



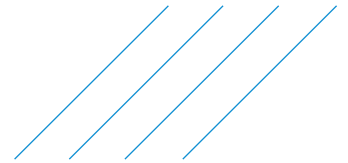
**DRAFT**  
**Excludes Costs for**  
**Accessibility Compliance**

**Report of**  
**Facility Condition Assessment**  
South Middlesex Correctional Center  
135 Western Avenue  
Framingham, Massachusetts 01702

July 26, 2019

Prepared For:





July 26, 2019

Division of Capital Asset Management & Maintenance  
Office of Planning  
One Ashburton Place, 15th Floor  
Boston, Massachusetts 02108

Attention: Mr. Emmanuel Andrade, MPA, RA, NCARB  
Project Manager, Statewide Accessibility Initiative

Reference: Report of Facility Condition Assessment  
South Middlesex Correctional Center  
135 Western Avenue  
Framingham, Massachusetts 01702  
Faithful+Gould Project No. 100066196

Dear Mr. Andrade:

Faithful+Gould, Inc. has completed a report of our Facility Condition Assessment of South Middlesex Correctional Center located at 135 Western Avenue in Framingham, Massachusetts (“the Property”). This report provides a summary of the project information known to us at the time of the study, the scope of work performed, an evaluation of the visually apparent condition of three of the eight South Middlesex Correctional Center buildings, all site elements and the site infrastructure, an evaluation of the climate resiliency and a forecast of anticipated capital expenditures required in the ten year period of 2021 through 2030.

This report was completed in general accordance with the ASTM E2018-15 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process, Faithful+Gould’s proposal for Facility Condition Assessment services dated May 8, 2019 and the State of Work for Facility Condition Assessments as issued by the Division of Capital Asset Management and Maintenance and dated April 17, 2019.

Please review the attached draft report and advise us of any comments or corrections. We will issue a final report within one week of receipt of comments.

Sincerely,

A. Kyle Thompson, CEM  
Lead Facility Assessor

Benjamin J.M. Dutton, BSc (Hons), MCIQB, MRICS  
Vice President / Senior Director

**TABLE OF CONTENTS**

	<u>Page</u>
<b>EXECUTIVE SUMMARY</b> .....	<b>1</b>
<b>SCOPE OF SERVICES</b> .....	<b>13</b>
<b>SITE FEATURES</b> .....	<b>16</b>
1.0 SITE FEATURES .....	16
2.0 SECURITY SYSTEMS .....	19
<b>BUILDING ELEMENTS</b> .....	<b>20</b>
3.0 STRUCTURAL SYSTEMS .....	20
4.0 ROOFING COMPONENTS .....	22
5.0 BUILDING EXTERIORS .....	25
<b>BUILDING SYSTEMS</b> .....	<b>28</b>
6.0 MECHANICAL SYSTEMS .....	28
7.0 ELECTRICAL SYSTEMS .....	34
8.0 PLUMBING SYSTEMS .....	37
9.0 FIRE AND LIFE SAFETY SYSTEMS .....	40
10.0 CONVEYANCE SYSTEM .....	42
11.0 INTERIOR FINISHES .....	43
12.0 ACCESSIBILITY .....	49

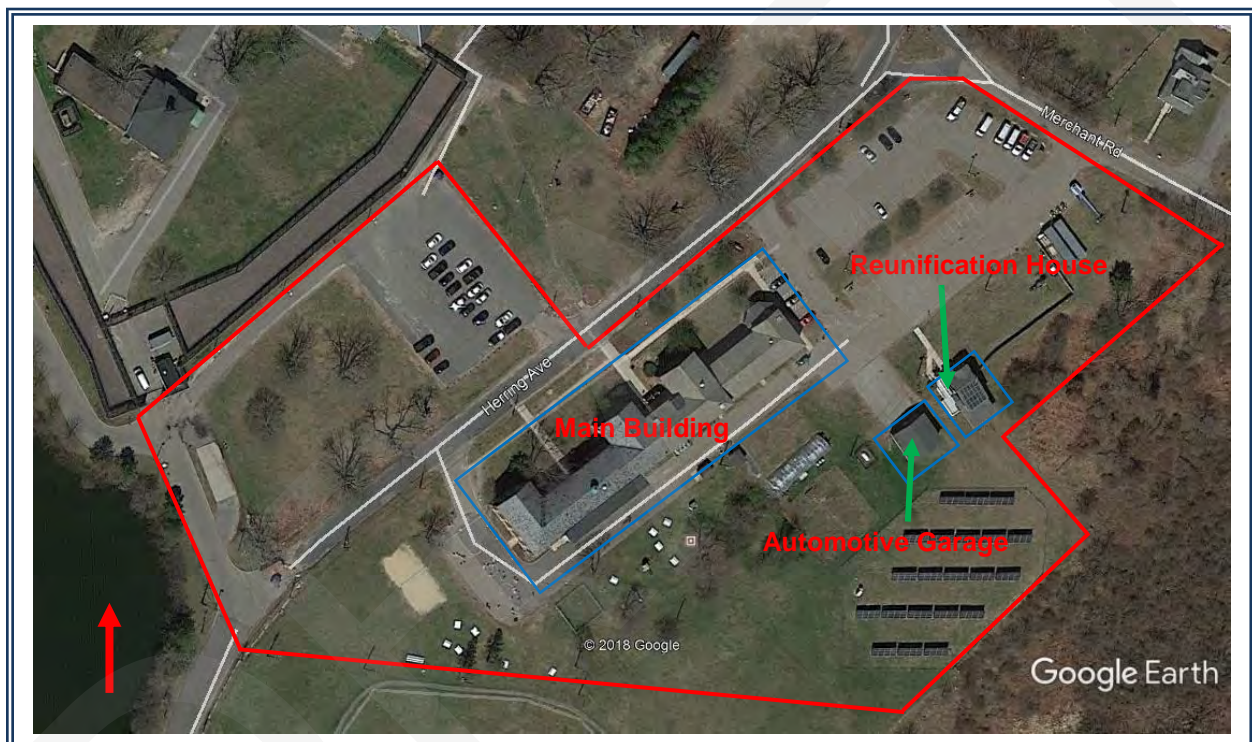
**Appendices**

<b>Appendix A</b>	-	<b>Photographs</b>
<b>Appendix B</b>	-	<b>Faithful+Gould 10 Year Capital Expenditure Forecast</b>
<b>Appendix C</b>	-	<b>CAMIS Input Sheet</b>
<b>Appendix D</b>	-	<b>Climate Resiliency Checklist</b>
<b>Appendix E</b>	-	<b>Glossary</b>
<b>Appendix F</b>	-	<b>Review of CAMIS Deferred Maintenance Requests – FY2018, 2019 and 2020</b>
<b>Appendix G</b>	-	<b>Accessibility Compliance Report (Pending)</b>
<b>Appendix H</b>	-	<b>Comparison between as-building conditions and the Commonwealth of Massachusetts Department of Correction 103 DOC 703 Design Criteria and Planning Guidelines</b>

## EXECUTIVE SUMMARY

The South Middlesex Correctional Center (hereafter referred to as “the Property”) consists of a multi-building minimum security/pre-release state prison for female offenders. Located at 135 Western Avenue in Framingham, Massachusetts, the Property contains eight buildings. This report considers three of the eight buildings and all site elements contained within the approximately 278,500 square foot (6.4 acre) site. Constructed between 1939 and 2008, the buildings contain a combined reported gross floor area of approximately 55,380 square feet. Plan EX-1.1 provides an overview of the site. Table EX-1 provides a summary of buildings at the Property and those considered by this report.

**Plan EX-1.1 – Aerial View of Entire Site**



As noted above, this report considers three of the eight buildings at the Property. The first and primary building at the Property is named as the South Middlesex Correctional Center. Identified as the “Main Building” within this report, the building contains a basement level and two to three upper levels. The building contains a combination of residential rooms and administrative areas. Construction of the building was completed in two phases (East and West wing), with the West wing constructed in 1939 and the East wing added in 1990. The second building on the site is the Automotive Garage. Constructed as a garage in 2003, the building is of single-story construction with a partial mezzanine. In circa 2015, the garage was converted for classroom use and rebranded as the “Learning Annex”. For consistency with the DCAMM CAMIS data, this report refers to the building as the Automotive Garage. The last building on the site to be considered by this report is the Reunification House. The building consists of a two-story residential structure with basement constructed in 2008 and used for a combination of residential and administrative use.

**Table EX-1 – Building Overview**

Building Name	Building Code	Gross Square Footage	Year of Construction or Note
<b>Included within Assessment</b>			
Site Systems	None	278,500 (approx.)	1939 - 2008
South Middlesex Correctional Center	45ODOCPB17	52,600	1939 with 1990 Addition
Automotive Garage 6	45ODOC0503	900	2003
Reunification House	45ODOC0801	1,880	2008
	<b>SubTotal</b>	<b>55,380</b>	
<b>Excluded from Assessment</b>			
			<b>Reason for Exclusion</b>
Hodder Detention Building	45ODOC0150	10,018	Included within Assessment for MCI-Framingham
Wilson Hall Detox Facility	45ODOC0140	8,200	Removed Based Upon Discussions with DCAMM
Greenhouse 4	45ODOC0504	1,110	Support Building Excluded from Scope
Shed 3	45ODOC0501	96	Support Building Excluded from Scope
Shed	45ODOCPB16	80	Support Building Excluded from Scope

### Assessment

During the week of June 5, 2019 Mr. Benjamin Dutton, Mr. David Bunton and Mr. A. Kyle Thompson of Faithful+Gould visited the Property to observe and document the condition of the building and site components. Our assessment was completed in general accordance with the ASTM E2018-15 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process.

### Approach to Recommendations

The purpose of this report is to determine the condition and ten-year capital needs of the subject buildings, the site systems and the site infrastructure. This report does not include costs for upgrade or improvement of the facilities (beyond those required to address defective conditions) and does not aim to specifically address master planning type issues. Furthermore, the following site and building specific approaches should be noted:

- Our approach when determining security recommendations is to replace existing security elements based upon condition and obsolescence. At the time of these replacements, we have included costs for the replacement elements to meet the Commonwealth of Massachusetts Department of Correction 103 DOC

703 Design Criteria and Planning Guidelines. We have not recommended that elements be replaced purely to meet the 103 DOC 703 Design Criteria and Planning Guidelines.

- We have assumed that the majority of interior finishes will be replaced on an as-needed basis as an operational cost or will be replaced as part of programmatic work. Based upon this approach, this report includes limited interior replacement work, although does include for replacement, where needed, of kitchen and laundry equipment and refurbishment of showers
- The second floor of the Main Building is currently not occupied at 100% capacity due to testing and abatement of asbestos. We have not included costs for reinstatement of these areas
- As the future of the MCI-Framingham steam plant is currently uncertain, we have recommended the installation of dedicated, dual-fuel heating water boilers to eliminate dependency on steam heating sourced from MCI-Framingham
- No expansion of cooling systems beyond the first floor at Main Building

### **Opinions of Cost & Project Scheduling**

We have considered Calendar 2021 as the first year of our study. When recommendations made are complex in nature and as such require design or other professional services in order to inform the scope / extent / IGE of the work, we have included those professional services as a line item two years preceding the recommended construction work. Exceptions to this are where we judge that the large project cannot be delayed for two years. In these instances, we have included for the professional services in the year proceeding the recommended work.

The opinions of cost included within this report and the attached appendix documents are intended to represent total project costs. Reflective of this, our standard costs include various multipliers. The multipliers consist of conversion of Trade Costs to Construction Costs at a 1.3 multiplier and conversion of Construction Cost to Total Project Cost at a 1.5 multiplier. Therefore, a Trade Cost bid of \$1,000,000 would result in a Total Project Cost as included within this report of \$1,950,000.

These multipliers assume the following:

- Include DCAMM management / administration costs
- Diminished contractor productivity of 30%. This assumes one hour into security, one hour exiting security and 30 minutes of delays in site circulation
- 10% MBE requirement
- Any work above \$50,000 is subject to public bidding
- Security personnel will accompany / escort / monitor each work crew, with a per person rate of \$450 per day (\$56 per hour)
- Prevailing wage, non-union

**Capital Requirements, Analysis and Risk Items**

As detailed within Tables EX-2 through EX-10 and Charts EX-1 through EX-7, **capital expenditures over the study period total \$4,378,810 in current dollars and \$5,347,249 when inflated at 4.5% per year. Of this amount, \$3,097,115 (current dollars) or 70% occurs in the first three years of the study (2021, 2022, 2023). This breakdown and capital spend profile correctly reflects the overall condition of the Property with the following key items to note:**

- **\$4,303,999 of the capital need is allocated to the Main Building with \$42,844 and \$31,967 allocated to the Reunification House and Automotive Garage respectively**
- **The \$4,303,999 of the capital need allocated to the Main Building is spread over the following major projects:**
  - **Reconstruction of the rear balcony and replacement of exterior sealants (\$660,000)**
  - **Replacement of mechanical systems to include isolation from the MCI-Framingham Power Plant (\$729,000)**
  - **Replacement of electrical equipment (\$768,000)**
  - **Installation of fire suppression sprinkler system (\$711,000)**

The most critical recommendations are listed in Table EX-2 below. Table EX-3 lists expenditures by year.

**Table EX-2 – List of Critical / High Risk Capital Expenditures**

<b>Project Title</b>	<b>Building Name</b>	<b>Cost (2019 Value)</b>
Reconstruct Balcony Stack	Main Building	\$570,000
Replace 1939 Vintage Secondary Electrical Distribution (Original Wing)	Main Building	\$337,500
Install Fire Sprinkler System	Main Building	\$675,000
<b>TOTAL</b>		<b>\$1,582,500</b>

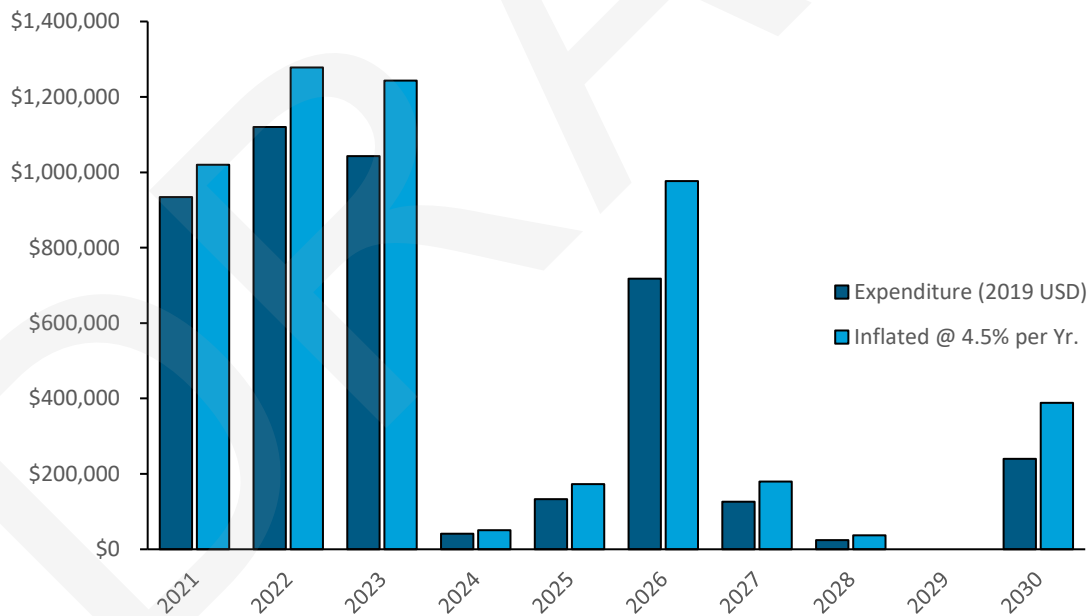
The CAMIS Input Sheet and the Faithful+Gould 10-year capital expenditure forecast included within Appendix C and B of this report, along with the narrative included within the following report sections, provide details of these expenditures. Table EX-4 provides a summary of these expenditures. All numbers are shown in 2019-dollar values unless otherwise noted.

**Table EX-3 - Capital Expenditures (Entire Property)**

<b>Year</b>	<b>Expenditures (2019 Value)</b>	<b>Expenditures (Future Value Inflated at 4.5% Per Year)</b>
2021	\$934,340	\$1,020,323
2022	\$1,120,275	\$1,278,420

Year	Expenditures (2019 Value)	Expenditures (Future Value Inflated at 4.5% Per Year)
2023	\$1,042,500	\$1,243,201
2024	\$40,930	\$51,006
2025	\$132,750	\$172,875
2026	\$717,625	\$976,588
2027	\$126,170	\$179,426
2028	\$24,720	\$36,736
2029	\$0	\$0
2030	\$239,500	\$388,673
<b>TOTAL</b>	<b>\$4,378,810</b>	<b>\$5,347,249</b>

**Chart EX-1 - Capital Expenditures (Entire Property)**





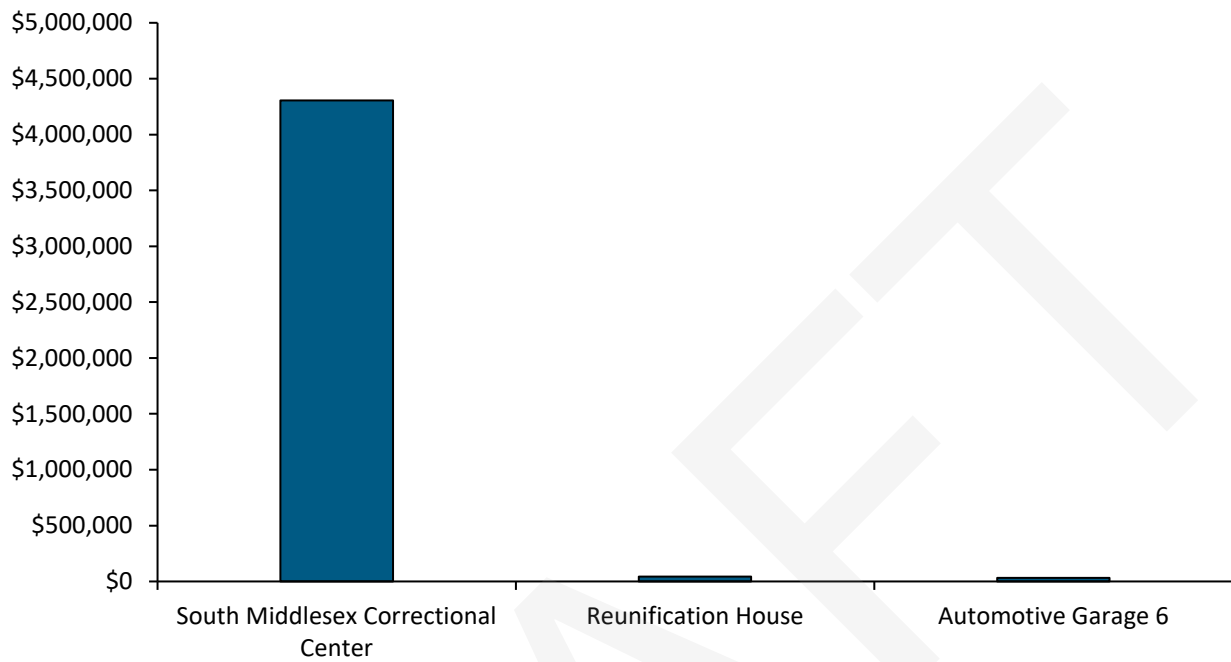
**Table EX-4 - Capital Expenditures (By Property)**

<b>Building</b>	<b>10 Year Capital Need (2019 Value)</b>
South Middlesex Correctional Center ("Main Building")	\$4,303,999
Reunification House	\$42,844
Automotive Garage 6	\$31,967
<b>TOTAL</b>	<b>\$4,378,810</b>

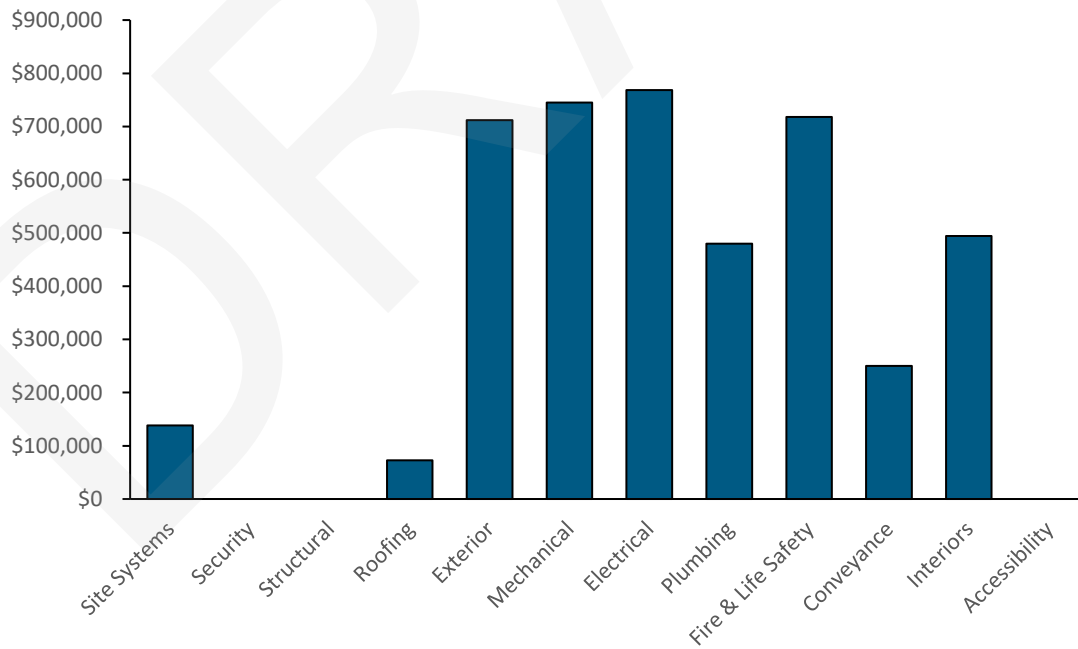
**Table EX-5 - Capital Expenditures (By System)**

<b>System</b>	<b>10 Year Capital Cost (2019 Values)</b>
Site Systems	\$138,270
Security Systems	\$0
Structural Systems	\$0
Roofing Systems	\$72,800
Exterior Elements	\$712,090
Mechanical	\$744,750
Electrical	\$768,500
Plumbing	\$480,000
Fire & Life Safety	\$718,000
Conveyance Systems	\$250,000
Interiors	\$494,400
Accessibility	(Pending)
<b>TOTAL</b>	<b>\$4,378,810</b>

**Chart EX-2- Capital Expenditures (By Property)**



**Chart EX-3- Capital Expenditures (By System) – 2019 Cost Values**



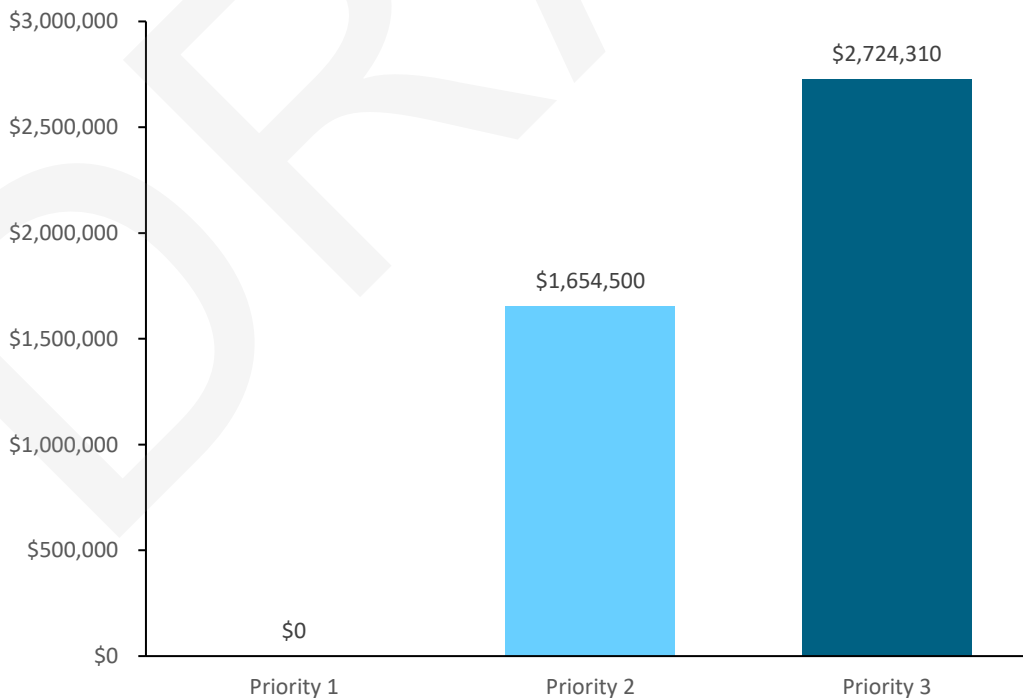
**Table EX-6 - Capital Expenditures (By Priority)**

Priority	10 Year Capital Cost (2019 Cost Values)
1 - Currently Critical and/or Code Violations	\$0
2 - Potentially Critical	\$1,654,500
3 - Necessary, Not Yet Critical	\$2,724,310
<b>TOTAL</b>	<b>\$4,378,810</b>

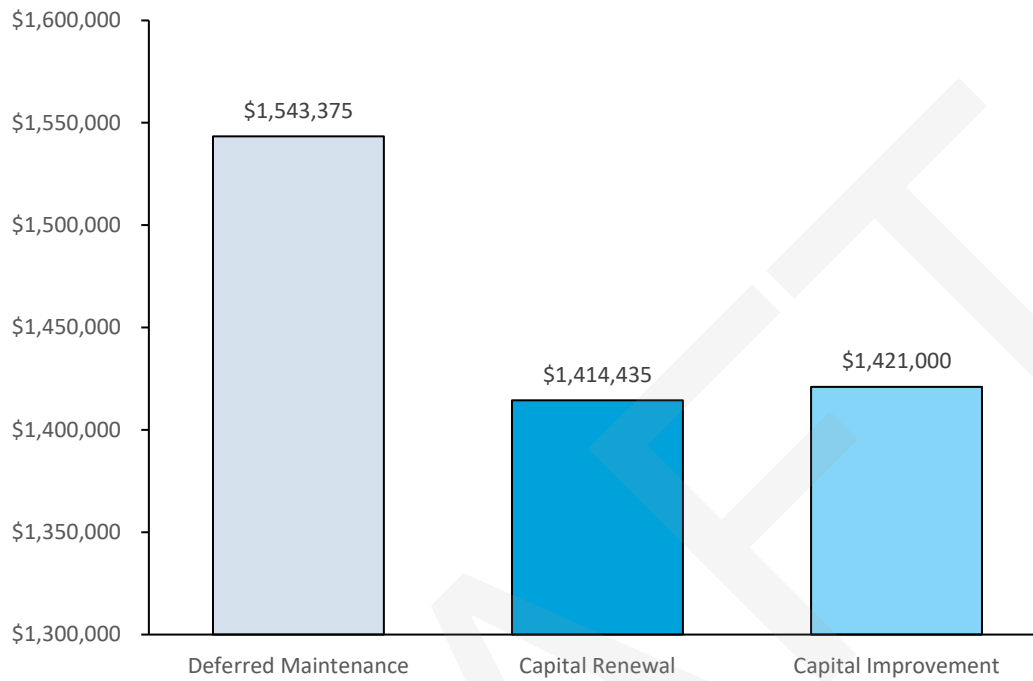
**Table EX-7 - Capital Expenditures (By Category)**

Classification	10 Year Capital Cost (2019 Cost Values)
Deferred Maintenance	\$1,543,375
Capital Renewal	\$1,414,435
Capital Improvement	\$1,421,000
<b>TOTAL</b>	<b>\$4,378,810</b>

**Chart EX-4- Capital Expenditures (By Property) -- 2019 Cost Values**



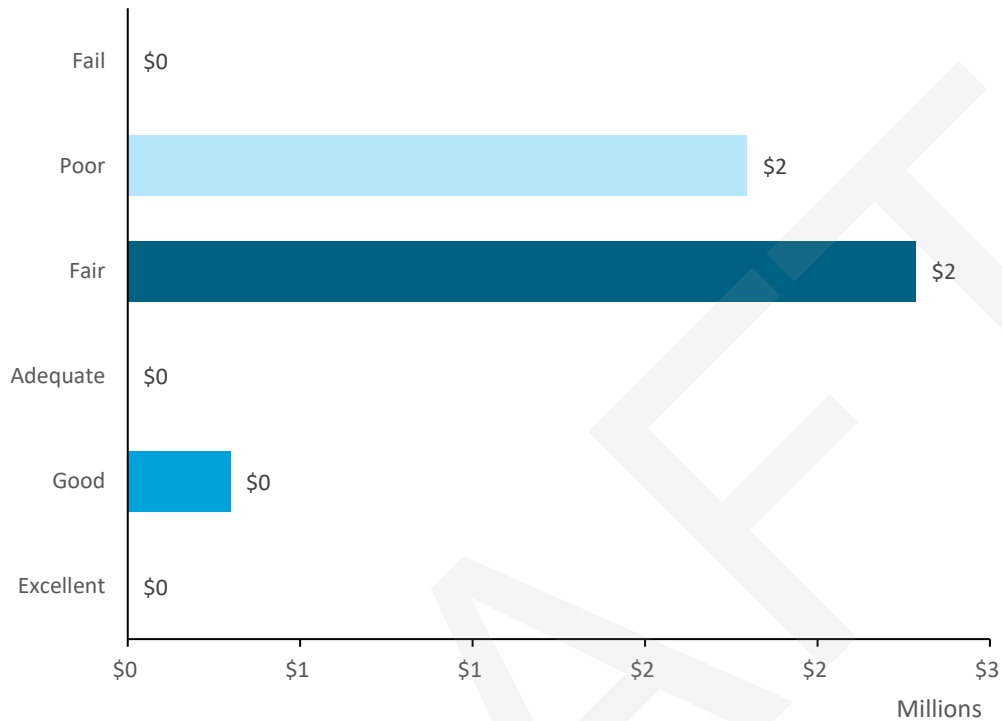
**Chart EX-5- Capital Expenditures (By Category) - 2019 Cost Values**



**Table EX-8 - Capital Expenditures (By Condition Rating)**

Classification	Expenditures (2019 Cost Values)
Excellent	\$0
Good	\$297,470
Adequate	\$0
Fair	\$2,285,495
Poor	\$1,795,845
Fail	\$0
<b>TOTAL</b>	<b>\$4,378,810</b>

**Chart EX-6- Capital Expenditures (By Condition Rating) - 2019 Cost Values**



**Facility Condition Index (FCI)**

The Facility Condition Index (FCI or FCNI) provides a relative measure for comparing one building (or group of buildings) to another. For each building, this index is a calculation, derived by dividing the total accumulated capital needs for the ten-year window covered by this report by the total Component Replacement Value (CRV) of the building. When applying the index as an evaluation tool, the lower the number, the better the facility’s condition. The CRV represents the cost to replace an existing building with one of similar use type and size on the same site. Table EX-9 below describes the ranges of FCI with respect to condition.

**Table EX-9– FCI Range and Descriptions**

FCI Range	Condition Description
0.00 – 0.02	Excellent condition, typically new construction
0.02 – 0.05	Good Condition, renovations occur on schedule
0.05 – 0.1	Fair Condition, in need of normal renovation
0.1 – 0.2	Below average condition, major renovation required
0.2 – 0.5	Poor condition, total renovation needed

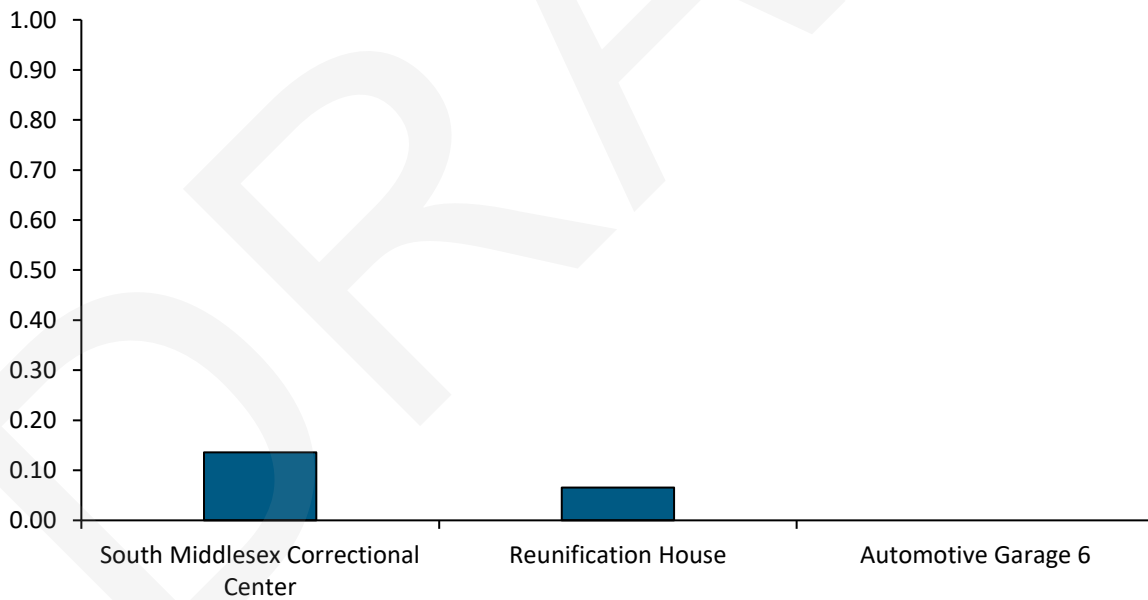
FCI Range	Condition Description
0.5 – Above	Complete facility replacement indicated

The accumulated 10-year capital needs and the resulting FCI for the buildings are shown in Table EX-10.

**Table EX-10 – Facility Condition Index**

Building	Total Capital Need	CRV (\$)	FCI Score	FCI Rating
South Middlesex Correctional Center	\$4,303,999.04	\$31,626,514.28	0.14	Below Average
Reunification House	\$42,843.89	\$655,322.64	0.07	Fair
Automotive Garage 6	\$31,967.07	\$0.00	0.00	Excellent
<b>TOTAL SITE</b>	<b>\$4,378,810</b>	<b>\$32,281,836</b>	<b>0.14</b>	<b>Below Average</b>

**Chart EX-7- FCI by Building**



**CAMIS Data**

We reviewed the CAMIS deferred maintenance information provided for FY 2018, 2019 and 2020. The deferred maintenance projects and our comments are included within Appendix F of this report.

### **Terminology & Limitations**

This report and the attached expenditure forecast generally identify the Expected Useful Life (EUL) and the Remaining Useful Life (RUL) of observed systems and components. EUL is projected based upon industry-standard guidelines and our experience with similar systems. RUL is projected based upon our assessment of age, condition and maintenance/repair history.

The timing of the projected expenditures and their associated costs represent our opinion considering the aforementioned factors. Alternative methods of managing the existing equipment or systems may be feasible over the study period. However, these alternative methods will depend upon actual management practices, financing requirements and the ability of the engineering staff to perform some of the repairs in-house. Alternative scenarios that have not been presented to Faithful+Gould have not been considered within this report.

This report has been presented based upon our on-site observations, information provided to us, discussion with building management and maintenance staff, our review of available documentation (see scope of services and document review section) and our experience with similar systems. If any information becomes available that is not consistent with the observations or conclusions expressed within this report, we request that this information be immediately forwarded to us.

The evaluation of existing structures requires that certain assumptions be made regarding existing conditions. This evaluation was based upon our visual non-destructive evaluation of accessible conditions of the Property. Furthermore, this evaluation was limited in time on-site, fee and scope, and was not based upon a comprehensive engineering evaluation. As such, our report is not intended to represent a complete review of all systems or system components or a check or validation of design professionals' computations. Therefore, Faithful+Gould's evaluation and this report do not represent, warranty or guarantee any system or system component or the future performance of any site improvement.

## SCOPE OF SERVICES

### Report Objectives

The objective of this report is to produce an advanced facility condition assessment and capital planning process, utilizing all current data from a complete condition assessment of the Property, to result in a strong and well-developed plan to support strategic capital investment. In short; the objective is to assess the condition of all included buildings, site systems and site infrastructure to develop a prioritized forecast of anticipated capital expenditures over the ten-year period between 2021 and 2030. This will form the long-term investment plan for the buildings by developing an array of projects, architectural, and mechanical/electrical/plumbing systems that can be inputted into a planning model from which sound management decisions can be made to best utilize funding resources. Specific objectives of this study are listed below.

- Identification and documentation of the present condition
- Recommendation of corrections for all deficiencies
- Provision of cost estimates for such corrections
- Forecasting of future facility renewal costs based on documented methodology, of the facilities, and equipment in the building

To meet these objectives, we completed a visual evaluation of installed systems at the building (i.e. site systems, security, structural, roofing, exterior, mechanical, electrical, plumbing, fire protection and life safety, and interiors), and produced this report of Facility Condition Assessment. This report represents a comprehensive evaluation of the building systems and major components including criteria for assessment, expected useful life, remaining useful life, year to be replaced, project priority and plan type, existing condition, estimated replacement date, and estimated replacement cost standards.

### Key Issues

Faithful+Gould was requested to complete a Facility Condition Assessment of the site, site infrastructure and site improvements. The key issues to be addressed by the Facility Condition Assessment include the following:

1. Identification of the visually apparent condition, installation date, remaining useful life and deficiencies at the Property to include all systems and elements detailed in the following "Strategy Employed to Meet the Key Issues" section.
2. Recommendations and opinions of cost for capital projects over a ten-year period from 2021 to 2030.
3. The replacement value of the component or system.
4. Proposed projects and timelines for when the system/component should be replaced.
5. Proposed execution strategies for the identified projects that minimizes cost and disruption.



### Strategy Employed to Meet Key Issues

The strategy employed to meet the key issues detailed above (i.e. our scope of services) consisted of performing a visual assessment of the interior, exterior, and site components of the subject building. The scope of services was governed by Faithful+Gould's proposal for Facility Condition Assessment services.

The primary purpose of the Facility Condition Assessment was to identify visually apparent deficiencies in the building and site. The evaluation included site visits to observe the building and site systems, interviewing building management and maintenance personnel, and reviewing available maintenance systems, design and construction documents and plans. This Facility Condition Assessment has been conducted in general accordance with industry standards and the American Society for Testing and Materials (ASTM) Standard E 2018-15 Standard Guide for Property Condition Assessment: Baseline Property Condition Assessment Process.

We performed a visual non-destructive assessment of the interior, exterior, and site components of each building, including the following major components and systems:

- **Site Systems.** We visually observed the site systems for the removal of stormwater and evidence of poor drainage and/or erosion potential. We also reviewed (where applicable) the condition of pavements, site concrete, retaining walls, fencing, landscaping, site grading, and stormwater drainage features.
- **Structural System.** We observed the structures for visible signs of distress and have reported our findings. We also reviewed available structural drawings for information regarding the design load criteria of the existing structures and the building codes to which the structures were designed. We did not complete a seismic probable-maximum-loss (PML) evaluation of the Property.
- **Roof System.** We visually evaluated the condition of accessible roof systems, accessories, and details. In addition, where applicable we discussed existing roof warranties.
- **Building Exterior Elements.** We visually observed the exterior wall system, window, and door systems for visible evidence of deficiencies, continuity of seals, and other types of distress and have reported our findings. We reviewed available flashing and connection details for drainage design and observed the condition and placement of expansion joints.
- **Mechanical/HVAC, Electrical, Plumbing (MEP) Systems.** We observed the age and condition of the MEP and related building systems and have commented on their condition and visible deficiencies.
- **Fire Protection and Life Safety.** We observed the age and condition of the fire protection and life safety elements and have commented on their condition and any visible deficiencies. The elements surveyed included structural fire protection, means of egress, fire suppression systems, and fire detection and alarm systems.
- **Conveyance Systems.** We observed the age and condition of the conveyance and related building systems and have commented on their condition and visible deficiencies.

- **Interior Finishes.** We visually observed the interior areas of the Property and have reported their general condition.
- **Accessibility.** We understand that DCAMM engaged an Accessibility Consultant, Steven Winter Associates, to conduct a separate accessibility audit of this facility. We have not included for any recommendations or costs within our report.
- **Climate Resiliency.** During our assessment, the DCAMM requested that Faithful+Gould determine any potential weather-related environmental impacts that may jeopardize the operations and future of the Property. To do this, we completed DCAMM's Climate Resiliency Checklist contained within Appendix G.
- **Security.** We evaluated the condition of the various security components, systems and elements. Our approach when determining security recommendations is to replace existing security elements based upon condition and obsolescence. At the time of these replacements, we have included costs for the replacement elements to meet the Commonwealth of Massachusetts Department of Correction 103 DOC 703 Design Criteria and Planning Guidelines. We have not recommended that elements be replaced purely to meet the 103 DOC 703 Design Criteria and Planning Guidelines.

The scope of services under which the Facility Condition Assessment was completed, was visual in nature, and not intended to be destructive to the Property, to gain access to hidden conditions. We did not perform any destructive testing or uncover or expose any system members. We have documented the type and extent of visually apparent defects in the systems in order to perform the condition assessment.

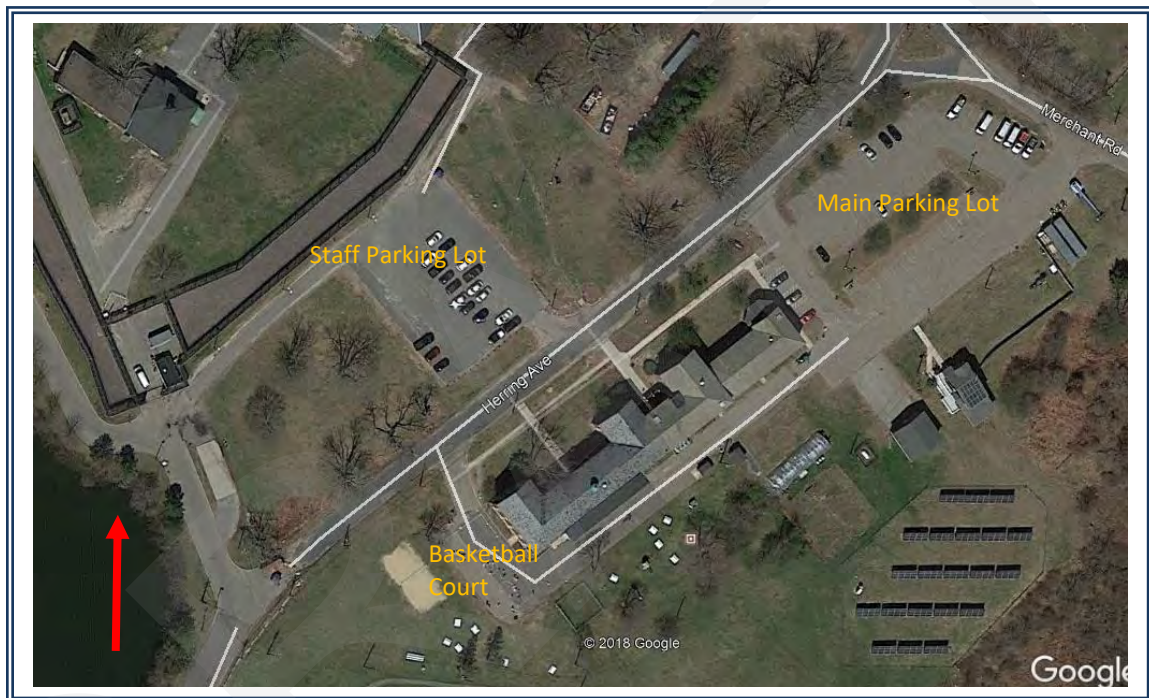
The scope of services under which the Facility Condition Assessment was completed, includes only those items specifically indicated. The evaluation does not include any environmental services such as (without limitation) sampling, testing, or evaluation of asbestos, lead-based paint, lead-in-water, indoor air quality, PCB's, radon, mold, or any other potentially hazardous materials, air-borne toxins, or issues not outlined in the previous scope of services. In addition, the assessment does not include identification of underground soils, identification or quantification of underground contaminants.

## SITE FEATURES

### 1.0 SITE FEATURES

Site features at the Property include two parking areas and associated roadways, sidewalks and a basketball court, landscaped areas and stormwater management. Security related fencing is discussed within the security checklist included as an appendix to this report (Reference Photographs ST-1 through to ST-6 in Appendix A). Plan 1-1 provides a plan overview of the site areas.

Plan 1-1 – Aerial View of Site Systems



#### 1.1 Description

##### 1.1.1 Site Features

###### *Asphalt Pavements*

The Property contains two parking areas. The first parking area is reserved for staff, is located at the West / front of the Main Building, is rectangular in plan, and has dimensions of 113' x 148' (N/E – S/W). Constructed from asphalt pavement and measuring approximately 3,175 square yards (including the feeder roadway), the lot contains parking for approximately 48 vehicles. The lot is accessed from a single entrance / exit off the State maintained Herring Avenue at the South and a connector road which leads to the adjacent MCI-Framingham facility. The second parking area is located at the East (side) of the Main Building and front of the Reunification House and Automotive Garage. The lot is rectangular in plan and has dimensions of 295' x 400' (N/E – S/W). Constructed from asphalt pavement and measuring approximately

4,585 square yards (include paving at the rear of the Main Building), the lot contains parking for approximately 63 vehicles. The lot is accessed from a single entrance / exit off the State maintained Herring Avenue at the North and a single entrance / exit off Merchant Road at the East.

Two additional areas of asphalt pavement are provided at the Property. The first consists of the 30' wide roadway which leads from Herring Avenue at the North, round to the side and rear of the Main Building and to the parking lot located at the East (side) of the Main Building and front of the Reunification House and Automotive Garage. The second consists of the asphalt paved basketball court located at the West side of the Main Building. The court has a dimension of 82' x 50', a non-colored asphalt surface, painted line markings and two hoops.

#### *Cast-In-Place (CIP) Concrete*

Cast-in-place concrete sidewalks are located at the front (West) of the Main Building. Sidewalks are typically 9' wide and made-up of 5" thick non-reinforced concrete.

#### *Lighting*

Area lighting for the site is typically provided by building-mounted lights.

#### *Stormwater Management*

Stormwater is collected in a combination of perimeter and surface recessed grated inlets and conveyed to the stormwater management drainage system, located below Loring Drive, and to the stormwater management pond, located adjacent to Loring Drive.

#### *Other Site Features*

No other major site features were contained at the site.

## **1.2 Condition**

### **1.2.1 Site Features**

#### *Asphalt Pavements and Aggregate*

The parking area that is reserved for staff was in fair condition. Throughout the parking lot we noted areas of shallow longitudinal and transverse cracks, general dissipation of the asphaltic chemicals from the wearing surface, faded surface markings, and at the entrance off Herring Avenue significant areas of rutting. We have recommended that the parking lot be crack filled, seal coated, restriped and areas of rutting be subject to full depth repair within the next three years, and that within the next seven to ten years the asphalt be resurfaced.

The parking area located at the East (side) of the Main Building and front of the Reunification House and Automotive Garage along with the basketball court and the roadway which leads from Herring Avenue at

the North, round to the side and rear of the Main Building was in fair to poor condition. We noted areas of shallow to medium depth longitudinal and transverse cracks, dissipation of the asphaltic chemicals from the wearing surface, faded surface markings, and general deterioration of the pavement wearing surface. We have recommended that the parking lot and roadways be resurfaced within the next three to five years, and subject to periodic cracking filling, seal coating and restriping on a five-year cycle thereafter.

*Cast-In-Place (CIP) Concrete*

The cast-in-place concrete sidewalks were in fair to good condition. We noted localized areas of cracked, eroded and heaved or settled panels. We anticipate that the current practice of replacing or mudjacking of failed panels on an as-needed basis as an operating expense can be continued and that capital level replacement of sidewalks will not be required.

*Lighting*

Area lighting appeared adequate and should not require capital level repair or replacement.

*Stormwater Management*

Stormwater management appeared to be in good condition and should not require capital level repair or replacement.

*Other Site Features*

No other major site features were contained at the site.

**1.3 Projected Capital Expenditures**

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Site Systems</b>				
Crack Fill, Seal Coat & Re-Stripe Staff Parking Lot (Inc. Localized Full Depth Repair)	2021	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$12,700
Resurface Staff Parking Lot	2026	3 - Necessary, Not Yet Critical	Capital Renewal	\$47,625
Resurface Visitor Parking Lot & South Roadway	2022	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$68,775
Crack Fill, Seal Coat & Re-Stripe Visitor Parking Lot & South Roadway	2027	3 - Necessary, Not Yet Critical	Capital Renewal	\$9,170

## **2.0 SECURITY SYSTEMS**

Please refer to Appendix H of this report for a comparison between as-built conditions and the Commonwealth of Massachusetts Department of Correction 103 DOC 703 Design Criteria and Planning Guidelines.

DRAFT

**BUILDING ELEMENTS**

**3.0 STRUCTURAL SYSTEMS**

Structural Systems at the Property consists of wood, concrete, and steel framed structures of varying age and type. Limited structural drawings for the buildings were available for review (Reference Photograph S-1 in Appendix A).

**3.1 Description**

Table 3-1 below provides a description summary of the Structural Systems at each building.

**Table 3-1 Structural Systems by Building**

Building	Description Structural Systems
Main Building	The Main Building was steel-framed with a steel-framed roof system with precast concrete decking panels, composite floor slabs comprised of concrete over steel, steel I beams and columns, brick exteriors walls and foundations consisting of isolated and continuous footings. The building contains a four-level wood and concrete-framed balcony at the rear elevation.
Automotive Garage	The structure at the Automotive Garage consisted of a wood-framed structure comprised of prefabricated wood roof trusses, wood joists and stick built wood walls. The structure was supported on continuous footings with a split face concrete masonry unit foundation wall.
Reunification House	The structure at the Reunification House consisted of a wood-framed structure comprised of prefabricated wood roof trusses, wood joists and stick built wood walls. Foundation walls consisted of cast-in-place concrete. The structure was supported on continuous footings.

**3.2 Condition**

Faithful+Gould observed the exposed structural systems at each building. The condition of the structural systems ranged from good to poor. Structural defects and recommended capital expenditure requirements are detailed within Table 3-2 below.

**Table 3-2 Condition of Structural Systems by Building**

Building	Description Structural Systems
Main Building	With one exception, the structural system at the Main Building was in good condition. The exception consisted of structural failure of the balcony contained at the rear elevation. This is discussed within the exteriors section of this report.
Automotive Garage	Overall the structure was in good condition. We do not anticipate any necessary expenditures at this time.

Building	Description Structural Systems
Reunification House	Overall the structure was in good condition. We do not anticipate any necessary expenditures at this time.

**3.3 Projected Capital Expenditures**

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Refer Exterior Section of Report				
<b>Automotive Garage</b>				
No Required Expenditures				
<b>Reunification House</b>				
No Required Expenditures				



#### 4.0 ROOFING COMPONENTS

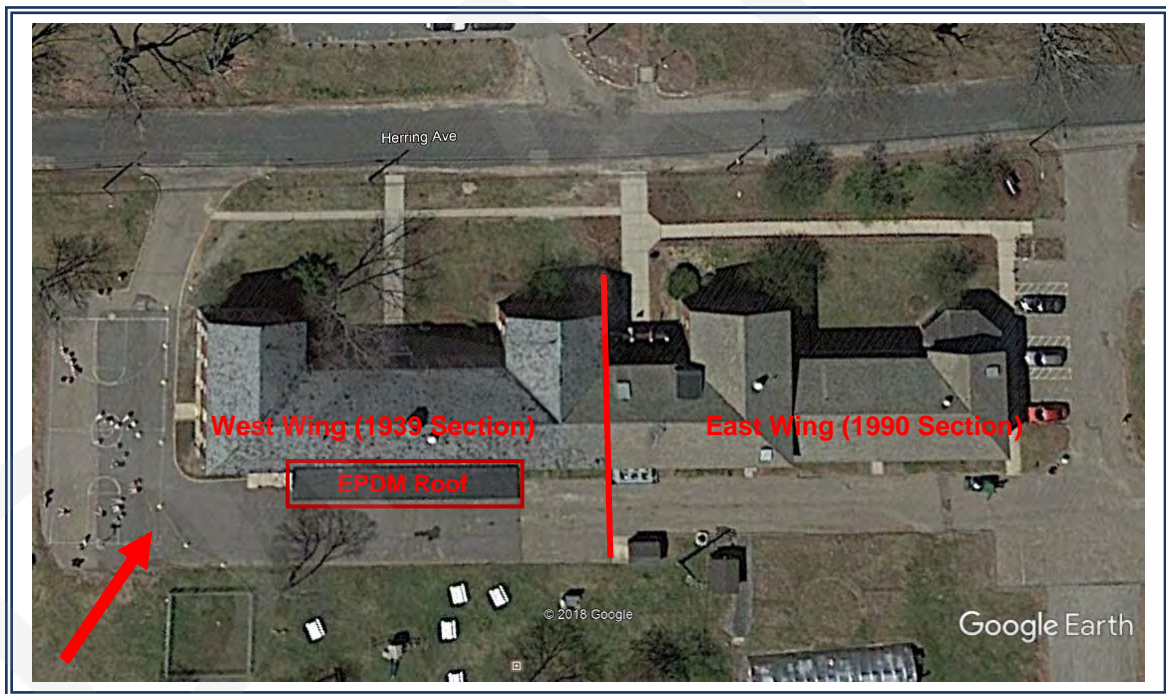
The Main Building contains sloped slate covered roof areas with the remaining buildings containing sloped asphalt shingle covered roofs (Reference Photographs R-1 through R-8 in Appendix A).

#### 4.1 Description

##### Main Building

The original and newer portions of the Main Building were both covered with gable roof sections with copper lined valleys. Each roof was covered with slate tiles which were mechanically fastened over wood battens, a wood board substrate and the precast concrete roof deck. Tiles at the Western (older) portions of the building were natural, with tiles at the East addition appearing to be synthetic. Roofs drained to a combination of steel and copper gutters and downspouts. The balcony located at the rear of the building contained a mechanically-attached EPDM roof system. Plan 4-1 provides an overview of the roof areas.

Plan 4-1 – Roof Plan



##### Automotive Garage and Reunification House

Both the Automotive Garage and Reunification House were covered with gable roofs. Each gable roof was covered with three tab fiberglass reinforced asphalt shingles which were nailed over saturated felt underlayment and the structural wood roof deck. Roofs drained to perimeter prefinished steel gutters and downspouts. Plan 4-2 provides an overview of the roof areas.

#### Plan 4-2 – Roof Plan



#### 4.2 Condition

##### **Main Building**

Installed at the time of construction, the slate roof system at both the original and newer portions of the building appeared to be in fair condition with six areas of concern noted. The first area of concern was beams of daylight coming through the roof deck, as noted from within the attic. Daylight appeared to be caused by failure of pipe perimeter flashing and detachment or lifting of the exterior slate. The second area of concern consisted of localized areas of loose and lifted slate as noted from the ground level using binoculars. The third area of concern consisted of the placement of polyurethane sheeting within the attic, presumably to contain roof leaks. The fourth area of concern consisted of apparent surface deterioration of the slates as noted from the ground level. The fifth area of concern was water stains at the underside of the roof deck. The last area of concern consisted of twisting and detachment of perimeter gutters (presumably caused by snow and ice) and areas of rotted roof level trim presumably caused by water entrapment behind the gutters. We have recommended that the roofs be accessed from a boom lift, inspected and repaired within the next three years. Repairs should consist of replacing failed slates and flashings, re-attaching slipped slates, replacing failed gutters, and re-attaching gutters where leaks occur between the gutter and trim. In addition, within the exterior section of this report we have recommended that failed trim is replaced.

The EPDM roof contained over the balcony stack was in fair to poor condition with active leaks reported and observed. Due to structural concerns, we have recommended that the balcony is subject to

reconstruction within the next three years. The roof should be replaced as part of this work. Refer to the exterior section of this report for a description of this work to include roof replacement.

**Automotive Garage and Reunification House**

The roof system at the Automotive Garage appeared to be in fair to poor condition having been installed in 2003. We noted localized areas of water ingress through the roof, detached shingles, erosion at the surface of the shingles, and were informed that the roof had been subject to on-going leaks. Based upon these factors, we have recommended budgeting for replacement of the roof within the next three to five years.

The roof system over the Reunification House was in good condition. We noted no significant instances of detached or deteriorated shingles and understand that the roof had not been subject to leaks. Based upon these factors and the age of the roof, we have recommended budgeting for replacement within the next seven to ten years.

**4.3 Projected Capital Expenditures**

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Inspect & Repair Slate Roofs	2021	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$48,000
<b>Automotive Garage</b>				
Replace Asphalt Shingle Roof System	2024	3 - Necessary, Not Yet Critical	Capital Renewal	\$10,240
<b>Reunification House</b>				
Replace Asphalt Shingle Roof System	2028	3 - Necessary, Not Yet Critical	Capital Renewal	\$14,560

## **5.0 BUILDING EXTERIORS**

The exterior wall system at the various buildings consists of brick masonry, wood siding, concrete elements, cedar shakes, and wood trim; windows comprised of aluminum, vinyl clad or steel units, and steel doors, along with various sealants (Reference Photographs EX-1 through EX-12 in Appendix A).

### **5.1 Description**

#### **Main Building**

The primary exterior wall system at the Main Building consists of a clay brick veneer system laid in running bond. The basement level was formed from cast-in-place concrete walls. Painted wood trim is provided at the roof level, at soffits and at the main entrances. The rear of the building contains a four level balcony. The balcony consists of garages at the lower level, a cantilevered concrete slab, siding enclosed support spaces at the second level and two levels of wood-framed decks comprised of wood columns, deck joists, decking boards and perimeter wood picket railing assemblies.

Window types varied by building area. Windows at the 1990 portion of the building consist of operable sash units containing insulated glazing units set within uninsulated prefinished steel frames. Windows at the 1939 portion of the building consist of vinyl encased double glazed units that were also installed in 1990. Perimeter framing members of the original painted wood windows had been left in-place with the replacement vinyl windows inserted into the original frames. Doors primarily consist of steel panel pedestrian access doors with overhead steel doors provided at the lowest level of the rear balcony. Urethane sealants are installed at the perimeter of the window and door units and are installed vertically at control joints in the brick veneer.

#### **Automotive Garage**

The exterior wall system at the Automotive Garage consists of painted wood panel T1-11 siding over a split face concrete masonry unit base wall. Trim installed vertically and horizontally at the roof and wall levels consists of painted wood. Windows consist of minimally double-glazed steel framed sliding units. Doors consist of a steel panel pedestrian door and an overhead sectional door.

#### **Reunification House**

The exterior of the Reunification House consists of cedar shakes encased at penetrations, transitions and the roof level with painted wood trim. A wood-framed deck with composite decking boards is provided at the front and side elevations. Windows consist of double-glazed aluminum framed sliding units. Doors consist of steel panel units.

## 5.2 Condition

### **Main Building**

The brick and concrete exterior wall systems at the Main Building appeared to be in good condition. No significant instances of cracked or spalled bricks or mortar were noted. We anticipate that any as-needed replacement of failed bricks or mortar can be funded as an operational expense. Painted wood trim was in fair to poor condition. We noted areas of rotted trim at the roof level and noted staining and peeling of the paint cover at other locations. We have recommended that failed trim at the roof level be replaced within the next three years, and that remaining trim (including the original wood window frames) is repainted within the next three to five years.

The four-level balcony located at the rear of the building was in poor condition. We noted widespread rotting, curling and detachment of decking boards; poor stability and rotting of perimeter railing assemblies and apparent structural failure / deterioration of the supporting joists and posts. We have recommended the following course of action:

- Immediately close all access to the balcony
- Repair structure with anticipated scope to consist of the following:
  - Remove walls, railings and decking boards to expose structure
  - Replace failed structural joists and columns (assumed to be 50%)
  - Repair concrete slab
  - Replace roof system
  - Replace soffit, decking boards, wall sections and railings

Windows and doors were in fair condition having been installed in 1990. At the steel windows we noted numerous areas of failed sash springs resulting in difficulty to open the windows, and at the vinyl windows we noted areas of surface deterioration and damage. Despite these conditions, we anticipate that with on-going maintenance and repair (funded as an operational expense), full replacement of the windows should not be required within the study period. Urethane sealants installed at the vertical control joints and installed at the perimeter of windows and doors were in poor condition with widespread adhesive and cohesive failure noted. Sealants should be replaced within the next three years.

### **Automotive Garage**

The exterior wall system at the Automotive Garage was in generally good condition. However, we noted failure of the painted surface at the rear, detachment of wall sections at the rear, and at the front and side elevations localized failure of the painted surface. We have recommended budgeting for repair and repainting of the building exterior within the next three to five years.

### **Reunification House**

The exterior of the Reunification House inclusive of the exterior wall system, trim, windows, doors and deck were in good condition. However, the paint cover at the trim had failed and should be re-applied. With the exception of this work, we do not anticipate capital level repair or replacement of the building exterior.

**5.3 Projected Capital Expenditures**

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Replace Rotted Trim	2021	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$7,680
Repaint Exterior Trim	2024	3 - Necessary, Not Yet Critical	Capital Renewal	\$30,690
Reconstruct Balcony	2021	2 - Potentially Critical	Deferred Maintenance	\$570,000
Replace Window and Door Perimeter Sealants	2021	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$68,400
Replace Control Joint Sealants	2021	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$15,000
<b>Automotive Garage</b>				
Repaint & Repair Building Exterior - Cycle 1	2021	3 - Necessary, Not Yet Critical	Capital Renewal	\$6,240
Repaint & Repair Building Exterior - Cycle 2	2028	3 - Necessary, Not Yet Critical	Capital Renewal	\$6,240
<b>Reunification House</b>				
Repaint Trim & Repair Building Exterior - Cycle 1	2021	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$3,920
Repaint Trim & Repair Building Exterior - Cycle 2	2028	3 - Necessary, Not Yet Critical	Capital Renewal	\$3,920

## BUILDING SYSTEMS

### 6.0 MECHANICAL SYSTEMS

The following information was obtained through our visual observations of the building systems, review of available documentation, and discussions with facilities staff. The Main Building is heated with steam supplied from the Power Plant at the adjacent MCI-Framingham. Cooling is limited to the first floor and consists of a central station air handling unit serving the common areas and perimeter fan coil units serving the administrative and office areas. Chilled water is produced by a reciprocating chiller with an exterior air-cooled condensing unit. The Automotive Garage is heated by an infrared strip heater and baseboard heaters. No cooling is provided. The Reunification House is heated and cooled by two split system air conditioning units (Reference Photographs M-1 through M-12 in Appendix A).

#### 6.1 Heating and Cooling Systems

##### Description

###### Main Building

Steam is supplied by the steam plant located at the adjacent MCI-Framingham Property. Steam is distributed through direct buried piping which connects to the basement level mechanical room. Steam is fed to the kitchen make-up air handling unit and a shell and tube heat exchanger. The heat exchanger supplies heating water to six circulating pumps which serve the fan-coil units, radiators and air handling units.

A 1989, 50-ton reciprocating chiller utilizing R-22 refrigerant supplies chilled water to a pair of 3-horsepower, base mounted, end-suction circulating pumps. Heat rejection is accomplished with an air-cooled condensing unit located on a concrete pad at the South elevation. Chilled water is circulated to the air handling units and fan-coil units located on the first floor.

###### Automotive Garage

Open areas of the Automotive Garage are heated by a gas-fired radiant tube heater manufactured by Schwank. The office, restroom and storage areas were heated by electric powered baseboard heaters. No means of mechanical cooling were provided, although ceiling hung fans were provided for general air circulation. Cooling was primarily achieved through opening of windows or the large overhead door.

###### Reunification House

The Reunification House was heated and cooled by two split systems. Each split system consisted of a heat pump unit mounted externally from brackets at the East elevation, and a gas-fired air handling unit located internally at the basement level. Table 6-1 below provides an overview of the split systems.

**Table 6-1 – Split Systems at Reunification House**

System No.	Area Served	Heat Pump	Air Handling Unit
1	Main Level + Basement	2.5 Ton Heat Pump	Single Piece Air Handling Unit Manufactured in 2006
2	Upper Level	2 Ton Heat Pump	Single Piece Air Handling Unit Manufactured in 2006

**Condition**

Main Building

The 1989 renovation and expansion effort included installing forced air heating and cooling on the first floor. Upper levels do not contain cooling with conditioning limited to radiant heating and natural ventilation. As the future of the Framingham steam plant is currently uncertain, we have recommended the installation of dedicated, dual-fuel heating water boilers to eliminate dependency on district steam heating.

The chiller and air-cooled condenser have exceeded their useful life and utilize obsolete R-22 refrigerant. We recommend the installation of a pad mounted, high-efficiency air-cooled chiller in the near term.

Automotive Garage

The gas-fired radiant tube heater and the electric powered baseboard heaters that provide heating to the Automotive Garage appeared to be in good condition. We anticipate that with on-going maintenance and repair, replacement of the units will not be required within the ten-year study period.

Reunification House

The two split systems that provide heating and cooling to the Reunification House appeared to be in good condition. However, we noted two concerns with the units. Firstly, the units both utilize R-22 refrigerant. R-22 refrigerant will no longer be manufactured after 2021. As a result, replacement refrigerant will likely become increasingly expensive. Secondly, we typically observe that once units of this type reach a 15 to 20-year useful life they become increasingly problematic with items such as heat exchangers, compressors and other major components requiring replacement. This type of replacement coupled with concerns relating to the use of R-22 prompts most systems of this type to be replaced when they reach a 15 to 20-year age. Based upon this, we have recommended that the heat pumps and air handling units are replaced within the next five to seven years.



**Projected Capital Expenditures**

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Install Dedicated Incremental Gas/Oil Fired Heating Water Boilers	2022	3 - Necessary, Not Yet Critical	Capital Improvement	\$225,000
Fuel Oil Storage Tank (Above Ground)	2022	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$30,000
Air-Cooled Chiller Replacement	2022	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$125,000
<b>Automotive Garage</b>				
No Required Expenditures				
<b>Reunification House</b>				
Replace Split System (Upper Level)	2025	3 - Necessary, Not Yet Critical	Capital Renewal	\$7,000
Replace Split System (Basement & Main Level)	2025	3 - Necessary, Not Yet Critical	Capital Renewal	\$8,750

**6.2 Air Distribution, Ventilation and Exhaust Systems**

**Description**

Main Building

Air distribution, ventilation and exhaust throughout the upper floors is limited to natural ventilation and utility blower exhaust fans in the attic serving the bathrooms. The first-floor features two-pipe fan coil units in the office / administrative areas and air handling units serving the first-floor common areas, kitchen make-up air and laundry room heating and ventilating units.

Automotive Garage

Air distribution, ventilation and exhaust systems within the Automotive Garage is limited to ceiling hung fans for general air circulation.

Reunification House

Air distribution, ventilation and exhaust systems within the Reunification House consists of the previously detailed split system air conditioning systems along with kitchen and bathroom extractor fans.

**Condition**

Main Building

The make-up air handling unit serving the kitchen had been abandoned, in place, as excessive airflow tends to extinguish pilot lights on the food service equipment. As the unit is nearly 30-years old and at the end of its useful life, we recommend its replacement with a new unit equipped with a variable frequency drive. A variable frequency drive will allow airflow adjustment to below the threshold where pilot lights are prone to be extinguished. The air handling units serving the first-floor common areas and laundry room were also at the end of their useful life and should be scheduled for replacement.

The fan-coil units serving the administrative and office areas on the first-floor were in fair to poor condition and becoming increasingly maintenance intensive and unreliable. Considering an estimated useful life of 20-years for standard quality fan-coil units, we recommend their universal replacement within the study period.

Automotive Garage

The air distribution, ventilation and exhaust systems appeared to be in good condition and should not require capital level repair or replacement within the study period.

Reunification House

The air distribution, ventilation and exhaust systems appeared to be in good condition and beyond the previously detailed replacement of the split systems should not require capital level repair or replacement within the study period.

**Projected Capital Expenditures**

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Replace Air Handling Unit Serving East (New) Wing	2022	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$75,000
Perimeter Fan-Coil Replacements (First Floor)	2022	3 - Necessary, Not Yet Critical	Capital Renewal	\$54,000
Replace Laundry Heating & Ventilating Unit	2022	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$25,000
Kitchen Make-Up Air Handling Unit Replacement Including VFD	2022	3 - Necessary, Not Yet Critical	Deferred Maintenance	\$50,000
Replace Utility Blower Exhaust Fans	2022	3 - Necessary, Not Yet Critical	Capital Renewal	\$20,000

Project Title	Year	Priority	Deficiency Category	Total Project Cost
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**Automotive Garage**

No Anticipated Expenditures

**Reunification House**

No Anticipated Expenditures

**6.3 Temperature Control Systems**

**Description**

Main Building

HVAC system controls consist of a combination of low voltage and pneumatic sensors and actuators that provide limited automation of the heating and cooling system and setpoints. Fan coil units feature point of use low voltage controls.

Automotive Garage

Temperature control systems for the Automotive Garage are limited to a thermostat for the tube heater and direct controls on the baseboard heaters.

Reunification House

Temperature control for the Reunification House consists of wall-mounted thermostats.

**Condition**

Main Building

Considering the age of the HVAC control systems and magnitude of recommended boiler, chiller, air handling unit and fan-coil upgrades, we recommend modernizing the HVAC controls to the latest Direct Digital, web-enabled standard.

Automotive Garage

Temperature control systems appeared to be in good condition and should not require capital level repair or replacement within the study period.

Reunification House

Thermostats for the Reunification House appeared to be in good condition. However, as a good practice measure, thermostats should be replaced at the time of split system replacement.

### Projected Capital Expenditures

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Direct Digital HVAC System Controls Upgrade	2022	3 - Necessary, Not Yet Critical	Capital Improvement	\$125,000

#### Automotive Garage

No Anticipated Expenditures

#### Reunification House

No Anticipated Expenditures

## 7.0 ELECTRICAL SYSTEMS

The following information was obtained through our visual observations of the building systems, review of available documentation, and discussions with facilities staff. The electrical systems include the incoming electrical service, service switchgear and electrical distribution equipment, emergency power systems, lighting systems and communications systems (Reference Photographs E-1 through E-6 in Appendix A).

### 7.1 Electrical Service and Distribution Equipment

#### Description

Electrical power is supplied to the South Middlesex site from the MCI-Framingham power plant at 4,160-volts to a step-down service transformer providing 120/208-volt power. The service at the Main Building is rated at 1,600-amp, with the service at the Automotive Garage and Reunification House rated at 100 amps and 200 amps respectively.

#### Condition

At the Main Building, the primary electrical service was upgraded as part of the 1989 renovation and expansion effort. Considering a 30 to 40-year useful life for primary electrical service switchgear, it should be serviceable for the duration of the study period with routine thermal scanning and as-needed component overhaul and replacements performed as an operational expense.

The secondary electrical distribution serving the original 1939 wing was not replaced during the 1989 renovation and has exceeded its useful life of 50-years. The Kelek breaker panels are obsolete and should be replaced as part of a comprehensive secondary electrical system replacement effort to include new branch wiring and devices.

Service at the Automotive Garage and Reunification House appeared to be in good condition having been installed in 2003 and 2008 respectively. Capital level repair or replacement should not be required within the study period.

#### Projected Capital Expenditures

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Replace 1939 Vintage Secondary Electrical Distribution (Study)	2021	2 - Potentially Critical	Deferred Maintenance	\$36,000
Replace 1939 Vintage Secondary Electrical Distribution (Original Wing)	2023	2 - Potentially Critical	Deferred Maintenance	\$337,500

Project Title	Year	Priority	Deficiency Category	Total Project Cost
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**Automotive Garage**

No Anticipated Expenditures

**Reunification House**

No Anticipated Expenditures

**7.2 Emergency Power Systems**

**Description**

Emergency power for the entire building is supplied to the Main Building by a Kohler, 50-kilowatt diesel generator with a 100-gallon storage tank located in a basement level mechanical room. A 260-amp automatic transfer switch supplies 120/208-volt power to critical base building and fire/life safety loads. The Automotive Garage and the Reunification House are not provided with emergency power.

**Condition**

The emergency power system was found to be operational and serviceable for the near term, but at the end of its statistical life cycle based upon its installation date of 1990. Weekly testing and frequent power failures have resulted in elevated operating hours and associated wear. Scheduled replacement of the generator is recommended to ensure system reliability.

**Projected Capital Expenditures**

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
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**Main Building**

Replace Emergency Power Generator	2025	3 - Necessary, Not Yet Critical	Capital Renewal	\$80,000
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**Automotive Garage**

No Anticipated Expenditures

**Reunification House**

No Anticipated Expenditures

**7.3 Lighting Systems**

**Description**

Interior lighting consists of commercial grade fixtures at the Main Building and residential grade units at the Automotive Garage and Reunification House. Fixtures are generally lamped with T-12 and compact

fluorescent elements.

### Condition

Lighting systems were replaced throughout the Main Building as part of the 1989 renovation effort and were in fair condition but inefficient as compared to modern LED systems. We recommend budgeting for the replacement of interior light fixtures throughout the Main Building with LED systems in conjunction with the recommended secondary electrical distribution upgrades. Replacement of lighting at the Automotive Garage and Reunification House should not be required within the study period.

### Projected Capital Expenditures

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Interior Lighting Upgrade	2022	3 - Necessary, Not Yet Critical	Capital Improvement	\$315,000
<b>Automotive Garage</b>				
No Anticipated Expenditures				
<b>Reunification House</b>				
No Anticipated Expenditures				

## 7.4 Communications Systems

### Description

Communications systems at the buildings include public address and telephone systems which have evolved, using twisted pair cabling, from analog systems to modern digital systems.

### Condition

Communications systems were found to be in good condition where they could be observed, and facilities management staff indicated that they currently met programmatic requirements.

### Projected Capital Expenditures

No capital expenditures are anticipated at this time.

## **8.0 PLUMBING SYSTEMS**

The following information was obtained through our visual observations of the building systems, review of available documentation, and discussions with facilities staff. The plumbing systems include the domestic cold and hot water systems, sanitary waste and vent systems, and storm water drainage (Reference Photographs P-1 through P-7 in Appendix A).

### **8.1 Domestic Water Systems**

#### **Description**

While utility drawings for the domestic water supply were not available for review, on-site staff reported that the domestic cold-water main consists of 1940's vintage, ductile iron piping. Domestic cold water enters the Main Building at the basement level through a backflow prevention assembly, and the Automotive Garage and Reunification House at the ground level. Domestic water supply piping at each of the three buildings consists of soldered copper tubing where it could be observed.

#### *Domestic Hot Water*

Domestic hot water for the Main Building is generated using steam from the Framingham power plant. A tank storage water heater with a shell and tube heat exchanger and fractional horsepower circulating pump supplies hot water to the showers, kitchen and custodial sinks. At the Automotive Garage and Reunification House, domestic hot water for the bathrooms and kitchen are generated by point-of-use electric powered water heaters.

#### *Plumbing Fixtures*

Plumbing fixtures at the Main Building are generally commercial grade, vitreous china systems consisting of floor and wall mounted toilets and wall mounted lavatories. Bathing facilities generally consist of stall showers finished with a combination of fiberglass, concrete, terrazzo, and epoxy coatings. At the Automotive Garage and Reunification House, plumbing fixtures consist of residential grade vitreous china systems.

#### **Condition**

The domestic water supply infrastructure within each of the three buildings appeared to be in good condition with the exception of the original 1939 wing of the Main Building. Piping at the 1939 wing of the Main Building had reportedly provided reliable service with only localized leaks. However, based upon the age of the piping, we recommend that an ultrasonic evaluation is completed to determine the thickness of the pipe wall and the clear interior diameter. Furthermore, pending the results of this study, we have recommended that funds be reserved for replacement of all piping within the 1939 wing of the Main Building.

Additionally, as the future of the MCI-Framingham steam plant is uncertain, we recommend replacing the steam domestic hot water converter with high-efficiency, gas-fired incremental boilers and a domestic hot water storage tank.



**Projected Capital Expenditures**

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Ultra-Sonic Pipe Testing	2021	3 - Necessary, Not Yet Critical	Capital Renewal	\$15,000
1939 Vintage Domestic Water Supply Piping Replacements	2026	3 - Necessary, Not Yet Critical	Capital Renewal	\$240,000
Install Condensing Gas-Fired Domestic Hot Water Boilers and Storage Tank	2021	3 - Necessary, Not Yet Critical	Capital Improvement	\$45,000
<b>Automotive Garage</b>				
No Anticipated Expenditures				
<b>Reunification House</b>				
No Anticipated Expenditures				

**8.2 Sanitary Waste and Storm Drainage Systems**

**Description**

*Sanitary Waste Systems*

Sanitary waste piping consists of cast-iron, bell and spigot piping in the original 1939 wing and hub-less cast-iron systems in the 1989 addition. Sanitary waste piping within the Automotive Garage and Reunification House consists of a combination of cast-iron and PVC.

*Stormwater Systems*

Stormwater is conveyed by surface flow to the adjacent watershed.

**Condition**

Past repair and replacement efforts to the 1939 vintage piping systems are an indication of a system at the end of its useful life. We recommend scheduled replacement of all original 1939 vintage cast-iron piping in conjunction with the recommended domestic water supply piping and secondary electrical system upgrades.

Stormwater systems appeared to be in good condition with no obvious or reported areas of ponding or erosion.

### Projected Capital Expenditures

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
1939 Vintage Sanitary Drain Piping Replacements	2026	3 - Necessary, Not Yet Critical	Capital Renewal	\$180,000
<b>Automotive Garage</b>				
No Anticipated Expenditures				
<b>Reunification House</b>				
No Anticipated Expenditures				

### 8.3 Natural Gas Systems

#### Description

Natural gas service is supplied by the local utility from a main along Herring Avenue to the kitchen food service equipment and to the heating and cooling units within the Automotive Garage and Reunification House.

#### Condition

The natural gas system appeared to be in a satisfactory condition. We anticipate that the natural gas systems will remain serviceable throughout the study period.

#### Projected Capital Expenditures

No capital expenditures are anticipated at this time.

## **9.0 FIRE AND LIFE SAFETY SYSTEMS**

The following information was obtained through our visual observations of the building systems, review of available documentation, and discussions with the facilities staff. Fire and life safety elements assessed included rated assemblies, fire suppression systems, fire detection and alarm systems, and means of egress (Reference Photographs FLS-1 through FLS-4 in Appendix A).

### **9.1 Overview of Fire & Life Safety Systems by Building**

#### Main Building

Fire detection and alarm consist of a Notifire NFS-320 addressable fire alarm system with audible strobes, visual strobes, smoke detection including duct detectors, heat detectors and pull stations. A six-inch fire main enters the building below grade at the North elevation. A 40-horsepower electric fire pump serves the combination sprinkler/standpipe riser located in stair #4. Automatic sprinkler coverage is limited to the basement and select storage areas on the upper levels.

#### Automotive Garage

The Automotive Garage is of wood-framed non-protected construction. The building is not provided with a fire suppression sprinkler system. Fire detection is provided by smoke detectors, internal and external strobes and a fire alarm control panel manufactured by Advanced.

#### Reunification House

The Reunification House is of wood-framed non-protected construction. The building is not provided with a fire suppression sprinkler system or a fire detection system.

### **9.2 Condition**

#### Main Building

The fire alarm panel was recently replaced, and the overall fire alarm system appeared to be suitable for ten future years of service.

While 100% fire sprinkler coverage was not required by code as part of the 1989 renovation and expansion effort, current code requirements for new construction would require a three-story residential facility to be fully sprinklered. Considering the magnitude of recommended electrical, plumbing and interior finish upgrades, we recommend the installation of automatic fire sprinklers throughout the facility.

#### Automotive Garage

Fire related systems at the Automotive Garage appeared to be in good condition. However, based upon anticipated system obsolescence, we recommend budgeting for replacement of the fire alarm control panel within the next five to seven years.

Reunification House

Fire related systems at the Reunification House appeared to be in good condition and should not require capital level repair or replacement within the study period.

**9.3 Projected Capital Expenditures**

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Install Fire Sprinkler System (Study)	2021	2 – Potentially Critical	Capital Improvement	\$36,000
Install Fire Sprinkler System	2023	2 – Potentially Critical	Capital Improvement	\$675,000
<b>Automotive Garage</b>				
Fire Alarm Control Panel Replacement	2027	3 - Necessary, Not Yet Critical	Capital Renewal	\$7,000
<b>Reunification House</b>				

No Anticipated Expenditures

**10.0 CONVEYANCE SYSTEM**

The following information was obtained through our visual observations of the conveyance systems, review of available documentation, and discussions with the building staff. The Main Building contains one passenger elevator (Reference Photographs C-1 & C-2 in Appendix A).

**Description**

The Main Building contained one hydraulic passenger elevator. The elevator was manufactured by the Dover Elevator Company and installed when the addition was constructed in 1990. The elevator contains a relay logic controller, hydraulic oil tank, in-ground jack assembly, door operator, and the steel cab along with related car and hoistway indicators and buttons. The elevator is rated with a capacity of 2,500 lbs and a speed of 150 feet per minute (FPM). An overview of the elevator at the Main Building is provided within Table 10-1 below.

Table 10-1 Summary of Elevator

Type	Elevator Number	Location	Floor Levels Served	Capacity (LBS)	Speed (FPM <sup>1</sup> )	Installation or Modernization Date
Hydraulic	1	1990 Addition	B, 1, 2, 3	2,500	150	1990

**Condition**

The hydraulic elevator appeared to be in good condition and reportedly provided reliable service. However, the elevator controller represented older and obsolete technology with limited replacement parts, and many of the mechanical elements had been in-service for almost 30 years, were starting to deteriorate and of a generation where replacement parts will be expensive to obtain and will often take an extended period to source. Based upon these factors, we recommend that the elevator is modernized within the next six to eight years. Modernization should include replacement of the controller, in-ground jack assembly, oil tank, car top equipment, hoistway and in-car buttons and car finishes.

**Projected Capital Expenditures**

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Modernize Passenger Elevator	2026	3 - Necessary, Not Yet Critical	Capital Renewal	\$250,000

<sup>1</sup> FPM indicated feet per minute

**11.0 INTERIOR FINISHES**

**11.1 Description**

Each building is of a varying construction type, age and condition. Table 11-1 below provides a description summary of the interior finishes at each building. Table 11-2 summarizes laundry and kitchen equipment at the Main Facility building.

**Table 11-1 Interior Finishes by Building**

Building	Interior Finishes
Main Facility	Building interior wall finishes at the Main Facility typically consisted of painted brick and gypsum wall board. Ceiling finishes consisted of suspended acoustical tiles in lay-in grid or painted gypsum. Floor finishes consisted a combination of VCT floor tiles at hallways, carpet at administration areas and painted concrete at cell/ detention and back-of house areas. Ceramic floor tiles are provided at the stairwells and entrance areas. Showers and restrooms consist a combination of acrylic showers, ceramic tile floors and painted gypsum walls.
Automotive Garage	Finishes within the Automotive Garage consisted of carpeting with ceramic tile at the bathroom. Walls consisted of painted drywall with ceramic tile at the bathroom. Ceilings consisted of painted drywall.
Reunification House	Finishes within the Reunification House consisted of hardwood at the lower level and offices, ceramic tile at the bathroom and carpeting at the bedrooms. Walls consisted of painted drywall with ceramic tile at the kitchen and bathroom. Ceilings consisted of painted drywall. Appliances consisted of a residential grade cooker, refrigerator, dishwasher and stacked washer / dryer.

**Table 11-2 – Kitchen & Laundry Equipment at Old Administration Building**

Item	Manufacturer	Manufactured Date
<b>Laundry Equipment</b>		
Laundry Washing Machine (# 1)	Speed Queen	2017
Laundry Washing Machine (# 2)	Speed Queen	2017
Laundry Washing Machine (# 3)	Speed Queen	2017
Laundry Washing Machine (# 4)	Speed Queen	2017
Laundry Washing Machine (# 5)	Speed Queen	2017
Laundry Washing Machine (# 6)	Speed Queen	2017
Laundry Washing Machine (# 7)	Speed Queen	2017
Laundry Washing Machine (# 8)	Speed Queen	2017
Stacked Drying Machine (# 1)	Speed Queen	2017
Stacked Drying Machine (# 2)	Speed Queen	2017

Item	Manufacturer	Manufactured Date
Stacked Drying Machine (# 3)	Speed Queen	2017
Stacked Drying Machine (# 4)	Speed Queen	2017
<b>Kitchen Equipment</b>		
Commercial Dishwasher	Hobart	2017
Warmer (2 Door)	Vulcan	Unknown
Kettle	Unknown	2015
Range (8 burner) with 2 Ovens	Garland	2015
Convection Oven (Single Deck) #1	Blodgett	2015
Convection Oven (Single Deck) #2	Blodgett	2015
Range and Flat-top Combo Unit	Unknown	2019
Bench Mixer	Globe	Unknown
Ice Maker	Hoshizaki	Unknown
Refrigerator (Walk-In)	Norlake	Unknown
Freezer (Walk-In)	Bally	Unknown
Refrigerator (Reach-In) Double Door	Continental	2012
Refrigerator (Reach-In) Double Door	Kelvinator	2015
Refrigerator (Reach-In) Double Door	True Refrigeration	2012
Refrigerator (Reach-In) Double Door	True Refrigeration	2012
Refrigerator (Reach-In) Double Door	Kelvinator	2015

**11.2 Condition**

The condition of finishes throughout the buildings ranged from poor to good. We understand that in-house resources were utilized for painting, cleaning and replacement of finishes to small areas. We therefore have only recommended a targeted approach to finish renewal where it is large scale (i.e. too large for in-house resources), specialized or remove potential health and safety risks. Major defects and recommended capital projects are contained within 11-3 below.

**Table 11-3 Condition of Interiors by Building**

Building	Defects/ Capital Requirements of Interiors
Main Building	<p>The floor finishes were generally in fair to good condition. The finishes will be serviceable during the study period with exception to the carpet floor finishes and VCT which will require capital renewal towards the end of the study period.</p> <p>In most areas, the ceiling finishes were in good location and should remain serviceable through the study period. However, we recommend that the acoustical tile ceiling finishes within the staff rooms be replaced towards the end of the 10 year study period as they were beginning to show signs of deterioration. We also recommend that the ceiling finish within the “Bucket Room” be replaced in the near term as the ceiling was being covered with plywood that was deteriorating to the point that it could fail if left alone.</p> <p>The showers and restrooms were in fair to good condition; however, the fixtures, fittings and finishes were all aged in most locations. Based on age and observed conditions we have recommended budgeting for refurbishing the shower rooms within the next five years. We also recommend refinishing the ceiling finishes as they have begun to peel due to the high humidity.</p> <p>We did note that the second floor was not occupied at 100% capacity due to testing and abatement of asbestos; however, we were made aware that actions are underway in order to get the facility back to 100% use. We have not included costs for this work.</p>
Reunification House	<p>The interior of the Reunification House was in good condition. We anticipate that renewal will be limited to repainting of walls and perhaps the ceilings, and as-needed replacement of carpeting and appliances. We anticipate that these items can be funded as an operational expense.</p>
Automotive Garage	<p>The interior of the Automotive Garage was in good condition. We anticipate that any replacement of carpeting and paint finishes can be funded as an operational expense.</p>



The condition of the kitchen and laundry equipment at Main Building ranged from fair to good. The laundry equipment was in good condition, was manufactured in 2017 and should last beyond the 10 year study period. For the kitchen equipment, we have recommended that equipment be replaced on a cyclical basis as outlined in Table 11-4.

**Table 11-4 – Kitchen Equipment at Main Facility (Condition)**

Item	Manufacturer	Manuf. Date	Condition	Recommended Replacement Date
Commercial Dishwasher	Hobart	2017	Intensive Use, Replace at 5 Year EUL	2022
Warmer (2 Door)	Vulcan	Unknown	Unit is operating as intended	2022
Kettle	Unknown	2015	Unit is operating as intended	2025
Convection Oven (Single Deck) #1	Blodgett	2015	Unit is operating as intended	2030
Convection Oven (Single Deck) #2	Blodgett	2015	Unit is operating as intended	2030
Range and Flat-top Combo Unit	Garland	2000	Unit is in poor condition and needs to be replaced	2020 (Unit is about to be replaced)
Range and Flat-top Combo Unit	Unknown	2019	Brand new	2034 (Replacing Garland unit)
Bench Mixer	Globe	Unknown	Unit is operating as intended. Recommend replacing in mid to late term of study period	2027
Ice Maker	Hoshizaki	Unknown	Unit is operating as intended. Recommend replacing in mid to late term of study period	2027

Item	Manufacturer	Manuf. Date	Condition	Recommended Replacement Date
Refrigerator (Walk-In)	Norlake	Unknown	Unit is operating as intended	2027
Freezer (Walk-In)	Bally	Unknown	Unit is operating as intended	2027
Refrigerator (Reach-In) (Double Door)	Continental	2012	Unit is operating as intended	2023
Refrigerator (Reach-In) (Double Door)	Kelvinator	2015	Unit is operating as intended	2025
Refrigerator (Reach-In) (Double Door)	True Refrigeration	2012	Unit is operating as intended	2023
Refrigerator (Reach-In) (Double Door)	True Refrigeration	2012	Unit is operating as intended	2023
Refrigerator (Reach-In) (Double Door)	Kelvinator	2015	Unit is operating as intended	2025

### 11.3 Projected Capital Expenditures

Capital expenditures required over the ten-year study period are provided below:

Project Title	Year	Priority	Deficiency Category	Total Project Cost
<b>Main Building</b>				
Replace Vinyl Floor Tiles	2030	3 – Necessary, Not Yet Critical	Capital Renewal	\$154,000
Replace Acoustical Ceiling Tiles in Staff Room Areas	2030	3 – Necessary, Not Yet Critical	Capital Renewal	\$63,000
Repair and Replace Ceiling Finish in Bucket Room	2021	3 – Necessary, Not Yet Critical	Deferred Maintenance	\$10,400
Refurbish Inmate Bathrooms	2021	3 – Necessary, Not Yet Critical	Deferred Maintenance	\$60,000
Replace Hobart Commercial Dishwasher	2022	3 – Necessary, Not Yet Critical	Capital Renewal	\$7,500
Replace Kettle	2025	3 – Necessary, Not Yet Critical	Capital Renewal	\$17,000

Project Title	Year	Priority	Deficiency Category	Total Project Cost
Replace Convection Oven #1	2030	3 – Necessary, Not Yet Critical	Capital Renewal	\$15,000
Replace Convection Oven #2	2030	3 – Necessary, Not Yet Critical	Capital Renewal	\$7,500
Replace Globe Bench Mixer	2027	3 – Necessary, Not Yet Critical	Capital Renewal	\$6,000
Replace Ice Maker in Kitchen	2027	3 – Necessary, Not Yet Critical	Capital Renewal	\$4,000
Replace Norlake Walk-In Refrigerator	2027	3 – Necessary, Not Yet Critical	Capital Renewal	\$50,000
Replace Bally Walk-In Freezer	2027	3 – Necessary, Not Yet Critical	Capital Renewal	\$50,000
Replace Continental Reach-In Refrigerator	2023	3 – Necessary, Not Yet Critical	Capital Renewal	\$10,000
Replace Kelvinator Reach-In Refrigerators	2025	3 – Necessary, Not Yet Critical	Capital Renewal	\$20,000
Replace True Refrigeration Reach-In Refrigerators	2023	3 – Necessary, Not Yet Critical	Capital Renewal	\$20,000

**Automotive Garage**

No Anticipated Expenditures

**Reunification House**

No Anticipated Expenditures

**12.0 ACCESSIBILITY**

Pending

DRAFT

# Appendix A

## Photographs





**Photograph No. M-01**  
Shell and Tube Heating  
Water Converter



**Photograph No. M-02**  
R-22 Reciprocating Chiller



**Photograph No. M-03**

Air-Cooled Condenser



**Photograph No. M-04**

Kitchen Make-Up Air  
Handling Unit



**Photograph No. M-05**

Perimeter Fan-Coil Unit



**Photograph No. M-06**

Common Area Air Handling Unit





**Photograph No. M-07**  
Laundry Room Heating and  
Ventilating Unit



**Photograph No. M-08**  
Pneumatic Controls



**Photograph No. M-09**

Utility Blower Bathroom  
Exhaust Fan



**Photograph No. M-10**

Gas-Fired Heater at  
Automotive Garage



**Photograph No. M-11**

Heat Pump at  
Reunification House



**Photograph No. M-12**

Fan Coil Unit at  
Reunification House



**Photograph No. E-01**  
Primary Electrical Service



**Photograph No. E-02**  
1939 Vintage Breaker  
Panel



**Photograph No. E-03**  
T-12 Fluorescent Lighting

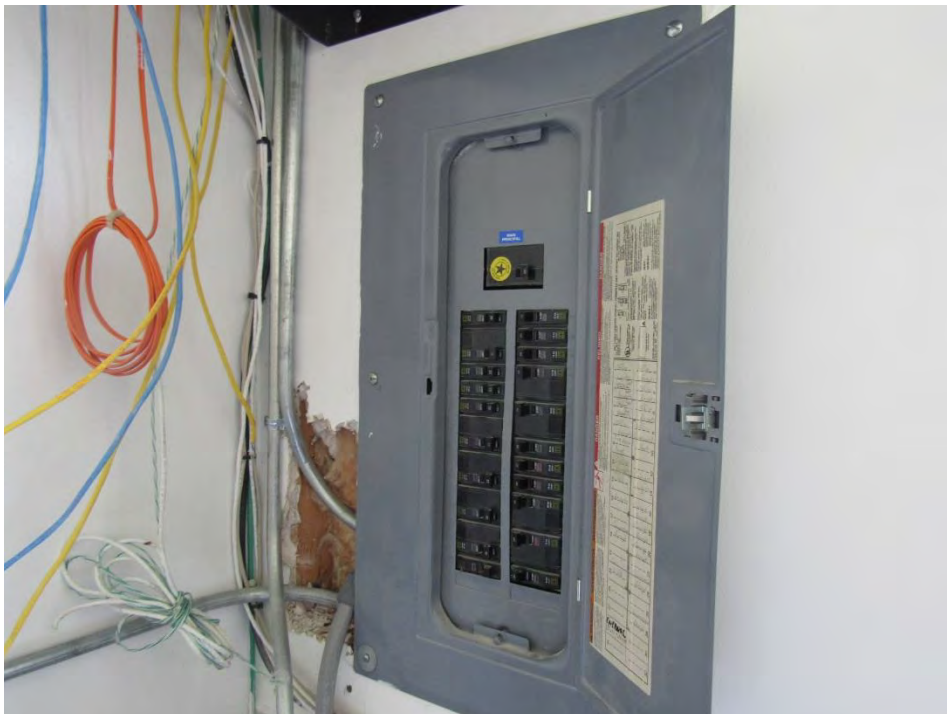


**Photograph No. E-04**  
50 Kilowatt Emergency  
Power Generator



**Photograph No. E-05**

Recent Phone System Upgrades



**Photograph No. E-06**

Electrical Panel at Automotive Garage



**Photograph No. P-01**  
Domestic Cold Water Main



**Photograph No. P-02**  
Domestic Water Heater



**Photograph No. P-03**  
1939 Vintage Domestic  
Water and Sanitary Drain  
Piping



**Photograph No. P-04**  
Past Sanitary Drain Piping  
Repair Efforts





**Photograph No. P-05**

Typical Bathroom Fixtures and Finishes



**Photograph No. P-06**

Typical Bathroom Fixtures and Finishes



**Photograph No. P-07**  
Instantaneous Domestic  
Water Heater at  
Automotive Garage



**Photograph No. FLS-01**  
New Fire Alarm Control  
Panel



**Photograph No. FLS-02**

40-Horsepower Electric  
Fire Pump



**Photograph No. FLS-03**

Fire Sprinkler Head in First  
Floor Staff Break Room



**Photograph No. FLS-04**  
Fire Alarm Control Panel at  
Automotive Garage



**Photograph No. ST-01**

Basketball Court



**Photograph No. ST-02**

Visitor Parking Lot



**Photograph No. ST-03**

Visitor Parking Lot



**Photograph No. ST-04**

Deterioration of Asphalt at  
Entrance to Staff Parking  
Lot



**Photograph No. ST-05**

Staff Parking Lot



**Photograph No. ST-06**

Cracks at Staff Parking Lot



**Photograph No. S-01**  
Roof Framing and Wall  
Back-Up at Main Building



**Photograph No. R-1**  
Water Stains at Underside  
of Main Building Roof





**Photograph No. R-2**

Sunlight Through Roof Deck at Main Building



**Photograph No. R-3**

Sheeting Provided at Main Building Due to Roof Leaks



**Photograph No. R-4**

Lifting Tiles at Main Building Roof



**Photograph No. R-5**

Lifting Tiles at Main Building Roof



**Photograph No. R-6**

Bent Gutter at Main Building Roof



**Photograph No. R-6**

Delaminated Tiles at Main Building Roof



**Photograph No. R-7**  
Surface Scaling at Main  
Building Roof Tiles



**Photograph No. R-8**  
Shingle Roof at  
Reunification House



**Photograph No. EX-1**  
Failed Window Perimeter Sealants at Main Building Roof



**Photograph No. EX-2**  
Failed Control Joint Sealant at Main Building Exterior Wall



**Photograph No. EX-3**  
Front Elevation of Main Building



**Photograph No. EX-4**  
Front Elevation of Main Building



**Photograph No. EX-5**  
Rotted Trim at Front  
Elevation of Main Building



**Photograph No. EX-6**  
Rotted Window Frame at  
Front Elevation of Main  
Building



**Photograph No. EX-7**  
Front Elevation of Main Building



**Photograph No. EX-8**  
Rear Elevation of Main Building





**Photograph No. EX-9**  
Deteriorated Balcony at  
Rear Elevation of Main  
Building



**Photograph No. EX-10**  
Front Elevation of  
Automotive Garage



**Photograph No. EX-11**

Front Elevation of  
Reunification House



**Photograph No. EX-12**

Deteriorated Paint Cover  
at Reunification Building



**Photograph No. C-1**  
Elevator Controller



**Photograph No. C-2**  
Elevator Hoistway Door



# Appendix B

## Ten Year Capital Expenditure Forecast





**Ten Year Capital Expenditure Forecast**  
**South Middlesex Correctional Center**  
 135 Western Avenue  
 Framingham, Massachusetts 01701



Component No.	CAPEX Recommendation	Priority Category	Deficiency Category	Building	Estimated Useful Life or Replacement Cycle (Yrs.)	Remaining Useful Life (Yrs.)	Quantity	Unit of Measurement	Unit Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Required
									Year	1	2	3	4	5	6	7	8	9	10	
9	Repaint Trim & Repair Building Exterior - Cycle 2	3 - Necessary, Not Yet Critical	Capital Renewal	Reunification House	7	8	490	SF	\$8.00								\$3,920			\$3,920
<b>Mechanical</b>																				
<b>Required</b>																				
1	Install Dedicated Incremental Gas/Oil Fired Heating Water Boilers	3 - Necessary, Not Yet Critical	Capital Improvement	South Middlesex Correctional Center	30	2	1,500	MBH	\$150.00		\$225,000									\$225,000
2	Fuel Oil Storage Tank (Above Ground)	3 - Necessary, Not Yet Critical	Deferred Maintenance	South Middlesex Correctional Center	50	2	1,500	GAL	\$20.00		\$30,000									\$30,000
3	Air-Cooled Chiller Replacement	3 - Necessary, Not Yet Critical	Deferred Maintenance	South Middlesex Correctional Center	30	2	50	TON	\$2,500.00		\$125,000									\$125,000
4	Replace Air Handling Unit Serving East (New) Wing	3 - Necessary, Not Yet Critical	Deferred Maintenance	South Middlesex Correctional Center	30	2	1	LS	\$75,000.00		\$75,000									\$75,000
5	Perimeter Fan-Coil Replacements (First Floor)	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	2	12	EA	\$4,500.00		\$54,000									\$54,000
6	Replace Laundry Heating & Ventilating Unit	3 - Necessary, Not Yet Critical	Deferred Maintenance	South Middlesex Correctional Center	30	2	1	LS	\$25,000.00		\$25,000									\$25,000
7	Kitchen Make-Up Air Handling Unit Replacement Including VFD	3 - Necessary, Not Yet Critical	Deferred Maintenance	South Middlesex Correctional Center	30	2	1	LS	\$50,000.00		\$50,000									\$50,000
8	Replace Utility Blower Exhaust Fans	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	2	2	EA	\$10,000.00		\$20,000									\$20,000
9	Direct Digital HVAC System Controls Upgrade	3 - Necessary, Not Yet Critical	Capital Improvement	South Middlesex Correctional Center	30	2	25,000	SF	\$5.00		\$125,000									\$125,000
10	Replace Split System (Upper Level)	3 - Necessary, Not Yet Critical	Capital Renewal	Reunification House	20	5	2	TON	\$3,500.00					\$7,000						\$7,000
11	Replace Split System (Basement & Main Level)	3 - Necessary, Not Yet Critical	Capital Renewal	Reunification House	20	5	2.5	TON	\$3,500.00					\$8,750						\$8,750
<b>Electrical</b>																				
<b>Required</b>																				
1	Replace 1939 Vintage Secondary Electrical Distribution (Study)	2 - Potentially Critical	Deferred Maintenance	South Middlesex Correctional Center	50	1	240	HRS	\$150.00	\$36,000										\$36,000
2	Replace 1939 Vintage Secondary Electrical Distribution (Original Wing)	2 - Potentially Critical	Deferred Maintenance	South Middlesex Correctional Center	50	3	22,500	SF	\$15.00			\$337,500								\$337,500
3	Interior Lighting Upgrade	3 - Necessary, Not Yet Critical	Capital Improvement	South Middlesex Correctional Center	20	2	45,000	SF	\$7.00		\$315,000									\$315,000
4	50-KW Natural Gas Generator Replacement Including Automatic Transfer Switches	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	25	5	50	KW	\$1,600.00					\$80,000						\$80,000
<b>Plumbing</b>																				
<b>Required</b>																				
1	Ultra-Sonic Pipe Testing	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	50	1	1	LS	\$15,000.00	\$15,000										\$15,000
2	1939 Vintage Domestic Water Supply Piping Replacements	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	40	6	800	LF	\$300.00						\$240,000					\$240,000



**Ten Year Capital Expenditure Forecast**  
**South Middlesex Correctional Center**  
 135 Western Avenue  
 Framingham, Massachusetts 01701



Component No.	CAPEX Recommendation	Priority Category	Deficiency Category	Building	Estimated Useful Life or Replacement Cycle (Yrs.)	Remaining Useful Life (Yrs.)	Quantity	Unit of Measurement	Unit Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Required	
										Year	1	2	3	4	5	6	7	8	9	10	
3	Install Condensing Gas-Fired Domestic Hot Water Boilers and Storage Tank	3 - Necessary, Not Yet Critical	Capital Improvement	South Middlesex Correctional Center	20	1	300	MBH	\$150.00	\$45,000										\$45,000	
4	1939 Vintage Sanitary Drain Piping Replacements	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	50	6	400	LF	\$450.00						\$180,000					\$180,000	
<b>Fire &amp; Life Safety</b>																					
<b>Required</b>																					
1	Install Fire Sprinkler System (Study)	2 - Potentially Critical	Capital Improvement	South Middlesex Correctional Center	50	1	240	HRS	\$150.00	\$36,000										\$36,000	
2	Install Fire Sprinkler System	2 - Potentially Critical	Capital Improvement	South Middlesex Correctional Center	50	3	45,000	SF	\$15.00			\$675,000								\$675,000	
3	Replace Fire Alarm Control Panel	3 - Necessary, Not Yet Critical	Capital Renewal	Automotive Garage 6	15	7	1	EA	\$7,000.00							\$7,000				\$7,000	
<b>Conveyance Systems</b>																					
<b>Required</b>																					
1	Modernize Passenger Elevator	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	6	1	EA	\$250,000.00						\$250,000					\$250,000	
<b>Interiors</b>																					
<b>Required</b>																					
1	Replace Vinyl Floor Tiles	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	10	28,000	SF	\$5.50										\$154,000	\$154,000	
2	Replace Acoustical Ceiling Tiles in Staff Room Areas	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	10	7,000	SF	\$9.00										\$63,000	\$63,000	
3	Repair and Replace Ceiling Finish in Bucket Room	3 - Necessary, Not Yet Critical	Deferred Maintenance	South Middlesex Correctional Center	20	1	800	SF	\$13.00	\$10,400										\$10,400	
4	Refurbish Inmate Bathrooms	3 - Necessary, Not Yet Critical	Deferred Maintenance	South Middlesex Correctional Center	20	1	6	EA	\$10,000.00	\$60,000										\$60,000	
5	Replace Hobart Commercial Dishwasher	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	2	1	EA	\$7,500.00		\$7,500									\$7,500	
6	Replace Kettle	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	5	1	EA	\$17,000.00					\$17,000						\$17,000	
7	Replace Convection Oven #1	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	10	2	EA	\$7,500.00										\$15,000	\$15,000	
8	Replace Convection Oven #2	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	10	1	EA	\$7,500.00										\$7,500	\$7,500	
9	Replace Globe Bench Mixer	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	7	1	EA	\$6,000.00							\$6,000				\$6,000	
10	Replace Ice Maker in Kitchen	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	15	7	1	EA	\$4,000.00							\$4,000				\$4,000	
11	Replace Norlake Walk-In Refrigerator	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	7	1	EA	\$50,000.00							\$50,000				\$50,000	
12	Replace Bally Walk-In Freezer	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	20	7	1	EA	\$50,000.00							\$50,000				\$50,000	



**Ten Year Capital Expenditure Forecast**  
**South Middlesex Correctional Center**  
 135 Western Avenue  
 Framingham, Massachusetts 01701



Component No.	CAPEX Recommendation	Priority Category	Deficiency Category	Building	Estimated Useful Life or Replacement Cycle (Yrs.)	Remaining Useful Life (Yrs.)	Quantity	Unit of Measurement	Unit Cost	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Required	
									Year	1	2	3	4	5	6	7	8	9	10		
13	Replace Continental Reach-In Refrigerator	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	10	3	1	EA	\$10,000.00			\$10,000								\$10,000	
14	Replace Kelvinator Reach-In Refrigerators	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	10	5	2	EA	\$10,000.00					\$20,000							\$20,000
15	Replace True Refrigeration Reach-In Refrigerators	3 - Necessary, Not Yet Critical	Capital Renewal	South Middlesex Correctional Center	10	3	2	EA	\$10,000.00			\$20,000									\$20,000
<b>Accessibility Required</b>																					
1	Waiting for DCAMM's Accessibility Team																			\$0	
<b>Notes:</b>									Required Cost (2019 USD)	\$934,340	\$1,120,275	\$1,042,500	\$40,930	\$132,750	\$717,625	\$126,170	\$24,720	\$0	\$239,500	\$4,378,810	
									Required Cost (Inflated @ 4.5% Per Yr.)	\$1,020,323	\$1,278,420	\$1,243,201	\$51,006	\$172,875	\$976,588	\$179,426	\$36,736	\$0	\$388,673	\$5,347,249	
									Total Cost (2019 USD/ SF/ Yr.)	\$16.87	\$20.23	\$18.82	\$0.74	\$2.40	\$12.96	\$2.28	\$0.45	\$0.00	\$4.32	\$79.07	



# Appendix C

## CAMIS Input Sheet



Project ID	Building Code	Site Code	Building Name	Unifomat Code	Project Description / Deficiency Title	Deficiency Description	CAMIS Number	System Condition	DCAMM Priority	Project Cost / Deficiency Cost	Investment Criteria	Project Category	Package	ADA Program Access / Min Compliance	Project Type	Campus Name	Project Input Year
N/A	DOC 19	DOC 19	Common Asset	G2020	Crack Fill, Seal Coat & Re-Stripe Staff Parking Lot (Inc. Localized Full Depth Repair)	Crack Fill, Seal Coat & Re-Stripe Staff Parking Lot (Inc. Localized Full Depth Repair)		Fair	3 - Necessary, Not Yet Critical	\$12,700.00	Asset Preservation	Repair / Maintenance	Infrastructure		Capital Project	South Middlesex Correctional Center	2021
N/A	DOC 19	DOC 19	Common Asset	G2020	Resurface Staff Parking Lot	Resurface Staff Parking Lot		Fair	3 - Necessary, Not Yet Critical	\$47,625.00	Asset Preservation	Repair / Maintenance	Infrastructure		Capital Project	South Middlesex Correctional Center	2026
N/A	DOC 19	DOC 19	Common Asset	G2020	Resurface Visitor Parking Lot & South Roadway	Resurface Visitor Parking Lot & South Roadway		Poor	3 - Necessary, Not Yet Critical	\$68,775.00	Asset Preservation	Repair / Maintenance	Infrastructure		Capital Project	South Middlesex Correctional Center	2022
N/A	DOC 19	DOC 19	Common Asset	G2020	Crack Fill, Seal Coat & Re-Stripe Visitor Parking Lot & South Roadway	Crack Fill, Seal Coat & Re-Stripe Visitor Parking Lot & South Roadway		Poor	3 - Necessary, Not Yet Critical	\$9,170.00	Asset Preservation	Repair / Maintenance	Infrastructure		Capital Project	South Middlesex Correctional Center	2027
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	B3010.50	Inspect & Repair Slate Roofs	Inspect & Repair Slate Roofs		Fair	3 - Necessary, Not Yet Critical	\$48,000.00	Asset Preservation	Modernization	Building Envelope		Capital Project	South Middlesex Correctional Center	2021
4500C0503	DOC 19	DOC 19	Automotive Garage 6	B3010.50	Replace Asphalt Shingle Roof System	Replace Asphalt Shingle Roof System		Fair	3 - Necessary, Not Yet Critical	\$10,240.00	Asset Preservation	Modernization	Building Envelope		Capital Project	South Middlesex Correctional Center	2024
4500C0801	DOC 19	DOC 19	Reunification House	B3010.50	Replace Asphalt Shingle Roof System	Replace Asphalt Shingle Roof System		Good	3 - Necessary, Not Yet Critical	\$14,560.00	Asset Preservation	Modernization	Building Envelope		Capital Project	South Middlesex Correctional Center	2028
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	B2010	Replace Rotted Wood Trim	Replace Rotted Wood Trim		Poor	3 - Necessary, Not Yet Critical	\$7,680.00	Asset Preservation	Repair / Maintenance	Building Envelope		Capital Project	South Middlesex Correctional Center	2021
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	B2010	Repaint Wood Trim	Repaint Wood Trim		Fair	3 - Necessary, Not Yet Critical	\$30,690.00	Asset Preservation	Repair / Maintenance	Building Envelope		Capital Project	South Middlesex Correctional Center	2024
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	B2010	Reconstruct Balcony Stack	Reconstruct Balcony Stack		Poor	2 - Potentially Critical	\$570,000.00	Asset Preservation	Modernization	Safety / Code		Capital Project	South Middlesex Correctional Center	2021
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	B2010	Replace Window and Door Perimeter Sealants	Replace Window and Door Perimeter Sealants		Poor	3 - Necessary, Not Yet Critical	\$68,400.00	Asset Preservation	Repair / Maintenance	Building Envelope		Capital Project	South Middlesex Correctional Center	2021
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	B2010	Replace Control Joint Sealants	Replace Control Joint Sealants		Poor	3 - Necessary, Not Yet Critical	\$15,000.00	Asset Preservation	Repair / Maintenance	Building Envelope		Capital Project	South Middlesex Correctional Center	2021
4500C0503	DOC 19	DOC 19	Automotive Garage 6	B2010	Repaint & Repair Building Exterior - Cycle 1	Repaint & Repair Building Exterior - Cycle 1		Fair	3 - Necessary, Not Yet Critical	\$6,240.00	Asset Preservation	Repair / Maintenance	Building Envelope		Capital Project	South Middlesex Correctional Center	2021
4500C0503	DOC 19	DOC 19	Automotive Garage 6	B2010	Repaint & Repair Building Exterior - Cycle 2	Repaint & Repair Building Exterior - Cycle 2		Good	3 - Necessary, Not Yet Critical	\$6,240.00	Asset Preservation	Repair / Maintenance	Building Envelope		Capital Project	South Middlesex Correctional Center	2028
4500C0801	DOC 19	DOC 19	Reunification House	B2010	Repaint Trim & Repair Building Exterior - Cycle 1	Repaint Trim & Repair Building Exterior - Cycle 1		Poor	3 - Necessary, Not Yet Critical	\$3,920.00	Asset Preservation	Repair / Maintenance	Building Envelope		Capital Project	South Middlesex Correctional Center	2021
4500C0801	DOC 19	DOC 19	Reunification House	B2010	Repaint Trim & Repair Building Exterior - Cycle 2	Repaint Trim & Repair Building Exterior - Cycle 2		Good	3 - Necessary, Not Yet Critical	\$3,920.00	Asset Preservation	Repair / Maintenance	Building Envelope		Capital Project	South Middlesex Correctional Center	2028
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D3020.10	Install Heating Hot Water Boilers	Install Dedicated Incremental Gas/Oil Fired Heating Water Boilers		Fair	3 - Necessary, Not Yet Critical	\$225,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2022
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D3010.50	Install Above Ground Fuel Storage Tank	Fuel Oil Storage Tank (Above Ground)		Fair	3 - Necessary, Not Yet Critical	\$30,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2022
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D3030.50	Air-Cooled Chiller Replacement	Air-Cooled Chiller Replacement		Poor	3 - Necessary, Not Yet Critical	\$125,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2022
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D3050.50	Replace Air Handling Unit Serving East Wing	Replace Air Handling Unit Serving East (New) Wing		Poor	3 - Necessary, Not Yet Critical	\$75,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2022
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D3050.50	1st Floor Fan-Coil Replacement	Perimeter Fan-Coil Replacements (First Floor)		Poor	3 - Necessary, Not Yet Critical	\$54,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2022
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D3050.50	Replace Laundry Heating & Ventilating Unit	Replace Laundry Heating & Ventilating Unit		Poor	3 - Necessary, Not Yet Critical	\$25,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2022
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D3050.50	Kitchen Make-Up Air Handling Unit Replacement	Kitchen Make-Up Air Handling Unit Replacement Including VFD		Poor	3 - Necessary, Not Yet Critical	\$50,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2022
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D3060.30	Replace Utility Blower Exhaust Fans	Replace Utility Blower Exhaust Fans		Poor	3 - Necessary, Not Yet Critical	\$20,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2022
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D8010.50	HVAC Controls Upgrade	Direct Digital HVAC System Controls Upgrade		Poor	3 - Necessary, Not Yet Critical	\$125,000.00	Reliability	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2022
4500C0801	DOC 19	DOC 19	Reunification House	D3050.10	Replace Split System (Upper Level)	Replace Split System (Upper Level)		Good	3 - Necessary, Not Yet Critical	\$7,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2025
4500C0801	DOC 19	DOC 19	Reunification House	D3050.10	Replace Split System (Basement & Main Level)	Replace Split System (Basement & Main Level)		Good	3 - Necessary, Not Yet Critical	\$8,750.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2025
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D5030.10	Secondary Electrical Distribution Replacement Study	Replace 1939 Vintage Secondary Electrical Distribution (Study)		Poor	2 - Potentially Critical	\$36,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2021
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D5030.10	Secondary Electrical Distribution Replacement	Replace 1939 Vintage Secondary Electrical Distribution (Original Wing)		Poor	2 - Potentially Critical	\$337,500.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2023
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D5040.50	Interior Lighting Upgrade	Interior Lighting Upgrade		Fair	3 - Necessary, Not Yet Critical	\$315,000.00	Reliability	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2022
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D5010.10	Replace Emergency Power Generator	50-KW Natural Gas Generator Replacement Including Automatic Transfer Switches		Fair	3 - Necessary, Not Yet Critical	\$80,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2025
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D2020.30	Ultrasonic Testing for Sanitary Piping	Ultra-Sonic Pipe Testing		Poor	3 - Necessary, Not Yet Critical	\$15,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2021
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D2010.40	Domestic Water Supply Piping Replacement	1939 Vintage Domestic Water Supply Piping Replacements		Fair	3 - Necessary, Not Yet Critical	\$240,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2026
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D2010.20	Install Domestic Hot Water Boilers	Install Condensing Gas-Fired Domestic Hot Water Boilers and Storage Tank		Fair	3 - Necessary, Not Yet Critical	\$45,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2021
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D2020.30	Sanitary Drain Piping Replacements	1939 Vintage Sanitary Drain Piping Replacements		Poor	3 - Necessary, Not Yet Critical	\$180,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2026
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D4010.10	Study for Fire Sprinkler System Installation	Install Fire Sprinkler System (Study)		Fair	2 - Potentially Critical	\$36,000.00	Safety / Code	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2021
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D4010.10	Fire Sprinkler System Installation	Install Fire Sprinkler System		Fair	2 - Potentially Critical	\$675,000.00	Safety / Code	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2023
4500C0503	DOC 19	DOC 19	Automotive Garage 6	D40	Fire Alarm System Replacement	Replace Fire Alarm Control Panel		Good	3 - Necessary, Not Yet Critical	\$7,000.00	Reliability	Infrastructure	Building Systems		Capital Project	South Middlesex Correctional Center	2027
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	D1010.10	Modernize Passenger Elevator	Modernize Passenger Elevator		Good	3 - Necessary, Not Yet Critical	\$250,000.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2026
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	C2030.20	Replace Vinyl Floor Tiles	Replace Vinyl Floor Tiles		Fair	3 - Necessary, Not Yet Critical	\$154,000.00	Asset Preservation	Repair / Maintenance	Building Systems		Capital Project	South Middlesex Correctional Center	2030
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	C2050	Replace Acoustical Ceiling Tiles in Staff Room Areas	Replace Acoustical Ceiling Tiles in Staff Room Areas		Fair	3 - Necessary, Not Yet Critical	\$63,000.00	Asset Preservation	Repair / Maintenance	Building Systems		Capital Project	South Middlesex Correctional Center	2030
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	C2050	Repair and Replace Ceiling Finish in Bucket Room	Repair and Replace Ceiling Finish in Bucket Room		Poor	3 - Necessary, Not Yet Critical	\$10,400.00	Program Improvement	Repair / Maintenance	Building Systems		Capital Project	South Middlesex Correctional Center	2021
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	C20	Refurbish Inmate Bathrooms	Refurbish Inmate Bathrooms		Fair	3 - Necessary, Not Yet Critical	\$60,000.00	Program Improvement	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2021
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	E1030.80	Replace Hobart Commercial Dishwasher	Replace Hobart Commercial Dishwasher		Fair	3 - Necessary, Not Yet Critical	\$7,500.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2022
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	E1030.80	Replace Kettle	Replace Kettle		Fair	3 - Necessary, Not Yet Critical	\$17,000.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2025
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	E1030.80	Replace Convection Oven #1	Replace Convection Oven #1		Fair	3 - Necessary, Not Yet Critical	\$15,000.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2030
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	E1030.80	Replace Convection Oven #2	Replace Convection Oven #2		Fair	3 - Necessary, Not Yet Critical	\$7,500.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2030
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	E1030.80	Replace Globe Bench Mixer	Replace Globe Bench Mixer		Fair	3 - Necessary, Not Yet Critical	\$6,000.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2027
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	E1030.80	Replace Ice Maker in Kitchen	Replace Ice Maker in Kitchen		Fair	3 - Necessary, Not Yet Critical	\$4,000.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2027
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	E1030.80	Replace Norlake Walk-In Refrigerator	Replace Norlake Walk-In Refrigerator		Fair	3 - Necessary, Not Yet Critical	\$50,000.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2027
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	E1030.80	Replace Bally Walk-In Freezer	Replace Bally Walk-In Freezer		Fair	3 - Necessary, Not Yet Critical	\$50,000.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2027
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	E1030.80	Replace Continental Reach-In Refrigerator	Replace Continental Reach-In Refrigerator		Fair	3 - Necessary, Not Yet Critical	\$10,000.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2023
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	E1030.80	Replace Kelvinator Reach-In Refrigerators	Replace Kelvinator Reach-In Refrigerators		Fair	3 - Necessary, Not Yet Critical	\$20,000.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2025
4500CPB17	DOC 19	DOC 19	South Middlesex Correctional Center	E1030.80	Replace True Refrigeration Reach-In Refrigerators	Replace True Refrigeration Reach-In Refrigerators		Fair	3 - Necessary, Not Yet Critical	\$20,000.00	Asset Preservation	Modernization	Building Systems		Capital Project	South Middlesex Correctional Center	2023

# Appendix D

## Climate Resiliency Checklist





## I. Introduction

This checklist is to evaluate climate change resilience at a site level for correctional facilities owned and operated by the Commonwealth of Massachusetts. For DCAMM’s purposes, Climate Change Resilience is defined as: “Ensuring state facilities can be operated or adapted to resist and recover from the effects of hazards in a timely and efficient manner. This includes ensuring the preservation, restoration, or improvement of its essential basic structures and functions through risk management.” This checklist focusses on hazards related to flooding, extreme heat, extreme precipitation, & high winds.

Building peak heating and cooling loads can be estimated based on equipment capacities. Electrical demand can be found on utility bills or in CBEI metered energy data where available. For more information, please direct all questions about this checklist to [Timothy.Spencer@mass.gov](mailto:Timothy.Spencer@mass.gov).

## II. Project Information

Project Name			
Project Name:	<i>Facility Conditions Assessment of Correctional Facilities</i>		
Project Address:	<i>135 Western Avenue, Framingham, MA 01702</i>		
Site Name:	<i>South Middlesex Correctional Center</i>		
CAMIS Site Code:	<i>DOC19</i>		
Number of Buildings:	<i>7 buildings on campus; 3 buildings inspected</i>		
CAMIS Project Number:	<i>EPS1802-HS1</i>		
Project Team			
DCAMM Project Manager:	<i>Emmanuel Andrade</i>		
FCA Consultant:	<i>Benjamin Dutton, Faithful+Gould</i>		
Access Consultant:	<i>TBD</i>		
Project Description and Design Conditions			
List the principal Building Uses:	<i>Housing, intake/processing, vocational/educational, recreational, healthcare, food and laundry services, etc.</i>		
What past property damage has occurred from flooding, extreme heat, precipitation, or high winds?	<i>None</i>		
What is the estimated occupancy?	<i>69</i>		
Does this facility house an immovable residential population?	<i>Yes</i>		
Energy Loads and Performance			
Peak Electric (kW):	<i>95 kW</i>		
Heating Capacity (MMbtu):	<i>Uses steam from MCI Framingham</i>		
Cooling Capacity (Tons):	<i>50-ton</i>		
Back-up / Emergency Power System			
Electrical Generation Output:	<i>50 kW</i>	Number of Power Units:	<i>1</i>
System Type:	<i>Generator</i>	Fuel Source:	<i>Diesel</i>
Schedule for testing generators under load:			
<i>Weekly testing of startup protocol</i>			

### III. Extreme Heat Events

Extreme Heat - Design Conditions			
For site-specific hazard information by address for Massachusetts, please visit: <a href="http://massgis.maps.arcgis.com/apps/webappviewer/index.html?id=930e4afb48c14cdca6b6e71b393fe023">http://massgis.maps.arcgis.com/apps/webappviewer/index.html?id=930e4afb48c14cdca6b6e71b393fe023</a>			
Annual Maximum Temperature in 2050:	93.87 °F	Annual Maximum Temperature in 2090:	99.54 °F
Current Cooling Design 0.4% DB Temperature (e.g. from ASHRAE Climate Design Data):	TBC	Change in Annual Max Temperature between 2050 and 2000:	4.15 °F

### IV. Extreme Precipitation Events

Extreme Precipitation - Design Conditions			
For site-specific hazard information by address for Massachusetts, please visit: <a href="http://massgis.maps.arcgis.com/apps/webappviewer/index.html?id=930e4afb48c14cdca6b6e71b393fe023">http://massgis.maps.arcgis.com/apps/webappviewer/index.html?id=930e4afb48c14cdca6b6e71b393fe023</a>			
Average Annual Precipitation in 2050:	43.51 In.	Average Annual Precipitation in 2090:	44.62 In.
Average Annual Precipitation in 2000:	35.70 In.		
10 Year, 24 Hour Design Storm Rainfall:	5.21 In.	Total Impervious Site Area:	119,620 SF
Building Foot Print Area:	16,450 SF	Total Site Area:	317,940 SF

### V. Sea Level Rise and Flooding

Flood Hazard Areas			
For site-specific sea-level-rise & flood hazard information by address for Massachusetts, please visit: <a href="http://massgis.maps.arcgis.com/apps/webappviewer/index.html?id=930e4afb48c14cdca6b6e71b393fe023">http://massgis.maps.arcgis.com/apps/webappviewer/index.html?id=930e4afb48c14cdca6b6e71b393fe023</a>			
Is any part of the project site located in the FEMA zone AE (100 yr flood plain with BFE)?	No	Is any part of the project site located in a FEMA zone X (500 year flood plain)?	No
Sea Level Rise / Storm Surge			
Will any part of the project fall within SLOSH Category 1?	No	What minimum level of sea level rise is the project vulnerable to (if any)?	0 Feet
<b><i>If you answered YES to either of the above questions, please complete the following questions. Otherwise you have completed the questionnaire; thank you!</i></b>			
Base Flood Elevation (BFE):	N/A	Site elevation at building:	N/A
Lowest occupiable floor elevation:	N/A	Proposed Site Elevation – High:	N/A
Lowest basement floor elevation:	N/A	Proposed Site Elevation – Low:	N/A
Accessible route elevation:	N/A		
List any building uses and critical equipment located below the *BFE (Base Flood Elevation)			
<input type="checkbox"/> Switchgear	<input type="checkbox"/> Emergency Generator	<input type="checkbox"/> Boiler	
<input type="checkbox"/> Transformer	<input type="checkbox"/> Communications	<input type="checkbox"/> Server	
<input type="checkbox"/> Distribution Panel	<input type="checkbox"/> Water heater	<input type="checkbox"/> Elevator pit	
<input type="checkbox"/> Substation	<input type="checkbox"/> Air handling unit	<input type="checkbox"/> Other (list below)	
Other:			
<b><i>*Base Flood Elevation (BFE): “The computed elevation to which floodwater is anticipated to rise during the base flood. Base Flood Elevations are shown on Flood Insurance Rate Maps (FIRMs) and on the flood profiles.” (FEMA)</i></b>			

# Appendix E

## Glossary



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## WORK ELEMENT CATEGORIZATIONS

### Work Element Priority Grouping

Each identified project was assigned a priority. Priorities were assigned based upon the impact to the EOPSS's mission and the potential for failure. There are three priorities discussed below:

- **Priority I – Currently Critical:** These are needs and/or projects which significantly impact the mission of the EOPSS and require immediate action to return a facility to normal operation, stop accelerated deterioration, or correct a cited safety hazard, especially those conditions which potentially impact an entire site or pose a significant risk to health and safety.

Examples of such conditions would be: Overall facility impact: A chilled water system is in imminent danger of failing. Failure would make all buildings at a particular site non-functional. Health and Safety Impact: Previously undiscovered dry rot has compromised structural beams. The building cannot be safely used without immediate repair.

- **Priority II – Potentially Critical:** These needs and/or projects will become critical within a year if not corrected expeditiously. Situations in this category include intermittent interruptions, rapid deterioration, and potential safety hazards. The significance of these conditions to the mission of the EOPSS should be a factor.
- **Priority III – Necessary, Not Yet Critical.** These needs and/or projects include conditions requiring reasonably prompt attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further. Conditions which do not significantly impact the mission of the EOPSS should be placed in this category.

### Work Element Deficiency Category

Each identified project was assigned one of the four deficiency categories as discussed below:

- **Deferred Maintenance:** Deferred Maintenance is maintenance or repair work on existing facilities and infrastructure that is past due and is already detrimentally affecting the building or facility in question in one of a variety of ways varying from the deterioration of a Heritage Asset to the outright inability to use a building or some portion thereof as intended and needed. In other words, a portion of the building or facility – a system or component – has already failed. Although, there can be situations where one could not have reasonably projected such a failure, in the vast majority of cases, there are warning signs that a failure will occur in the future or, there are industry standards and on-site measurements that can be made to project in advance such a failure. While the impact of addressing some failures after the fact may not be great, in other situations, such failures must be avoided at all cost.

Accomplishing a Deferred Maintenance project will return a system or component to an acceptable condition, but not necessarily its original condition. It will prevent physical depreciation or loss in the value of a building, minimize or correct wear, and ensure the maximum reliability and current useful life of the facility or component. Deferred Maintenance does not include preventative maintenance or replacement of minor constituent parts of a facility while performing routine maintenance.

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- **Capital Renewal:** Accomplishing a Capital Renewal project prevents a situation from deteriorating to where a Deferred Maintenance situation exists. Accomplishing a Capital Renewal project can be essential for some building systems and components if a subsequent failure of that system or component would have a major, detrimental impact on the functioning of the activities supported by that building. Capital Renewal projects generally correct unacceptable conditions caused by building systems or components approaching the end of their useful life. In some instances, the system or component in question may continue to function as originally intended right up to the point of failure; in other instances, there may be an observable and progressive erosion or deterioration. The former situation can be the most problematic and require more careful monitoring as occurs through the periodic updating of condition assessment.

A Capital Renewal project may return the building system or component to its original, like new condition, or it may prolong the life of the system or component for an extensive period of time. Either way, after the accomplishment of a Capital Renewal project, the system or component in question will function as originally intended. Capital Renewal projects may be performed by overhaul, reconstruction or replacement of constituent parts or materials which are damaged or deteriorated to the point where they cannot be maintained. Capital Renewal does not include additions, expansions, alterations, or modifications required solely for a change in purpose or mission; these would be classified as Capital Improvements. However, when such elements are only a minor portion of the overall project scope, such projects can be considered to be Capital Renewal projects.

- **Capital Improvement:** Capital Improvements include the addition, expansion, extension, alteration, conversion, or replacement (complete reconstruction due to damage or major repair) of a facility. Work accomplished that improves, enhances or modernizes a building or facility is a Capital Improvement. Additionally, where the use of a building or facility, or portion thereof changes, this is a Capital Improvement. For example, bringing a building into compliance with current codes, such as the addition of a handicapped accessible curb ramp, or work which improves a building's performance, such as installing a new air conditioning unit where none previously existed, is classified as a Capital Improvement. A Capital Improvement project may incorporate incidental Deferred Maintenance or Capital Renewal work.
- **Capital Construction:** The construction of a new building, facility or other infrastructure where none previously existed or, construction that enlarges or expands an existing facility is classified as Capital Construction. Included in this definition are amenities such as roadways, sidewalks, signage, water towers, landscaping, and other site improvements.



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## GLOSSARY OF TERMS

### **FACILITY CONDITION INDEX (FCI)**

An industry standard created to measure the relative condition of assets. The total value, or subset, of requirements divided by the current replacement value for the asset produces the FCI. Generally speaking, the higher the FCI is, the poorer the condition of the facility. The set of the requirements used to calculate FCI depends upon the method of FCI calculation that is used. FCI for the site is configured by an administrator.

### **REPLACEMENT VALUE**

The amount of funds required to replace a specific asset in like kind. It is the result of multiplying the cost per square foot from the appropriate asset template by the number of square feet (gross area).

### **ESTIMATES USEFUL LIFE OR REPLACEMENT CYCLE**

The average amount of time in years that an item, component or system is estimated to function without material repair when installed new and assuming routine maintenance is practiced. This is also referred to be the component's expected useful life (EUL).

### **REMAINING USEFUL LIFE**

A subjective estimate based upon observations, or average estimates of similar items, components, or systems, or a combination thereof, of the number of remaining years that an item, component, or system is estimated to be able to function in accordance with its intended purpose before warranting replacement. Such period of time is affected by the initial quality of an item, component, or system, the quality of the initial installation, the quality and amount of preventive maintenance exercised, climatic conditions, extent of use, etc

### **ADJUSTMENT FACTOR**


A number assigned to an action signifying the complexity and/or resources required to fix a requirement. The requirement factor is multiplied against the line items for the total action cost.

### **COST MULTIPLIER**

A number assigned to an action signifying the complexity and/or resources required to fix a requirement. The requirement factor is multiplied against the line items for the total action cost.

### **LINE ITEM**

A discrete cost in an action. It includes the class, the code, the description, the number of units, the unit of measurement, a unit cost, and a total cost that includes the Overhead and Profit for the given trade.



# Appendix F

## Review of CAMIS Deferred Maintenance Reports

FY2018 DEFERRED MAINTENANCE REQUEST - CONSIDERATION WITHIN FAITHFUL+GOULD FACILITY CONDITION ASSESSMENT

**DEPARTMENT OF CORRECTION**

**Consideration within FCA**

3	Expansion	Program Building	SMCC	J000109589	included in Framingham Study	\$5,000,000	4	Not applicable
3	Infrastructure	Slate Roof Repairs and Rear Porch Demo	SMCC	J000109458	some repairs made	\$575,000	1	Included within FCA

**FY2019 DEFERRED MAINTENANCE REQUEST - CONSIDERATION WITHIN FAITHFUL+GOULD FACILITY CONDITION ASSESSMENT**

**DEPARTMENT OF CORRECTION**

Consideration within I

3	Expansion	Program Building	SMCC	J000109589	included in Framingham Study	\$0	4	Not applicable
3	Infrastructure	Slate Roof Repairs and Rear Porch Demo	SMCC	J000109458	some repairs made	\$575,000	1	Included within FCA

**DEPARTMENT OF CORRECTION  
URGENT CAPITAL NEEDS REQUESTS - FY 2020 - INCLUSION WITHIN FAITHFUL+GOULD FCA**

Revised date: 02/01/19

<b>PRI</b>	<b>Proj</b>	<b>PROJECT</b>	<b>FACILITY</b>	<b>CAMIS</b>	<b>COMMENTS</b>	<b>EST.</b>	<b>Included within FCA</b>
3	Expansion	Program Building	SMCC	J000109589	included in Framingham Study	\$0	No (beyond scope)
1	Clean State	Chapter 25A Project (Energy Savings)	MCI-Framingham/SMCC	J000109332	proceeding to RFP stage for rebid	\$40,000,000	LED lighting upgrade included
2	Clean State	Asbestos Abatement	SMCC	J229174	Corridor & office area	\$42,448	No (in process)
3	Infrastructure	Slate Roof Repairs and Rear Porch Demo	SMCC	J000109458	some repairs made	\$575,000	Yes



# Appendix G

## Accessibility Compliance Report (Pending)

# Appendix H

Comparison between as-building conditions and  
the Commonwealth of Massachusetts Department of Correction  
103 DOC 703 Design Criteria & Planning Guidelines

# Appendix H – Security Systems Checklist

## I. Introduction

Correctional facilities are designed to be secure buildings to prevent prison the population from escaping. As well as escape prevention outside of the facility, it is important that inmates cannot escape their holding area, whether it be a cell or block, to move through spaces within the Property they are not supposed to. An escapee prisoner is a danger risk to public and any visitors, staff or other inmates within the correctional facility. As part of our assessment we have reviewed the physical condition of security components at the facility. However, our assessment does not include a review of staffing levels or review of staff security procedures.

## II. Project Information

Project Name	
Project Name:	Facility Conditions Assessment of Correctional Facilities
Project Address:	135 Western Avenue
Site Name:	South Middlesex Correctional Center
CAMIS Site Code:	DOC 19
Number of Buildings:	3
Security Levels	Minimum Security / Pre-Release
What is the estimated occupancy?	125
Male or Female Prison Population?	Female
CAMIS Project Number:	None
Project Team	
DCAMM Project Manager:	Emmanuel Andrade
FCA Consultant:	Faithful & Gould, Inc

Comparison Between As-Built Conditions and Commonwealth of Massachusetts Department of Correction 103 DOC 703 Design Criteria and Planning Guidelines. Sourced from “Physical Item Issues Matrix Item Issues”.

Physical Item	Maximum	Medium	Minimum	Pre-Release	Faithful+Gould Comment
<b>1. HOUSING AREA WINDOWS</b>	Non-operable; restricted size, five (5) inch vertical or horizontal opening with security window glazing	Four (4) percent of floor area; fixed, non-operable	Standard size commercial grade	Same as <i>MINIMUM SECURITY LEVEL</i>	Compliant
<b>2. SECURITY SCREENS</b>	Ten (10) mesh per inch; security gauge	Twelve (12) mesh per inch; security gauge	Sixteen (16) mesh per inch; commercial grade	Sixteen (16) mesh per inch; commercial grade	Compliant
<b>3. PLUMBING FIXTURES</b>	Colored epoxy coated stainless steel, heavy duty correctional use; serviced via a locked chase outside the cell area	Durable, epoxy colored, stainless steel fixtures and mountings; serviced by a locked chase outside the cell area	Vitreous china	Same as <i>MINIMUM SECURITY LEVEL</i>	Compliant
<b>4. FLOOR DRAINS IN HOUSING AREAS</b>	Independent drain system adjacent to & outside cell; drains required in day rooms; scupper drains required on mezzanine or tiers	Same as <i>MAXIMUM SECURITY LEVEL</i>	Not required	Not required	Compliant
<b>5. CELL DOOR</b>	Fully selective electro mechanical solid sliding door with vision panel, speaking panel, & food pass; remotely controlled with manual override; gang lock release with individual override; segregation cells shall have hand & ankle cuff slots	Sliding security door; remotely controlled with manual override; gang lock release with individual override; vision panel & food pass; swinging door allowed depending on housing unit type & inmate served	Swing, commercial grade hollow metal or solid wood; vision panel; doors may be lockable from the inside	Same as <i>MINIMUM SECURITY LEVEL</i>	Compliant
<b>6. CELL/BEDROOM</b>	Steel or concrete, fixed in place; bed, writing surface, and seat, storage space for personal belongings; segregation beds shall have restraint capabilities	Steel, fixed in place; bed, writing surface, and seat, storage space for personal belongings	Movable, durable, commercial grade; bed, writing surface, & seat, storage space for personal belongings	Durable, residential type; bed, writing surface, & seat, storage space for personal belongings	Compliant
<b>7. HOUSING AREA WALL.</b>	i. Cast-in-place concrete reinforced vertically every eight (8) inches & every course horizontally; ii. Concrete block reinforced vertically every eight (8) inches	Same as <i>MAXIMUM SECURITY LEVELS</i>	Commercial grade construction	Same as <i>MINIMUM SECURITY LEVEL</i>	Compliant



Physical Item	Maximum	Medium	Minimum	Pre-Release	Faithful+Gould Comment
	& every course horizontally; equivalent modular precast allowed; iii. Steel; reinforcement shall be to outside, end, interior walls between cells; all walls in segregation housing units shall be reinforced; reinforcement shall be to outside, end, walls, and walls to mount beds				
<b>8. CONTROL STATION CENTRAL OR HOUSING AREA.</b>	A virtually indestructible control station that has complete visual observation of the area; security assault resistant glazing on windows; voice panel; package pass; unimpeded access to toilet facilities; entrance from secure area	A secure control room as in MAXIMUM SECURITY LEVELS and/or a post that has complete visual observation	Fully secured control station not required; Officers station, which serves as an office; heavy reliance upon contact with inmates	Reception desk-open area; heavy reliance upon contact with inmates	Compliant
<b>9. PERIMETER</b>	Two (2) sixteen (16) foot fences with six (6) gauge fence fabric; Thirty (30) foot no-mans-land in between; eight (8) rolls of razor ribbon/barbed tape outer fence (three (3) rolls on interior fence); site specific electronic detection system between fences and on inner fence; zoned CCTV; security lighting; fence fabric buried two (2) feet deep in ground; four (4) inch fence posts with six and three fourth (6-3/4) inch posts at selected spots; posts buried minimum four (4) feet beneath ground; top eight (8) feet of outer fence to be three eighths (3/8) inch, eleven (11) gauge, climbable mesh; fixed towers around perimeter; perimeter patrol road	Two (2) sixteen (16) foot fences with six (6) gauge fence fabric; Thirty (30) foot no-mans-land in between; six (6) rolls of razor ribbon/barbed tape outer fence; site specific electronic detection; zoned CCTV optional; security lighting; fence fabric buried two (2) feet deep in ground; four (4) inch fence posts with six and three fourth (6-3/4) inch posts at selected spots; posts buried minimum four (4) feet beneath ground; top four (4) feet of outer fence to be three eighths (3/8) inch, eleven (11) gauge, unclimbable mesh; fixed towers around perimeter optional; perimeter patrol road	None required, but a boundary fence may be installed as a demarcation line with the community; electronic monitors on doors & windows optional; perimeter patrols	None required in terms of perimeter security; perimeter security shall consist of strict monitoring of inmate movement, frequent head counts, etc.	Compliant
<b>10. PERIMETER</b>	Building walls to be constructed as in a MAXIMUM SECURITY LEVEL housing unit (see Section 7); building specific electronic perimeter security system required; perimeter security system required; perimeter proximity intrusion system optional; inoperable windows	Same as MAXIMUM SECURITY LEVEL (URBAN)	Same as SECURITY LEVEL MINIMUM (GENERAL) (See Section 9)	Same as PRE- RELEASE SECURITY LEVEL (GENERAL) (See Section 9)	Compliant
<b>11. PERIMETER</b>	Thirty (30) foot light poles spaced at ninety (90) feet around the perimeter with a finite cut off angle capable of producing five (5) to ten (10) foot-candles at ground level	Same as MAXIMUM SECURITY LEVEL Maximum	Not required	Not required	Compliant

Physical Item	Maximum	Medium	Minimum	Pre-Release	Faithful+Gould Comment
<b>12. SALLY PORT AT PERIMETER ENTRANCES</b>	One (1) vehicle trap with tower required; one (1) staff trap; one pedestrian trap required; tower to have 360° vision; operable sliding windows; roof mounted search light capable of being manually operated by the tower officer	Same as MAXIMUM SECURITY LEVEL	Use of check point optional for vehicles; monitoring of vehicles & visitors required	None required; monitoring of vehicles & visitors required	Compliant
<b>13. SECURE PHYSICAL BARRIERS WITHIN FACILITY</b>	Access to & from housing area controlled by sally port; it is typical to sub divide areas by locked doors; exterior doors electronically monitored	Sally port optional if housing areas can be contained; exterior doors electronically monitored	None required	Same as MINIMUM SECURITY LEVEL	Compliant
<b>14. BUILDING STRUCTURE; NON-HOLDING AREAS WITHIN PERIMETER.</b>	Reinforcement masonry or approved equal type construction	Same as MAXIMUM SECURITY LEVEL	Standard commercial	Same as MINIMUM SECURITY LEVEL	Compliant
<b>15. PLUMBING FIXTURES - STAFF/PUBLIC ACCESSIBLE</b>	Vitreous china; serviced via locked chases	Vitreous china; serviced via locked chases	Vitreous china	Vitreous china	Compliant
<b>16. LOCATION OF SECURITY GRILLES.</b>	Reinforced. Tool resistant, security grilles wherever security walls, floor, or ceilings are penetrated; no openings over five inches; skylights are exempt	Same as MAXIMUM SECURITY LEVEL	None required	None required	Compliant
<b>17. VENTILATION SYSTEM</b>	Climate control in all administrative, housing, & program areas	Same as MAXIMUM SECURITY LEVEL	Staff & public areas optional depending on specific site & conditions	Same as MINIMUM SECURITY LEVEL	Compliant
<b>18. ARMORY</b>	Required; outside secure perimeter; access controlled by outer control but outer control area not breached to attain armory; per 103	Same as MAXIMUM SECURITY LEVEL	Optional	None required	Compliant
<b>19. DISORDER MANAGEMENT ROOM</b>	Adjacent to Armory	Adjacent to Armory	None required	None required	Compliant
<b>20. KEY REPAIR CENTER</b>	Required; in-house staff; Outside secure perimeter	Same as MAXIMUM SECURITY LEVEL	Optional	None required	Compliant
<b>21. FIRE PROTECTION SYSTEM</b>	Meets code for use classification; tamper proof devices	Same as MAXIMUM SECURITY LEVEL	Same as MEDIUM SECURITY LEVEL	Same as MEDIUM SECURITY LEVEL	Compliant
<b>22. SEWERAGE SYSTEM.</b>	As required by DEP; pipes leaving the perimeter to be baffled to no larger than TWELVE (12) inches	Same as SECURITY LEVEL Maximum	As required by DEP	As required by DEP	Compliant
<b>23. WATER SYSTEM.</b>	As required by code; secure; thermostatically controlled ranging from 100 safety & promote hygienic practices; shut off system including individual cells	Same as MAXIMUM SECURITY LEVEL	As required by code	As required by code	Compliant

Physical Item	Maximum	Medium	Minimum	Pre-Release	Faithful+Gould Comment
<b>24. EMERGENCY GENERATION SYSTEM</b>	Required for 100% total facility; back-up in specific areas per Life Safety Code	Same as MAXIMUM SECURITY LEVEL	Same as MAXIMUM SECURITY LEVEL	Same as MAXIMUM SECURITY LEVEL	Compliant
<b>25. CEILINGS</b>	Secure; no suspended ceilings in cells; sound absorbing materials in day room, circulation, visiting, dining, etc.,; any accessible suspended ceiling is security type	Same as MAXIMUM SECURITY LEVEL	Secure; suspended ceiling allowed in cells; sound absorbing materials in day room, circulation, visiting, dining, etc.,; any suspended ceiling system should be a security type	Same as MINIMUM SECURITY LEVEL	Compliant
<b>26. FLOORS</b>	Concrete with vinyl compositions tile; bathrooms are preferably a non-absorbent, non-slip, composition type floor; kitchen-composition type, non-absorbent, easily cleanable; gymnasiums - per design & industries standards	Same as MAXIMUM SECURITY LEVEL; may utilize carpeting in selected areas	Durability & flammability of material are the essential standards	Same as MINIMUM SECURITY LEVEL	Compliant
<b>27. COMMUNICATION DEVICES</b>	CCTV - as required inside & outside; paging systems - required; two-way radios - required; telephone equipment - controlled access; no outside calls except through switchboard or pre-designated phones; phones for collect calls by inmates; personal body alarms - required duress alarms	Same as MAXIMUM SECURITY LEVEL	CCTV - optional; paging systems - required; two-way radios - required; telephone equipment - limited access; phones for collect calls by inmates; personal body alarms – not required	Same as MINIMUM SECURITY LEVEL	Compliant
<b>28. INSTITUTIONAL ENTRANCE AREA</b>	Secure control room; visitor processing area; mail processing area; pedestrian trap with metal detector; search area; toilets for males & females; lobby area; waiting area	Same as MAXIMUM SECURITY LEVEL	Open type of reception & screening area	Same as MINIMUM SECURITY LEVEL	Compliant
<b>29. DINING.</b>	One dining hall capable of holding 33% of the population at any one time; two (2) serving lines if needed	Same as MAXIMUM SECURITY LEVEL	One dining hall capable of holding 50% of the population at any one time	Same as MINIMUM SECURITY LEVEL	Compliant
<b>30. FACILITY CONFIGURATION</b>	Megastructure preferred	Megastructure, campus, or combination; site specific & population driven	Site specific	Site specific	Compliant
<b>31. OUTDOOR RECREATION Subject to facility configuration &amp; site restriction</b>	In general, each management unit shall have individual outdoor recreation areas at a minimum of fifteen (15) square feet per inmate using the area at one time; in addition, minimum requirements for outdoor recreation shall include facilities for softball and football; outdoor weight pit; a track for aerobic exercise; at least two (2) outside basketball courts	Same as MAXIMUM SECURITY LEVEL	Ballfield; track for aerobic exercise; basketball court desirable	Desirable, but not necessary	Basketball court provided. Compliant
<b>32. INDOOR RECREATION</b>	Required; minimum height at eaves of twenty-two	Same as MAXIMUM SECURITY LEVEL	Gym required if population exceeds two-hundred (200)	Desirable, but not necessary	Compliant

Physical Item	Maximum	Medium	Minimum	Pre-Release	Faithful+Gould Comment
	(22) feet; basketball courts (one (1) court per five-hundred (500) inmates); observable weight room; administrative office; staff shower; inmate viewing/ bleacher area		inmates; recreation room; weight room		
<b>33. DAYROOMS</b>	Required; minimum of thirty-five (35) square feet per inmate for maximum amount of inmates who use it at one time; natural light; observable from Officers' Station	Same as MAXIMUM SECURITY LEVEL	Day rooms required; minimum of thirty-five (35) square feet per inmate for maximum amount of inmates who use it at one time	Same as MINIMUM SECURITY LEVEL	Compliant
<b>34. STAFF AREAS</b>	Locker/shower areas outside secure perimeter; muster/training area outside secure perimeter; exercise/fitness area outside secure perimeter; staff dining/lounge area	Same as MAXIMUM SECURITY LEVEL	Muster/training area; staff dining/lounge area	Staff dining/ lounge area	Compliant
<b>35. TOOL CONTROL</b>	Main tool control/storage area is outside secure perimeter; tools stored inside perimeter are in fully secured areas only accessible to staff	Same as MAXIMUM SECURITY LEVEL	Secure storage/control areas supervised by staff	Same as MINIMUM SECURITY LEVEL Minimum	Compliant
<b>36. PLAN ROOM</b>	Required for facility plans, archives, etc.,; inside secure perimeter within a secure area	Same as MAXIMUM SECURITY LEVEL	An area for this purpose is recommended; it is required if the facility	An area for this purpose is recommended	Compliant

Inventory Building	Item	Model	Quantity
Main Building	CCTV Cameras	Bosch	35
Main Building	Door Lock Control	Manual keyed system	

The table below summarizes other capital expenditure needs for the security systems.

Deficiency	Solution
Not Applicable	