INSTRUCTIONS

for

Preparing and Submitting a Study

for

Certification of a Deferred Maintenance Project

Use these Instructions in conjunction with the **Study Template** for Deferred Maintenance Projects

with a Dollar Value of $300,000 to $5 Million; $10 Million for UMass

Prepared By:

The Commonwealth of Massachusetts

Division of Capital Asset Management and Maintenance (DCAMM)

Office of Facility Management and Decarbonization

One Ashburton Place, 15th floor

Boston, MA 02108



|  |  |
| --- | --- |
|  | Updated Template 6/24 |

PAGE INTENTIONALLY LEFT BLANK

# 

# **Table of Contents**

**Introduction 4**

**DCAMM’s Deferred Maintenance Program 5**

**Requesting Deferred Maintenance Funding 5**

**Funding and Managing Deferred Maintenance Projects 5**

**When a Study is Required 6**

**Determining Who Should Prepare the Study 6**

**How to Procure a House Doctor 7**

**Using a House Doctor to Prepare a Study 7**

**How to Prepare a Study for Certification 8**

**Study Format 9**

**Study Content 9**

**Mass Historical Commission Project Notification 11**

**Executive Order 594 11**

**Address Accessibility Compliance in a Deferred Maintenance Study 17**

**Improving Resilience in Existing Facilities 20**

**Glossary of Terms 24**

**Contacts 28**

**Introduction**

State agencies must complete a Certifiable Study for each Deferred Maintenance project that has an Estimated Construction Cost (ECC) between $300,000 and $5 Million ($10 Million for the University of Massachusetts (UMass) system), in accordance with M.G.L. c. 7C, §§ 46 and 59. The purpose of a Certifiable Study is to investigate, document and propose a solution and cost for resolving a problem at a facility.

Once a Certifiable Study has been completed and submitted to DCAMM’s [Deferred Maintenance Program](https://www.mass.gov/service-details/deferred-maintenance), it must be reviewed and certified by the Commissioner of the [Division of Capital Asset Management and Maintenance](https://www.mass.gov/orgs/division-of-capital-asset-management-and-maintenance) (DCAMM) before the project can proceed to design and DCAMM can transfer funds to the requesting agency for design and construction. The certification process includes reviewing the Certifiable Study for completeness and conformity with long-range capital plans, determining that sufficient funds are available for design and construction, and recommending to the DCAMM Commissioner that the Certifiable Study be certified. Study certification is completed by the execution of a written document including all the representations required by M.G.L. c. 7C, § 59 by the user agency and DCAMM personnel. Once certified, the requesting agency will be notified that the project has been approved for Phase Two - Design and Construction and the transfer of funds will be initiated by DCAMM through an Interdepartmental Service Agreement (ISA).

The following instructions and the attached Study Template have been developed to assist requesting agencies and their House Doctors to prepare Studies that are sufficiently complete to be certified quickly by DCAMM. Please use these instructions to understand the steps in preparing and submitting a Certifiable Study. The Study Template has been developed to make the process straightforward and the content easy to assemble and review. Both documents are available online at [Deferred Maintenance Program](https://www.mass.gov/service-details/deferred-maintenance).

For more information on the “Deferred Maintenance Process”, please watch this [webinar](https://www.youtube.com/watch?v=rA3GYWU42EY) prepared by the Deferred Maintenance Team.

**DCAMM’s Deferred Maintenance Program**

The Deferred Maintenance Program, a statewide program overseen by DCAMM’s Office of Facilities Management and Decarbonization (OFMD), is dedicated to addressing the critical repair needs of Commonwealth facilities. Most Deferred Maintenance projects address needs which are essential to ensuring that facilities remain open and safe for building occupants and members of the public. Funding is commonly provided for the following types of projects:

* Boiler repair/replacement
* HVAC repair/replacement
* Plumbing repair/replacement
* Exterior envelope repairs (roofing, windows, etc.)
* Interior repairs
* Roofing repair/replacement
* Fire alarm/security systems
* Electrical systems (switchgear, distribution systems, transformers, etc.)
* Elevator repairs/replacement
* Accessibility improvements – buildings and site

For more information, please contact the [Deferred Maintenance Liaisons](https://www.mass.gov/service-details/deferred-maintenance) assigned to the corresponding Secretariat:

[**Tom Tagan**](mailto:francis.tagan@mass.gov) Executive Office for Administration and Finance

[**Scott Calisti**](mailto:scott.calisti@mass.gov) Department of Higher Education

[**Michele Davis**](mailto:michele.davis@mass.gov) Executive Office of Public Safety and Security (EOPSS), MA Sheriff’s Offices

[**Tan Nguyen**](mailto:tan.k.nguyen@mass.gov) Executive Office of Health and Human Services (EOHHS), Executive Office of Energy and Environmental Affairs (EOEEA), Executive Office of Labor and Workforce Development (EOLWD), MA Secretary of State, Executive of Veterans Services (EOVS), UMASS Campuses

[**Azinga Ming**](mailto:azinga.ming@mass.gov) Executive Office of the Trial Courts, State Universities

[**Michael Arcadipane**](mailto:michael.arcadipane@mass.gov) Community Colleges

**Requesting Deferred Maintenance Funding**

Deferred maintenance funding requests are submitted to DCAMM by state agencies usually in May, and they must be submitted via the [Capital Asset Management Information System (CAMIS)](https://www.mass.gov/service-details/camis-for-building-operations-and-maintenance) database. Project requests must include supporting documentation such as: cost quotes, Studies, work orders and preventative maintenance records, as well as photographs and drawings. Top priority for funding is given to requests that address life safety/ facility shut down risks. DCAMM typically funds projects between $10,000 and $5 Million ($10 Million for UMASS). Requests for emergency funding are handled *ad hoc* through the respective Deferred Maintenance liaison (listed above).

Instructions for how agencies can request deferred maintenance funds via CAMIS are available at: [CAMIS requests](https://www.mass.gov/service-details/camis-for-building-operations-and-maintenance) and also contact the [CAMIS Help Desk](mailto:camishelpdesk.dcam@mass.gov) for additional assistance and information.

**Funding and Managing Deferred Maintenance Projects**

Deferred Maintenance projects may be funded and managed in one of three ways:

1. DCAMM funds the project, transfers the money to the requesting agency, and the requesting agency contracts for a Certifiable Study (if needed), solicits contractor bids, and manages the project.
2. Requesting agency funds the project, contracts for a Certifiable Study, solicits contractor bids, and manages the project.
3. DCAMM funds the project and contracts for a Certifiable Study, solicits contractor bids, and manages the project for the requesting agency.

For the first two funding approaches above, where a requesting agency manages a project, a [Delegation](Deferred%20Maintenance%20-%20Project%20Delegation%20Request%20Guidance) Request **must be granted** ([Delegation Request Guidance](https://www.mass.gov/info-details/project-delegation-from-dcamm-guidelines?_gl=1*1s9slw5*_ga*MjAxNjQ3NTUwNi4xNzI3NDQzOTI3*_ga_MCLPEGW7WM*MTcyNzk3NjY5Mi44LjEuMTcyNzk3NjkyNC4wLjAuMA..)) if the project cost equals or exceeds $250,000 and the project involves structural or mechanical work. The Legislature has made DCAMM responsible for control and supervision of design and construction projects undertaken by state agencies when the estimated cost of the project exceeds $5 Million ($10 Million for UMASS) and involves structural or mechanical work. However, the DCAMM Commissioner may, upon request of the Chief Executive or designee at a state agency, delegate project control and supervision to the agency for projects involving structural or mechanical work whose estimated cost is less than $5M ($10M for UMASS) if the Commissioner determines that the agency can control and supervise such a project. For projects estimated to cost less than $250,000 that do not involve structural or mechanical work a state agency may supervise its project without a required DCAMM delegation letter.

# **When a Certifiable Study is Required**

A Certifiable Study must be completed for any Deferred Maintenance project where the Estimated Construction Cost equals or exceeds $300,000 and the design fee to be paid exceeds $30,000. A Certifiable Study is to investigate, document and propose a complete solution and a cost estimate for resolving a problem at a facility. A certifiable study is not required for site work (i.e. horizontal construction). However, even if study certification is not required by law DCAMM encourages requesting agencies to conduct a Study, particularly when:

* a complex problem cannot be solved or costed without further investigation; and/or
* the problem being addressed may relate to numerous other problems and a more comprehensive investigation and design is needed. Examples include window replacement when PCBs may be present or repaving when subsurface utilities may require attention.

**Determining Who Should Prepare the Study**

Depending on the dollar value of the project and/or the level of expertise needed to investigate the problem and recommend solutions, as explained below, a Study may be prepared by a House Doctor, a non-design consultant with appropriate expertise (such as an elevator vendor) or by qualified staff at the requesting agency.

A House Doctor or agency staff licensed as an architect or engineer **must** be used to conduct a Certifiable Study when:

* The estimated design fee is equal to or greater than $30,000; AND
* The Estimated Construction Cost (ECC) is equal to or greater than $300,000.

House Doctors must be procured through the Designer Selection Board (DSB). Requesting agencies usually request a list of multiple House Doctors whose services can be used as needed over time on multiple discrete capital projects that are not overly complex.

An agency may utilize in-house staff instead of a DSB-selected designer (such as a House Doctor), however, the DSB must first determine “that the agency . . . has the capability with its existing staff to perform those services on the project in question, applying the same criteria as are used for selection of consultant designers,” pursuant to M.G.L. c. 7C, § 46.

A Study for a project estimated to cost less than $300,000 may be prepared by the staff of the requesting agency if the individual(s) preparing the Study has/have the licensure and expertise to investigate conditions, review code compliance, identify solutions, and provide a cost estimate.

**No matter who prepares the Study, the** [**Study Template for Deferred Maintenance Projects**](https://www.mass.gov/doc/deferred-maintenance-study-template/download) **must be used, replacing previously published guidance such as Study Attachments 1 through 7.**

**How to Procure a House Doctor**

State agencies must use the Designer Selection Board (DSB) process to select a House Doctor or a Study consultant. For information on how to obtain the services of a House Doctor, including preparing a scope of work, writing the advertisement, and establishing contract amounts, requesting agencies should contact DCAMM’s DSB Liaison/House Doctor Coordinator, listed at the end of this document.

House Doctors must be licensed architects or engineers who can conduct a comprehensive process to investigate a problem, identify options and solutions, and provide design services. When selecting a designer for an individual project the DSB usually ranks three design firms using a qualification-based selection process, from which one is selected (the top-ranked firm except in rare circumstances). For House Doctors, the DSB may select and rank (and DCAMM may appoint) up to the maximum number of firms stated in the DSB advertisement. Each House Doctor contract has a maximum duration and a total dollar obligation. The requesting agency must monitor the time and total fee balance in each House Doctor contract to ensure that neither the expiration date or maximum fee limit of a contract is exceeded, and that there is both sufficient time and fee capacity remaining in a House Doctor contract to complete a project. The duration of a House Doctor contract and its maximum fee limit cannot be increased, and once an existing contract expires a new DSB selection process must be undertaken.

It is important for the requesting agency to plan for House Doctor procurement well in advance (procurement process can be three months) before needing the services of a firm to complete a Study It is also important that the agency evaluate the performance of a House Doctor at the end of each project.

**Using a House Doctor to Prepare a Study**

When the Study is prepared by a House Doctor, the requesting agency should take the following steps:

1. Review the list of House Doctors under contract with the agency to determine if any have the appropriate qualifications to complete a Certifiable Study for the project. This may require reviewing a firm’s website and its professional credentials submitted to the DSB, as well as having conversations with the firm’s representative about the nature of the project and ability to meet the timeframe for deliverables. If the state agency does not hold an existing contract with a House Doctor appropriately qualified for the project, identify a House Doctor from the list provided by the Designer Selection Board that best meets the skills and knowledge needed for the Deferred Maintenance project, request that DCAMM appoint the House Doctor, and enter into a contract. Such requests can be submitted to the DCAMM’s DSB Liaison/House Doctor Coordinator listed at the end of this document.
2. Request a proposalfrom the House Doctor based on a scope of services developed from the CAMIS description of the work or a preliminary description of the problem to be solved. Provide the House Doctor with a copy of the latest **Study Template** and these **Instructions** for completing a Certifiable Study. Identify for the House Doctor any expectations you have about scheduling issues (i.e. “Summer Slammer”), concerns about possible unforeseen conditions, and existing resources that are available to the House Doctor, such as floor plans and maintenance records, to ensure that the agency and the House Doctor share an understanding of the project’s goals and anticipated outcomes.
3. Review the proposal for its assumptions, scope of work and cost. The state agency may either set the fee when requesting a proposal or may negotiate the fee with the House Doctor by coming to an agreement with the selected House Doctor on the tasks that will be performed, the fee, and an acceptable timeframe for completion of the Certifiable Study. Please refer to [DCAMM’s Instructions for the Calculation of Designer Fees](https://www.mass.gov/doc/instruction-for-the-calculation-of-designer-fees/download) for guidance on setting designers’ fees.
4. Submit the House Doctor’s proposal to DCAMM and request funding, if applicable. Once an ISA is signed, encumber funding for the House Doctor’s Study fee. The House Doctor contract will be reduced by the amount of the fee for these Study services.
5. Issue a Notice to Proceed for the House Doctor to begin services to execute a Certifiable Study in accordance with DCAMM’s Study Template for Deferred Maintenance Projects.
6. Request that the House Doctor contact the state building inspector as early as possible to discuss the proposed project for the inspector’s guidance and counsel. Inspectors are a good resource for information on building codes and can help prevent a mistake in the project’s scope that can add costs and cause delays.
7. Hold the House Doctor to the agreed timeframes.

**How to Prepare a Study for Certification**

Studies for Deferred Maintenance projects must document the investigation and proposed solution for a problem within a facility. A Certifiable Study evaluates alternative strategies and recommends and justifies a preferred solution in terms of scope, code compliance, project schedule and cost. By providing a clear and detailed frame of reference for the design and construction process, the Certifiable Study forms the basis for DCAMM’s decision to allocate funds for design and construction. Once a Certifiable Study is certified, no substantial changes can be made to the Study solution during the design and construction process. Deviations are limited by statute to no more than 10% of the total square footage to be constructed.

The Certifiable Study defines the problem that requires funding, provides an analysis of existing conditions and options for resolution, and culminates in a preferred solution presented in enough detail for a reliable cost estimate.

As of 2015, Certifiable Studies are required to include schematic design to illustrate the preferred solution, including application of industry technical standards, relevant codes, and accurate cost estimates.

Regardless of who prepares the Certifiable Study, it must follow the format and content requirements in DCAMM’s Study Template for Deferred Maintenance Projects.

**NOTE:** *For Agencies and House Doctors who have prepared Studies in the past, this Template must be used in lieu of previously published Study Guidance - Attachments 1 through 7.*

The main elements of the Study Template are:

Section 1 - Study Summary

Section 2 - Existing Conditions Investigation

Section 3 - Code and Regulations Summary

Section 4 - Options and Proposed Solution

Section 5 - Cost Estimate Summary

Section 6 - Proposed Schedule

Section 7 - Appendices

There are further instructions in each section of the Study Template for completing the content of that section. Instructions are given in ***blue italics*** in the Study Template and should be deleted once the text has been completed.

Carefully completing and coordinating all the sections of the Study Template helps DCAMM reviewers more quickly recommend certification by the Commissioner of DCAMM. Incomplete Studies will be returned to the requesting agency for further development and resubmittal.

When the Certifiable Study is submitted to DCAMM, the requesting agency must attach to the Certifiable Study document a completed [Transmittal Letter for Study Certification](https://www.mass.gov/doc/deferred-maintenance-new-request-for-study-certification-0/download) with summary information about the project and original ink signatures of one or more of the requesting agency’s executives. DCAMM’s [Deferred Maintenance Program](https://www.mass.gov/service-details/deferred-maintenance) staff review submitted studies and recommend certification by the Commissioner of DCAMM.

# **Study Format**

1. Use the digital version with prompts to ensure that all information is included. Note that the Study Template has been developed in MS Word and includes content controls such as check boxes and text boxes to simplify filling in data. Page numbers in the Table of Contents can be automatically corrected by following the directions on the Table of Contents page.
2. Be sure that the Agency Point of Contact reviews the Certifiable Study before submitting to DCAMM and signs the Acknowledgement at the bottom of the Study Summary page.
3. Submit the Certifiable Study electronically in PDF format.

**Study Content**

**Section 1:** **Study Summary**

* Keep the Study Summary to one page, if possible.
* Indicate how long the information in the Study will remain accurate and any specific factors that will necessitate updating.
* Ensure that the “Acknowledgement” by the Agency Point Person is included and is signed before submitting for certification.

**Section 2: Existing Conditions**

* **Basic Building Data** can be found on CAMIS.
* Identify the record owner of the property where the proposed work will occur and provide a book and page reference for the record deed.
* Identify which entity has care and control of the property where the proposed work will occur.
* Be sure to identify any conditions that must be further investigated during design that will require additional services, such as surveying, test pits, materials testing.
* Label all photographs with the issue that it illustrates and its location.
* Cite prior studies, including relevant information, that address the same issue or same area of the facility.
* Provide a summary of expenses related to maintenance and repair of the building element, systems or equipment being addressed in this Study, if applicable.
* Note consequences of possible failure on occupants and services provided.

**Section 3: Code and Regulations Summary**

A code consultant is not required to complete the code analysis for most projects. If one is used, please summarize the consultant’s findings in this section and attach the full report in the Appendices.

Accessibility

* Use the accessibility tools in the Template and Instructions (also available on DCAMM’s website) and the text recommended in the Template. If an access audit is needed of an entire building, consult with the Statewide Accessibility Initiative.
* Use the checklist in this Section to make sure that all relevant codes are addressed. For each code box checked, provide summary information in the body of the Study with references, if needed, to the full report in the Appendix. Review with the state building inspector the list of relevant codes. All Studies must complete the [DCAMM Scoping Form for MAAB Compliance](https://www.mass.gov/doc/dcamm-scoping-form-for-maab-compliance-0/download) and, if applicable, [DCAMM’s Accessibility Checklist](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.mass.gov%2Fdoc%2Fdcamm-accessibility-checklist-for-maab-triggered-buildings%2Fdownload&wdOrigin=BROWSELINK). The “Accessibility Summary” document from a recent FCA or an Accessibility Audit done by others (DCAMM or consultant) can be used in place of the DCAMM Accessibility Checklist.
* See page 17 for the detailed instructions for completing the Accessibility portion of Section 3.

Mass Historical Commission Project Notification (950 CMR 71.07) for Projects at Commonwealth Properties

All state agencies and their House Doctors must conform to the requirement (950 CMR 71.07) to file a [Project Notification Form](https://www.mass.gov/doc/mass-historic-project-notification-form-1/download?_ga=2.63114790.826780768.1718713396-1666864358.1715713780&_gl=1*16m6emc*_ga*MTY2Njg2NDM1OC4xNzE1NzEzNzgw*_ga_MCLPEGW7WM*MTcxODczMDUxOS4xMS4xLjE3MTg3MzA2NzAuMC4wLjA.) (PNF) and associated documentation with the Massachusetts Historical Commission (MHC) for any project that will impact the Commonwealth’s properties, allowing the MHC to review the proposed project’s scope of work to determine if there will be any adverse effects on historic or archaeological resources.  This requirement applies to all projects at all Commonwealth buildings and associated land, except those whose scopes of work will clearly not have negative historic or archaeological effects.  These project exceptions may include:

* Work entirely within the interior of a building that will not affect character-defining interior architectural features .
* Most work on building MEP systems inside buildings.
* Building repairs, cleaning, and maintenance activities that do not alter or replace historic exterior features.
* Most work involving buildings that are less than 50 years old

With few exceptions, neither awarding authorities nor their House Doctor should make independent determination(s) that their proposed project scope or the structure and land it impacts will not affect historic or archaeological resources.  Only MHC has the authority to make that determination based on the materials submitted with the PNF.

PNFs must be submitted to MHC during the study phase of a project, and the response from MHC must be included in the final study submitted for certification.  Please note that the MHC review process typically takes 30 days plus time for mail delivery, so it is important to include time in a project’s schedule to ensure that a response is obtained early enough to avoid project delays.

Executive Order 594

* Executive Order 594 for existing building requires that projects examine and prioritize: 1) alternatives to fossil fuels, 2) transition to biofuels if location uses oil, 3) facilitate transition from fossil fuels, 4) upgrade envelope where possible, 5) facilitate renewable energy systems, 6) protect critical infrastructure from climate risks, and 7) support the installation of EV charging equipment. See: [https://www.mass.gov/info-details/leading-by-example-executive-order-594-decarbonizing-and-minimizing-environmental-impacts-of-state-government#executive-order-guideline-documents-](https://www.mass.gov/info-details/leading-by-example-executive-order-594-decarbonizing-and-minimizing-environmental-impacts-of-state-government%23executive-order-guideline-documents-%20%20)  (existing buildings, biofuels, and electric vehicle supply equipment).
* For new parking lots or parking structures that are part of a new building construction or major renovation project, the minimum number of ports and EV-ready parking spaces must follow the EO594 [guidelines](https://www.mass.gov/doc/lbe-eo-594-guideline-section-5c-ev-charging-04-28-2022/download).

|  |
| --- |
| **Guidance on Applicability of EO 594 for Deferred Maintenance Project Types**  **(This table should be used as a guide; not a substitute for professional judgement)**  See [Executive Order 594 Guidelines](https://www.mass.gov/info-details/leading-by-example-executive-order-594-decarbonizing-and-minimizing-environmental-impacts-of-state-government#executive-order-guideline-documents-) for existing buildings, biofuels, and electric vehicle charging equipment. |

| **Project Type** | **Consider fossil fuel alternatives** | **Make ready for low temp water (electric capacity)** | **Evaluate envelope/ efficiency** | **Establish an EUI using utility bills or CEI (kBTU/SF/yr)** | **Install renewable energy (evaluate)** | **Install energy storage** | **Resilience (include checklist if applicable -- move to CAMIS )** | **Heating oil transition** | **Electric vehicle charging equipment** | **Example outcomes** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Roof |  |  | x |  | x |  | x |  |  | * insulate to code or better; * possible remove and reinstall existing solar; * remove solar for roof replacement and determine if panels can be replaced; * make solar ready where possible (probably excluding structural upgrades) * ensure roof warranty can accommodate PV; * install new solar is not an expectation |
| Roof and rooftop HVAC | x | x | x |  | x |  | x |  |  | See above and below |
| HVAC | x | x |  | x |  |  | x |  |  | * make ready for low temp water (future heat pumps) with larger coils etc. * does it need to go the roof? * how does this fit with a longer-term decarbonization plan? |
| Boiler and heat distribution | x | x |  | x |  |  | x | x |  | * high efficiency,  assess electric capacity, * assess alternatives   assess how fossil fuel boiler might be a future peaking or backup source * if replacing a condensing boiler (operating with low temp) consider heat pumps * Heat distribution systems should be considered in light of future central geo-exchange or heat pump systems |
| Controls |  | x |  | x |  |  |  |  |  |  |
| Envelope: windows and façade |  |  | x | x |  |  | x |  |  | * Increase insulation * Improve air sealing |
| Stormwater management |  |  |  |  |  |  | x |  |  |  |
| Parking lots |  |  |  |  |  |  | x |  | x | * Assess timing with decarb planning for geothermal Install EV charging * Stormwater considerations * Coordinate with under-ground utilities * Will stormwater structures be needed? |
| Domestic Hot water | x |  |  |  |  |  |  |  |  | * Heat pump water heaters |
| Electric |  | x |  |  |  | x | x |  |  | * Size electric infrastructure for future heat pumps connections for future solar or storage |
| Dam/ flood control /wetland |  |  |  |  |  |  | x |  |  |  |
| Generators |  |  |  |  |  | x |  |  |  | * Determine if facility can participate in demand response… conversation with * Stack design must comply with air quality rules |
| Other: Plumbing, security, fire, interiors |  |  |  |  |  |  |  |  |  | * Check to make sure EO594 does not apply |

See [Executive Order 594 Guidelines](https://www.mass.gov/info-details/leading-by-example-executive-order-594-decarbonizing-and-minimizing-environmental-impacts-of-state-government#executive-order-guideline-documents-) for existing buildings, biofuels, and electric vehicle charging equipment.

In addition, the House Doctor shall identify:

1. Training of facility staff that will be required to ensure operation of the new equipment.  Verify training requirements with the manufacturer.
2. Existing maintenance contracts that will be affected, or new maintenance contracts that will be required.
3. If the project location is susceptible to flooding or stormwater and how the proposed work will address it.

**Section 4: Options and Proposed Solution**

* Using the information from the Existing Conditions Investigation and the Code Summary, describe possible options for addressing the problem that prompted the preparation of the Study, especially if more than one option has been considered.
* For projects with cost constraints, the discussion in this Section should include tradeoffs such as repair vs. replacement.
* Although every project will have different requirements, the House Doctor should clearly outline the Proposed Solution utilizing (but not limited to) the following types of preliminary documentation:
  + Drawings (plan(s), section(s), and elevation(s))
  + Equipment manufacturer(s) product information
  + Calculations
  + Outline specifications.
* In estimating a schedule for design and construction, indicate any specific construction phasing or sequencing that will be required, if applicable. A more detailed Schedule is provided in Section 6 – Proposed Schedule.

**Section 5: Cost Estimate**

* Use the format in the Study Template for a Summary Cost Estimate. Attach the detailed Cost Estimate in the Appendix.
* Identify any critical assumptions made by the cost estimator such as future construction start date and escalation.
* Be sure the cost estimate includes costs for police details, if needed, weekend work, and temporary accommodations.

**Section 6: Proposed Schedule**

* In preparing the Schedule, be sure to use the correct time frames for bidding M.G.L. Ch 149, §§ 44A-H vs. M.G.L. Ch 30, § 39M.
* Provide the time frame in numbers of weeks, not actual dates:

|  |  |
| --- | --- |
| Design Development | Six Weeks |
| DD Review | One Week |
| 90% Construction Documents | Six Weeks |
| 90% CD Review | One Week |
| 100% Construction Documents | Two Weeks |
| Bid Period | Eight Weeks |
| Award Contract | Two Weeks |
| Construction Duration | Forty-Four Weeks |

**Section 7: Appendices**

**Appendix A:** Accessibility Scoping

[**DCAMM Scoping Form for MAAB Compliance**](https://www.mass.gov/service-details/compliance-tools-developed-by-the-statewide-accessibility-initiative)

[**DCAMM Accessibility Checklist**](https://www.mass.gov/service-details/compliance-tools-developed-by-the-statewide-accessibility-initiative)The “Accessibility Summary” document from a recent FCA or an Accessibility Audit done by others (DCAMM or consultant) can be used in place of the DCAMM Accessibility Checklist.

**MAAB Variance** (if applicable)

**Appendix B:** DCAMM Outline Specification for Scope of Work

**Appendix C:** Full Cost Estimate

**Appendix D:** PNF Form

**Appendix E:** Code Reports and Testing Reports

**Appendix X**: *[Title]*

*Additional Appendices: [As applicable, include the following documents and/or detailed reports prepared by sub-consultants:*

* *Schematic Design Cutsheets and other equipment information.*
* *Manufacturers’ quotes.*
* *Incident reports and maintenance reports]*

**Addressing Accessibility Compliance in a Deferred Maintenance Study**

The analysis of accessibility compliance can be completed by the Agency, House Doctor, or Code Consultant; however, it must follow these instructions and the format in the Study Template.

Following these directions will provide the analysis needed to complete the check boxes in Part 1-Analysis and the text in Part 2-Work Scope in the DM Study Template

Two different accessibility regulations apply to a Deferred Maintenance project: 1) the Rules and Regulations of the Massachusetts Architectural Access Board (MAAB), codified at Section 521 of the Code of Massachusetts Regulations (521 CMR) and 2) Title II of the Americans With Disabilities Act (ADA) and the 2010 ADA Standards for Accessible Design (2010 ADA). These state and federal accessibility requirements share the common purpose of eliminating architectural, structural, and communication barriers that limit the participation of people with disabilities in the mainstream of society. However, the interaction between state and federal standards and requirements is more complex than a simple one-to-one equivalency.

**MAAB Compliance:** The work proposed in any Study must follow the Massachusetts Architectural Access Board Rules and Regulations (521 CMR). The extent of compliance is based on the type and scope of alteration, the total cost of alterations, work performed in the building over the last three years, and, rarely, the CAMIS value of the building.

NOTE: The [DCAMM Scoping Form for MAAB Compliance](https://www.mass.gov/service-details/compliance-tools-developed-by-the-statewide-accessibility-initiative) must be completed for ALL Deferred Maintenance projects, regardless of size and scope, to determine what, if any, accessibility improvements will be required by state code. **Attach the completed form as Appendix A of the study.**

The final page of the Scoping Form will determine if this project must include work to achieve a fully accessible entrance, toilet room(s) and/or drinking fountain. Select the paragraph text – A, B or C - in the Template that matches the Scoping Result on page 4 of the Scoping Form. Eliminate the paragraphs that are not selected.

If Paragraph B or C is selected, the Study must document the level of existing compliance for the entrance, toilet rooms, drinking fountains and telephone and identify the scope of work to achieve full compliance for each of these elements. Compliance can be documented most efficiently by completing [DCAMM’s Accessibility Checklist](https://www.mass.gov/service-details/compliance-tools-developed-by-the-statewide-accessibility-initiative) for each element that must be in compliance. **The “Accessibility Summary” document from a recent FCA or an Accessibility Audit done by others (DCAMM or consultant) can be used in place of the DCAMM Accessibility Checklist.** Be sure to check with project manager or the [Statewide Accessibility Initiative](https://www.mass.gov/service-details/dcamm-statewide-accessibility-initiatives-program) to determine if accessibility compliance data may already exist for the building. Completed Checklists should be attached to Appendix A. For both Paragraphs A and B, also determine if the work being performed has any accessibility requirements (e.g. fire pull stations in a fire alarm project; slopes and cross slopes in a repaving project; repairs to steps requiring an adjacent ramp)

**MAAB Variances:**

*Existing variances:* It is important to provide any information related to a current or proposed variance. Check with the Requesting Agency and the Statewide Accessibility Initiative or directly with the MAAB to make sure that there are no existing variances that affect the scope of this project.

If a variance has been granted by the MAAB in the past for an element that is in this Study’s scope of work, the variance may not be grandfathered. Investigate the circumstances of the variance and determine if additional accessibility work will be needed to address the issue. If a time variance was previously granted, it may require that outstanding work be completed.

*New variances:* There are two types of variances: *impracticability* and a *time variance.*  If the accessibility analysis reveals a non-compliant condition that cannot be corrected, a variance is needed. Please indicate in the Study if this is anticipated. The variance should be prepared as part of the Study because the MAAB’s decision will affect the scope of work. The MAAB can only grant a variance to their regulations where *impracticability* can be demonstrated; either that compliance is *technologically unfeasible* or would result in *excessive and unreasonable costs without any substantial benefit to persons with disabilities.* Indicate the reasoning and evidence that would be used to support a variance. Be aware that, even with an MAAB variance, ADA requirements must be met.

A *time* *variance* may be requested if the accessibility work cannot be performed at the same time as the deferred maintenance project due to constraints beyond the control of the agency. A time variance is usually valid for no more than two years. ***Any variance request for a DCAMM funded project must be reviewed and approved by DCAMM’s Statewide Accessibility Initiative***.

**2010 ADA Standards for Accessible Design**

Determine if the 2010 ADA Standards for Accessible Design have any requirements that apply to this project. (Please be sure you are using the 2010 Standards and not the 1991 ADAAG). In general, the 2006 MAAB has more stringent (provides a greater degree of accessibility) requirements than the ADA but there are a few instances where the ADA is more stringent (i.e. requirements for accessible parking spaces and accessible spaces in assembly areas) and some instances where the two differ and the choice is contextual (i.e. toilet paper height and height of tactile signage).

Any element and sub-element in the work being performed that is subject to either the MAAB and/or ADA regulations must currently comply or be brought into compliance as part of the Deferred Maintenance project.

**Accessibility Scope of work according to ADA Title II Compliance**

The civil rights component of the ADA may apply to a Deferred Maintenance project in state-owned buildings. Title II of the ADA, as federal civil rights law, defines compliance as *equal access to the programs, services and activities* of the entity. If the work being performed includes alteration to any space that is a *primary function area* of the building (defined as a “major activity intended for a facility”) then that space and an accessible route from that space to the closest parking and/or transit stop must exist or be included in the project. Compliance may be provided programmatically in lieu of removing physical barriers depending on the context.

Determine if any work is being done to a *primary function area,* such as offices, laboratories, classrooms, courtrooms and meeting rooms in which agency activities are carried out. Alterations limited to windows, hardware, controls, electric outlets and signage are not considered alterations that trigger this requirement. Identify these primary function areas and the accessible path of travel that connects these spaces with an entrance, toilet rooms and drinking fountains serving this area, and exterior routes including parking and walkways to transit stops. Identify each element in the accessible route that must be brought into compliance, a scope of work to achieve compliance, and the cost to do so. If the cost of bringing these elements into compliance exceeds 20% of the total project cost, it may be considered *disproportionate* and work may be limited to 20%, with priority being given to specific elements (see S. 35.151(b)(4)(iv)(B)). Be sure to check with the Statewide Accessibility Initiative for previously gathered information on *program access* and *primary function areas*.

**Improving Resilience in Existing Facilities – To Be Completed Now in CAMIS –**

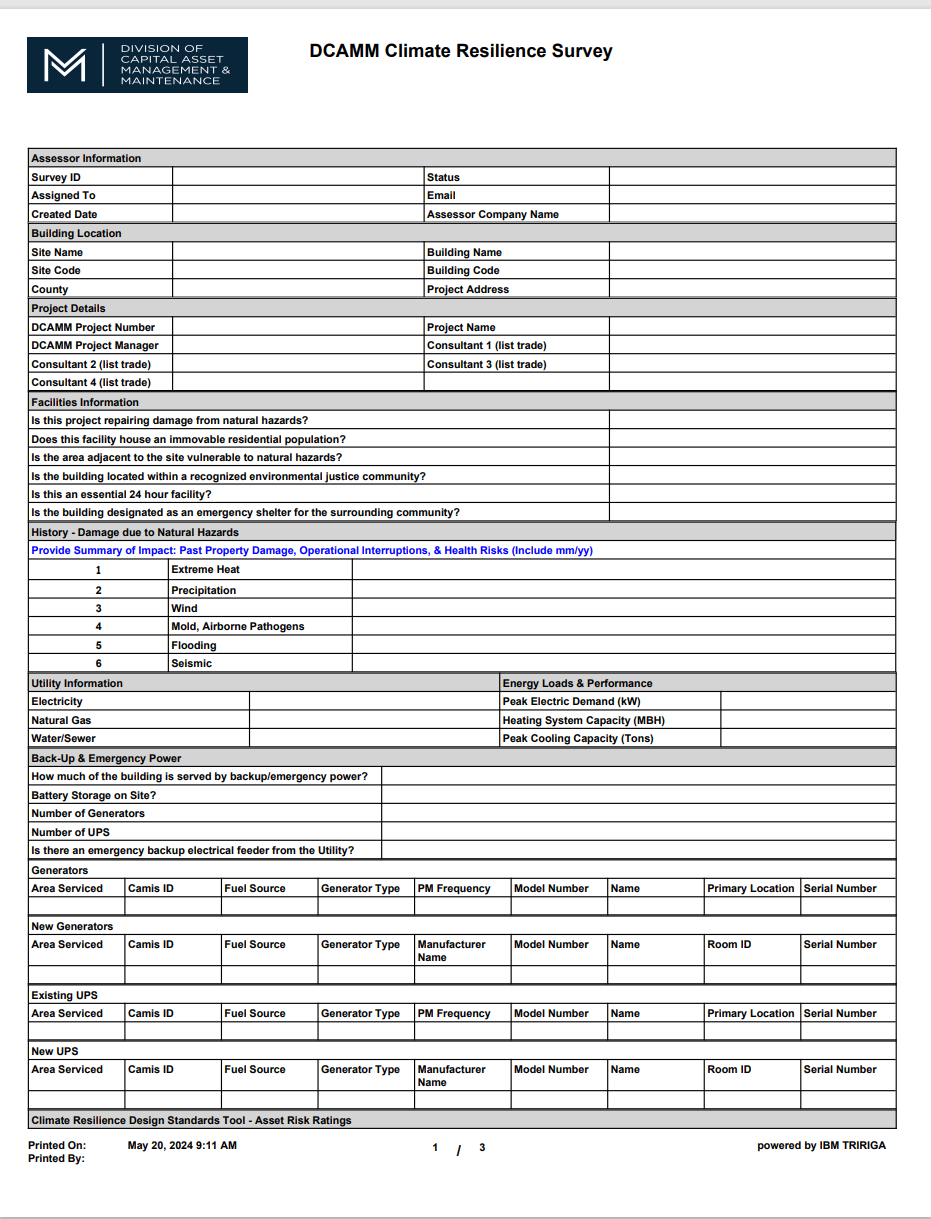
DCAMM has prepared a Climate Resilience Survey to help facilities teams understand the risks specific to each building, and to help design teams anticipate how their project will be threatened by natural hazards in the future. This assessment form focuses on hazards related to flooding, extreme heat, and extreme precipitation.

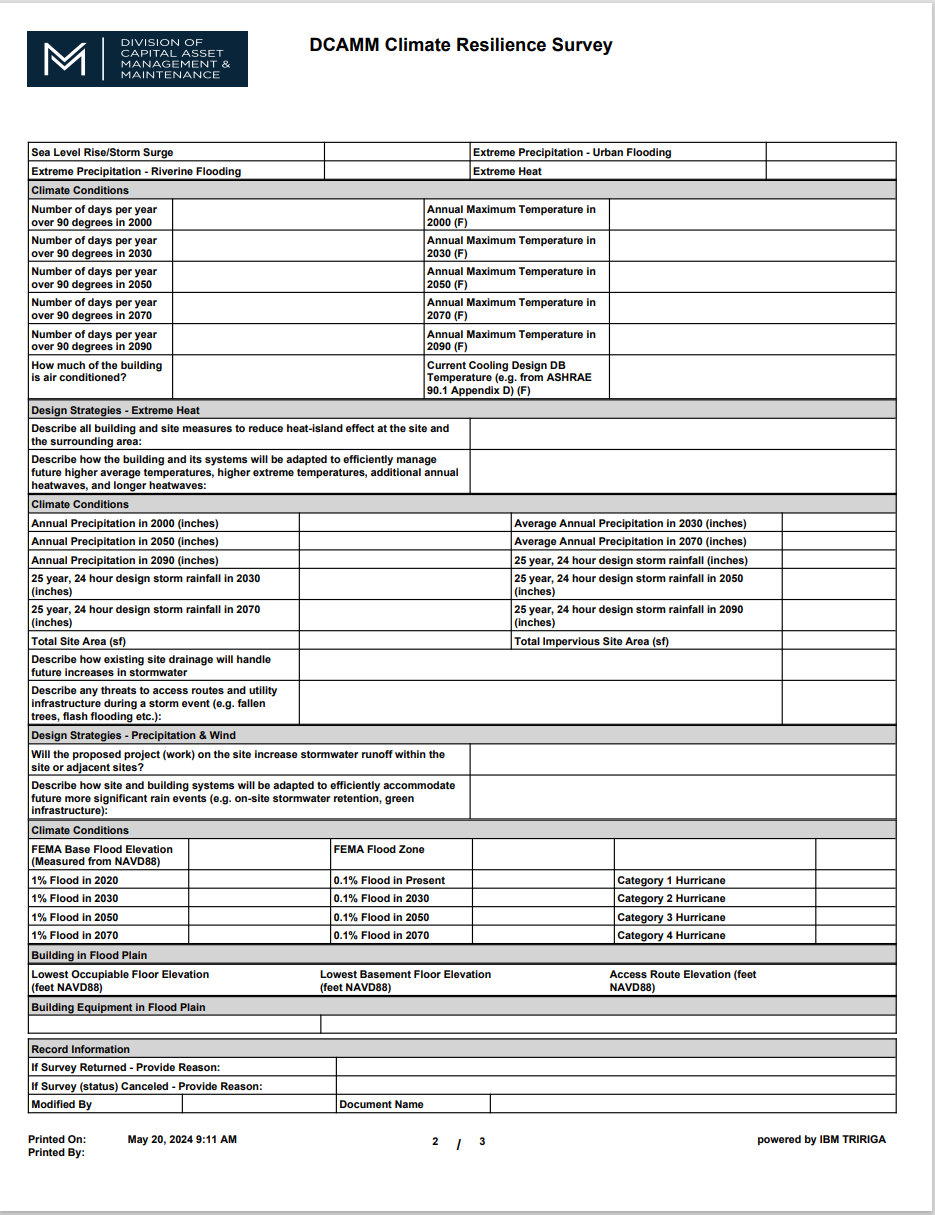
Depending on the applicability of the Deferred Maintenance issues being addressed, and the scope of work of the Preferred Solution, the House Doctor shall complete the DCAMM Climate-Resiliency-Assessment in CAMIS. Note that some buildings and or facilities already have an assessment on file in CAMIS and the House Doctors need only to review the information. Contact DCAMM CAMIS coordinator to access this assessment on file. (Noel Jordan) The House Doctor shall also reference how the conclusions of this assessment have shaped the Preferred Solution, and/or other options noted within the Study.

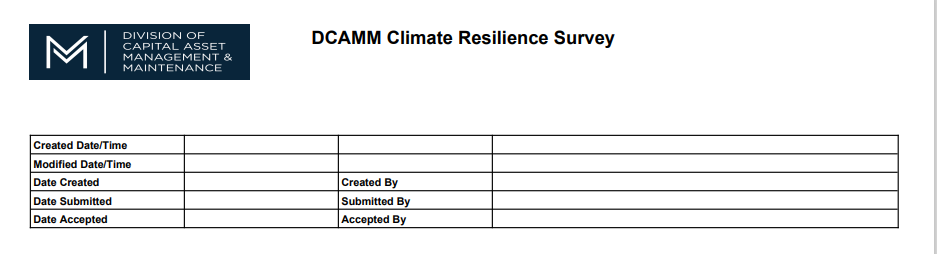
The DCAMM Climate-Resiliency-Assessment web form can be accessed by House Doctors directly through [CAMIS](https://www.mass.gov/info-details/camis-for-building-operations-and-maintenance?_gl=1*i58qs1*_ga*MTk3NTM4MjE5Ny4xNjgzMjkwMjYw*_ga_MCLPEGW7WM*MTcwODA5MDE3NC42Mi4wLjE3MDgwOTAxNzQuMC4wLjA.) (Tririga). Please contact the DCAMM CAMIS coordinator (Noel Jordan) to be granted access to the tool. A sample blank version of the survey form is included for reference only **Climate Resilience Survey**

For login credentials to access the web form:

1. Contact Noel Jordan ([noel.jordan@mass.gov](mailto:noel.jordan@mass.gov)) and CC your DCAMM liaison.
2. Provide the following to create a login to the resilience web form:
   1. Full name
   2. Prefix (Mr. or Ms.)
   3. Email address
   4. Vendor Company Name (Organization)
   5. Job title
   6. Work Telephone number
   7. Estimated Completion Date (CAMIS Access END DATE)
   8. Site Name(s)
   9. Address
   10. Building Name(s) & Code(s)
   11. (DCAMM) Project Manager / Contact Email Address
   12. Project Number(s)
   13. J number
3. Once access to the web form is established, work with the DCAMM CAMIS contact to schedule a meeting for a detailed introduction on how to complete the web form.
4. Please direct questions to Noel Jordan or your DCAMM liaison with questions.







**Glossary of Terms**

**Capital Asset Management Information System (CAMIS)**

DCAMM’s [Capital Asset Management Information System (CAMIS)](https://www.mass.gov/service-details/camis-for-building-operations-and-maintenance) is a dynamic, centralized platform that supports effective stewardship of the Commonwealths assets. CAMIS maintains records of corrective and preventive maintenance work tasks associated with facility properties and equipment. It is a useful tool to optimize the condition of facility assets and maximize their life expectancy. By integrating land and building data in one place, CAMIS provides a powerful tool to better manage both.

**Certifiable Study**

Pursuant to M.G.L. c. 7C, § 59, a Study includes a program, is completed through schematic design, and has sufficient information to provide (i) using agency certification that the study corresponds to the current needs of the agency (including its current long-term capital facilities development plan); (ii) DCAMM Deputy Commissioner certification that the study reflects the using agency’s needs as stated, provides an accurate estimate of the project requirements, cost and schedule, that the project can be accomplished within the appropriation or authorization for the project, and a recommendation to proceed with design, construction, or, if appropriate, both; and (iii), DCAMM Commissioner certification that the study is in conformity with the scope and purpose of the appropriation or authorization for the project and legislative intent in regard to long-range capital facility plans for the using agency, and approval to proceed with regard to long-range capital facility plans for the using agency with design, construction, or, if appropriate, both.

**Deferred Maintenance**

DCAMM’s Deferred Maintenance Program, also known as “Critical Repairs,” is dedicated to the preservation of capital assets by addressing the capital repair needs of the Commonwealth’s facilities. Most Deferred Maintenance projects address life safety matters essential to ensuring that facilities remain open and safe for building occupants.

**Delegation**

Written delegation pursuant to M.G.L. c. 7C, § 5 by the DCAMM Commissioner to another state agency of project control and supervision (which includes the authority to perform or contract for performance) of a public building project involving structural or mechanical work whose estimated cost is more than $250,000 and less than $5,000,000 ($10,000,000 for the University of Massachusetts).

**Designer Selection Board**

The [Designer Selection Board](https://www.mass.gov/orgs/designer-selection-board) (DSB) is an autonomous, eleven-member Board that has a mandated role in the selection of all designers, programmers and construction managers for public building construction for various public entities, including state agencies, in accordance with M.G.L. c. 7C, §§ 44 – 57 (also known as the “Designer Selection Law”) .  One of the Board’s many responsibilities is to select House Doctors that state agencies use to execute studies.

**Division of Capital Asset Management and Maintenance**

The [Division of Capital Asset Management and Maintenance (DCAMM)](https://www.mass.gov/about-dcamm), an agency within the Executive Office for Administration and Finance, is responsible for capital planning, major public building construction, facilities management, and real estate services for the Commonwealth. The agency was created by the legislature in 1980 to promote quality and integrity in the management and construction of the Commonwealth’s capital facilities and real estate assets.

**Estimated Construction Cost (ECC)**

Estimated Construction Cost, the cost of the building, sitework and fixed equipment, excluding escalation, design and construction contingency, and internal project management costs (such as staff time).

**House Doctors**

Design professionals procured through the Designer Selection Board to study, review, or prepare plans for various repair and renovation projects.

**Maintenance**

Day-to-day, routine, normally recurring repairs and upkeep. Preventative maintenance is done by conducting periodic service checks of building equipment to avoid any failures, fatigue, neglect or normal wear.  Preventative maintenance is designed to preserve and restore equipment reliability by replacing worn components before they fail. The scheduled maintenance activities may include partial or complete overhauls at specified periods, oil changes, lubrication, changing belts and filters, cleaning indoor and outdoor coils, lubricating motors and bearings, cleaning and maintaining cooling towers, testing control functions and calibration, and painting for corrosion control, minor adjustments, etc.  In addition, maintenance workers can record equipment deterioration so that worn parts may be repaired or replaced before they cause system failure. The ideal machine maintenance program would prevent any unnecessary and costly repairs.

**Office of Facilities Management and Decarbonization**

DCAMM's [Office of Facilities Management and Decarbonization](https://www.mass.gov/info-details/dcamms-office-of-facilities-management-and-decarbonization?_gl=1*1p701on*_ga*MTY2Njg2NDM1OC4xNzE1NzEzNzgw*_ga_MCLPEGW7WM*MTcxNjkxMjA2Ny42LjAuMTcxNjkxMjA2Ny4wLjAuMA..)  provides guidance and support to all business units within DCAMM, state agencies and the administration on the efficient management of state building and surplus properties through the development of comprehensive and cost-effective maintenance and management strategies. OFMM manages over 5 million square feet of active properties and 3,000 acres of surplus properties, provides security at designated sites and delivers facility engineering for our clients. OFMM also manages interior design projects, coordinates environmental restoration and compliance projects, prioritizes state agencies’ requests for critical Deferred Maintenance projects, strategically targets energy projects that help decrease Commonwealth agencies’ carbon footprint, and supports user agencies across the Commonwealth with a comprehensive training program via the Massachusetts Facilities Management Association (MAFMA) and CAMIS.

**Projects (Public Building Construction vs. Public Works)**

Public Building Construction Project: the construction, reconstruction, installation, demolition, maintenance or repair of any public building (a.k.a. vertical construction). subject to the procurement requirements of [M.G.L. c. 149 §§ 44A-H or, if applicable, M.G.L. c. 149A](https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXI/Chapter149) (there are alternative procurement statutes for specific types of projects, such as energy conservation or modular). A Certifiable Study for a building construction project must be certified before DCAMM can contract for final design and construction services. For a Certifiable Study to be certified, all the funding required for construction and all related project costs must be available for spending and must be committed to the project, among other requirements. By executing a study certification, DCAMM and the user agency are representing that the project described in the Study is the project that will be designed and constructed.

Public Works Project: “Non-building” construction, such as parking lot/roadway paving, underground utilities, etc. (a.k.a. horizontal construction), subject to the procurement requirements of [M.G.L. c. 30, § 39M](https://malegislature.gov/Laws/GeneralLaws/PartI/TitleIII/Chapter30/Section39M). Public works projects are not required to have a Certifiable Study certified before contracting for final design and construction services; however, agencies are encouraged to verify public work projects with DCAMM.

**Renovation**

Work required to restore and modernize most or a part of a facility in order that the facility may be effectively utilized for its designated functional purpose, to comply with current code requirements or for a programmatic need.

**Repair**

Work required to restore a facility or system to such condition that it may continue to be approximately and effectively utilized for its designated purpose by overhaul, reprocessing or replacement of constituent parts or materials which have deteriorated by action of the elements or wear and tear in use.

**Resilience**

Resilience as the ability to prepare and plan for, absorb, recover from and more successfully adapt to adverse events. Resiliency is simply ensuring that the capital base does not fail catastrophically and continues to perform at a net positive rate, even during wild weather events.

**Study**

A feasibility or other study to identify and evaluate alternative solutions and recommend a solution to the needs and requirements defined by the public agency proposing a capital facility project which may involve a further definition of that agency's needs and requirements, gather additional information on the nature of the project, develop and review potential solutions to those needs and requirements, evaluate the financial, environmental, and other aspects of such solutions, estimate the degree to which solutions do not fulfill proposed objectives and criteria, and recommend a means of project implementation and site acquisition. (See M.G.L. c. 7C, § 1)

**Substantiality**

Sustainability focuses on meeting the needs of the present without compromising the ability of future generations to meet their needs.

**Total Project Cost (TPC)**

The total cost of the project, including the ECC, administrative costs, design fees, contingencies, site costs, facilities furnishings, and equipment, etc.

# 

**Contacts**

Director of Facility Resources: Francis “[Tom” Tagan](mailto:francis.tagan@mass.gov)

Phone: 617.797.9150

Study Certification Coordinator: [Scott Calisti](mailto:scott.calisti@mass.gov)

(Higher Education Agencies) Phone: None Available please email using the name hyperlink

Study Certification Coordinator: [Michele Davis](mailto:michele.davis@mass.gov)

(Non-Higher Education Agencies) Phone: 617.939.1063

CAMIS System Analyst / Coordinator: [Robbie Brown](mailto:robbie.w.brown@mass.gov)

Phone: None Available please email using the name  
 hyperlink

DSB Liaison/House Doctor Coordinator: [Brenna Sapienza](mailto:brenna.sapienza@mass.gov)  
Phone: 857.327.0353

Statewide Accessibility Initiative: [Greg Zuckerman](mailto:Greg.zuckerman@mas.gov)

Phone: 857.303.2398

DCAMM Climate Resilience Survey Support: [Noel Jordan](mailto:Noel.jordan@mass.gov)

Phone: 617.275.6463