

Kansas Department of Corrections
Larned Correctional Mental Health Facility South
June 2022



ASSESSMENT OVERVIEW

INTRODUCTION

CGL FACILITY MANAGEMENT CONDUCTED AN EQUIPMENT AND FACILITY CONDITION ASSESSMENT OF THE SITE, SITE IMPROVEMENTS, AND RELATED FEATURES CONTAINED AT:

Larned Correctional Mental Health Facility South

PURPOSE

The primary purpose of the Facility Condition Assessment is to identify visually apparent deficiencies in the building/s and develop a cost basis for repair, upgrade, or replacement.

The key issues addressed in the Facility Condition Assessments include:

- Perform a visual assessment of the interior, exterior, and site components
- A detailed description of the equipment and conditions found during the site visit
- Strategy to resolve key issues
- Recommendations for all systems

METHODOLOGY

This Facility assessment was conducted by the following experts that have extensive hands-on experience with government, correctional, commercial, and industrial buildings, and facility maintenance.

- Phil Loftin, Electrical Engineer
- Alex Campbell, Facility Specialist
- TJ Kelley, Systems Specialist
- Russ Rieske, Mechanical Engineer
- Ted Perry, LEAD AP & OM
- Mike Lynch, Architect

CGL's Assessment Team conducted a field survey of the buildings' envelope and equipment that could readily be observed. The team did not attempt to uncover hidden conditions, move fixed equipment, or otherwise discover deficiencies that could not be immediately detected. The analysis included interviews with building management and maintenance personnel and a review of any documents made available at the time of the visit.

The team collected data on the condition and life cycle of major systems. All conditions were documented by digital photographs.

CGL analyzed the information collected during the Facilities Condition Assessment and developed recommendations for upgrades and replacements.

A general scoring matrix used in analysis of major group elements, group elements, and individual elements is included below:

< 5%	Good	Infrastructure & systems are new or rehabilitated with few elements showing normal wear that requires routine maintenance
5% - 10%	Fair	Infrastructure & systems show some signs that require attention with a few elements needing immediate repair
11% - 15%	Poor	Infrastructure & systems are mostly below standard with some elements reaching the end of useful life and requiring replacement
16% -25%	Severe	Infrastructure & systems are in unacceptable condition with widespread signs of deterioration
26% - 50%	Critical	Infrastructure & systems require replacement to restore function. Systems could be unsafe to operate in the current condition
> 50%	Replace	Infrastructure or systems need to be replaced immediately for safety, security, and/or serviceability



MAJOR SYSTEMS ASSESSED

- **Substructure:** CGL observed the structures for visible signs of distress.
- Shell: CGL visually observed the exterior wall system, window, and door systems for visible evidence of deficiencies, continuity of seals, and other types of distress. CGL reviewed available flashing and connection details for drainage design and observed the condition and placement of expansion joints. CGL visual observations were based on those conditions that can be observed from roof and ground level. CGL visually evaluated the condition of accessible roof systems and discussed any existing/remaining roof warranties.
- Interiors: CGL visually observed the interior areas of the property and reported their general condition.
- Services: CGL observed the age and condition of the Mechanical, HVAC, Electrical, Plumbing, and Fire Protection (MEPFP) Systems and related building equipment and have commented on their condition and visible deficiencies.
- Site-work: CGL visually observed the exterior areas of the property and reported their general condition.
- Accessibility: CGL reviewed the property for conformance with applicable accessibility requirements and reported CGL findings.

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. CGL did not perform any destructive testing, uncover, or expose any system members. CGL has documented the type and extent of visually apparent defects in the systems to develop the condition assessment.



BUILDING DESCRIPTION

LARNED CORRECTIONAL MENTAL HEALTH FACILITY SOUTH PROPERTY EXECUTIVE SUMMARY

The Larned Correctional Mental Health Facility South (LCMHF South) is located on the campus of the Larned State Hospital located west of Larned, Kansas. The facility consists of 8 buildings of which 1 was assessed. The total square footage assessed was approximately 111,234 for this facility. The construction date of the building was 2001. The structure was a mixture of pre-cast concrete and masonry.

HVAC SYSTEMS

The air conditioning systems at LICF consist of two 150-ton air-cooled chillers, and heating is supplied by three gas-fired boilers, with AHUs and fan-powered boxes located throughout the facility. Chillers were replaced approximately five years ago. Boilers and AHUs are all original equipment that was manufactured in 2001 or earlier. Some of these systems are aging and should be considered for replacement in the near future. CGL would recommend a comprehensive preventive maintenance plan to maintain equipment and extend the life of the assets.

ELECTRICAL

Electrical service comes in underground from the pad mounted transformer outside the main mechanical area. The main power is fed through multiple power panels and step-down transformers throughout the individual electrical rooms that supply power throughout the building.

There are two Kohler generators that supply the overall site's emergency power with a total estimated power supply of 1200kW. The units are exercised weekly and with a completed annual PM service in August of 2020, when the units were at 344 hours. Generator logs books are kept at the units and are updated. It is unknown when the last load bank testing occurred. Industry and manufacturer standards recommend running a generator for 30 minutes a week under 30% load and a four (4) hour load bank test annually. Diesel fuel should be polished annually to prevent breakdown and ensure the generator runs as designed in an emergency.

PLUMBING

The plumbing throughout the site is mostly original to construction and is a combination of PVC and copper. The sewage and drainage system are cast iron. Cast iron pipe deteriorates from the inside, and it is recommended that an engineering study be conducted to determine the condition of drain piping and identify any areas needing immediate replacement. Toilets observed were vitreous china and tank-less units in public areas with stainless steel toilet sink combination units in detention and holding cell areas. The condition of the detention grade units was observed to be relative to the age, and many need repairs to ensure proper operation.

FIRE PROTECTION

The fire alarm panel and associated devices were aged and nearing the end of their useful life. Lifecycle replacement of these items would be recommended before unscheduled failure occurs.

The fire protection system was original to construction. Fire protection piping will deteriorate from the inside out and it is recommended that an endoscopic inspection and wall thickness test be conducted after 25 years of service.

SITE UTILITIES

Site utilities are over 20+ years old and currently have no reported issues. It would be recommended that some money is set aside over the next ten years for utility upgrades and repairs.







NOTE

FCIs allow you to understand how your buildings are operating and how to prepare for the future. These scores provide a valuable look into your portfolio of facilities, and they help you plan and prioritize projects over both the short- and long-term. The more accurate your FCI scores, the better you can prioritize maintenance repairs, forecast upcoming costs, and make data-driven decisions around capital planning.

It should be noted that surveying facilities as a group constructed over several years which contain equipment and systems of varying age and condition will affect the overall FCI score. Many Kansas facilities have significant gaps in construction periods that adversely impact the newer buildings while benefitting the older buildings. Although this study did not intend to score structures individually, this impact should be considered when considering long-term capital planning needs.



PROJECT DETAIL

ITEMS	DESCRIPTION
Project Name	Larned Correctional Mental Health Facility South
Property Type	Detention Facility
Address	Larned, Kansas
Year Built	2001
Number of Levels	Varies (1-2)
Gross Building Area (GSF)	111,243
*Current Replacement Value	\$50,059,350
CRV/GSF (\$/SF)	\$450

^{*} The CRV was based on industry experience and best practices and should be considered only for determining a replacement value for the current buildings that were assessed in this report. Moreover, The CRV does not include any cost for professional services such architectural, engineering or project management fees, environmental services such as sampling, testing, or evaluation of asbestos, lead-based paint, lead-in-water, indoor air quality, PCBs, radon, mold, or any other potentially hazardous materials, or issues not outlined. The CRV does not include cost for land acquisition, demolition, abatement, remediation, or other site improvements that may be required for construction of a replacement building. The CRV was based on current cost estimates and does not include any upgrades to the existing facility or an escalation factor for future construction.



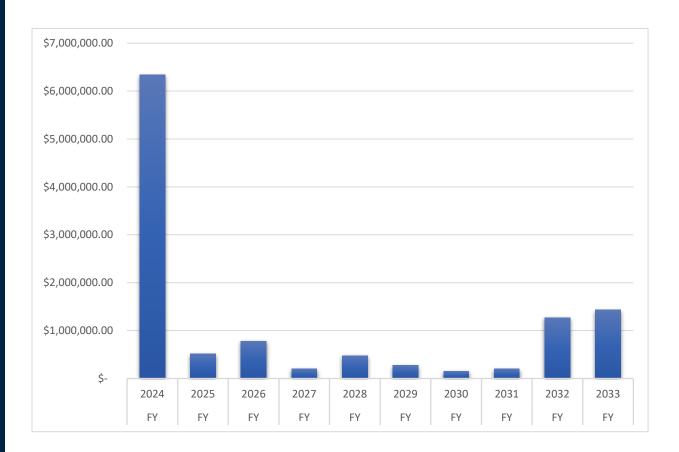
SUMMARY OF FINDINGS

This report represents summary-level findings for the Property Condition Assessment. The deficiencies identified in this assessment can be combined with potential new construction requirements to develop an overall Long Term Capital Needs Plan that can be the basis for a facility-wide capital improvement funding strategy. Key findings from the assessment include:

KEY FINDINGS	METRIC
10-Year Facility Condition Needs Index (FCNI)	24%
Immediate Capital Needs (Year 1)	\$6,340,569
Future Capital Needs (Year 2 to Year 10)	\$5,369,772

The building expenditure summary section provides an executive overview of the findings from the assessment. The chart below provides a summary of anticipated yearly expenditures over the study period for the Larned Correctional Mental Health Facility South. Further details of these expenditures are included within each respective report section and within the expenditure forecast in Appendix A of this report. The results illustrate a total anticipated expenditure over the study period of approximately:

\$11,710,341





FACILITY CONDITION NEEDS INDEX

In this report, we have calculated the Facility Condition Needs Index (FCNI), which is used in Facilities Management to provide a benchmark to compare the relative condition of a group of facilities. The FCNI is primarily used to support asset management initiatives of federal, state, and local government facilities organizations.

The FCNI is the ratio of accumulated Total Cost (TC) (Deferred Maintenance, Capital Renewal, and Plant Adaptation) to the Current Replacement Value (CRV) for a constructed asset calculated by dividing the TC by the CRV. The range is from zero for a newly built asset to one for a constructed asset with a TC value equal to its CRV. Acceptable ranges vary by "Asset Type', but as a general guideline, the FCNI scoring system is as follows:

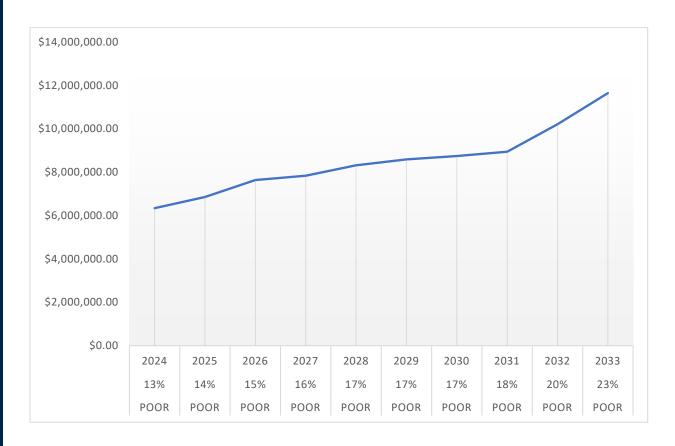
FCNI =

Deferred Maintenance + Capital Renewal + Plant Adaptation (TC)

Current Replacement Value of the Facility(s) (CRV)

If the FCNI rating is 60% or greater, then the replacement of the asset/building should be considered instead of renewal.

CONDITION	DEFINITION	PERCENTAGE VALUE
GOOD	In a new or well-maintained condition, with no visual evidence of wear, soiling, or other deficiencies.	0% to 5%
FAIR	Subject to wear and soiling but is still in a serviceable and functioning condition.	5% to 10%
POOR	Subjected to hard or long-term wear. Nearing the end of its useful or serviceable life.	Greater than 10%
V-POOR	It is subjected to hard or long-term wear. Has reached the end of its useful or serviceable life. Renewal is now necessary.	Greater than 60%





DISTRIBUTION OF NEEDS BY PRIORITY

CGL Facility Management has prioritized the identified work in order to assist with analyzing the deficiencies found during the assessment. The baseline prioritization model is not just based on replacement year or criticality but uses four key data attributes to build an overall importance metric for every recommendation: System type, the cause or nature of the issue, timing, and building mission incorporated into the model with relative weighting to provide an overall priority score. Priority categories are shown below:

Priority 1 Systems requiring immediate action that have failed, compromises staff or public **Currently Critical:** safety, or required to be upgraded to comply with current codes and accessibility

Priority 2 A system or component is nearing the end of useful life, if not addressed, will cause

Potentially Critical: additional deterioration and added repair costs

Priority 3 Lifecycle replacements necessary but not critical or mid-term future replacements

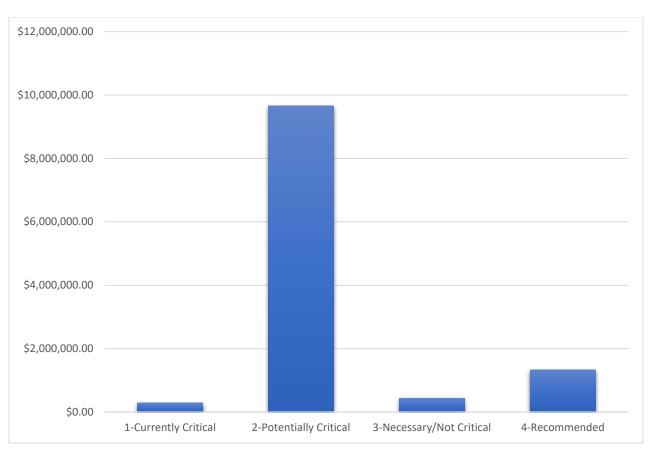
Necessary / Not Critical: to maintain the integrity of the facility or component

Priority 4

Recommended:

Items under this classification are not required for normal function and operation of the facility but would improve the efficiency and functionality of the facility or reduce long-term maintenance.

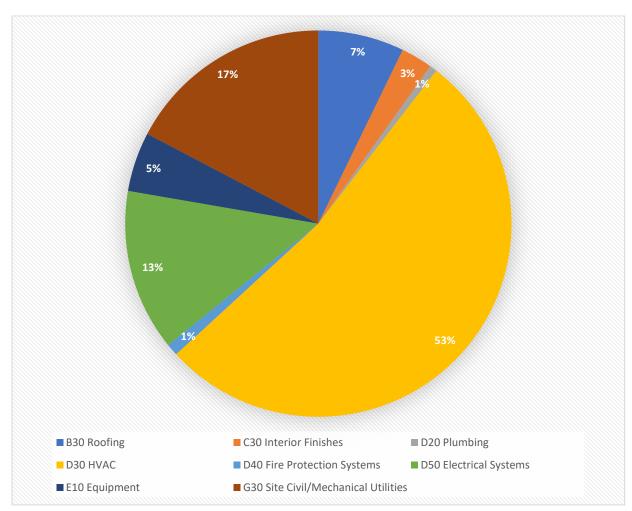
The chart below illustrates the breakdown of expenditure according to the priority coding providing an opportunity to strategically plan and effectively direct funding to the highest priority.





DISTRIBUTION OF IMMEDIATE NEEDS (YEAR 1) BY BUILDING SYSTEM

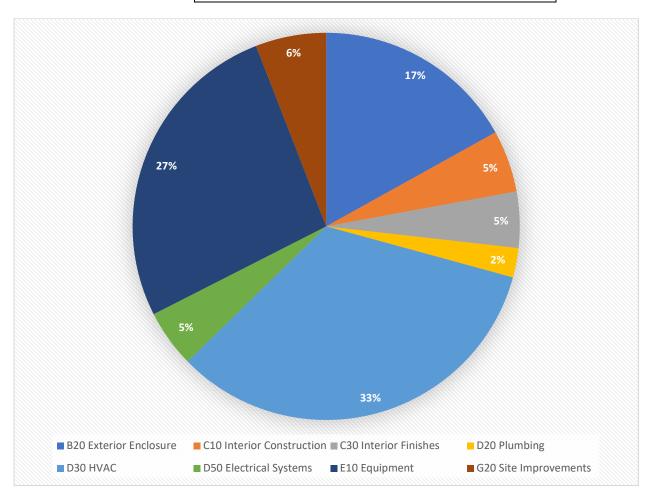
Building System	Estimated Cost	Percent of Total Cost
B30 Roofing	\$456,670	7.20%
C30 Interior Finishes	\$167,200	2.64%
D20 Plumbing	\$39,459	0.62%
D30 HVAC	\$3,342,099	52.71%
D40 Fire Protection Systems	\$63,648	1.00%
D50 Electrical Systems	\$858,459	13.54%
E10 Equipment	\$315,709	4.98%
G30 Site Civil/Mechanical Utilities	\$1,097,326	17.31%





DISTRIBUTION OF FUTURE NEEDS (YEAR 2 TO YEAR 10) BY BUILDING SYSTEM

Building System	Estimated Cost	Percent of Total Cost
B20 Exterior Enclosure	\$909,069.28	16.93%
C10 Interior Construction	\$278,007.04	5.18%
C30 Interior Finishes	\$251,702.40	4.69%
D20 Plumbing	\$131,934.50	2.46%
D30 HVAC	\$1,795,978.02	33.45%
D50 Electrical Systems	\$258,324.30	4.81%
E10 Equipment	\$1,427,768.75	26.59%
G20 Site Improvements	\$316,988.00	5.90%





DISTRIBUTION OF NEEDS BY PLAN TYPE

PLAN TYPE 1 LIFECYCLE REPLACEMENT:

Indicates the need for replacement or major refurbishment of an asset, typically based on age and use but required in the future within a reasonable planning horizon.

PLAN TYPE 2 MAJOR REPAIR:

Any component or system in which future major repair is anticipated but not a replacement of the entire component.

PLAN TYPE 3 LIFE-SAFETY / CODE COMPLIANCE:

Any action to correct a deficiency related to life safety or code violation.

PLAN TYPE 4 ENGINEERING STUDY:

Includes recommendations for further investigation into appropriate repair/replacement action.

PLAN TYPE 5 MODERNIZATION / IMPROVEMENTS:

Actions that are considered upgrading or improving beyond a standard life cycle replacement. These actions are often considered optional.

PLAN TYPE 6 ENERGY:

When the repair or replacement of equipment or systems are recommended to improve energy and sustainability performance.

PLAN TYPE 7 ADA:

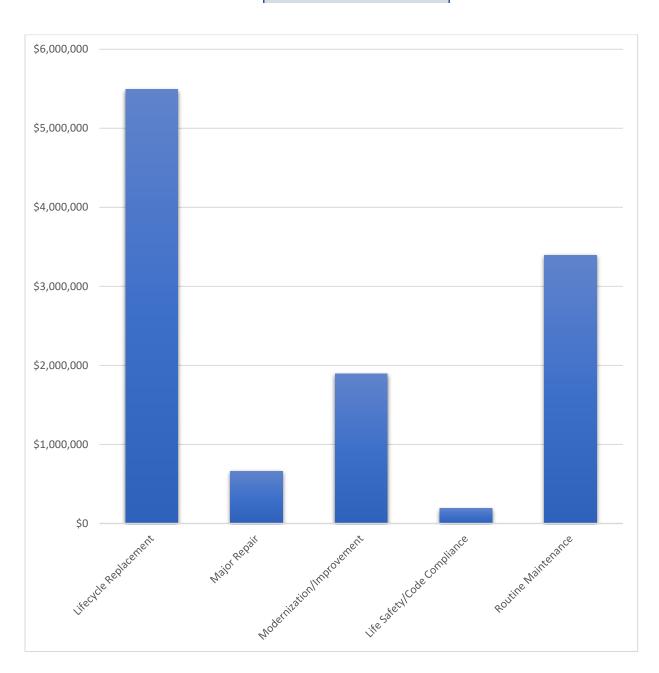
When the repair or replacement of equipment or system is recommended to comply with ADA.

PLAN TYPE 8 ROUTINE MAINTENANCE:

Any component or system in which routine maintenance or repairs is anticipated but not a replacement of the entire component.



PLAN TYPE	TOTAL COST
Lifecycle Replacement	\$5,492,643
Major Repair	\$661,644
Modernization/Improvement	\$1,894,942
Life Safety/Code Compliance	\$191,696
Routine Maintenance	\$3,394,241





ASSETS OBSERVED

All assets observed are provided in this section sorted by the Uniformat II coding, indexed is as follows:

A - SUBSTRUCTURE

- A10 Foundations
- A20 Basement Construction

B-SHELL

- B10 Superstructure
- B20 Exterior Enclosure
- B30 Roofing

C-INTERIORS

- C10 Interior Construction
- C20 Stairs
- C30 Interior Finishes

D - SERVICES

- D10 Conveying Systems
- D20 Plumbing
- D30 HVAC
- D40 Fire Protection Systems
- D50 Electrical Systems

E - EQUIPMENT & FURNISHING

- E10 Equipment
- E20 Furnishings

F - SPECIAL CONSTRUCTION AND DEMOLITION

- F10 Special Construction
- F20 Selective Demolition

G - BUILDING SITE WORK

- G10 Site Preparation
- G20 Site Improvements
- G30 Site Civil/Mechanical Utilities
- G40 Site Electrical Utilities
- G90 Other Site Construction



APENDIX A – EXPENDITURE FORECAST

Survey Section	Unif. L3	Display Name	Quantity	Unit of Measure	Unit Cost	Total Expense	Residual Life	Category	Priority
Main Building	E1090	Commercial Dishwasher	1.00	Ea.	\$93,898.60	\$93,899	0	Lifecycle Replacement	1-Currently Critical
Main Building	E1090	Smoke Detector	256.00	Ea.	\$653.86	\$167,388	0	Life Safety/Code Compliance	1-Currently Critical
Main Building	D5090	Exit Signs	55.00	Ea.	\$441.96	\$24,308	0	Life Safety/Code Compliance	1-Currently Critical
Main Building	D3020	Gas Fired Boilers	3.00	Ea.	\$334,319.60	\$1,002,959	9	Routine Maintenance	2-Potentially Critical
Main Building	B3010	BUR Gravel Roof	125.00	Sq.	\$1,984.00	\$248,000	0	Lifecycle Replacement	2-Potentially Critical
Main Building	E1050	Walk In Freezer	1.00	Ea.	\$25,963.66	\$25,964	0	Routine Maintenance	2-Potentially Critical
Main Building	D3040	Make Up Air System	2.00	Ea.	\$66,400.40	\$132,801	1	Lifecycle Replacement	2-Potentially Critical
Main Building	D2040	Roof Drains	1.00	Ea.	\$1,869.64	\$1,870	0	Routine Maintenance	2-Potentially Critical
Main Building	D5030	Fire Alarm Bell	131.00	Ea.	\$451.06	\$59,089	0	Life-Safety/Code Compliance	2-Potentially Critical
Main Building	D5030	Heat Detector	24.00	Ea.	\$397.22	\$9,533	0	Lifecycle Replacement	2-Potentially Critical
Main Building	D4090	Pull Station	25.00	Ea.	\$405.60	\$10,140	0	Lifecycle Replacement	2-Potentially Critical
Main Building	B3010	Membrane Roof	125.00	Sq.	\$1,669.36	\$208,670	0	Lifecycle Replacement	2-Potentially Critical
Main Building	D3040	Expansion Tank	2.00	Ea.	\$32,283.12	\$64,566	30	Routine Maintenance	2-Potentially Critical
Main Building	D5090	Generator Replacement	1.00	Ea.	\$512,852.72	\$512,853	0	Modernization/Improvement	2-Potentially Critical
Main Building	B2020	Steel Frame Window	114.00	Ea.	\$3,770.48	\$429,835	9	Modernization/Improvement	2-Potentially Critical
Main Building	D3030	Chiller 1 & 2	2.00	Ea.	\$367,056.32	\$734,113	0	Routine Maintenance	2-Potentially Critical





Kansas Department of Corrections

Main Building	D3040	Circulating Pumps	10.00	Ea.	\$13,298.30	\$132,983	0	Lifecycle Replacement	2-Potentially Critical
Site Utilities	D5010	Underground Main electrical service	2.00	Ea.	\$124,956.40	\$249,913	0	Lifecycle Replacement	2-Potentially Critical
Main Building	C1020	Steel Door	62.00	Ea.	\$3,232.64	\$200,424	7	Major Repair	2-Potentially Critical
Main Building	D2020	Inline Circulator Pumps	3.00	Ea.	\$7,415.14	\$22,245	0	Routine Maintenance	2-Potentially Critical
Main Building	D3050	Air Handler Units	15.00	Ea.	\$155,394.06	\$2,330,911	0	Lifecycle Replacement	2-Potentially Critical
Main Building	D3040	Exhaust Fans	22.00	Ea.	\$26,965.68	\$593,245	2	Lifecycle Replacement	2-Potentially Critical
Main Building	G2020	Parking Lot	100.00	M.S.F.	\$2,069.66	\$206,966	1	Lifecycle Replacement	2-Potentially Critical
Main Building	E1070	Walk In Refrigerator	1.00	Ea.	\$17,704.96	\$17,705	0	Routine Maintenance	2-Potentially Critical
Main Building	E1090	Kitchen Hoods	2.00	Ea.	\$5,376.70	\$10,753	0	Life-Safety/Code Compliance	2-Potentially Critical
Site Utilities	G3010	Underground Main water supply, over 6 inches	20.00	Ea.	\$25,810.50	\$516,210	0	Lifecycle Replacement	2-Potentially Critical
Main Building	D3050	Condensing Units	500.00	S.F.	\$17.30	\$8,650	0	Lifecycle Replacement	2-Potentially Critical
Main Building	E1090	Fire Alarm System	1.00	Ea.	\$4,539.96	\$4,540	1	Life-Safety/Code Compliance	2-Potentially Critical
Main Building	D4010	Fire Extinguisher	1.00	Ea.	\$792.54	\$793	0	Life-Safety/Code Compliance	2-Potentially Critical
Main Building	D3040	Fan Coil Unit (FCU-2)	2.00	Ea.	\$34,230.02	\$68,460	0	Modernization/Improvement	2-Potentially Critical
Site Utilities	G3020	Underground Main Sewage Drain	175.00	L.F.	\$3,320.66	\$581,116	0	Lifecycle Replacement	2-Potentially Critical
Main Building	E1020	Detention Facility Sink	128.00	Ea.	\$9,925.38	\$1,270,449	8	Routine Maintenance	2-Potentially Critical
Main Building	D4010	Fire Sprinkler Main & Heads	1248.00	S.F.	\$42.24	\$52,716	0	Modernization/Improvement	3-Necessary/Not Critical



ASSESSMENT

Kansas Department of Corrections

Main Building	D3010	Above Ground Fuel Tank	1.00	Ea.	\$2,407.22	\$2,407	1	Lifecycle Replacement	3-Necessary/Not Critical
Main Building	G2040	Perimeter Fencing	1650.00	Ea.	\$66.68	\$110,022	1	Routine Maintenance	3-Necessary/Not Critical
Main Building	D2020	Water Softeners	4.00	Ea.	\$3,836.04	\$15,344	0	Routine Maintenance	3-Necessary/Not Critical
Main Building	C3010	Drywall	10000.00	S.F.	\$5.68	\$56,800	2	Major Repair	3-Necessary/Not Critical
Main Building	D5090	Interior Lighting	145.00	Ea.	\$1,372.86	\$199,065	3	Modernization/Improvement	3-Necessary/Not Critical
Main Building	D2010	Shower Head	25.00	Ea.	\$5,277.38	\$131,935	2	Major Repair	4-Recommended
Main Building	D3040	Pipe Insulation	3.00	M.L.F.	\$22,327.36	\$66,982	0	Routine Maintenance	4-Recommended
Main Building	C3020	Vinyl Floor Tile	1120.00	S.Y.	\$174.02	\$194,902	5	Modernization/Improvement	4-Recommended
Main Building	D5030	Annunciator panel	8.00	Ea.	\$345.42	\$2,763	0	Routine Maintenance	4-Recommended
Main Building	D5020	LED Exterior Lighting	1.00	Ea.	\$116.54	\$117	9	Routine Maintenance	4-Recommended
Main Building	D5090	Automatic Transfer Switch	1.00	Ea.	\$59,143.06	\$59,143	1	Routine Maintenance	4-Recommended
Main Building	C1020	Steel Double Doors	24.00	Ea.	\$3,232.64	\$77,583	5	Major Repair	4-Recommended
Main Building	B2030	Steel Detention Doors	128.00	Ea.	\$3,744.02	\$479,235	4	Modernization/Improvement	4-Recommended
Main Building	E1090	Concrete Floors	112.34	C.S.F.	\$1,359.98	\$152,780	6	Modernization/Improvement	4-Recommended
Main Building	C3020	Carpet	20000.00	S.F.	\$8.36	\$167,200	0	Lifecycle Replacement	4-Recommended

































































































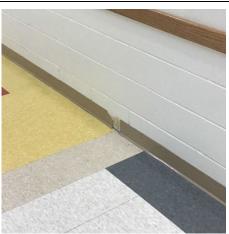
























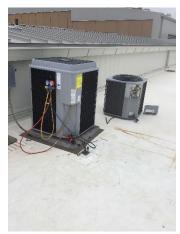


















































MAIN BUILDING-LIFE SAFETY















MAIN BUILDING-SECURITY

















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