

## RECOMMENDATIONS FOR THE SUBMISSION OF PLANS AND SPECIFICATIONS FOR HEALTH CARE FACILITIES



## FOREWORD

This document is offered to architects, engineers, owners and consultants to assist in obtaining plan approval and a permit for construction, renovation or conversion of a health care facility. Plan approval and permit(s) for construction must be obtained before construction activities commence for Nursing Homes, Homes for the Aged, and Freestanding Surgical Outpatient Facilities. In addition, Hospital projects over \$1 million must also obtain plan approval and a construction permit (also recommended for hospital projects under \$1 million as well as End Stage Renal Disease-dialysis centers).

A Certificate of Need (pursuant to Act 368, Public Acts 1978 as Amended) may be required for the following projects: Hospital and Nursing Home construction for clinical and non-clinical areas where costs are above defined threshold limits; certain covered services (i.e. operating rooms, MRI, CT scanner, bone marrow transplantation, etc.); Freestanding Surgical Outpatient Facilities; and new or relocated operating rooms and hospital and nursing home beds.

Architectural and engineering plans should be developed to conform to the detailed operational program developed by the facility operating staff with guidance from the design team.

When architectural/engineering plans are submitted for review, they will be assigned to an engineer and processed in chronological order of receipt. One complete set of documents must be submitted for each review. All plans and specifications submitted for review must be sealed by an architect and/or engineer, licensed to practice in the State of Michigan.

Other units of government may require plan approval and the issuance of certificates, permits, or licenses. The architect and/or engineer is responsible for the submittal to other government agencies.

The following list of design criteria should be utilized by architects and engineers when developing plans for a project. The designer must submit a plan package that incorporates all pertinent rules and minimum standards governing the design, construction and subsequent licensing/certification of health care facilities.

### I. DESIGN CRITERIA

This list of rules, recommendations, and minimum standards govern the design, construction and licensing/certification of health care facilities.

You can obtain the following by contacting the Michigan Department of Community Health, Division of Health Facilities & Services, Health Facilities Engineering Section at (517) 241-3410 or:

- A. *Minimum Design Standards for Health Care Facilities in Michigan* -1998 edition, developed by the Design Standards Committee, MDCH. [www.michigan.gov/hfes](http://www.michigan.gov/hfes)
- B. *Rules and Minimum Standards for Hospitals*, Renumbered 11/86. MDCH
- C. *Nursing Home and Nursing Care Facilities*, January 23, 1987, MDCH 517-334-8408, [www.michigan.gov/bhs](http://www.michigan.gov/bhs)
- D. *Homes for the Aged* July 25, 1968, MDHS, [www.michigan.gov/dhs](http://www.michigan.gov/dhs) or 517-373-2035
- E. *Freestanding Surgical Outpatient Facilities*, January, 1987, MDCH
- F. *Recommended Suggestions for Development of an Operational Narrative for Health Care Facilities*, LC-550 (1/98), MDCH
- G. *Michigan Food Service Establishment, Ventilation System Description*, D80.7 Rev. 10/89, edited and reprinted 8/96, MDCH
- H. *Recommended Procedures for Opening of a Health Care Facility Project* - LC-555 (1/98), MDCH
- I. *Eyewash/Drench Shower Bulletin* (7/2/96)
- J. *MDCH Requirements-Emergency Fuel in Hospitals* LC-517 (1/93)
- K. *Corridor Chart Box Standards*. (11/96)

The following publications can be obtained by contacting the organization indicated:

- L. *Act 368, Public Act of 1978 as amended, Article 17*. Contact MDCH, Licensing & Certification, 517-241-4160, [www.michigan.gov/bhs](http://www.michigan.gov/bhs)
- M. *Food Service Sanitation Regulations of the State of Michigan* which consist of (1) the Public Health Code, Act 368, P. A. Of 1978, Part 129, as amended; (2) the 1976 edition of the USPHS Model Food Service Sanitation Ordinance; and (3) Food Service Sanitation Rules promulgated under the authority of Section 12909 of the Public Health Code. Contact the Michigan Department of Agriculture, Food Division (517) 373-1060. [www.michigan.gov/mda](http://www.michigan.gov/mda)
- N. *Criteria for Construction and Operation of Food Display Facilities*, Michigan Department of Agriculture, FI 187, 3/95. Contact the Michigan Department of Agriculture, Food Division (517) 373-1060. [www.michigan.gov/mda](http://www.michigan.gov/mda)

- O. *1985 Life Safety Code* Chapters 1-7, 12, 26, 31 & 32 with Michigan amendments adopted in 1991. Contact the Michigan Department of Labor, Energy and Economic Growth (DLEG), Bureau of Fire Services (517) 241-8847 [www.michigan.gov/bfs](http://www.michigan.gov/bfs)
  
- P. *Ionizing Radiation Rules*; X-Ray equipment - Contact the Michigan Department of Community Health , Division of Health Facilities & Services, Radiation Safety Section at [www.michigan.gov/rss](http://www.michigan.gov/rss) or 517-241-1989  
 Radioactive materials - Contact the Department of Environmental Quality, Radioactive Materials Unit (517-335-2690) or [www.michigan.gov/deq](http://www.michigan.gov/deq);  
*NCRP Reports 49 & 51* - Contact NCRP Publications, 7910 Woodmont Avenue, Suite 800, Bethesda, MD 20814.
  
- Q. *Federal Health Insurance for the Aged - Conditions of Participation for Hospitals*; Contact the U.S. Department of Health and Human Services. <http://www.hhs.gov>
  
- R. *Interpretive Guidelines and Survey Procedures for the Application of the Conditions of Participation for Skilled Nursing Facilities*, 20 CFR Part 405 and *Interpretive Guidelines and Survey Procedures for Application of the Standards for General Intermediate Care Facilities*, 45 CFR 249.12. Contact the U.S. Department of Health and Human Services, <http://www.hhs.gov>
  
- S. *Federal Health Insurance for the Aged - Conditions of Participation; Extended Care Facilities*; Contact the U.S. Department of Health and Human Services, <http://www.hhs.gov>
  
- T. *State of Michigan Construction Code including Michigan Barrier Free Design Rules as amended May 17, 1995* - Contact Michigan Department of Labor, Energy & Economic Growth (DLEG), Bureau of Construction Codes, 517-241-9313, [www.michigan.gov/dleg](http://www.michigan.gov/dleg)
  
- U. *Local Building Codes* as applicable.
  
- V. *Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities*, Federal Register Vol. 56, No. 144, July 26, 1991. Contact the U.S. Department of Justice. [www.usdoj.gov/crt/ada](http://www.usdoj.gov/crt/ada)
  
- W. *Clean Indoor Air Act*, Part 126, Act 368, Public Acts of 1978 as Amended. Contact the Michigan Department of Community Health, Health Promotions and Publications (517) 335-9377.
  
- X. *The Michigan Medical Waste Regulatory Act of 1990*, Act No. 368 of the Public Acts of 1978, Part 138, Medical Waste. Contact the Michigan Department of Natural Resources & Environmental Quality (DNRE), Medical Waste Regulatory Program (517) 241-1320, [www.michigan.gov/dnre](http://www.michigan.gov/dnre) .

- Y. *Safe Drinking Water Act*, Act No. 399 of P.A. 1976 – DNRE, Water Resource Division. (517) 241-1359, [www.michigan.gov/dnre](http://www.michigan.gov/dnre)
- Z. *Wastewater Treatment and Disposal Act*, Act No. 245, Public Act of 1929 as amended and Act 98, Public Act of 1913 as amended. Contact DNRE, Water Resource Division [www.michigan.gov/dnre](http://www.michigan.gov/dnre)

In addition to the above specifically listed standards, recognized safety code and quality criteria standards must be met, such as those developed by the National Fire Protection Association; American Society for Testing and Materials; American Society of Heating, Refrigerating and Air Conditioning Engineers; Compressed Gas Association; National Plumbing, Heating, Cooling Contractors; National Council on Radiation Protection; Underwriters Laboratory; National Sanitation Foundation; etc.

Although the above may not be an inclusive list, it contains major publications, enabling legislation, and pamphlets which may be helpful to the designer during the development of the plans.

## II. PLAN SUBMITTAL

The following information shall accompany all plans submitted for review.

- A. First plan review submittal should include:
  - 1. Name and address of Facility.
  - 2. Name, address, and telephone number of contact person.
  - 3. The Certificate of Need number and the approval date. A cost estimate shall be submitted if a Certificate of Need is not required.
  - 4. An operational narrative must be developed for each project and accompany the submittal. The "Recommended Suggestions for Development of an Operational Narrative for Health Care Facilities" LC-550 (1/98) may be used to assist in development of a narrative.
  - 5. A completed application for plan review and a check in the amount of the plan review fee. (The Application for Plan Review form and instructions can be found at [www.michigan.gov/hfes](http://www.michigan.gov/hfes), under publications and forms).
- B. Subsequent submittals for the same project must reference the HFES Project Number and the project name. All plans submitted for review should be mailed to:

Michigan Department of Community Health  
 Bureau of Health Systems  
 Division of Health Facilities and Services  
 Health Facilities Engineering Section (HFES)  
 320 S. Walnut, Lewis Cass Bld. 3<sup>rd</sup> Floor  
 Lansing, Michigan 48913 (517) 241-3408

### III. PLAN DEVELOPMENT

Plan packages received for review should be categorized as either schematic, preliminary, or contract plans.

Outlined below is the criteria for establishment of each plan category.

#### A. Schematic Plans

All schematic plan packages should include the following elements.

1. Single line drawings. Each floor plan shall show the various departments and room relationships in each department. Each room shall be identified with name, number, and square footage for reference purposes. All roads, walks, entries, and parking orientation should be reflected on either a site plan or enlarged ground floor plan. Physically handicapped parking should be identified in the parking orientation.
2. Applicable local building codes shall be identified, i.e., BOCA, Uniform Building Code, etc.
3. A location map shall be submitted for all new facilities.
4. A site plan which shows property lines, orientation of buildings, topographic elevations, and type-size-location of utility services shall be submitted for all new facilities, major building additions, and traveling mobile units.
5. A soils report which includes identification of soil types, location of water table, and boring locations shall be submitted for all new facilities or major building additions.
6. A project phasing plan should be submitted which indicates construction staging areas, delivery routes, storage yards, and the separation/control of areas being remodeled. Construction activities must be sequenced to minimize disruptions of existing services.

#### B. Preliminary or Design Development Plans

After the designer receives review comments for schematic plans, an itemized response should be returned prior to or with the preliminary plan package. The preliminary plan package should contain the following elements.

1. Site Drawings
2. Architectural Drawings, which include:

- a. Dimensioned floor plans which reflect all fixed and movable equipment. All equipment, including non-contract items, must be shown so that the room can be functionally evaluated.
  - b. Elevation views and typical sections, drawn at 1/4" scale, which depict areas such as patient rooms, head walls, utility rooms, nursing stations, medication rooms, pantries, etc.
  - c. Room and floor bed capacities information.
3. Mechanical Drawings, which include:
- a. Single line layouts of all piping systems for water, waste, and medical gas lines.
  - b. Single line layouts of H.V.A.C. systems and proposed air volume rates at each duct opening.
  - c. The layout of each mechanical equipment room.
4. Electrical Drawings, which include:
- a. A layout reflecting the size and location of transformers, panel boxes, switchboards, and generators.
  - b. A floor plan reflecting the type and location of each light fixture and electrical receptacle.
5. Outline Specifications
- a. Include owner-purchased systems.
6. Equipment Drawings or detailed room data sheets, which include:
- a. All fixed and moveable equipment, including the storage space when movable equipment is not in use.
  - b. Owner's equipment to be relocated in the new construction area.
  - c. Owner-purchased equipment, including storage systems.

C. Contract or Bidding Documents

After the designer receives review comments for preliminary plans, an itemized response should be returned prior to or with the contract document package. Where appropriate, responses should be referenced to specific sheet numbers where changes have been made. This contract document package is to be complete and ready for bid and must include all work to be done by the contractor, owner, or others. The contract documents should contain the following elements.

1. Site Drawings, which include:
  - a. All existing and proposed topography, including invert elevations, benchmark locations, and limits of construction.
  - b. A survey plan containing easements, rights-of-way, and a legal description prepared by a registered land surveyor.
  - c. All existing or proposed buildings, roadways, walks and landscaping.
  
2. Architectural Drawings, which include:
  - a. A dimensioned floor plan of each level, complete with room name and numbers. All equipment should be shown in the proposed designated location if utility connections are required.
  - b. Elevation views.
  - c. Building sections.
  - d. Scaled details.
  - e. Door, window, and finish schedules.
  - f. Details of proposed conveying systems. Conveying systems include elevators, dumb waiters, hoists, loading dock devices, pneumatic tube systems, stairs, and conveyors.
  
3. Structural Drawings, which include:
  - a. A foundation plan for concrete footings, footing walls, etc.
  - b. A framing plan with sizes of structural members and dimensions between floor levels, column centers and offsets.
  - c. Identification of structural load and design parameters, i.e., live loads, dead loads, wind and snow loads for roof, floors, corridors, walls, etc.
  - d. A schedule of beams, girders, and columns.
  - e. Details of special connections, assemblies, expansion joints, special openings, and pipe sleeves.
  - f. All unique project considerations.

#### 4. Mechanical Drawings

Each mechanical drawing should reference all pertinent information to an architectural plan.

- a. All Heating, Ventilation and Air Conditioning drawings shall reflect:
  - i. radiators and steam heated equipment such as sterilizers, warmers, and steam tables;
  - ii. heating and steam main branches with pipe sizes;
  - iii. a diagram of heating and steam risers with pipe sizes;
  - iv. type, size, and location of boilers, furnaces, etc.;
  - v. pumps, tanks, boiler breaching, and accessories;
  - vi. air conditioning (cooling) systems with required equipment, water and refrigeration piping, and ducts; and
  - vii. supply, return, and exhaust ventilation systems and associated air volume flow rates;

**NOTE:** To expedite the review process, it is requested that all ventilation drawings be color coded according to supply, return, or exhaust systems.

- b. All plumbing systems shall reflect:
  - i. the size and/or elevation of sewers, drains, water mains, branches, valves, meters, and backflow preventers;
  - ii. water line pressure at street tap;
  - iii. location of reduced pressure backflow preventer and by-pass system;
  - iv. location of vent stacks, drains, and cleanouts;
  - v. size and location of hot and cold water tanks;
  - vi. riser diagram of all plumbing stacks with vents, water risers, and fixture connections;
  - vii. gas, oxygen, and special connections;
  - viii. standpipe and sprinkler system; and
  - ix. all fixtures and equipment that require water and drain connection.
- c. A roof plan reflecting plumbing vents, exhaust discharges, discharges of products of combustion, medical vacuum discharges, etc.

## 5. Electrical Drawings

Each electrical drawing should reference all pertinent information to an architectural plan.

- a. Electrical service drawings shall include switches, feeders, transformers, and current loads.
- b. The location of all switchboards, power panels, and light panels shall be designated. A diagram of feeders and conduits complete with schedule should be included.
- c. Each light fixture, receptacle, switch, power outlet, and circuit shall be designated. Each circuit carried on the emergency power system must be clearly identified.
- d. A telephone layout showing service entrance, switchboard, strip boxes, telephone outlets, and branch conduits must be provided.
- e. The complete nurse call system including call stations, duty stations, dome signal lights, annunciators, and wiring diagrams must be identified.
- f. The fire alarm systems complete with stations, signal devices, control board, wiring diagrams shall be included.
- g. The emergency electrical service with transfer switch and generator(s) must be shown.
- h. All electrically operated equipment.

## 6. Specifications

Separately bound specifications should accompany the drawings which describe materials, workmanship, finishes, and equipment. The specifications should include the following elements.

- a. A title page and index.
- b. A description of construction phasing.
- c. Special conditions; i.e., dust barriers, traffic control, etc.
- d. Operational cycles for controls; i.e., air handlers, etc.
- e. Performance testing; i.e., water testing, air balance, etc.
- f. A description of materials and finishes.
- g. A description of dietary and laundry equipment, including manufacturer and model number.
- h. A description of specialized equipment such as utilized in surgery, ICU/CCU, etc.
- i. A description of all H.V.A.C. and electrical service components.

IV. ADDENDA, BULLETINS, ETC.

- A. Revised drawings and specifications to comply with contract documents guidelines listed in Part III.
- B. Changes on drawings to be “bubbled”, highlighted, or otherwise denoted.
- C. Changes that specifically affect compliance with design criteria noted on pages 1 through 4 should be clearly identified in the cover letter accompanying the submittal.

IV. PROJECT APPROVAL

Prior to the issuance of a permit for construction which signifies that construction activities may commence, the following must be met.

- A. Approved Certificate of Need if applicable.
- B. Approval of contract documents by the Bureau of Fire Services.
- C. Approval of contract documents by the Michigan Department of Community Health.
- D. Application for plan review with fee must be received.
- E. An operational narrative for the project must be received.
- F. Acceptance and sign-off of the project by all affected departments, including infection control.