

MIT

Design Standards

Introduction

T01 Thematic Folder

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Department
of Facilities

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1. INTRODUCTION

The MIT Design Standards describe MIT's expectations for new construction and renovation projects and have been developed for use by architects, landscape architects, engineers, contractors and equipment vendors working with MIT, and by MIT construction project managers, to ensure that design and construction professionals adhere to the Standards. The Standards are intended to assist project teams with maintaining consistency with existing Institute facilities, systems, equipment, and maintenance practices.

The MIT Design Standards are organized into two major categories: Thematic Folders and Specification Divisions. The Thematic Folders include topics grouped by content (i.e., lab design, residences, sustainability). The Specification Divisions include topics organized by work results (i.e., fire protection, HVAC, electrical, utilities).

MIT periodically updates these Standards. We appreciate your feedback. Email comments to the Design Standards team at DoF-designstandards@MIT.edu.

How to use the MIT Design Standards:

Your agreement for services with MIT requires compliance with the MIT Design Standards. Review the content of the MIT Design Standards with the requirements of your project prior to the start of design. Discuss and verify compliance with your MIT Project Manager throughout the design and construction process.

Revisions from the previous 2018 issue, incorporated into the 2022 Edition of the MIT Design Standards, are typically marked with a bar in the right margin adjacent to the text.

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2. LIST OF THEMATIC FOLDERS

Thematic Folders include topics grouped by subject matter.

T01 - INTRODUCTION
T02 - AUDIOVISUAL SYSTEMS
T03 - BIM AND CAD DRAWING STANDARDS
T04 - BIM EXECUTION PLAN
T05 - CHILD CARE CENTERS
T06 - CLASSROOMS AND LECTURE HALLS
T07 - COMMISSIONING
T08 - ENVIRONMENT, HEALTH AND SAFETY (EHS)
T09 - HISTORIC PRESERVATION AND ICONIC ARCHITECTURE
T10 - LAB DESIGN
T11 - LAND SURVEY
T12 - LANDSCAPE AND SITE
T13 - MECHANICAL AND ELECTRICAL ROOMS
T14 - PROJECT TURNOVER PROGRAM
T15 - RESIDENCES
T16 - RESTROOMS AND CUSTODIAL CLOSETS
T17 - SIGNAGE
T18 - SPACE ACCOUNTING GUIDELINES
T19 - SUSTAINABILITY
T20 - CAMPUS SAFETY AND SECURITY SYSTEMS

3. LIST OF SPECIFICATION DIVISIONS

Specification Divisions include topics groups by Work Results using MasterFormat numbering.

DIVISION 00 - PROCUREMENT REQUIREMENTS
DIVISION 01 - GENERAL REQUIREMENTS
DIVISION 02 - EXISTING CONDITIONS
DIVISION 03 - CONCRETE
DIVISION 04 - MASONRY
DIVISION 05 - METALS
DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES
DIVISION 07 - THERMAL AND MOISTURE PROTECTION
DIVISION 08 - OPENINGS
DIVISION 09 - FINISHES
DIVISION 10 - SPECIALTIES
DIVISION 11 - EQUIPMENT
DIVISION 12 - FURNISHINGS
DIVISION 13 - SPECIAL CONSTRUCTION
DIVISION 14 - CONVEYING SYSTEMS
DIVISION 21 - FIRE PROTECTION

DIVISION 22 - PLUMBING
DIVISION 23 - HVAC
DIVISION 25 - INTEGRATED AUTOMATION
DIVISION 26 - ELECTRICAL
DIVISION 27 - COMMUNICATIONS
DIVISION 28 - FIRE ALARM
DIVISION 31 - EARTHWORK
DIVISION 32 - EXTERIOR IMPROVEMENTS
DIVISION 33 - UTILITIES

4. DEPARTMENTAL POINTS OF CONTACT

The Office of the Vice President for Campus Services and Stewardship (VPCSS) includes the majority of the MIT departmental points of contact that may be engaged during a project. Other departments beyond those within VPCSS include the Office of the Associate Provost, Information Systems & Technology, and users from across MIT's departments, labs, Centers and Institutes (DLCI).

The MIT project team will be defined at the beginning of the project and will be led by the MIT Project Manager (PM). The team will typically include a representative of the client or user group as well as representatives from Campus Construction, Engineering & Energy Management, the Office of Campus Planning, Environment, Health and Safety, and Information Systems and Technology. As necessary, representatives from other groups will be part of the project team or engaged throughout the project as needed. All communications required for a project will be coordinated through the MIT Project Manager.

4.1 Department of Facilities

The Department of Facilities consists of three related organizations that serve to develop, renew and maintain MIT's physical assets, including Campus Construction, Facilities Operations and Finance and Administration.

Campus Construction:

Project Management within Campus Construction provides project delivery services for projects ranging from new buildings and space changes to lab renovations and infrastructure renewal. Capital Projects provides overall management for projects with an estimated cost of over \$5 million. The teams within Renovations, Systems Renewal and Special Projects manage space change renovations, infrastructure renewal and unique projects under \$5 million. For most projects, a member of one of these groups serves as the MIT Project Manager.

Systems Performance and Turnover (SPT) is responsible for the commissioning and testing of all building systems prior to turning them over to Repair and Maintenance. This group is also

responsible for executing MIT's energy projects, once the projects have been defined by the Engineering and Energy Management group. In addition, SPT supports and maintains the Efficiency Forward Program, a collaboration with Eversource.

Facilities Operation:

Facilities Operations encompasses three units responsible for the operations of the physical campus.

Campus Services and Maintenance is the backbone of the physical plant, supporting MIT's systems and buildings with a range of services that includes preventative maintenance, routine and emergency repairs, in-house engineering, and safety measures. On occasion, representatives from these groups will be on the MIT project team.

The Engineering and Energy Management Group (previously Facilities Engineering) provides the technical subject matter expertise required for all of MIT's built assets. This group also advises project managers who execute renovation and expansion projects as well as provides guidance to and review of the design work of outside engineers. The engineering staff includes professionals from electrical, HVAC, plumbing, fire alarm, and fire protection. A representative from each of the professional disciplines will typically be on the MIT project team. The Program Manager of Energy Efficiency is also part of the group and provides leadership and guidance on most energy initiatives on campus.

The Utilities Group plans for MIT's future utility needs and operates the Central Utilities Plant (CUP). Most buildings on the MIT campus are served by this central system. A representative of the Utilities Group will attend those meetings that relate to connection to the utility system.

Finance and Administration:

The Finance and Administration group provides a range of administrative functions for the Department of Facilities and VPCSS including budgeting, procurement and contracts, finance and accounting, as well as information technology services and business analytics.

4.2 Office of Campus Planning / Facility Information Systems

The Office of Campus Planning (OCP) supports the MIT mission by serving as stewards of the evolving physical campus and providing services that guide and inform campus strategy and transformation. Project related services include capital and space planning, capital project development, architect selection, design review, as well as permitting support. A representative from Campus Planning will be involved in many projects and will be the lead Project Manager during the early project stages that include feasibility studies, programming and concept design.

The Facility Information Systems (FIS) team within OCP provides space accounting, archiving, mapping and signage support. This group administers the Design Standards for BIM and CAD, land surveys and space accounting, maintains the archive of construction documents, assigns

room numbers, and supports project signage needs. The group is involved over the life of a project, and is heavily involved in the close-out process for all construction projects at MIT.

4.3 Environment, Health and Safety (EHS)

MIT's Environment, Health, and Safety Office (EHS) is responsible for the deployment of resources that reduce the environmental impact of MIT's work, operations and facilities, and for ensuring the health and safety of MIT's community members and neighbors. EHS is also responsible for legal compliance and reporting with respect to all Federal and state environmental laws. An EHS team member will be part of most project teams.

4.4 Office of Sustainability

MIT's Office of Sustainability works as a catalyst to ensure the integration of sustainability principles across all the operational units of the Institute. A representative of the office may be involved in larger projects.

4.5 Information Systems and Technology (IS&T)

Information Systems and Technology (IS&T) is MIT's central information technology (IT) organization, tasked with providing modern, efficient, and cost-effective IT systems to the entire MIT community. Most projects will impact the IS&T infrastructure in some manner and IS&T will therefore be represented by a staff member as part of the MIT project team.

4.6 Associate Provost for Space

The Associate Provost for Space assists the Provost in academic administration, with primary responsibilities for space planning, space assignment and prioritizing renovations. Design professionals may interact with a representative of the Associate Provost's office as part of a project team or indirectly through the MIT Project Manager.

5. MIT UNDERWRITER

MIT's Underwriter is FM Global which has design and product requirements that must be adhered to. These requirements often exceed the requirements of the NFPA and Building Codes. FM Global now posts all of its data sheets online at www.fmglobaldatasheets.com. The appropriate FM Global data sheets must be reviewed during the schematic and design development phases of a project to ensure requirements for a particular project are incorporated into the design. The project's engineering design professional must submit the basis of design, working drawings and relevant calculations for review and approval of the FM loss prevention consultant in addition to review by MIT. Further and of important note, all MIT facility designs are reviewed by FM Global for acceptance and/or comment.

6. DISCLAIMER

Information in the MIT Design Standards (the “Standards”) is based on the collective experience of the MIT contributors. It is to be considered an evolving set of standards and is offered for the user’s consideration and evaluation for individual projects prior to use. MIT does not warrant the suitability of the Standards for every project and reserves the right to amend the content at any time.

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