

COMPLIANCE CHECKLIST**IP26 Laboratory Services**

The following checklist is intended to be used in the plan review applications for health care facilities submitted to the Massachusetts Department of Public Health. This checklist summarizes and references the applicable requirements from the Licensure Regulations and the 2022 Edition of the FGI Guidelines for Design and Construction of Hospitals. Applicants must verify compliance of the plans submitted to the Department with all referenced requirements from the Licensure Regulations and FGI Guidelines when completing this Checklist. A separate Checklist must be completed for each nursing unit, hospital or clinic department, or clinical suite.

Other jurisdictions, regulations and codes may have additional requirements which are not included in this checklist, such as:

- NFPA 101 Life Safety Code (2012) and applicable related standards contained in the appendices of the Code
- State Building Code (780 CMR)
- Accreditation requirements of The Joint Commission
- CDC Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health Care Facilities
- USP 797 & Regulations of the Massachusetts Board of Registration in Pharmacy
- Occupational Safety & Health Standards (OSHA)
- Accessibility Guidelines of the Americans with Disabilities Act (ADA)
- Architectural Access Board Regulations (521 CMR)
- Local Authorities having jurisdiction.

Instructions:

1. All requirement lines must be completed according to the following instructions and included in the plan submissions for Self-Certification Process or Abbreviated Review Process.
2. This checklist must be completed by the project architect or engineer based on the design actually reflected in the plans at the time of completion of the checklist.
3. Each requirement line (____) of this Checklist must be completed exclusively with one of the following marks, unless otherwise directed in the checklist. If a functional space is not affected by a renovation project, the mark "E" may be indicated on the requirement line (____) before the name of the functional space (associated requirements on indented lines below that name, or associated MEP requirements do not have to be completed in this case). If more than one functional space serves a given required function (e.g. patient room or exam room), that clarification should be provided in the Project Narrative, and the requirement lines are understood to only address the functional spaces that are involved in the project.

X = Requirement is met, for new space, for renovated space, or for existing direct support space for an expanded service.

☒ = Check box under section titles or individual requirements lines for optional services or functions that are not included in the project area.

E = Requirement relative to an existing suite or area that has been *licensed* for its designated function, is *not affected* by the construction project and *does not pertain to a required direct support space* for the specific service affected by the project. "E" must not be used for an existing required support space associated with a new patient care room or area.

W = Waiver requested for specific section of the Regulations or FGI Guidelines, where hardship in meeting requirement can be demonstrated (a Physical Plant Waiver Form must be completed for each waiver request). An explicit floor plan or plan detail must be attached to each waiver request.

4. All room functions marked with "X" must be shown on the plans with the same name labels as in this checklist.
5. Mechanical, electrical & plumbing requirements are only partially mentioned in this checklist. The relevant section of the FGI Guidelines must be used for project compliance with all MEP requirements and for waiver references.
6. Oxygen, vacuum, medical air, waste anesthesia gas disposal and instrument air outlets (if required) are identified respectively by the abbreviations "OX", "VAC", "MA", "WAGD" & "IA".
7. Requirements referenced with "FI" result from formal interpretations from the FGI Interpretations Task Group.
8. The location requirements including asterisks (*) refer to the definitions of the Glossary in the beginning section of the FGI Guidelines and reproduced in this checklist.

Facility Name:

DoN Project Number: (if applicable)

Facility Address:

Satellite Name: (if applicable)

Building/Floor Location:

Satellite Address: (if applicable)

Submission Dates:

Project Description:

Initial Date:

Revision Date:

Architectural Requirements**Building Systems Requirements**

2.1-4.1

LABORATORY SERVICES

2.1-4.1.2

LABORATORY WORK AREAS

2.1-4.1.2.1

- (1) ☐ Laboratory workstations
 ☐ space sized to accommodate equipment used & at minimum include following:
 (a) ☐ laboratory work counter
 (b) ☐ laboratory sink
 (2)
 (a) ☐ access to vacuum & gases
 ☐ check if not included in project
 (b) ☐ access to tele/data service
 (c) ☐ access to electrical service
 (d) ☐ access to computer/printer

2.1-4.1.2.2

- (1) ☐ Handwashing stations
 ☐ provided where staff handle specimens, handle reagents or test blood products
 (2) ☐ one workstation per room
 ☐ handwashing station provided at workstation
 or
 (3) ☐ more than one workstation per room
 ☐ handwashing station provided within 25'-0" of all testing & specimen-handling areas
 (4) ☐ handw. station provided in each enclosed room where bio-hazardous specimens & hazardous chemicals are handled

Laboratory Work Area - Bacteriology ,
 Biochemistry Cytology, Histology,
 Microbiology, Pathology, Serology
☐ check if not included in project

Ventilation:

- ☐ Min. 6 air changes per hour Table 7-1
☐ Exhaust
☐ Negative pressure

Laboratory Work Area - General
☐ check if not included in project

Ventilation:

- ☐ Min. 6 air changes per hour Table 7-1
☐ Negative pressure

Laboratory Work Area - Media Transfer
☐ check if not included in project

Ventilation:

- ☐ Min. 4 air changes per hour Table 7-1
☐ Positive pressure

Laboratory Work Area - Glasswashing
☐ check if not included in project

Ventilation:

- ☐ Min. 10 air changes per hour Table 7-1
☐ Exhaust
☐ Negative pressure

Laboratory Work Area - Nuclear Medicine
☐ check if not included in project

Ventilation:

- ☐ Min. 6 air changes per hour Table 7-1
☐ Exhaust
☐ Negative pressure

Architectural Requirements

Laboratory Work Area - Sterilizing

☐ check if not included in project

2.1-4.1.2.3 ☐ Refrigerated storage facilities
(1) ☐ refrigerator
(2) ☐ blood storage facilities

2.1-4.1.2.4 _____ Storage facilities provided for reagents, specimens, flammable materials, acids, bases & other supplies used in laboratory

2.1-4.1.2.5 Special Design Elements:
 — Work counters constructed of non-porous materials in areas used for specimen handling, preparation of specimens or reagents & laboratory testing

2.1-4.1.2.6 Safety & Security Provisions:
(1) — Terminal sterilization provisions for bio-hazardous waste before transport (autoclave or electric oven)

SPECIMEN COLLECTION FACILITIES

(permitted to be outside laboratory work area)

2.1-4.1.3 **SPECIMEN COLLECTION FACILITY**
 2.1-4.1.3.1 (permitted to be outside laboratory)
 2.1-4.1.3.2

- (1) _____ Blood collection area
- (a) _____ work counter
- (b) _____ space for patient seating
- (c) _____ handwashing station
- (d) _____ supply storage

(2) _____ Urine & feces collection facility
equipped with toilet & handwashing station

(3) _____ Storage space for specimen collection supplies

(4) _____ Work counter for labeling & computerized data entry

(5) _____ Storage for specimens awaiting pickup

SUPPORT AREAS FOR LABORATORY

____ Office & space for clerical work, filing & record maintenance & storage

SUPPORT AREAS FOR STAFF

(location may be outside laboratory area & shared with other departments)

2.1-4.1.9.1

- ___ Lounge
 - ___ readily accessible* for laboratory staff
- ___ Locker facilities
 - ___ readily accessible* for laboratory staff
- ___ Staff toilet room
 - ___ readily accessible* for laboratory staff

Building Systems Requirements

Ventilation:

☐ Min. 10 air changes per hour Table 7-1
☐ Exhaust
☐ Negative pressure

Ventilation:

☐ Min. 10 air changes per hour Table 7-1
☐ Exhaust
☐ Negative pressure
☐ No recirculating room units

Ventilation:

☐ Min. 10 air changes per hour Table 7-1
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***LOCATION TERMINOLOGY:**

Directly accessible: Connected to the identified area or room through a doorway, pass-through, or other opening without going through an intervening room or public space

Adjacent: Located next to but not necessarily connected to the identified area or room

Immediately accessible: Available either in or adjacent to the identified area or room

Readily accessible: Available on the same floor or in the same clinic as the identified area or room

Architectural Details & MEP Requirements

2.1-7.2.2	ARCHITECTURAL DETAILS CORRIDOR WIDTH: ___ Aisles, corridors & ramps in adjunct areas not intended for the housing, treatment, or use of inpatients not less than 44" in clear & unobstructed width	2.1-7.2.2.8 (3)(a)	HANDWASHING STATIONS: ___ Handwashing station countertops made of porcelain, stainless steel, solid-surface materials or impervious plastic laminate assembly ___ Countertops substrate <input type="checkbox"/> check if <u>not</u> included in project ___ marine-grade plywood (or equivalent material) with impervious seal
2.1-7.2.2.2 (1)	CEILING HEIGHT: ___ Min. ceiling height 7'-6" in corridors & in normally unoccupied spaces ___ Min. ceiling height 7'-10" in other areas	(4)	___ Handwashing station casework <input type="checkbox"/> check if <u>not</u> included in project ___ designed to prevent storage beneath sink
2.1-7.2.2.3 (1) (a)	DOORS & DOOR HARDWARE: Door Type: ___ doors between corridors, rooms, or spaces subject to occupancy swing type or sliding doors (b) ___ sliding doors <input type="checkbox"/> check if <u>not</u> included in project ___ manual or automatic sliding doors comply with NFPA 101 ___ detailed code review incorporated in Project Narrative ___ no floor tracks	(5)	___ Provisions for drying hands <input type="checkbox"/> check if <u>not</u> included in project (only at hand scrub facilities) ___ hand-drying device does not require hands to contact dispenser (b) ___ hand-drying device is enclosed to protect against dust or soil & to ensure single-unit dispensing (6) ___ liquid or foam soap dispensers
(3) (a)	Door Swing: ___ doors do not swing into corridors except doors to non-occupiable spaces (e.g. environmental services rooms & electrical closets) & doors with emergency break-away hardware	2.1-7.2.2.12 (2)	NOISE CONTROL: ___ Noise reduction criteria in Table 1.2-6 applicable to partitions, floors & ceiling construction are met in patient areas
(4)	___ Lever hardware or push/pull latch hardware	2.1-7.2.3 2.1-7.2.3.1 (1) (3)	SURFACES FLOORING & WALL BASES: ___ Flooring surfaces cleanable & wear-resistant for location ___ Smooth transitions provided between different flooring materials ___ Flooring surfaces including those on stairways are stable, firm & slip-resistant ___ Floors & wall bases of areas subject to frequent wet cleaning are constructed of materials that are not physically affected by germicidal or other types of cleaning solutions
2.1-7.2.2.7	GLAZING MATERIALS: ___ Glazing within 1 foot 6 inches of floor must be safety glass, wire glass or plastic break-resistant material	2.1-7.2.3.2 (1)(a) (1)(b)	WALLS & WALL PROTECTION: ___ Wall finishes are washable ___ Wall finishes near plumbing fixtures are smooth, scrubbable & water-resistant

- (2) ☐ Wall surfaces in areas routinely subjected to wet spray or splatter (e.g. kitchens, environmental services rooms) are monolithic or have sealed seams that are tight & smooth
- (5) ☐ Wall protection devices & corner guards durable & scrubbable

2.1-7.2.3.3

CEILINGS:

- (1) ☐ Ceilings provided in all areas except mechanical, electrical & communications equipment rooms
- (a) ☐ Ceilings cleanable with routine housekeeping equipment
- (b) ☐ Acoustic & lay-in ceilings where used not create ledges or crevices

2.1-8.2

HEATING VENTILATION & AIR-CONDITIONING (HVAC) SYSTEMS

Part 3/6.2

Part 3/6.2.1

AIR-HANDLING UNIT (AHU) DESIGN:

- ☐ AHU casing is designed to prevent water intrusion, resist corrosion & permit access for inspection & maintenance

Part 3/6.3

OUTDOOR AIR INTAKES & EXHAUST DISCHARGES:

Part 3/6.3.1

Part 3/6.3.1.1

Outdoor Air Intakes:

- ☐ located such that shortest distance from intake to any specific potential outdoor contaminant source be equal to or greater than separation distance listed in Table 6-1
- ☐ located min. of 25 ft from cooling towers & all exhaust & vent discharges
- ☐ facilities with moderate-to-high risk of natural or man-made extraordinary incidents locate new air intakes away from public access
- ☐ all intakes are designed to prevent entrainment of wind-driven rain
- ☐ contain features for draining away precipitation
- ☐ equipped with birdscreen of mesh no smaller than 0.5 in

Part 3/6.3.1.4

- ☐ intake in areaway
- ☐ ☐ check if not included in project
- ☐ bottom of areaway air intake opening is at least 6 ft above grade
- ☐ bottom of air intake opening from areaway into building is at least 3 ft above bottom of areaway

Part 3/6.3.2

Part 3/6.3.2.1

Exhaust Discharges:

- ☐ ductwork within building is under negative pressure for exhaust of contaminated air (i.e. air from All rooms bronchoscopy & sputum collection exhaust, pharmacy hazardous-drug exhausted enclosures & laboratory work area chemical fume hoods)
- ☐ exhaust discharge outlets with contaminated air located such that they reduce potential for recirculation of exhausted air back into building
- ☐ exhaust discharge outlets with contaminated air is also arranged to discharge to atmosphere in vertical direction at least 10 ft above adjoining roof level
- ☐ exhaust discharge outlets from laboratory work area chemical fume hoods discharge with stack velocity of at least 3000 fpm
- ☐ exhaust discharge outlets from laboratory work area chemical fume hoods is located not less than 25 ft horizontally from outdoor air intakes, openable windows/doors & areas that are normally accessible to public

Part 3/6.3.2.2

Part 3/6.4

a.

FILTRATION:

- ☐ Particulate matter filters, minimum MERV-8 provided upstream of first heat exchanger surface of any air-conditioning system that combines return air from multiple rooms or introduces outdoor air.
- b. ☐ Outdoor air filtered in accordance with Table 7-1
- c. ☐ Air supplied from equipment serving multiple or different spaces is filtered in accordance with Table 7-1
- d. ☐ Air recirculated within room be filtered in accordance with Table 7-1 or Section 7.1(a)(5)
- e. ☐ Design includes all necessary provisions to prevent moisture accumulating on filters located downstream of cooling coils & humidifiers
- h. ☐ For spaces that do not permit air recirculated by means of room units & have minimum filter efficiency of MERV-14, MERV-16 or HEPA in accordance with Table 7-1, the min. filter requirement listed in Table 7-1 is installed downstream of all wet-air cooling coils & supply fan

- Part 3/6.7 **AIR DISTRIBUTION SYSTEMS:**
- Part 3/6.7.1 ☐ Maintain pressure relationships required in tables 7.1 in all modes of HVAC system operation
- ☐ Spaces that have required pressure relationships are served by fully ducted return systems or fully ducted exhaust systems
- Part 3/6.7.2 **Air Distribution Devices:**
- ☐ supply air outlets comply with Table 6-2
- Part 3/6.7.3 **Smoke Barriers:**
- ☐ HVAC zones coordinated with compartmentation to minimize ductwork penetrations of fire & smoke barriers.
- Part 3/6.8 **ENERGY RECOVERY SYSTEMS:**
- ☐ check if not included in project
- Part 3/6.8.1 ☐ Located upstream of filters required by Part 3/6.8.4
- Part 3/7 **SPACE VENTILATION-HOSPITAL SPACES:**
- Part 3/7.1.a ☐ Spaces ventilated according to Table 7-1
- ☐ Air movement is from clean to less-clean areas
- Part 3/7.1.a.1
- Part 3/7.1.a.3 ☐ Min. number of total air changes required for positive pressure rooms is provided by total supply airflow
- ☐ Min. number of total air changes required for negative pressure rooms is provided by total exhaust airflow
- Part 3/7.1.a.4 ☐ Entire minimum outdoor air changes per hour required by Table 7-1 for each space meet filtration requirements of Section 6.4
- Part 3/7.1a.5 ☐ Air recirculation through room unit
- ☐ check if not included in project
- ☐ complies with Table 7-1
- ☐ room unit receive filtered & conditioned outdoor air
- ☐ serve only a single space
- ☐ provides min MERV 8 filter located upstream of any cold surface so that all of air passing over cold surface is filtered

2.1-8.3 **ELECTRICAL SYSTEMS**2.1-8.3.2 **ELECTRICAL DISTRIBUTION & TRANSMISSION**

- 2.1-8.3.2.2 **Panelboards:**
- (1) ☐ panelboards serving life safety branch circuits serve floors on which they are located & floors immediately above & below

- (2) ☐ panelboard critical branch circuits serve floors on which they are located
- (3) ☐ panelboards not located in exit enclosures or exit passageways

2.1-8.3.3 **POWER-GENERATING & -STORING EQUIPMENT**

- 2.1-8.3.3.1 ☐ Essential electrical system or emergency electrical power
- (1) ☐ essential electrical system complies with NFPA 99
- (2) ☐ emergency electrical power complies with NFPA 99

2.1-8.3.5 **ELECTRICAL EQUIPMENT**

- 2.1-8.3.5.1 ☐ Handwashing sinks & scrub sinks that depends on building electrical service for operation are connected to essential electrical system
- 2.1-8.3.5.2 ☐ Electronic health record system servers & centralized storage provided with uninterruptible power supply

2.1-8.3.6 **ELECTRICAL RECEPTACLES**

- 2.1-8.3.6.1 **Receptacles In Corridors:**
- (1) ☐ duplex-grounded receptacles for general use installed 50'-0" apart or less in all corridors
- ☐ duplex-grounded receptacles for general use installed within 25'-0" of corridor ends
- 2.1-8.3.6.3 **Essential Electrical System Receptacles:**
- (1) ☐ cover plates for electrical receptacles supplied from essential electrical system are distinctively colored or marked for identification
- (2) ☐ same color is used throughout facility

2.1-8.4 **PLUMBING SYSTEMS**

- 2.1-8.4.2 **Plumbing & Other Piping Systems:**
- 2.1-8.4.2.1(3) ☐ no plumbing piping exposed overhead or on walls where possible accumulation of dust or soil may create cleaning problem
- 2.1-8.4.2.5 **Heated Potable Water Distribution Systems:**
- (2) ☐ heated potable water distribution systems serving patient care areas are under constant recirculation
- ☐ non-recirculated fixture branch piping does not exceed 25'-0" in length
- (3)(a) ☐ no installation of dead-end piping (except for empty risers mains & branches for future use)
- (3)(c)

- (3)(b) ☐ any existing dead-end piping is removed
☐ check if not included in project
- (4)(a) ☐ water-heating system supplies water at temperatures & amounts indicated in Table 2.1-4

2.1-8.4.2.6

(1)(a)

Drainage Systems:

- ☐ drainage piping installed above ceiling of or exposed in rooms listed below piping have special provisions (e.g. double wall containment piping or oversized drip pans) to protect space below from leakage & condensation
- operating rooms
 - delivery rooms
 - procedure rooms
 - trauma rooms
 - nurseries
 - central kitchens
 - one-room sterile processing facilities
 - clean workroom of two-room sterile processing facilities
 - pharmacies
 - Class 2 & 3 imaging rooms
 - electronic mainframe rooms (EFs & TERs)
 - main switchgear
 - electrical rooms
 - electronic data processing areas
 - electric closets
- (1)(b) ☐ drip pan for drainage piping above ceiling of sensitive area
☐ check if not included in project
☐ accessible
☐ overflow drain with outlet located in normally occupied area that is not open to restricted area

2.1-8.4.3

PLUMBING FIXTURES

2.1-8.4.3.1(1)

- ☐ Materials used for plumbing fixtures are non-absorptive & acid-resistant

2.1-8.4.3.2

(2)

Handwashing Station Sinks:

- ☐ sink basins have nominal size of no less than 144 square inches
- ☐ sink basins have min. dimension 9 inches in width or length
- (3) ☐ sink basins are made of porcelain, stainless steel or solid-surface materials
- (5) ☐ water discharge point of faucets is at least 10 inches above bottom of basin

(7)

- ☐ anchored so that allowable stresses are not exceeded where vertical or horizontal force of 250 lbs. is applied

(8)

- ☐ sinks used by medical & nursing staff, patients, public & food handlers have fittings that can be operated without using hands (may be single-lever or wrist blade devices)
- (a) ☐ blade handles
☐ check if not included in project
☐ at least 4 inches in length
☐ provide clearance required for operation

(b)

- ☐ sensor-regulated water fixtures
☐ check if not included in project
☐ meet user need for temperature & length of time water flows
☐ designed to function at all times and during loss of normal power

2.1-8.4.4

MEDICAL GAS & VACUUM SYSTEMS

- ☐ Station outlets provided as indicated in Table 2.1-3

2.1-8.6.2

ELECTRONIC SURVEILLANCE SYSTEMS

- ☐ check if not included in project

2.1-8.6.2.1

- ☐ Display screens in patient areas are mounted in tamper-resistant enclosure that is unobtrusive

2.1-8.6.2.2

- ☐ Display screens are located so they are not readily observable by general public or patients

2.1-8.6.2.3

- ☐ Electronic surveillance systems receive power from essential electrical system