 meters (7' -0").

Kitchens 3.00 sq.mts with at least dimensions of 1.50 mts. (5'-0").

Bath and toilet – 1.20 sq.mts with at least dimension of 0.90 mt. (3'-0").

SECTION 23. Air Space Requirements in Determining the Size of Rooms (Natural Ventilation)

Minimum air space shall be provided as follows:

School rooms 3.00 cu.mts with1.00 sq.mt. of floor area per person

Workshops, factories and offices 12 cu.mts. of airspace per person

Habitable rooms – 14.00 cu.mts. of airspace per person

SECTION 24. Window Openings

Every room for human occupancy or intended for any use shall be provided with a window or windows with a minimum clear ventilating area of not less than ten percent 10% of the floor area of the room – such window shall open directly into an open court, yard, public street or alley, public park or open water courses.

Rooms provided with at least five percent 5% of the floor area of the room.

Exceptions: Required windows may open into a roofed porch where the porch:

Abut a court, yard, public street or alley or open water course and other public spaces.

Has a ceiling height of not less than 2.70 mt.

Has one of the longer side at least 65% open an obstructed to another space that is properly ventilated.

SECTION 25. Skylights

Skylights when provided for atop to cover up vent shops stated in 1.2 above shall be provided with fixed louver openings equal to the maximum required clear area of the shaft.

Ventilation Skylights

> In cases where windows cannot be provided normally thru walls into open spaces as required above such, may be provided through skylights, in which case such skylights shall have a gross ventilating open area of not less than 10% of the room area as specifically required. Openable part in the window shall be equivalent to that are replaced or needed to be provided for.

SECTION 26. Passive Cooling and Ventilation

All naturally ventilated rooms shall be so arranged as to take full advantage of or air movements due to heat and cross ventilation thru “ventanillas” under window sills, transoms – over windows or door-heads, fixed louvers, perforated walls or partitions,etc.

SECTION 27. Artificial Ventilation

Rooms or spaces housing industrial or heating equipment shall be provided with artificial means of ventilation to prevent excessive accumulation of hot and/or polluted air.

Whenever artificial ventilation is required, the equipment shall be designed and constructed to meet the following minimum requirements in the air changes:

27.1 For rooms entirely above grade and used for office, clerical, for administrative purposes or as stores, sales rooms, restaurants, markets, factories, workshops, or machineries rooms, not less than three (3) changes on air per hour shall be provided.

27.2 For rooms entirely above grade and used as bakeries, hotel or restaurants kitchens, laundries other than accessory to dwellings and boiler rooms – not less than ten (10) changes of air per hour shall be provided.

27.3 For auditorium and other rooms used for assembly purposes, with seats or other accommodations – not less than 0.30 cubic meter of air per minute shall be supplied for each person.

27.4 For wards, and dormitories of institutional buildings – not less than 0.45 cubic meter of air per minute shall be supplied for each person accommodated.

27.5 For other rooms or spaces not specifically covered under this Section, applicable provisions of the latest edition of the Philippine Mechanical Engineering. Referral code shall govern.

SECTION 28. Health Consideration

“The designated smoking area other than in an open space shall be completely enclosed or physically separated from the rest of the premises and equipped with adequate ventilation in conformity with the provisions of Presidential Decree No. 1096, otherwise known as the “National Building Code”, and the “Philippine Society of Mechanical Engineers Code.” (Section 4.1 R.A. 9211)

Refer to R.A. 9211 “Tobacco Regulation Act of 2003” and R.A. 8749 “Philippine Clean Air Act of 1999”.

SECTION 29. Natural Lighting

a. All enclosed portions occupied by human beings and other rooms and areas for which requirements specified elsewhere in

this code, shall be provided with natural light by means of exterior openings with an area equal to 1/10 of the total floor area of such room.

b. Natural lighting shall be ascertained with respect to the annual path of solar angles of the sites approximate latitude or location on the earth's surface.

c. Provide sun control devices to minimize heat gain in the interior spaces; and to ascertain energy conservation in the airconditioning; and to control direct penetration of sun's rays.

d. Illumination standards depending upon use or occupancy and activities should be within internationally acceptable standards, criteria for artificial illumination for human activity, as prescribed under lighting and illumination in the latest referral Electrical Engineering Code (as provided for under PD 1096 – NBC)

CHAPTER 5

INTERIOR MATERIALS AND FINISHES

SECTION 30. Interior Materials and Finishes

30.1 Interior Walls/Partitions

May be any of the following specifications:

Calcium Salicilate/Fiber cement board of substantial thickness
2.5 cm. (1")

Solid Wood / Wood particle bonded panel cement stucco work on metal furring expanded metal lathe; double faced .18 cm (1/8") to 4.76 cm (3/16") thick fiber cement board with styrophor or rigid urethane. Core or filler of any similar non-combustible construction and pre-cast glass fiber reinforced concrete structural glass blocks.

30.2 Ceiling

Acoustical thermal insulation, fire rated ceiling board on metal T-suspension framing system

Pre-moulded perforated acoustical mounted on drop ceiling board or wood.

30.3 Mouldings/Trims

Solid wood planks, fiber boards extruded aluminum, pre-formed metal section, pre cast plaster of parts or concrete/plaster glass decorative mouldings, facia, etc.

30.4 Flooring Finishes

Wood Planks
Laminated Wood
Vinyl/ Rubber Tiles - for areas that require highly hygienic conditions should be treated with anti-bacterial or fungicidal solutions.
Ceramic /Marble/ granite
Wool or synthetic fiber carpets

30.5 Windows/Doors

Frameless glass or panels
Aluminum or steel tubular section with glass
Glazing – plain, wired or tempered
Solid or plywood – door panels

30.6 Interior Stairs

If constructed of wood, of non – combustible materials, treads and risers shall not be less than 2” (.51 mm) thick except where built on laminated or plank.

Wood stairs stringer shall be a minimum of 3” (.76mm) in thickness and not less than 10” (2.54 mm) depth.

SECTION 33 PHILIPPINE RAW MATERIALS

Materials	Usage
Bamboo	Furniture, baskets and handicrafts
Abaca Sinamay/Tinalak	Wall covers, wall curtains, table cloth
Buri Rafia	Wall coverings, cushions, handicraft
Coconut White coir fiber Brown coir fiber	matting, carpet, rugs, doormat, floor covering carpet underlay, upholstery, cushions, gym mats and bed mats
Rattan Palasan	furniture making
Sea Grass Pandan	wall covering, cushions, mats
Leather Hides *cattle *horse Kips *snakes *lizard *reptiles Skins *calves *goat *ostrich	 upholstery, cushion, decoration, accessories
Sea Shells Mother of Pearl/Capiz	 furniture, home accessories and adornment

Source : Department of Trade & Industry

SECTION 34. Interior Surfaces Finishing Materials

Materials as traditionally used for interior surfaces finishes such as wallcovers, paints and fabrics shall conform to the physical certification requirements supported by laboratory tests and approved by the government. Agency concerned as to inflammability, fire resistivity, flame spread and toxicity of gases emitted from burning.

SECTION 35. Glass and Glazing

35.1 General Information

General. Chapter 18, Sections 1801 up to Section 1805 inclusive of the National Building Code – NBC is adapted verbatim in the referral interior design code and shall have mandatory force and effect as fully embodied hereunder. Amplifications in any of its original provisions, objectively to cope up with the latest advancement in science and technology shall apply.

35.2 Glass Definition

A hard, brittle amorphous substance made by fusing silica (sometimes combined with oxides of boron or phosphorus) with certain basic oxides (notably sodium, potassium, calcium, magnesium and lead) and cooling rapidly to prevent crystallization or devitrification. Most glasses melt at 800 C to 950 C. Heat-resisting glass usually contains a high proportion of boric acid. The brittleness of glass is such that minute surface scratches in manufacturing greatly reduce its strengths.

35.3 Basic Types of Clear Glass

a. Window and Sheet

Manufactured by a horizontally flat or vertical draw process, then annealed slowly to produce flat fired, high gloss surfaces. Inherent surface waves are noticeable in sizes larger than 4 sq.ft. For

minimum distortion, larger sizes are installed with the wave running horizontally. The width is listed first when specifying.

b. Float Glass

Generally accepted as the successor to polished plate glass, float glass has become the quality standard of the glass industry in architectural, mirror and specialty applications. It is manufactured by floating on a surface of molten tin, then annealing slowly to produce a transparent flat glass, thus eliminating grinding and polishing.

c. Plate Glass

Transparent flat glass is ground and polished after rolling. Within limits, cylindrical and conic shapes can be bent to desired curvature.

35.4 Variations of Basic Types of Glass

a. Patterned Glass

Know also as rolled or figured glass. It is made by passing molten glass through rollers that are etched to produce the appropriate design. Most often only one side of the glass is imprinted with a pattern although it is possible to imprint both sides.

b. Wire Glass

Available as clear polished glass or in various patterns, most commonly with embedded welded square or diamond wire. Some distortion, wire discoloration, and misalignment are inherent. Some 6 mm wired glass products are recognized as certified safety glazing materials for use in hazardous materials.

c. Cathedral Glass

Known also as art glass, stained glass or opalescent glass. It is produced in many colors, textures and patterns, is usually 3 mm thick and is used primarily in decorating leaded glass windows.

d. Obscure Glass

The entire surface on one, or both sides of the glass are sand blasted, acid etched or both to obscure a view or create a design. When a glass surface is altered by any of these methods, glass is weakened and may be difficult to clean.

e. Heat Absorbing or Tinted Glass

The glass absorbs a portion of the sun's energy because of admixture contents and thickness. It then dissipates the heat to both the exterior and interior. The exterior glass surface reflects a portion of energy depending on the sun's position. Heat-absorbing glass has a higher temperature when exposed to the sun than clear glass does, thus the central area expands more than the cooler edges, causing edges tensile stress.

f. Reflected Coated Glass

Reflective glass coatings may be applied to float plate, heat strengthened, tempered, laminated, insulated, or spandrel glass. They can be a.) single glazing with a coating on one surface, b.) laminated glass coated between the glass plies or on the exterior surface, c.) insulating glass units with coating on the exteriors surface or on either of the interior surfaces.

g. Heat Strengthened and Tempered Glass

Produced by re-heating and rapidly cooling annealed glass.

h. Security Glass

Safety glass with a plastic film of 1.5 mm minimum thickness for bullet resistant and burglar resistant glass. Bullet resistant glass consists of three to five plies of glass and in some cases, high performance plastics, with an overall ¾ "(20mm) to 3" (75mm) thickness.

a. General Requirements

a-1 This Chapter shall apply to exterior glass and glazing in all

Occupancies except Group A, B, and J Occupancies not over three storeys in height, and to interior and exterior glass and glazing in all occupancies subject to human impact as specified in this Code.

a-2 Standards for materials shall conform to the provisions set by the Secretary on glass dimensional tolerances, breaking stress levels, and design safety factors.

a-3 Each light shall bear the manufacturer's label designating the type and thickness of glass. Each light with special performance characteristics such as laminated, heat strengthened, fully tempered or insulated, shall bear the manufacturer's identification showing the special characteristics and thickness by etching or other permanent identification that shall be visible after the glass is glazed.

b. Area Limitation

Exterior glass and glazing shall be capable of safety withstanding the load due to wind pressures for various height zones above ground acting inward or outward. The area of individual lights shall not be more than the maximum allowable area of glass according to the wind load multiplied by the appropriate adjustment factor.

c. Glazing

Glass firmly supported on all four edges shall be glazed with minimum laps and edge clearances in accordance with Section 16.1 paragraph (b), Provided, that glass edge clearance in fixed openings shall be not less than what is required for wind and earthquake drift. For glass not firmly supported on all four edges and design shall be submitted for approval of the Building Official. Glass supports shall be considered firm when deflection of the support at design load does not exceed 1/175 of the span.

d. Louvered Windows

Regular plate, sheet, or patterned glass in jalousies and louvered windows shall not be thinner than 5.6 millimeters minimal and not longer that 1.20 meters. Exposed glass edges shall be smooth.

d. Impact

Frameless glass doors, glass in doors, fixed glass panels, and similar glazed openings which may be subject to accidental human impact shall conform with the requirements set forth by the Secretary on impact loads of glass: Except in the following cases:

d-1 Bathtub and shower enclosures shall be constructed from approved shatter-resistant materials, such as: wire-reinforced glass not less than 5.6 millimeters thick: fully tempered glass not less than 4.8 millimeters thick; or laminated safety glass not less than 6.4 millimeters thick.
d-2 Glass lights located not less than 450 millimeters above the adjacent finished floor or walking surface.
d-3 Glass lights when the least dimension is not greater than 450 millimeters.
d-4 Glass lights 1.50 square meters or less in area.

CHAPTER 6

FURNITURE, FURNISHINGS and EQUIPMENT (FF&E)

SECTION 36. Furniture, Furnishings and Equipment

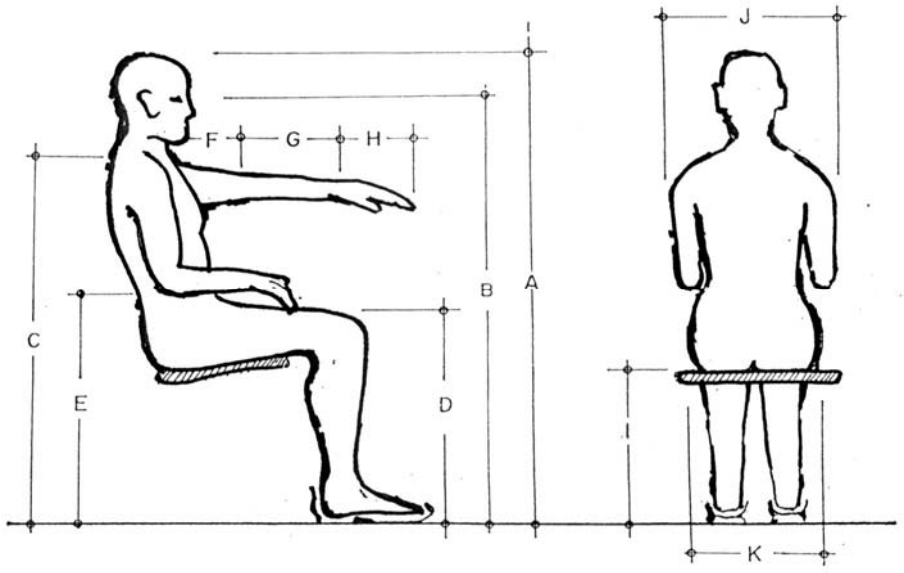
The Furniture, Furnishings & Equipment Interior Design (FF&E) includes the design, selection, specification, color coordination and procurement documentation of the required items necessary to meet the functional, operational, sustainability, and aesthetic needs of the facility. The FF&E package will include placement plans, ordering and finish information on all freestanding furnishings and

accessories, and cost estimates. The Interior Designer will select and specify colors, fabrics, and furniture finishes to coordinate with the Structural Interior Design (SID) interior finish materials. The selection of furniture style, function and configuration will be coordinated with the user/customer's requirements. Examples of FF&E items are workstations, seating, files, tables, beds, wardrobes, draperies and accessories as well as markerboards, tackboards, and presentation screens. Secondary window treatments such as sheers, draperies, top treatments, and room-darkening shades are specified as required on a project-by-project basis and are usually included as part of the FF&E package. Criteria for furniture selection will include function and ergonomic considerations, maintenance, durability, sustainability, comfort and cost. The designer may have to consider reuse of and coordination with existing furnishings. The designer will work directly with the using activity to assess their needs and develop a list of furnishings required for each space within the facility. The FF&E package will be developed and coordinated with the architectural design as is appropriate with the project delivery process and the FF&E acquisition strategy.

SECTION 37. Furniture Footprint Plans

The furniture foot print plan will show the appropriate size and type of furnishings and critical or required clearances. The furniture footprint plans serve as the basis for a fully integrated project design as well as the basis for the Furniture, Furnishings & Equipment (FF&E) package. The interior designer is responsible for identifying the requirements for equipment items with regards to space allocation and coordination with building systems; even though the interior designer may not be responsible for specifying those equipment items. When the design of the FF&E package is included in the building design contract, the furniture footprint is the furniture plan and is fully developed, along with the FF&E package. If the FF&E package is not included as part of the building design contract, ensure that the furniture footprint plans are clearly noted "Not in Contract." Furniture Footprint Plans must be included throughout the design delivery process, from initial concept to Final submission, to ensure coordination of architectural components and engineering disciplines (lighting, power, mechanical, window placement, etc.) with respect to furniture placement.

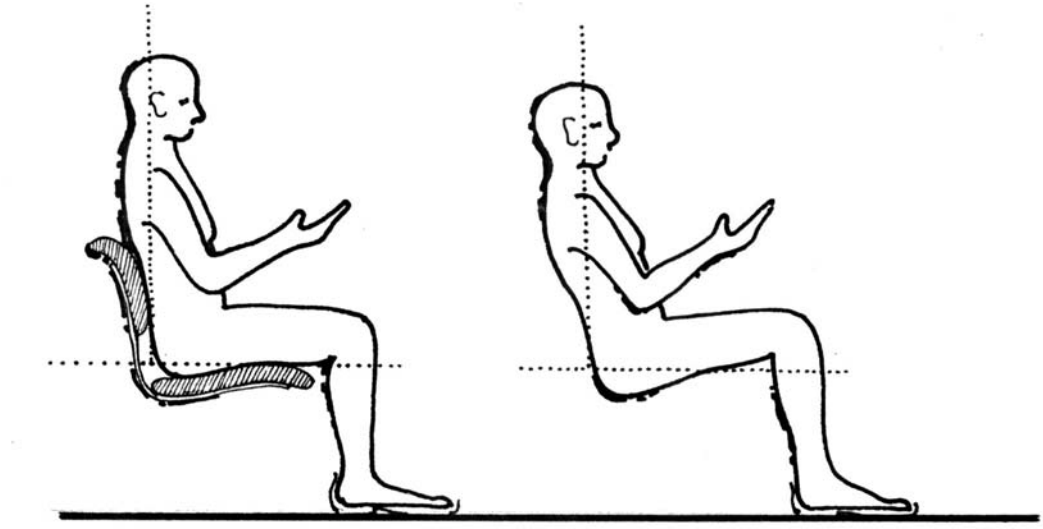
SECTION 38. ANTHROPOMETRIC DATA



STATURE OF STANDING FILIPINO 1680 MM.

	KEY DIMENSIONS	MEAN DIMENSIONS	STANDARD DEVIATION
A	VERTEX HEIGHT	1239	47
B	EYELLEVEL	1124	47
C	SHOULDER HEIGHT	960	45
D	UPPER KNEE HEIGHT	502	23
E	LOWER ELBOW HEIGHT	607	39
F	ARM LENGTH	298	16
G	FOREARM LENGTH	238	13
H	HAND LENGTH	189	11
I	UNDERSIDE THIGH HEIGHT	407	16
J	SHOULDER BREADTH	377	26
K	HIPS BREADTH	319	24

SECTION 39. ERGONOMIC RECOMMENDATION FOR SEATING FURNITURE



Comfort requires that the seat slant down toward the rear. The more the back slants to the rear the more important it is that the seat slant downward to the rear.

Seat surface should not be set too high. It tends to compress the thigh that results in constricted blood circulation. It also weakens body stability because the soles of the feet are not permitted proper contact with the floor surface. Neither should it be set too low because it tends to extend the legs and be positioned forward, depriving them of stability. Furthermore it will cause the body to slide away from the backrest that gives proper lumbar support.

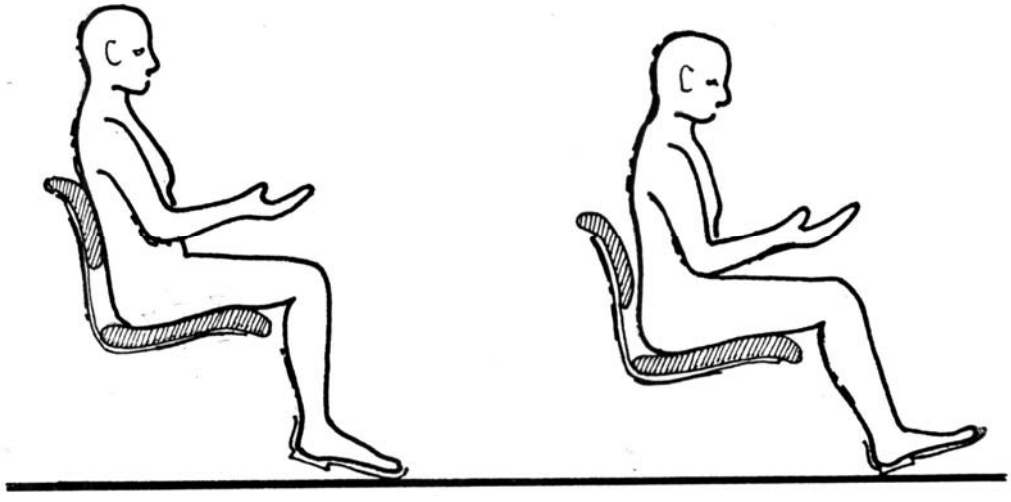
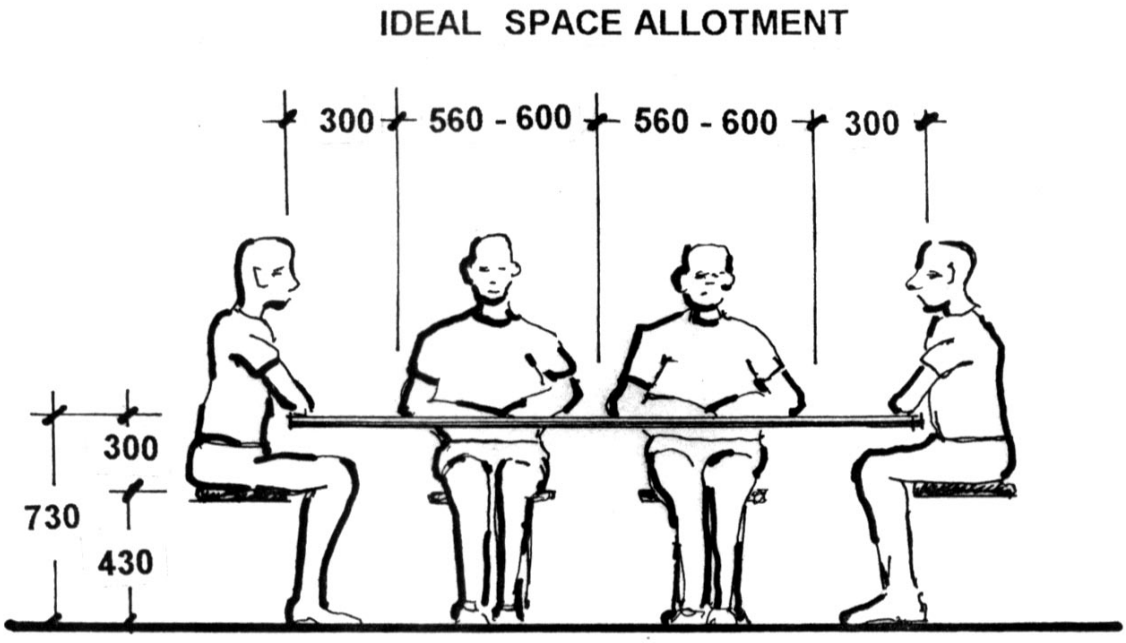


TABLE I : DIMENSIONS FOR SEATING FURNITURE

KEY DIMENSION	WORK CHAIR			GENERAL PURPOSE			EASY CHAIR			LOUNGE		
	MIN	AVE.	MAX	MIN	AVE	MAX	MIN	AVE	MAX	MIN	AVE	MAX
A. SEAT HEIGHT	360	430	450	410	430	450	360	380	430	360	380	410
B. SEAT DEPTH	360	400	410	360	400	410	460	490	520	480	520	560
C. SEAT WIDTH *												
a] No armrest	360	410	430	410	410	430	490	560	570	560	600	710
b] With armrest	410	450	480	410	450	480	490	560	570	520	560	610
D. ARMREST HT.	180	210	230	180	210	230	180	210	230	180	210	320
E. BACKREST HT.												
a] low-back	260	310	380	260	310	380	260	310	380	260	310	380
b] semi-high	450	560	610	450	560	610	450	560	610	450	560	610
c] high-back	710	830	900	710	830	900	710	830	900	710	830	900

- No armrest and without armrest refers to the style of the chair; hence the data listed are inside dimensions of seat width.

SECTION 40. CONFERENCE/DINING TABLE



For rectangular table, an ideal length is to provide an elbow room of 560 mm. to 600 mm. per seater and a space allowance of 300 mm. on each side. Minimum length listed on TABLE II allots 560 mm. per seater. This is recommended when the room or area is small. Chairs without armrest is preferred for this case.

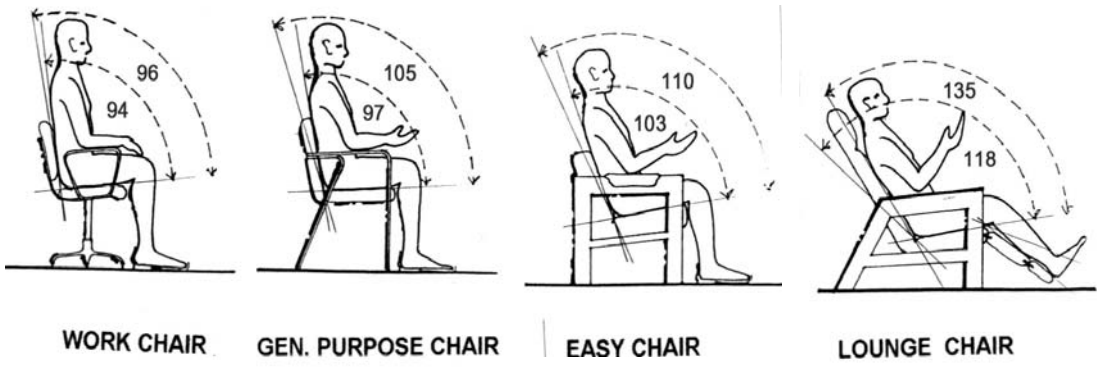
For circular table, space allotment is 560mm. to 600 mm. of the circumference. To determine the diameter of required table, multiply intended capacity by the allotted space or elbow room per seater [560 mm. to 600 mm.], then divide the result by 3.14 [the value of pi] The final answer will be the approximate diameter of the table required. Minimum recommended sizes on TABLE II are suitable for tables that would use chairs without armrest. The maximum sizes are recommended for tables that would use bulky type of chairs and chairs with armrest.

The height of tables should be complementary. Ideal seat level is 300 mm. below the table top. For average Filipino stature, table height of 730 mm. is recommended. Complementing chair with a seat height of 430 mm. is ideal.

TABLE II: DIMENSIONS FOR RECTAGULAR CONFERENCE / DINING TABLE

APPROXIMATE SEAT	LENGTH		WIDTH	HEIGHT		
	MINIMUM	MAXIMUM	RECOMMENDED	MINIMUM	AVERAGE	MAXIMUM
6	1700	1800	760	710	730	750
8	2300	2400	900	710	730	750
10	2800	3000	1100	710	730	750
12	3400	3600	1200	710	730	750
14	3900	4200	1300	710	730	750
16	4500	4800	1400	710	730	750
18	5100	5400	1500	710	730	750
20	5600	6000	1500	710	730	750
22	6200	6600	1500	710	730	750

SECTION 41. RECOMMENDED ANGLE OF INCLINATION



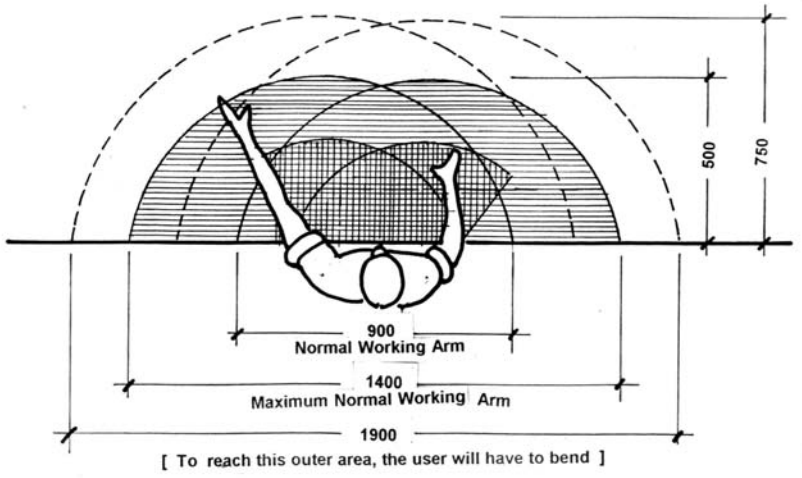
SECTION 42. DIMENSIONS FOR CIRCULAR CONFERENCE/DINING TABLE

TABLE III :

APPROXIMATE SEAT	DIAMETER			HEIGHT		
	MIN	AVE	MAX	MIN	AVE	MAX
2	610	660	710	710	730	750
4	710	760	950	710	730	750
6	1100	1150	1300	710	730	750
8	1450	1500	1700	710	730	750
10	1800	1900	2100	710	730	750
12	2150	2300	2500	710	730	750

WORKING TABLE AND DESK

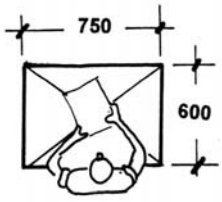
AVERAGE REACH OF PERSON SITTING AT DESK



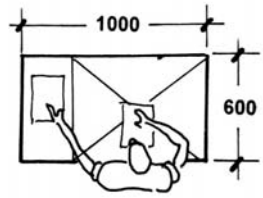
SECTION 43: DIMENSIONS FOR WORK TABLE and DESK

DESCRIPTION	WIDTH			DEPTH			HEIGHT		
	MIN	AVE	MAX	MIN	AVE	MAX	MIN	AVE	MAX
TYPING TABLE	610	910	1100	400	400	460	650	660	660
GEN. PURPOSE	750	1200	1200	610	730	750	710	730	750
SECRETARIAL	1000	1100	1200	610	750	760	710	730	750
CLERICAL	1200	1200	1400	710	750	760	710	730	750
JR. EXEC.	1500	1500	1700	760	800	850	710	730	750
SR. EXEC.	1700	1700	1800	800	850	910	710	730	750

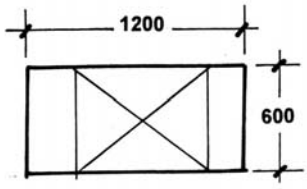
The following illustrations shows the recommended dimensions for office flat top desk.



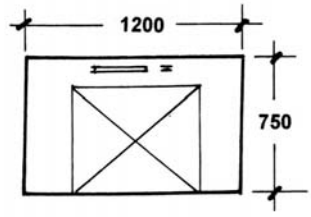
Basic space for typing and writing



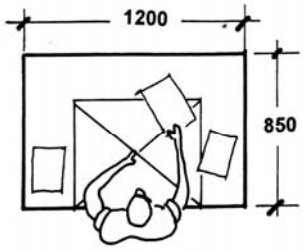
With space for paper on one side



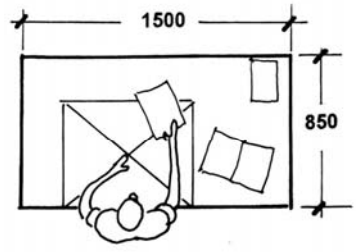
With paper on both sides



Paper plus space for pens and telephone



Generous amount of space for papers



Space for papers plus area for references

SECTION 44. DIMENSIONS FOR SIDE/END TABLE

SIDE / END TABLE

The sizes of side / end tables are generally variable. The size commonly depends upon the basic function, the available space and size or proportion of other furniture pieces that goes with the setting. The maximum height follows the height of armrest, but the most common is 25 mm. to 50 mm. lower than armrest level. The width is flexible, but the depth usually follows the depth of the chair adjacent to it or is slightly shortened.

TABLE V: DIMENSIONS FOR SIDE/END TABLE

DESCRIPTION	WIDTH			DEPTH			HEIGHT		
	MIN.	AVE.	MAX.	MIN.	AVE.	MAX.	MIN.	AVE.	MAX.
RECTANGULAR	540	900	1200	460	710	710	430	560	710
SQUARE	380	760	810	380	760	810	430	560	710
CIRCULAR	410	560	760	410	560	760	430	560	710

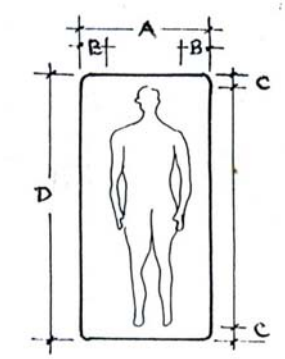
SECTION 45. DIMENSIONS FOR CENTER TABLE /LOW TABLE

The size of center table should be proportionate with other furniture and furniture setting where it is matched. The width and depth are variable. The height usually follows the height of the seat in the furniture setting. Maximum recommended height for center table is 25 mm. to 50 mm. higher than seat height.

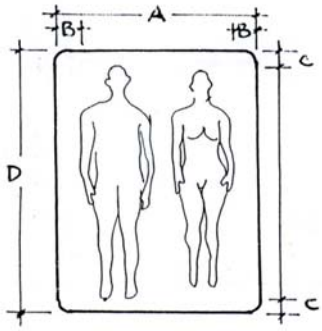
TABLE VI:

DESCRIPTION	WIDTH			DEPTH			HEIGHT		
	MIN.	AVE	MAX	MIN.	AVE	MAX	MIN.	AVE	MAX
RECTANGULAR	610	910	2200	400	610	710	310	380	460
SQUARE	710	910	1100	710	910	1100	380	380	430
CIRCULAR	760	760	1100	760	760	1100	380	380	420

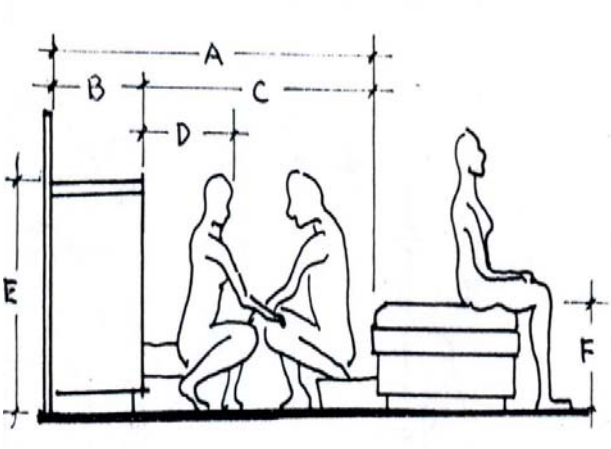
SECTION 46. BEDS/SLEEPING SPACES



	RANGE OF DIMENSIONS
A	760 to 950
B	150 to 250
C	60 to -
D	1900 to 2130



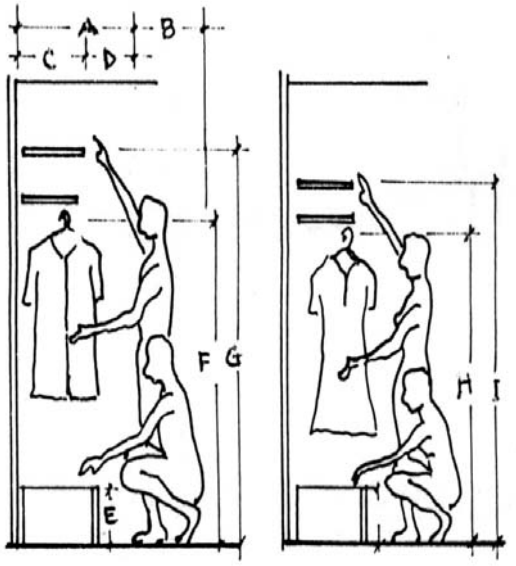
	RANGE OF DIMENSIONS
A	1370 to 1930
B	150 to 250
C	60 to -
D	1900 to 2130



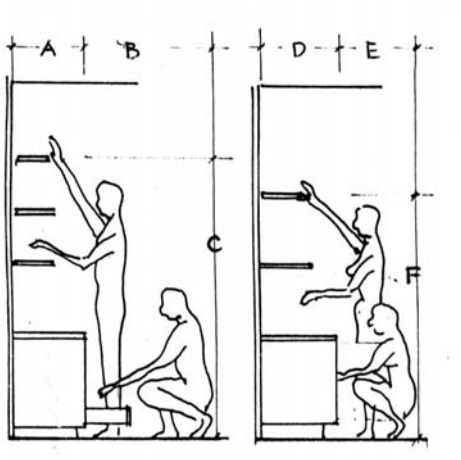
	RANGE OF DIMENSIONS
A	1500 to 1830
B	510 to 610
C	1100 to 1220
D	410 to 510
E	730 to 1220
F	430 to 460

SECTION 47. STANDARD MATTRESS SIZES

TYPE	ENGLISH UNIT	METRIC CONVERSION
BUNK	30” x 75” ; 33” x 75”	762 x 1905 mm ; 838 x 1098mm
DORMITORY/HOSPITAL	36” x 75” ; 36” x 80”	914 X 1905 mm ; 914 X 2032mm
TWIN	39” x 75” ; 39” x 80”	990 x 1905 mm ; 990 x 2032 mm
DOUBLE	54” x 75”	1372 x 1905 mm
QUEEN	60” x 80” ; 60” x 84”	1524 x 2065 mm ; 1524 x 2135mm
KING	76” x 80” ; 76” x 84”	1930 x 2032 mm ; 1930 x 2135mm



	RANGE OF DIMENSIONS
A	510 to 710
B	860 to 915
C	300 to 460
D	200 to 260
E	260 to 310
F	1630 to 1730
G	130 to 1930
H	1530 to 1780
I	1750 to 1830



	RANGE OF DIMENSIONS
A	460 X 610
B	910 X 1220
C	1830 X 1930
D	460 X 610
E	760 X 910
F	1750 X 1830

CHAPTER 7

FIRE RESISTIVE REQUIREMENTS IN CONSTRUCTION

SECTION 48. Title

1.1 General. Chapter 6, Sections 601 to Section 604 inclusive of the National Building Code (NBC) is adapted verbatim in this referral Interior Design Code and shall have mandatory force and effect as if fully embodied hereunder. Amplifications is any of its original provisions, objectivity to cope-up with the latest advancements in science and technology shall apply.

1.2 Amplifications on NBC Chapter 2 Section 603 Fire Resistive Standards.

SECTION 49. Flame Resistance

All fabrics and textiles should conform to the quality and safety standards set by the Philippine government agencies, DTI, and the Fire Bureau. An extra precautionary measure against fire is to spray textiles / raw materials with fire retardant finish on upholstery, curtains, wall coverings and beddings. Spraying fire retardant finishes may wear off in time. For commercial usage like resorts and hotels, an inherently flame retardant fabric is recommended.

SECTION 50. Interior Wall and Ceiling Finishes

General: Finishes for interior walls and ceilings of any building shall be classified according to their flame-spread characteristic using generally accepted engineering standards. The smoke density shall not be greater than that obtain from burning of untreated wood under similar conditions when tested in accordance with the “Tunnel Test” in the way intended for use. The products of combustion shall be no more toxic than the burning of untreated wood under similar conditions.

Interior walls and ceiling finishes shall mean interior wainscoting, paneling, or other finish applied structurally or for decoration, acoustical correction, surface insulation or similar purposes. Requirements for flame-spread characteristics of finishes shall not apply to trim of doors and windows or their frames, and not to materials which are less than one (1) millimeter in thickness cemented to the surface of walls or ceilings.

Materials required to be flame-spread proofed shall be treated with a flame-retardant having a flame-spread of fifty (50) or less as determined by the “Tunnel Test”

Gypsum Ceiling Board and Wall Board should have a fire rating of 1 hour.

SECTION 51. Electrical wirings and lighting fixtures

All electrical wirings and lighting fixtures should conform to the quality and electrical safety standards set by the Engineering Code of the Philippines and DTI.

SECTION 52. Interior Signage Placement Plans

Signage placement plans must indicate the location of every sign and directory in the facility. The sign symbol must indicate the sign type and be keyed to the signage schedule, which then describes message, symbols and details. Separate typical sign drawings must be prepared for each type to indicate plaque size, type, location and message for all signs. For larger projects, incorporate building or floor directories and directional signage. The typical sign drawings and schedule may be included solely in the specification or as an attachment to the specifications instead of on the contract set of drawings.

SECTION 53. Safety and Security

	TYPE OF HAZARD	DESIGN PRECAUTIONS
FALLS	Slippery Flooring	Avoid slippery materials, especially near door access.
	Small Rugs or Mats	Avoid when possible. Use rubber anti-slip underlay.
	Bathrooms	Provide grab bars and use nonskid surfaces. Consider positioning the door to open outward in order to easily reach an injured person who may be blocking the door.
	Steps	Avoid level changes and single step if possible. If not, mark level change clearly through contrasting colors, materials, or design. Provide rail and/or safety light.
	Stairways	Plan moderate (normal) angle of slope. Break long runs with landings. Provide handrails on both sides and, for wider stairways, in the center as well. Provide good lighting. Avoid slippery materials. Provide nonskid treads and/or nosings. Avoid winders. Mark beginning of stairways clearly through design.
	Windows	In high (upper-floor) locations, consider safety bars or rails. Use window type that restricts opening (but see fire safety problems below). Avoid low sills.
	Kitchens	Place all provisions and materials within easy reach if possible; if not, provide a secure step stool. Store knives and sharp objects well out of reach.
	Darkness	Provide adequate lighting and emergency light at key locations. Provide double switches at top and bottom of stairways. Install a light switch near the bed in bedrooms. Install a night-light in bathrooms. Consider placing proximity or sonic switches in appropriate locations.
FIRE	Prevention	Avoid highly inflammable materials. Store dangerous substances in fireproof enclosures. Use fire-safe Materials, heating stoves, and kitchen ranges. Provide adequate and safe electric wiring.
	Control	Provide extinguishers, smoke alarms, alarm signals, or bells where appropriate. Consider providing hose cabinets and sprinklers, particularly for high-floor locations, exit routes, and high-risk areas.
	Exit and Escape	Provide safe exits, including two independent routes for upper floors and hazardous locations. Provide ample exits from public spaces using out-swinging doors with panic-bolt hardware. Provide exit signs and lights. Provide fire-company access (avoid fixed windows and fixed window bars). Consider outdoor escapes, ladders, and so on. Provide emergency lighting.
ELECTRICAL	Fire	Provide adequate and safe wiring.
	Shock	Avoid placing outlets near water, Provide ground-fault interrupt circuitry for bathroom and other wet Locations.
WATER	Bathrooms	Provide safe (thermostatically controlled) mixing faucets for tubs and showers. Avoid slippery floor Surfaces (see "Falls" above), tubs, and shower bottoms.
	Pools	Control access. Consider installing railings or antiskid flooring.

Source: Interior Design by John Pile – 2nd Edition 1995

CHAPTER 8

SUSTAINABLE INTERIOR DESIGN

SECTION 54. General

The design must:

- Use the simplest technology appropriate to the functional need, and incorporate passive energy-conserving strategies responsive to the local climate.
- Use renewable indigenous building materials to the greatest extent possible.
- Strive for “smaller is better.” Optimizing use and flexibility of spaces so overall building size and the resources necessary for construction and operation are minimized.
- Consider “constructability.” Striving for minimal environmental disruption, resource consumption, and material waste, and identifying opportunities for reuse/recycling of construction debris.
- Provide equal access to the full spectrum of people with physical and sensory impairments while minimizing impacts on natural and cultural resources.
- Allow for future expansion and/or adaptive uses with a minimum of demolition and waste. Materials and components should be chosen that can be easily reused or recycled.
- Make it easy for the occupants/operators to recycle waste.
- Apply natural conditioning techniques to effect appropriate comfort levels for human activities . . . do not isolate human needs from the environment.
- Avoid overdependence on mechanical systems to alter the climate (such dependency signifies inappropriate design, disassociation from the environment, and nonsustainable use of resources).
- Analyze whether the climate is comfortable, too cool, or too hot for the anticipated activities, and then which of the primary climatic components of temperature, sun, wind, and moisture make the comfort level better (asset) or worse (liability).

SECTION 55. Sensory Experience

Visual

- Use design principles of scale, rhythm, proportion, balance, and composition to enhance the complementary integration of facilities into environmental context.

- Use muted colors to blend facilities with natural context, unless contradictory to other environmental considerations (reflection/absorption) or cultural values (customs/taboos).

Sounds

- Locate service and maintenance functions away from public areas, space lodging units, and interpretive stops so that natural, not human, sounds dominate.

- Use vegetation to create sound baffle between public and private activities.

- Orient openings toward natural sounds such the lapping of waves, babbling of streams, and rustling of leaves by the wind restrict the use or audio level of unnatural sounds such as radios and televisions.

Touch

- Allow visitors to touch and be in touch with the natural and cultural resources of the site.

- Vary walking surfaces to identify or give different quality to different spaces.

- Use contrasting textures to direct attention to interpretive opportunities.

Smell

- Allow natural fragrances of vegetation to be enjoyed.
- Direct air exhausted from utility areas away from public areas.

Taste

- Provide opportunities to sample local produce and cuisine.

SECTION 56. Sustainable and Green Building

The right blueprint can lead to the right ecological footprint, and so Green building is good for the environment. Sustainable designers work to create high-performance buildings and communities that are less expensive to build (or retrofit), more profitable to operate, easier to lease, and healthier and more comfortable to occupy—plus, they boost worker productivity. They also analyze interconnected issues such as site and building design, energy and water efficiency, resource-efficient materials and construction techniques, lighting and mechanical design, and the comfort and safety of the occupants. Then reassemble the pieces in new patterns that achieve multiple benefits from single expenditures. More than just adding green features to buildings, the integrated design process considers all aspects of the physical environment, from aesthetics and function to industry-related challenges such as financing, construction scheduling, and regulatory compliance. The result is a new generation of refined interior space with optimized energy and water efficiency, sustainable materials, and superior aesthetics.

SECTION 57. Sustainability Integration and Guideline Development

Create environmental strategies that address every aspect of the design and construction process, including guidelines for commercial, retail, and residential design.

SECTION 58. Daylighting and Energy Analysis

Develop strategies that improve visual performance and productivity, save energy and money, and create healthy spaces. Consider use of computer simulations and physical models to integrate daylight with architectural form, glazing and shading strategies, electric lighting design and controls, and interior details. Identify energy loads that can be deferred or reduced.

SECTION 59. Green Materials Selection

Develop a comprehensive set of specifications (“greenlining” existing specifications) to more general recommendations about environmentally preferable, cost-effective materials, as well as contractor tool kits to ensure project goals are achieved.

CHAPTER 9

SECTION 60. Universal Design

Universal design, which is related to "inclusive design" and "design for all," is an approach to the design of products, services and environments to be usable by as many people as possible regardless of age, ability or situation. It links directly to the political concept of an inclusive society and its importance has been recognized by governments, business and industry.

Universal design is a relatively new paradigm that emerged from "barrier-free" or "accessible design" and "assistive technology." Barrier free design and assistive technology provide a level of accessibility for people with disabilities but they also often result in separate and stigmatizing solutions.

Universal design strives to be a broad-spectrum solution that helps everyone, not just people with disabilities. Moreover, it recognizes the importance of how things look.

SECTION 61. The implementation of Universal Design involves the following **seven principles**:

a. Equitable Use: The design is useful and marketable to people with diverse abilities.

Guidelines:

a-1. Provide the same means of use for all users: identical whenever possible; equivalent when not.

a-2. Avoid segregating or stigmatizing any users.

a-3. Provisions for privacy, security, and safety should be equally available to all users.

a-4. Make the design appealing to all users.

b. Flexibility in Use: The design accommodates a wide range of individual preferences and abilities.

Guidelines:

b-1. Provide choice in methods of use.

b-2. Accommodate right- or left-handed access and use.

b-3. Facilitate the user's accuracy and precision.

b-4. Provide adaptability to the user's pace.

c. Simple and Intuitive Use: Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

Guidelines:

c-1. Eliminate unnecessary complexity.

c-2 Be consistent with user expectations and intuition.

c-3. Accommodate a wide range of literacy and language skills.

c-4 Arrange information consistent with its importance.

c-4. Provide effective prompting and feedback during and after task completion.

d. Perceptible Information: The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

Guidelines:

d-1. Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.

d-2. Provide adequate contrast between essential information and its surroundings.

d-3. Maximize "legibility" of essential information.

d-4. Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).

d-5. Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

e. Tolerance for Error: The design minimizes hazards and the adverse consequences of accidental or unintended actions.

Guidelines:

e-1. Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.

e-2. Provide warnings of hazards and errors.

e-3. Provide fail safe features.

e-4. Discourage unconscious action in tasks that require vigilance.

f. Low Physical Effort: The design can be used efficiently and comfortably and with a minimum of fatigue.

Guidelines:

f-1. Allow user to maintain a neutral body position.

f-2. Use reasonable operating forces.

f-3. Minimize repetitive actions.

f-4. Minimize sustained physical effort.

g. Size and Space for Approach and Use: Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Guidelines;

g-1. Provide a clear line of sight to important elements for any seated or standing user.

g-2. Make reach to all components comfortable for any seated or standing user.

g-3. Accommodate variations in hand and grip size.

g-4. Provide adequate space for the use of assistive devices or personal assistance.

SECTION 63. Graphics Signs for the Physically-Challenged and Visually-Impaired

The International Symbol of Access shall be placed where accessibility for the physically-challenged.

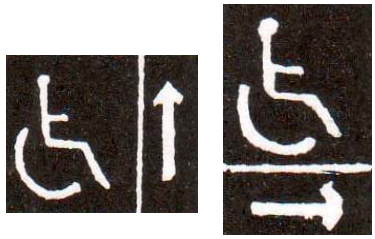
A. International symbol of access

B. Ramp for the physically-challenged

C. Telephone for the physically-challenged

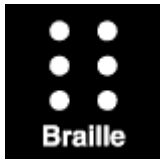
D. Elevator for the physically-challenged

E. Parking facility for the physically-challenged



F. Directional signs for the physically-challenged

G. Accessible to people with low vision



H. Braille

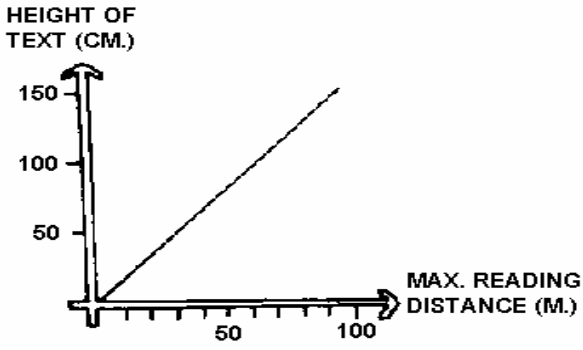
The symbol is white in color with either a dark blue or black background. The following signs shall be placed at entrances and exits, toilets and washrooms and outside accessible buildings.

Sign	Size	Usage
A	10 x 10	For use in comfort room stall doors
H	10 x 10	For use with printed formats
A, B,C,D,F	15 X 15	For use with or without directional arrows to identify door rooms
A, B,C,D,F	22 x 22	For use with or without arrows
A, B,C,D,E,F,G	30 x 30	For exterior use
A, B,C,D,E,F,G	60 x 60	For exterior use

Signposts shall also identify rooms of importance to the physically-challenged and visually-impaired, such as, in hotel rooms and give the necessary warnings in cases, like projecting objects.

Rectangular signboards shall indicate warnings and circular ones shall spell out prohibitions.

Text on signboards shall be of a dimension that people with less than normal vision acuity can read at certain distance. Refer to the image below for the relationship of text size of reading distance. The vertical components of letters shall have a thickness of 1/5 of the letter height.



RELATIONSHIP OF CAPITAL LETTER SIZE TO READING DISTANCE

MINIMUM HEIGHT OF RAISED LETTERS

Letters and symbols shall either be raised at least 1 mm from background or engraved in order that persons with seeing difficulties can read information using their fingertips. Refer to image above. Letter sizes shall be at least 15mm in height to facilitate tactile reading. Signs in Braille shall allow the blind to read vital available information.

Signs shall be located at a maximum of 1.60m from the floor and minimum of 1.40m from the floor.

SECTION 64. Website Design for the Visually-Impaired

Partial sight, aging and congenital color deficits all produce changes in perception that reduce the visual effectiveness of certain color combinations. Two colors that contrast sharply to someone with normal vision may be far less distinguishable to someone with a visual disorder. It is important to appreciate that it is the contrast of colors one against another that makes them more or less discernible rather than the individual colors themselves. Here are three simple rules for making effective color choices:

1. Exaggerate lightness differences between foreground and background colors, and avoid using colors of similar lightness adjacent to one another, even if they differ in saturation or hue.

Don’t assume that the lightness you perceive will be the same as the lightness perceived by people with color deficits. You can generally assume that they will see less contrast between colors than you will. If you lighten the light colors and darken the dark colors in your design, you will increase its visual accessibility.

2. Choose dark colors with hues from the bottom half of this hue circle against light colors from the top half of the circle. Avoid contrasting light colors from the bottom half against dark colors from the top half. The orientation of this hue circle was chosen to illustrate this point.

For most people with partial sight and/or congenital color deficiencies, the lightness values of colors in the bottom half of the hue, circle tend to be reduced.

3. Avoid contrasting hues from adjacent parts of the hue circle, especially if the colors do not contrast sharply in lightness.

Color deficiencies associated with partial sight and congenital deficiencies make it difficult to discriminate between colors of similar hue.

Hue, lightness and saturation -- the three perceptual attributes of color -- can be envisioned as a solid.

Hue varies around the solid; lightness varies from top to bottom and saturation is the distance from the center.

Hue is the perceptual attribute associated with elementary color names.
Hue enables us to identify basic color categories, such as, blue, green, yellow, red and purple. People with normal color vision report that hues follow a natural sequence based on their similarity to one another. With most color deficits, the ability to discriminate between colors on the basis of hue is diminished.

Lightness corresponds to how much light appears to be reflected from a colored surface in relation to nearby surfaces.

Lightness, like hue, is a perceptual attribute that cannot be computed from physical measurements alone. It is the most important attribute in making contrast more effective.

With color deficits, the ability to discriminate colors on the basis of lightness is reduced.

To a person with color-deficient partial sight, the left-hand panel might appear like the right-hand panel appears to a person with normal color vision.

With color deficits, the ability to discriminate colors on the basis of all three attributes -- hue, lightness and saturation -- is reduced. Designers can help to compensate for these deficits by making colors differ more dramatically in all three attributes.

ANNEXES

Annex A Definition of Terms
Annex B Interior Design Permit
Annex C Standard Forms for Building Permit

REFERENCES

1) RA 8534 An Act Regulating the Practice of Interior Design in the Philippines
2) P.D. 1096 National Building Code of the Philippines and its Implementing Rules and Regulations
3) R.A. 9266 An Act Regulating the Practice of Architecture in the Philippines
4) Interior Design by John Pile – 2nd Edition 1995
5) Specifying Interiors by Maryjane Mcgowan – 2nd Edition 2006
6) Accessibility Law (B.P. #344) – First Edition 1995
7) Architectural Code of the Philippines November 2000
8) "The Principles of Universal Design" , The Center for Universal Design, NC State University, 1997
9) Sept 1979 IRR of Republic Act no. 545 (as amended by R.A. No. 1581)
10) UAP Architect's National Code

ACKNOWLEDGEMENT:

Committee on Legislation & ID Code
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IDr. Alexandra J. Claparols	-	Section Editor
IDr. Trisha M. Padernal	-	Section Editor

ANNEX "A"

Definition of Terms

Biodegradable - A material or substance which, when left exposed to nature, will decompose without harmful effects to the environment.

Chlorofluorocarbons (CFC) - A group of volatile gases believed to deplete the ozone layer of the Earth's stratosphere. These gases have been discontinued from use as refrigerants and as blowing agents used to make foam.

Clean Air Act 1972 – (local Philippines)

Energy Efficient - Products and systems that use less energy to perform as well or better than standard products. While some have higher up-front costs, energy-efficient products cost less to operate over their lifetime.

Environmentally Friendly - A term that refers to the degree to which a product may harm the environment, including the biosphere, soil, water and air.

Environmental psychology - is an interdisciplinary field focused on the interplay between humans and their surroundings.

Graywater - Refers to wastewater coming from sinks, showers and laundry that can be collected and treated for some reuse, such as the flushing of toilets or watering of landscape. (See also Captured Rainwater.)

Hazardous Waste - Byproducts of society with physical, chemical or infectious characteristics that pose hazards to the environment and human health when improperly handled.

High Performance Green Building - These buildings include design features that conserve water and energy; use space, materials and resources efficiently; minimize construction waste; and create healthy indoor environments.

Indoor Air Quality (IAQ) - The supply and introduction of adequate air for ventilation and control of airborne contaminants, acceptable temperatures and relative humidity.

Integrated Design Team - A term referring to all individuals involved in a project from very early in the design process, including the design professionals (architect, engineers, landscape architect and interior designer); the owner's representatives (investors, developers, building users, facility managers and maintenance personnel); and the general contractor and subcontractors.

Interior design is the process of shaping the experience of interior space, through the manipulation of spatial volume as well as surface treatment. Not to be confused with interior decoration, interior design draws on aspects of environmental psychology, architecture, and product design in addition to traditional decoration.

Interior designer is a person who is considered a professional in the field of interior design or one who designs interiors as part of their job. Interior design is a creative practice that analyzes programmatic information, establishes a conceptual direction, refines the design direction, and produces graphic communication and construction

documents. In some jurisdictions, interior designers must be licensed to practice.

IDr – a title abbreviation for registered Interior Designer who has been issued a license by Professional Regulation Commission (PRC)

LEED™ - The Leadership in Energy and Environmental Design (LEED) Building Rating System sets industry standards for green building design.

Life-Cycle Assessment - The comprehensive examination of a product's environmental and economic effects throughout its lifetime, including raw material extraction, transportation, manufacturing, use and disposal.

Low Toxic - This refers to the degree to which a product is poisonous to people or other living organisms.

Material Safety Data Sheets (MSDS) - Informational fact sheets that identify hazardous chemicals and health and physical hazards, including exposure limits and precautions for workers who may come into contact with these chemicals. Green design professionals review product MSDS when specifying materials and require their submittal during the shop drawing phase.

Non-Renewable - A finite resource.

Ozone Layer - Defined by the EPA as the protective layer of atmosphere, 15 miles above the ground, that absorbs some of the sun's ultraviolet rays, reducing the amount of potentially harmful radiation reaching the Earth's surface. Ozone depletion is caused by the breakdown of certain chlorine- and/or bromine-containing compounds such as CFCs or halons.

Pollution Prevention - Reducing the amount of energy, materials, packaging or water in the design, manufacturing or purchasing of products or materials in an effort to increase efficient use of resources, reduce toxicity and eliminate waste.

Recyclability - The ability of a product or material to be recovered or otherwise diverted from the solid waste stream for the purpose of recycling (EO 13101).

Recycled/Recovered Materials - Waste materials and by-products that have been recovered or diverted from solid waste but do not include those materials and by-products generated from and commonly reused within an original manufacturing process (EO 13101).

Recycling - A series of activities including collection, separation and processing by which products or materials are recovered from the solid waste stream for use in the form of raw materials in the manufacture of new products other than fuel for producing heat or power by combustion (EO 13101).

Resource Efficiency - A practice in which the primary consideration of material use begins with the concept of "Reduce - Reuse - Recycle - Repair" stated in descending order of priority. This concept may be applied in everyday life to help promote a sustainable society. In design, begin by reducing the amount of material that is specified; find ways to reuse materials, recycle products or product waste; specify products made from recycled materials; and repair or restore products instead of replacing them.

Renewable Energy - Energy harvested from sources that are not depleted when used, typically causing very low environmental impact. Examples include solar energy, hydroelectric power and wind power.

Remanufacturing - A recycling concept by which an existing product can have its useful life extended through a secondary manufacturing or refurbishing process such as remanufactured systems furniture.

Sick Building Syndrome (SBS) - Health complaints such as nasal congestion, headache, irritated eyes, lethargy and tiredness, which are difficult to medically diagnose but are present in individuals when they are within a building and disappear or diminish once they leave the building. The cause of SBS is suspected to be poor air quality and conditions within the building.

Sustainable Yield vs. Ecologically Sustainable Forestry - Sustainable yield forestry dictates that the same number of trees cut down are planted. Clear-cutting with 100 percent replanted is an example of sustainable yield. Ecologically sustainable forestry dictates the management of a productive forest that supports a healthy ecosystem.

Thermal Comfort - The appropriate combination of temperatures, warm or cool, combined with air flow and humidity, which allows one to be comfortable within the confines of a building. This comfort is not usually achieved by the fixed setting of thermostats but through careful design and planning.

Volatile Organic Compound (VOC) - These substances are indoor air pollutants or chemical compounds that exist as vapor or gases at normal temperatures and are carbon-based molecules typically used as solvents in products such as household cleaners, paints, inks and dyes. Sources of VOCs include formaldehyde (a suspected carcinogen), xylene, toluene, benzene (a known carcinogen) and acetone.

Waste Reduction - This is a process to reduce or eliminate the amount of waste generated at its source or to reduce the amount of toxicity from waste or the reuse of materials. The best way to reduce waste is not to create it in the first place.

Waste Stream - The total flow of solid waste from homes, businesses, institutions and manufacturing that is recycled, burned or disposed of in landfills.

Wastewater - Water that has been used and contaminated. Wastewater must be purified before being used again or before being returned to the environment.

ANNEX “B”

Interior Design Permit Form

Requirements:

By a duly licensed Architect, *a duly licensed Interior Designer*, or a duly licensed Civil Engineer, in case of architectural, *Interior Design works* and structural plans respectively.

By a duly licensed Interior Designer / Architect for all Interior renovation or construction works.

Interior Design Documents

Details of Interior Design works shall show the following:

1. Floor Plan with furniture lay-out; scale not less than 1:50
2. Wall elevations (at least four) showing wall, window design/materials with nearest furniture; scale 1:50
3. Interior Perspective of area specified at any convenient scale
4. Working drawings furniture design and built-in cabinet construction
5. Specifications and sample of materials (swatches)

Republic of the Philippines
Department of Public Works & Highways
Pamahalaang Lungsod/Bayan ng _____
Kalakhang Maynila/Lalawigan ng _____

ANNEX-B

TANGGAPAN NG PINUNONG PANGGUSALI
(Office of the Building Official)
PROCESSING AND EVALUATION DIVISION
Interior Design Section

INTERIOR DESIGN PERMIT

APPLICATION NO. | IDP NO | BUILDING PERMIT NO.

BOX 1 (TO BE ACCOMPLISHED BY THE OWNER/APPLICANT)

OWNER/APPLICANT: LAST NAME	FIRST NAME	M.I.	TIN

FOR CONSTRUCTION OWNED BY AN ENTERPRISE	FORM OF OWNERSHIP	USE OR CHARACTER OF OCCUPANCY

ADDRESS: NO.	STREET	BARANGAY	CITY/MUNICIPALITY	ZIP CODE	TELEPHONE NO

LOCATION OF CONSTRUCTION: LOT NO. _____ BLK NO. _____ TCT NO. _____ TAX DEC. NO. _____
STREET _____ BARANGAY _____ CITY/ MUNICIPALITY OF _____

SCOPE OF WORK

- ☐ NEW CONSTRUCTION
- ☐ ERECTION
- ☐ ADDITION
- ☐ ALTERATION
- ☐ RENOVATION _____
- ☐ CONVERSION _____
- ☐ REPAIR _____
- ☐ MOVING _____
- ☐ DEMOLITION _____
- ☐ ACCESSORY BUILDING/STRUCTURE _____
- ☐ OTHERS (Specify) _____

BOX 2 (TO BE ACCOMPLISHED BY THE DESIGN PROFESSIONAL)

NATURE OF INTERIOR WORKS

- ☐ RENOVATION OF ROOMS/AREAS
- ☐ REPAIR OF EXISTING INTERIOR
- ☐ SPACE PLANNING AND ALLOCATION
- ☐ NEW INTERIOR CONSTRUCTION
- ☐ RELOCATION OF PARTITIONS, STAIRS AND DOORS
- ☐ CEILING DESIGN AND LIGHTING LAYOUT
- ☐ NEW SURFACE MATERIALS AND FINISHES
- ☐ ADDITION/EXTENSION OF BATHROOMS, KITCHENS, ETC.

BOX 3

LICENSED DESIGN PROFESSIONAL, PLANS AND SPECIFICATIONS

_____
INTERIOR DESIGNER OR ARCHITECT
(Signed and Sealed)

PRC No.	Validity
PTR No.	Date Issued
Place Issued	TIN

BOX 4

FULL-TIME INSPECTOR AND SUPERVISOR OF CONSTRUCTIN WORK

_____
ARCHITECT OR CIVIL ENGINEER
(Signed and Sealed)

PRC No.	Validity
PTR No.	Date Issued
Place Issued	TIN

BOX 5

BUILDING OWNER

_____
(Signature Over Printed Name)

Address

BOX 6

WITH MY CONSENT: **LOT OWNER**

_____
(Signature Over Printed Name)

Address

BOX 6 (SUBMITTALS TO BE CHECKED, RECEIVED AND RECORDED)

(FIVE (5) SETS EACH OF BUILDING DOCUMENTS SIGNED AND SEALED BY A DULY LICENSED PROFESSIONAL OF RESPECTIVE DISCIPLINES)

- ☐ LOT PLAN WITH VICINITY MAP
- ☐ ARCHITECTURAL PLANS AND SPECIFICATIONS
- ☐ CIVIL/ STRUCTURAL PLANS (DESIGN AND COMPUTATION)
- ☐ ELECTRICAL PLANS AND SPECIFICATIONS
- ☐ MECHANICAL PLANS AND SPECIFICATIONS
- ☐ SANITARY PLANS AND SPECIFICATIONS
- ☐ PLUMBING PLANS AND SPECIFICATIONS
- ☐ ELECTRONICS PLANS AND SPECIFICATIONS
- ☐ OTHERS (Specify) _____

BOX 7 (TO BE ACCOMPLISHED BY THE TECHNICAL STAFF OF THE DIFFERENT SECTIONS OF THE OFFICE OF THE BUILDING OFFICIAL) To be shown to the applicant.

RECEIVING AND RECORDING	IN		OUT		PROGRESS FLOW	
	DATE	TIME	DATE	TIME	ACTION/REMARKS	PROCESSED BY
LOCATIONAL/ZONING OF LAND USE						
LINE AND GRADE (Geodetic)						
ARCHITECTURAL						
CIVIL/STRUCTURAL						
ELECTRICAL						
MECHANICAL						
SANITARY						
PLUMBING						
ELECTRONICS						
INTERIOR						
OTHERS (Specify)						

NOTED:

CHIEF, PROCESSING AND EVALUATION DIVISION

BOX 8 (TO BE ACCOMPLISHED BY THE TECHNICAL STAFF OF THE DIFFERENT SECTIONS OF THE OFFICE OF THE BUILDING OFFICIAL)

ASSESSED FEES	ASSESSED BY	AMOUNT DUE	DATE PAID	O.R. NUMBER
☐ FILING FEE				
☐ PROCESSING FEE				
☐ LOCATIONAL/ZONING OF LAND USE				
☐ LINE AND GRADE (Geodetic)				
☐ FENCING				
☐ ARCHITECTURAL				
☐ CIVIL/STRUCTURAL				
☐ ELECTRICAL				
☐ MECHANICAL				
☐ SANITARY				
☐ PLUMBING				
☐ ELECTRONICS				
☐ INTERIOR				
☐ ONE HALF (½) OF FIRE SERVICE FUND (FSF)				
TOTAL				

REVIEWED:

CHIEF, PROCESSING AND EVALUATION DIVISION

BOX 9

BP NO. | | | | | | | | | |

Building Permit

DATE ISSUED | | | | | | | | | |

Permit is issued to _____ (Owner/Applicant) for the proposed _____ (Type of Project) under _____ (Use or Character of Occupancy), a/an _____ group, located at lot no. ___ block no. ___ OCT/TCT no. ___ Barangay _____ City/Municipality of _____, subject to the following:

1. That the designer is aware that under Article 1723 of the Civil Code of the Philippines, he/she is responsible for damages if within fifteen (15) years from the completion of the building/structure, it should collapse due to defect in the plans or specifications or defect in the ground. He/She is therefore enjoined to conduct periodic inspections of the building/structure to ensure that the conditions under which the building/structure was designed are not being violated or abused.
2. That the proposed construction/erection/addition/extension/renovation/conversion/repair/moving/demolition, etc. shall be in conformity with the provisions of the National Building Code, and its IRR.
   2.1. That prior to commencement of the proposed projects and construction an actual relocation survey shall be conducted by a duly licensed Geodetic Engineer.
   2.2. That before commencing the excavation the person making or causing the excavation is to be made shall notify in writing the owner of adjoining property not less than ten (10) days before such excavation is to be made and show how the adjoining property should be protected.
   2.3. That the commencing [illegible]

ANNEX C
STANDARD FORMS FOR BUIDING PERMIT

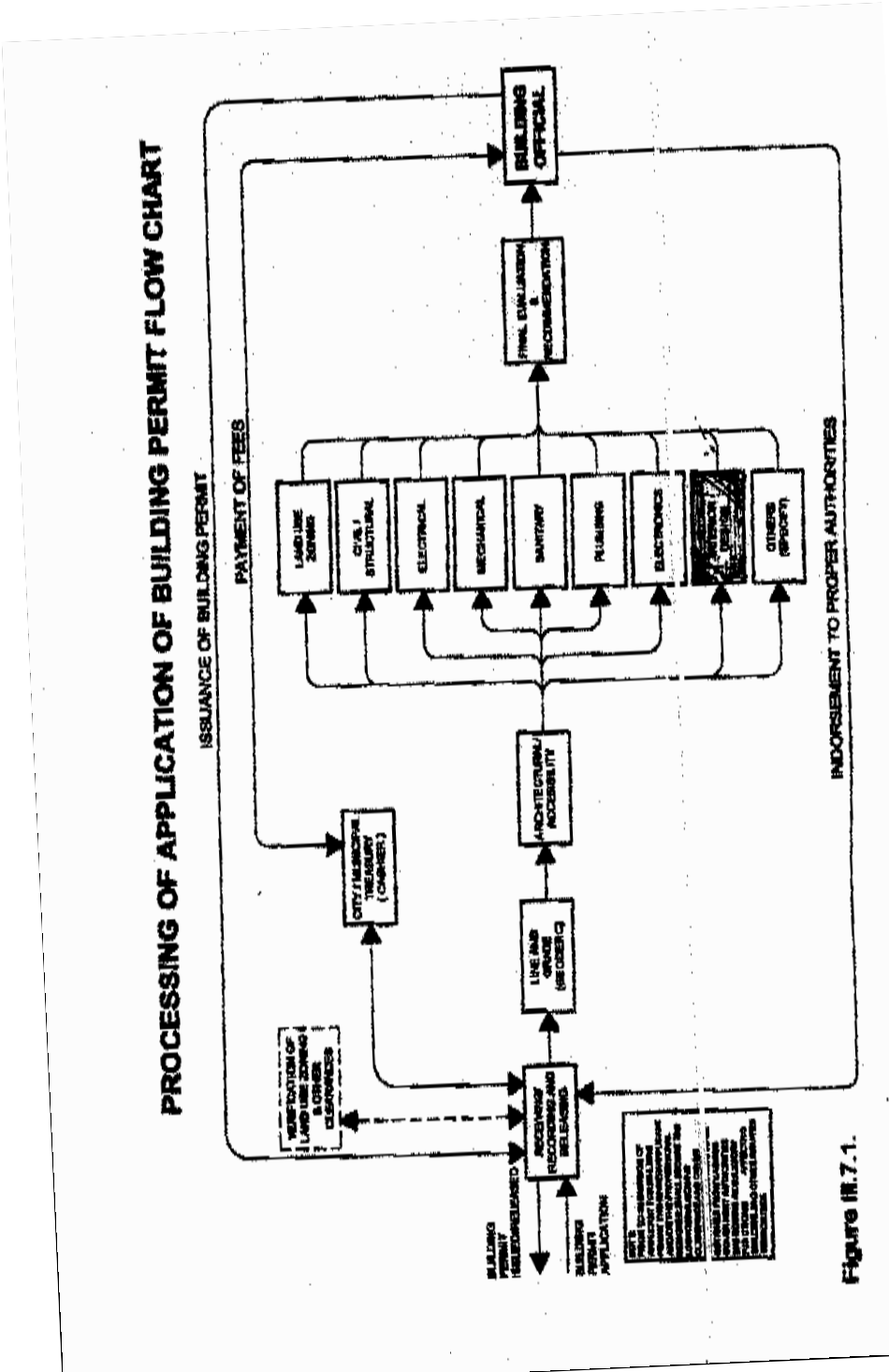


Figure III.7.1.

ANNEX C

STANDARD FORMS FOR BUIDING PERMIT

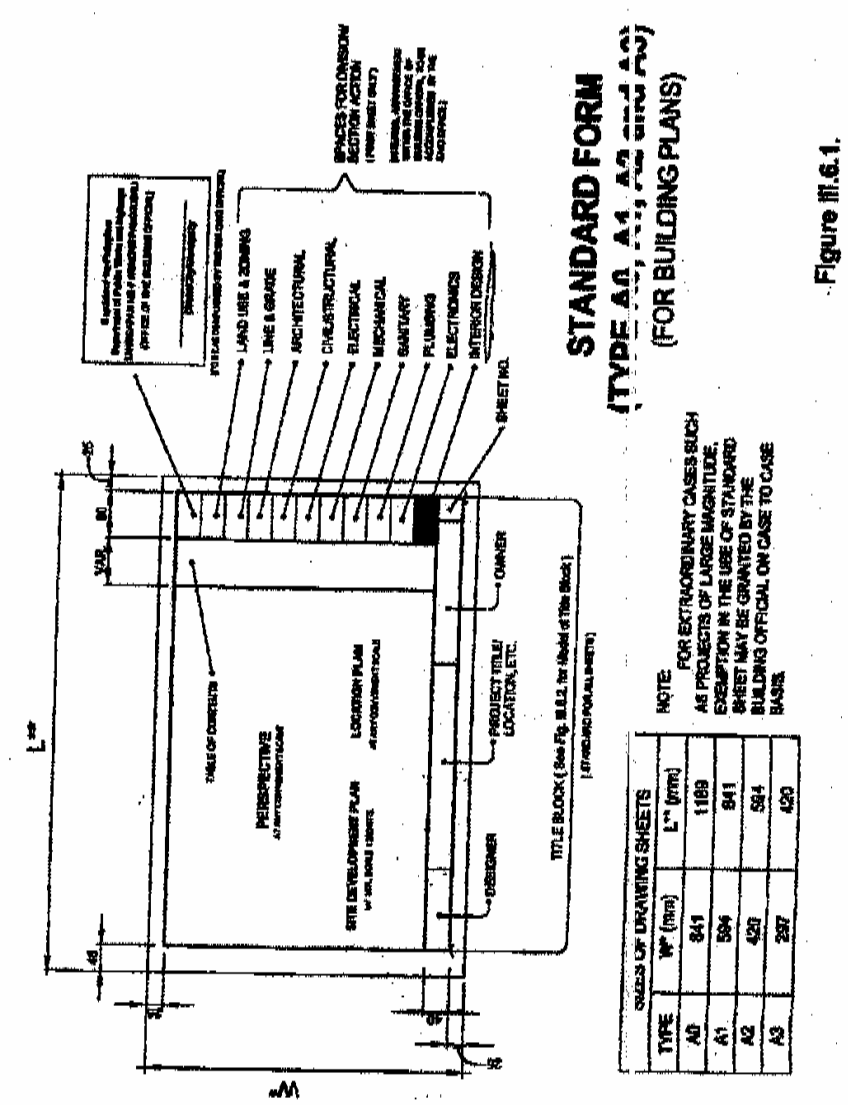
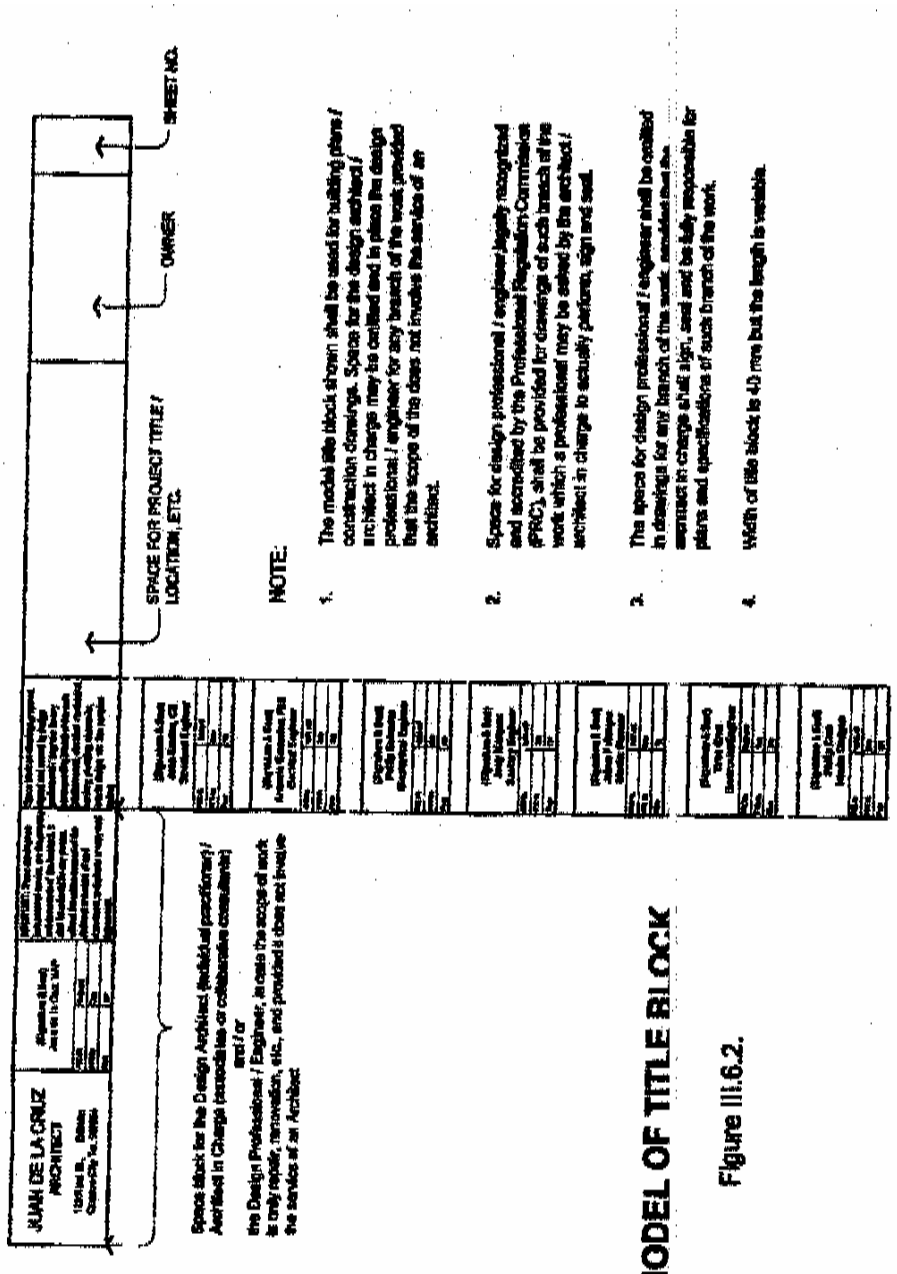


Figure III.6.1.

ANNEX C

STANDARD FORMS FOR BUIDING PERMIT

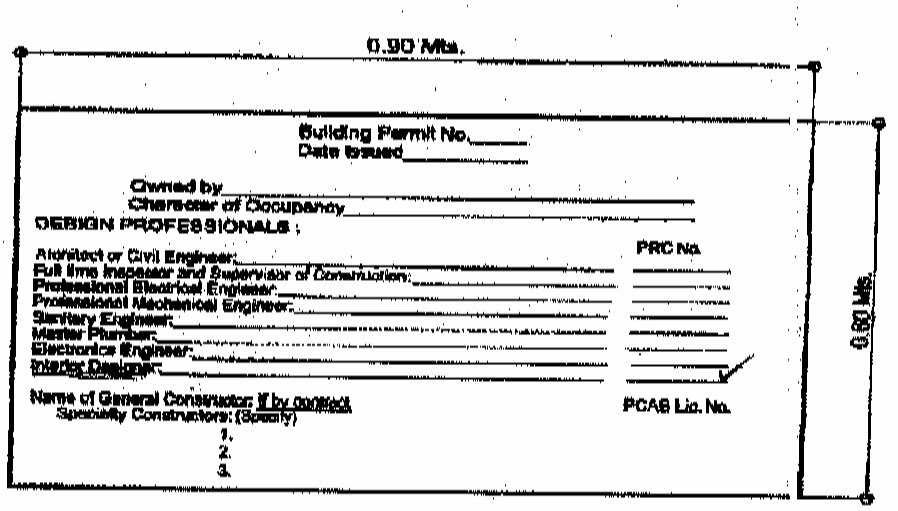


MODEL OF TITLE BLOCK

Figure III.6.2.

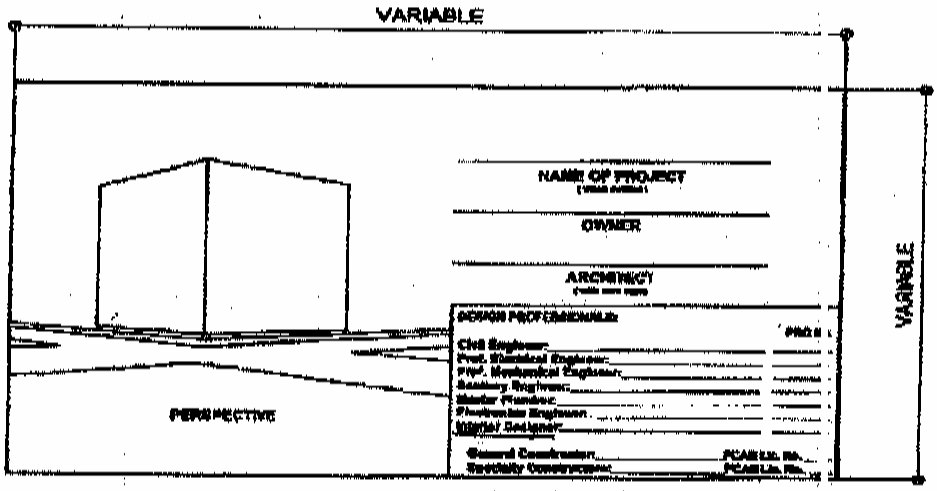
ANNEX C

STANDARD FORMS FOR BUILDING PERMIT



STANDARD SIGNBOARD
(Residential Buildings for Exclusive use of Owners or Non-leasing Occupants)

Figure III.7.2.



REQUIRED STANDARD SIGNBOARD
(Commercial, Industrial, Educational, Social, Institutional and Recreational Buildings)

Figure III.7.3.