

MACOMB COMMUNITY COLLEGE
MTEC and EAST CAMPUS

FACILITIES ASSESSMENT AND
DEFERRED MAINTENANCE
CAPITAL PLANNING REPORT

IDS Project No. 21195-4000

November 2023

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- CRIMINAL JUSTICE TRAINING CENTER

TAB 1

Integrated Design Solutions, LLC (IDS) was commissioned by Macomb Community College to conduct a Facility Condition Assessment (FCA) of all buildings located at East Campus. This assessment will serve as a means to update the existing FCA and Deferred Maintenance Capital Plan. The survey was conducted between September 2022 and March 2023. Each building was thoroughly surveyed with the assistance of Macomb Community College personnel.

The following report compiles a list of all deficient building, mechanical, electrical and code related items that, in our professional opinion, will require replacement, enhancement and/or repair in order to meet the goals of preserving the assets of each building.

The IDS survey team consisted of senior level individuals with extensive knowledge in each of the building categories surveyed.

TAB 2

This Facilities Assessment and deferred Maintenance Capital Planning Study, was updated using recent project data, contractor bids and Construction Manager estimates to accomplish the following objectives:

- Provide an inventory of the College's facilities in a database format to be easily updated and maintained.

- Determine the general condition of the facilities owned by Macomb Community College and provide the data in a concise format, allowing quick determination of the current replacement value and condition of each facility.

- Determine a Facilities Condition Index (FCI) for each assessed building and an aggregate FCI for all facilities at Macomb Community College. The FCI is a benchmark index that rates the condition of existing College buildings and is used by facilities managers nationwide to quantify and prioritize deferred maintenance projects for capital planning purposes.

- Assist Macomb Community College in meeting its Mission Statement, Strategic Goals and Institutional Vision through timely maintenance of the physical backbone of the College - the buildings of Macomb Community College.

Estimated costs are itemized by architectural, mechanical, and electrical trades and are totaled under Construction Costs and include any material and labor costs without additional mark-ups. The Project Cost total includes a 45 percent mark-up on construction costs to include such items as A/E design fees, construction contingencies, reimbursable expenses and commissioning. All costs have been expressed in 2023 dollars. Therefore, any work implemented later than 2023 will require an adjustment. In some cases, due to the nature of the work, quantities were estimated and assumptions made in order to establish the course of action. Further development and investigation during future implementation phases will be necessary to determine a more accurate scope of work and a more precise budget estimate.

All deficiencies identified in this report total $10,520,962. Category deficiencies breakdown in the following manner: architectural items $1,827,566 (includes code related items), mechanical items $6,173,295 and electrical items $2,520,101. All costs include a 45% mark-up to include "soft" costs associated with, and incremental to, actual construction costs.

Facility Condition Assessment team consisted of the following individuals:

Administrative Team

Macomb Community College Executive Director of Facilities & Operations.....William Simonson
Macomb Community College Director of Administrative Services .....Bernard Jacobs
IDS Project Manage.....Matthew Beck
IDS Principal-in-Charge .....Michael Nowicki

Facility Assessment Team

Architectural .....Todd Nemecek
Mechanical .....Frank Lesner
Electrical.....Scott Batzold

TAB 3

GLOSSARY OF TERMS

Building Components

The table below shows the building components used in the report. These are the basic components having a major influence on the replacement value of a building.

Category	Component Name
Envelope	Roof
	Glazing
	Cladding
Mechanical	HVAC Equipment
	Plumbing
	Fire Protection
Electrical	Power
	Lighting
Code/ADA	

Building Use Types

The table below shows general building use types and their respective current construction costs per square foot used to develop this database. These costs, based on regionally weighted, preliminary construction cost data provided by contractors, historical cost databases and data from RS Means are for typical college and university buildings. Buildings may contain various uses, and each use is portioned to create the overall building replacement value per square foot.

Use Type	Cost/SF
Administration	$420
Auditorium	$585
Student Services	$410
Classroom	$400
Lab	$630
Library	$370

Building Replacement Value (CRV)

The CRV is the cost to construct a typical replacement building in today's dollars. The figure is based on the square footage of the current structure and the estimated current construction cost for that type of structure. Since some buildings are conglomerations of different uses (i.e.: classroom, library, administration) the CRV is based on estimated proportions of use types in each building. By the nature of the calculations and square foot construction costs, the current replacement value has a ±20% margin of error and will change annually due to market demands.

Facilities Condition Index (FCI)

The Association of Higher Education Facilities Officers (APPA) recommends that the FCI for any given building should not exceed 5% for the building to be considered in "Good" condition. The rating of "Fail" indicates that the building requires some attention to bring it up to standard, with some problem areas potentially requiring immediate attention. The rating of "Poor" indicates that the building needs urgent attention to prevent the existing problems from affecting other building systems and compounding future repair costs.

Deferred Maintenance Budget (DMB)

This is the cost of upkeep of buildings and equipment postponed from the normal operating budget cycle.

DMB Equilibrium (Annual Cost to Maintain Current DMB)

This is the dollar amount to be invested annually to keep the FCI (and DMB) from deteriorating - regardless of the current condition of the building.

The number is based on a national accepted rule of 2% of the CRV and assumes that building components have a 50-year renewal cycle and depreciate along a straight line. The assumptions were made to simplify calculations; in reality, building components do not expire according to straight-line depreciation, and most components will require replacement within 30-40 years (excluding structure and foundation).

To restate - this actual investment will only maintain the existing FCI and do little or nothing to reduce any existing backlog.

Five Year Cumulative Deferred Maintenance Budget (5 Year DMB)

Similar to the One Year DMB, the Five Year DMB represents the total value of projects that will require attention within the next five years, including those that fall under the One Year DMB. This value is included to help determine the investment required over the next five years to repair and/or replace problem items before they become critical.

The Five Year DMB is often more telling of a buildings condition than the One Year DMB, since the first year number focuses primarily on life safety, code compliance and collateral damage. Most maintenance issues are not so critical as to fall into this category but often become so within 5 years.

Five Year DMB Excess

Similar to the One Year DMB Excess value, this amount represents the investment to bring the DMB in line with the APPA benchmark of 5% of the Current Replacement Value. In situations where a building is in better than "Good" condition a bit more difficult over a five year span, the five year DMB excess is shown as zero.

This number is a good starting point for determining budgets - it allows the college to see what to spend to bring buildings into the APPA 'Good" range - with the understanding that complete elimination of the deferred Maintenance Budget is not a likely scenario.

Observation Highlights

This is a focused list of field observations, highlighting major repair/replacement items and recently completed work.

Vital Statistics

Basic building information - building use types, year built, building area in square feet and number of floors.

Code and Barrier Free Requirements

Building and barrier free codes have changed extensively since many of the buildings on campus were constructed. Attempting to apply today's codes to these buildings is not always practical, but nonetheless, provides a benchmark to evaluate existing conditions. Mile there is no code mandated requirement to bring an existing building up to current code requirements, any new work would be required to meet current codes.

Renovation work will be governed by the Michigan Rehabilitation Code for Existing Buildings as well as current NFPA life safety requirements. Additionally, renovation work in excess of 50 percent of the building's area will likely require total building code compliance.

Contributing factors that make current code compliance problematic include limitations imposed by existing infrastructure that may prevent or make code compliance extremely difficult, both physically and monetarily. As a result, it may be necessary to consider equivalent code measures or combinations of code systems to achieve a desired life safety improvement or code compliance objective.

In addition to the Michigan Barrier Free Design Code, there are continuing obligations under the Americans with Disabilities Act (ADA) to remove barriers. The ADA is a civil rights act, not a code or standard and therefore, no agency verifies compliance. The Act expects compliance with the intent of the Act, which is to eliminate discrimination of the disabled. Portions of the buildings that are accessible to the public and students fall under the 'public accommodations" classification. These areas are governed by Title Ill of the ADA that requires the owner to make "readily achievable" changes that are in compliance with the ADA. The barrier free noncompliance issues in this report are based on full compliance to all requirements, although for reasons stated above, removal of all barriers may not be required at this time.

The following codes and standards represent the primary regulations in effect at the time of this report and that would apply to the college. At the time projects are actually implemented, the most current codes and standards that are in effect at the time must be utilized.

Building	2015 Michigan Rehabilitation code, Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes, 2015 Michigan Building Code, incorporating the 2015 Edition of the International Building Code.
	Michigan Department of Licensing and Regulatory Affairs, Bureau of Fire Services, Rules for Schools, Colleges and Universities, 2016, incorporating the 2015 Edition of the NFPA 101 Life Safety Code.
Barrier Free:	Michigan Department of Licensing and Regulatory Affairs, 2015 Michigan Building Code, incorporating the 2015 Edition of the International Building Code.
	Americans with Disabilities Act (ADA), 2010, Standards for Accessible Design
Elevator:	Michigan Department of Energy, Labor and Economic Growth, Elevator Safety Division, Elevator Rules, 2005, Incorporating ASME Al 7.1-2004.
Structural:	Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes, 2015 Michigan Building Code, incorporating the 2015 Edition of the International Building Code.
Mechanical:	Michigan Department of Energy, Labor and Economic Growth; Bureau of Construction Codes, 2015 Michigan Mechanical Code Incorporating the 2015 Edition of the International Mechanical Code.
	ANSI/ASHRAE/IESNA 90.1-2013 Energy Standard for Buildings Except Low-Rise Residential Buildings.
	NFPA 13 — Installation of Sprinkler Systems — 2013 Edition.
Plumbing:	Michigan Department of Energy, Labor and Economic Growth; Bureau of Construction Codes, 2018 Michigan Plumbing Code Incorporating the 2018 Edition of the International Plumbing Code.
Electrical:	Michigan Department of Licensing and Regulatory Affairs, Bureau of Construction Codes, Electrical Division, 2017 Michigan Electrical Code, incorporating the 2017 Edition of the National Electrical Code.
Fire Alarm:	2013 Edition of NFPA 72 - National Fire Alarm and Signaling Code.

Minimum Code Requirements

The following is a general summary of the life safety and barrier free code requirements for all buildings utilizing current applicable codes and standards. The summary is based on the requirements for new construction, only as a benchmark to evaluate existing conditions within each building.

Building Fire and Occupancy Separations

2-hour fire rated separation between different users.

Means of Egress and Fire Ratings

A minimum of two exits from all floors and a maximum common path of egress travel of 75 feet in non-sprinklered buildings and 100 feet in fully sprinklered buildings.

Doors shall swing in the direction of egress where serving an occupant load of 50 or more. Doors shall be equipped with panic hardware where serving an occupant load of 50 or more.

Dead end corridors cannot exceed 20 feet in length in non-sprinklered buildings and 50 feet in fully sprinklered buildings.

Maximum total exit access travel distance cannot exceed 200 feet in non-sprinklered buildings and 300 feet in fully sprinklered buildings.

The total width of a level means of egress shall not be less than the total occupant load served multiplied by a factor of 0.2" per occupant, but shall not be less than may be specified elsewhere in the code.

The total width of a means of egress stair shall not be less than the total occupant load served multiplied by a factor of 0.3" per occupant.

Rooms or spaces with an occupant load exceeding 50 or a total square footage greater than 1,000 are required to have two exits or exit access doorways.

Rooms or spaces with an occupant load exceeding 500 require a minimum of three exits.

Stairs and ramps shall have handrails on each side and shall be continuous without interruption.

Guards 42" high shall be provided at all open sided walking surfaces, stairs and ramps higher than 30" above the floor or grade below.

1-hour fire rated corridor walls with 20 minute fire rated doors are typically required in non-sprinklered buildings.

1-hour fire rated stair enclosures with 60 minute B label fire rated doors are typically required where connecting less than 4 floors.

1-hour fire rated elevator shafts and elevator equipment rooms.

Signage is required of the following:

- Tactile “EXIT” sign adjacent to each stairway egress door, exit passageway and exit discharge.
- Elevator floor designation at hoistway.
- Assembly space maximum occupant load. (Spaces with an occupant load exceeding 50.)

Exit Signage

Exits and exit access doors shall be marked with readily visible exit signs.

Viewing distance in exit access corridor shall not exceed 100 feet.

Emergency Egress Lighting

Lighting along all means of egress shall provide not less than an average of 1 footcandle and a minimum of 0.1 footcandle measured along the path of egress at the floor level. Furthermore, a maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded.

In the event of a power failure, an emergency electrical system shall automatically illuminate the following areas for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator:

- Exit access corridors
- Exit access passageways and aisles in rooms and spaces required to have two or more exits
- Exit stairways

Lighting Control

Michigan Energy Code requires that all buildings be equipped with automatic control devices capable of shutting off light in all spaces without occupant intervention. All building spaces must comply with maximum allowable power densities as defined in ASHRAE 90.1-2013. Daylighting controls must also be utilized for applicable areas.

Fire Alarm Systems

Manual fire alarm system at Assembly occupancies with an occupant load of 300 or more.

Manual fire alarm system at Business occupancies with a combined occupant load of all floors greater than 500 or an occupant load of more than 100 above or below the lowest level of exit discharge.

Fire Suppression Systems

An automatic sprinkler system at Assembly occupancies with a fire area exceeding 12,000 square feet

Barrier Free Requirements

At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements and accessible spaces that are on the same site. Where more than one means of egress is required, there shall be at least 2 accessible means of egress.

At least 60 percent of all building public entrances shall be accessible.

When a building or portion thereof is required to be accessible, an accessible route shall be provided to each portion of the building, to accessible building entrances connecting accessible pedestrian walkways, and a public way.

Changes in floor level between 1/4” minimum to 1/2” maximum is to be beveled with a slope no steeper than 1:2.

The minimum width of each door opening shall be sufficient for the occupant load thereof and provide a clear width of at least 32 inches.

Swinging doors must have maneuvering clearances in compliance with ICC/ANSI Al 17.1.

Door handles, pulls latches, locks and other operating devices on doors required to be accessible must not require tight grasping, tight pinching or twisting of the wrist to operate.

Code compliant signage shall be provided at the following locations:

- Accessible areas of refuge
- Accessible entrances where not all are accessible
- Directional signage at inaccessible entrances
- Unisex toilets
- Accessible toilets where not all are accessible
- Directional signage to accessible toilets at inaccessible toilets

Wall mounted or free standing protruding objects must comply with MBC.

Passenger elevators on an accessible route shall be accessible and comply with applicable provisions of the code.

Plumbing elements and facilities required to be accessible must comply with applicable provisions of the code. At least one of each type of fixture, element, control or dispenser in each accessible toilet room and bathing facility must be accessible.

Existing Building Code Application

The legal occupancy of any structure existing on the date of adoption of the code shall be permitted to continue without change unless deemed necessary by the building official for the general safety and welfare of the occupants and the public.

Existing buildings undergoing repair, alterations or additions and change of occupancy shall be permitted to comply with the Michigan Rehabilitation Code for existing Buildings.

New work, including renovations and additions to any structure shall conform to the code requirements for new construction. Modifications and repairs shall not cause the existing structure to be in violation of the code- Portions not altered or affected by the modifications need not comply with the current building code.

Deferred Maintenance Budgets

The total 5 year DMB building are as follows (refer to the building data sheets for detailed information).

Building	5 Year DMB
MTEC	$ 5,794,983
Criminal Justice Training Center	$ 4,725,979

Current Replacement Values

The CRV per building are as follows:

MTEC	37,885	SF	x	$400	SF	=	$15,154,000
Criminal Justice Training Center	61,207	SF	x	$400	SF	=	$24,482,800

TAB 4

FCI Index Table

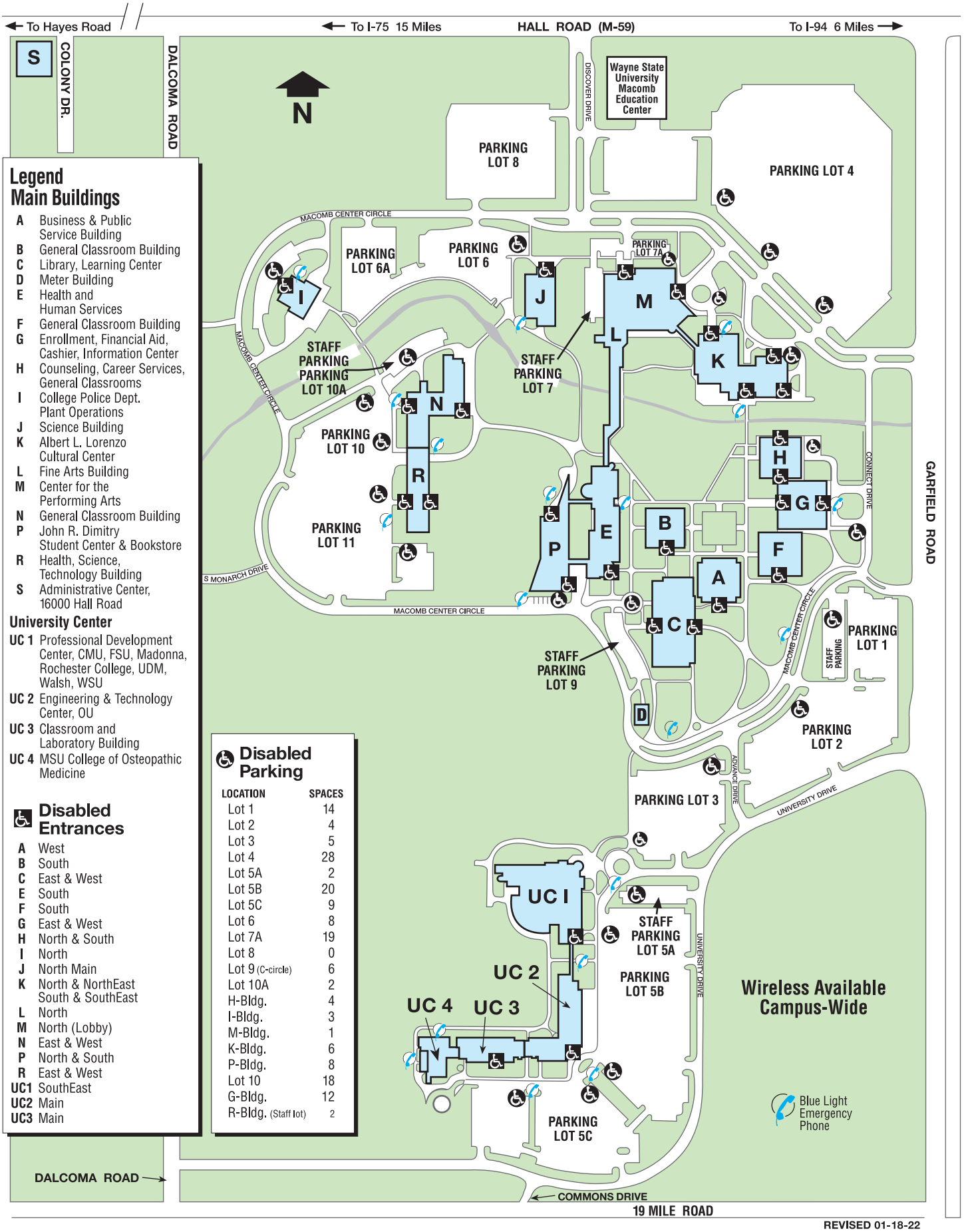
Building	Square Feet	Replacement Cost (CRV)	Total Deficiencies Construction Cost	Total Deficiencies Project Cost (5 Year DMB)	FCI
MTEC	37,885	$15,154,000	$ 3,996,540	$ 5,794,983	38.24%
Criminal Justice Training Center	61,207	$24,482,800	$ 3,259,296	$ 4,725,979	19.30%

- FCI is a simple measure of the relative condition of a building to its approximate replacement cost (i.e., the higher the FCI, the poorer the condition of the existing building).

TAB 5

MACOMB COMMUNITY COLLEGE
CENTER CAMPUS

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Legend
Main Buildings

- **A** Business & Public Service Building
- **B** General Classroom Building
- **C** Library, Learning Center
- **D** Meter Building
- **E** Health and Human Services
- **F** General Classroom Building
- **G** Enrollment, Financial Aid, Cashier, Information Center
- **H** Counseling, Career Services, General Classrooms
- **I** College Police Dept. Plant Operations
- **J** Science Building
- **K** Albert L. Lorenzo Cultural Center
- **L** Fine Arts Building
- **M** Center for the Performing Arts
- **N** General Classroom Building
- **P** John R. Dimitry Student Center & Bookstore
- **R** Health, Science, Technology Building
- **S** Administrative Center, 16000 Hall Road

University Center

- **UC 1** Professional Development Center, CMU, FSU, Madonna, Rochester College, UDM, Walsh, WSU
- **UC 2** Engineering & Technology Center, OU
- **UC 3** Classroom and Laboratory Building
- **UC 4** MSU College of Osteopathic Medicine

Disabled Entrances

- **A** West
- **B** South
- **C** East & West
- **E** South
- **F** South
- **G** East & West
- **H** North & South
- **I** North
- **J** North Main
- **K** North & NorthEast South & SouthEast
- **L** North
- **M** North (Lobby)
- **N** East & West
- **P** North & South
- **R** East & West
- **UC1** SouthEast
- **UC2** Main
- **UC3** Main

Disabled Parking

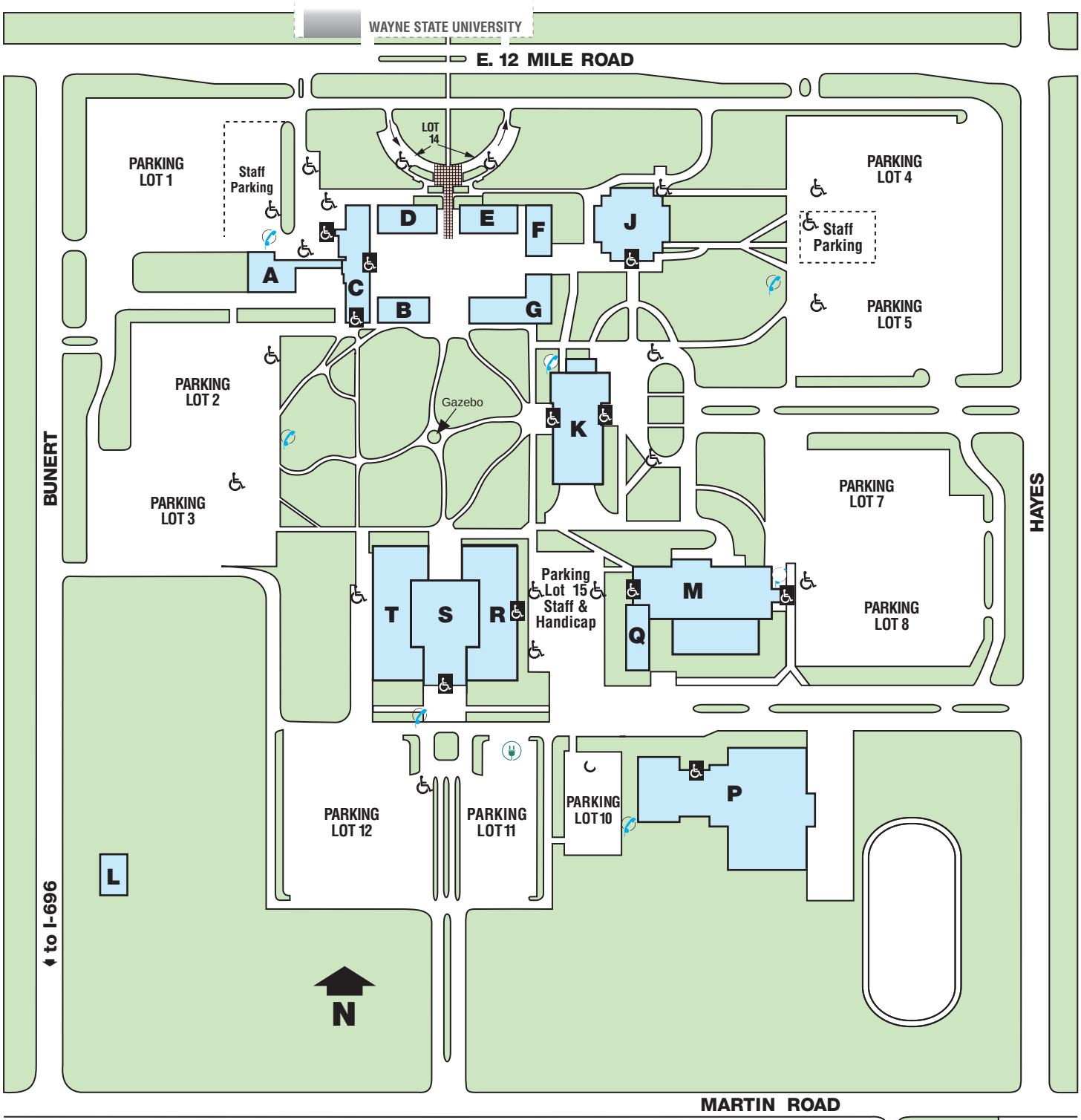
LOCATION	SPACES
Lot 1	14
Lot 2	4
Lot 3	5
Lot 4	28
Lot 5A	2
Lot 5B	20
Lot 5C	9
Lot 6	8
Lot 7A	19
Lot 8	0
Lot 9 (C-circle)	6
Lot 10A	2
H-Bldg.	4
I-Bldg.	3
M-Bldg.	1
K-Bldg.	6
P-Bldg.	8
Lot 10	18
G-Bldg.	12
R-Bldg. (Staff lot)	2

REVISED 01-18-22

MACOMB COMMUNITY COLLEGE

SOUTH CAMPUS

14500 E. 12 Mile Road • Warren, Michigan 48088-3896 • 1.866.Macomb1



REVISED 5/11/17

LEGEND—MAIN BUILDINGS

- **A** Boiler House
- **B** Science Building
- **C** Classroom Building
- **D** Administration Building
- **E** Classroom Building
- **F** Classroom Building
- **G** Classroom, Admissions Counseling, Financial Aid, Career Services Building, Cashier
- **J** Max Thompson Learning Media Center
- **K** John Lewis Student Center College Police Dept. Community Center/Bookstore
- **L** Bunert Conference Center
- **M** Transportation and Energy Technology Building
- **N** College Park Annex
  - ■ Institutional Research
  - ■ Marketing
  - ■ Publications
- **P** Sports & Expo Center
- **Q** Boiler House

Robert E. Turner Complex

- **R** Graphic Technical Building
- **S** Walter E. Bradley Auditorium,
- **T** Mechanical Technical Building

Disabled Parking

Location	Spaces	Location	Spaces
Lot 1A Staff	3	C-Bldg	19
Lot 2	7	J-Bldg	1
Lot 3	4	K-Bldg	11
Lot 4	11	T-Bldg	2
Lot 4 Staff	7	N-Bldg	6
Lot 5	7		
Lot 8	14		
Lot 10	18		
Lot 12	8		
Lot 14	9		
Lot 15 Staff	8		

Blue Light Emergency Phone

Elec.Vehicle Outlet

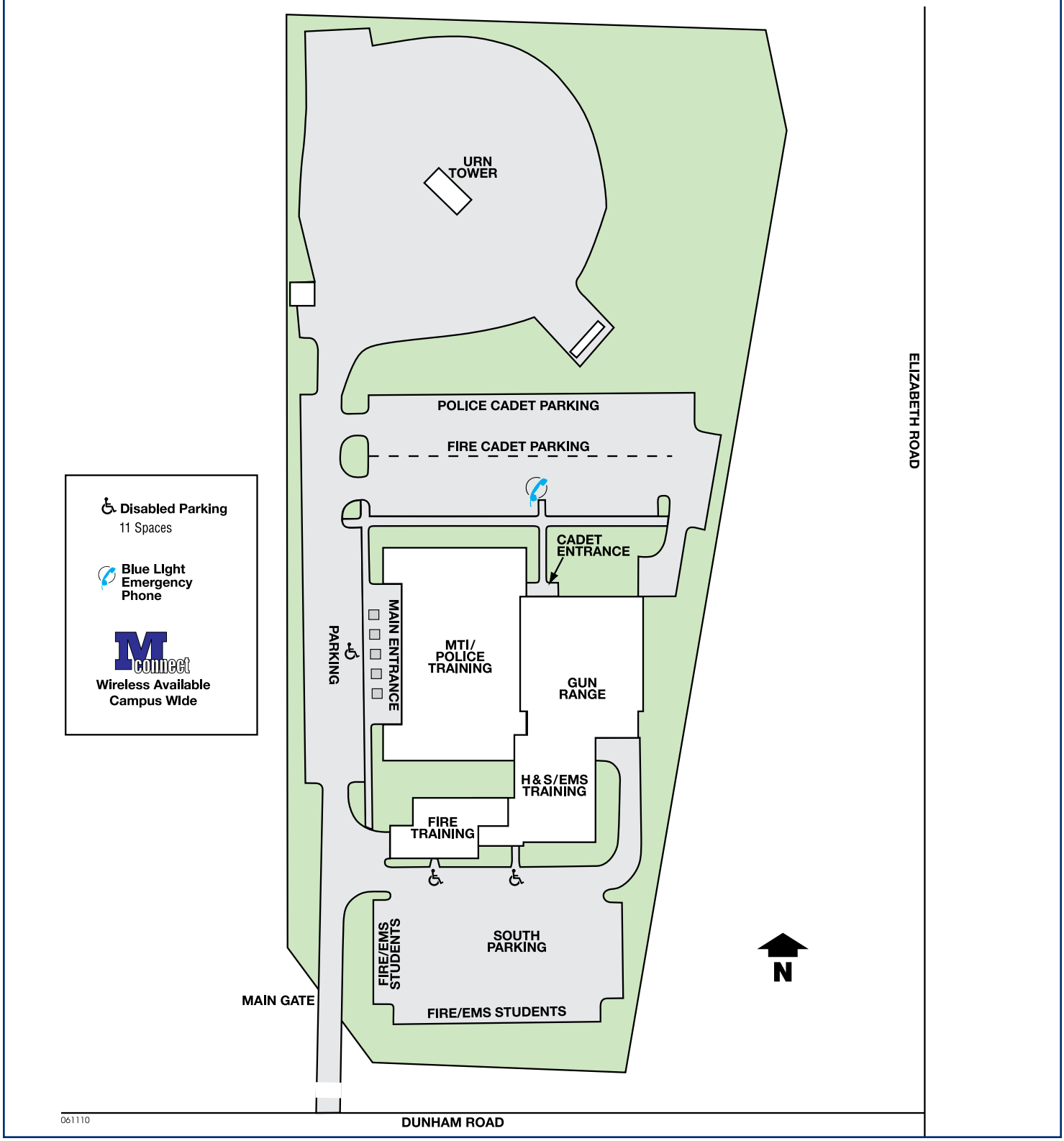
Disabled Entrances

- **C** East, West & South
- **J** Main
- **K** East & West
- **M** East & West
- **R** East Middle
- **P** North
- **M-TEC** Main

Wireless Available Campus-Wide

East Campus

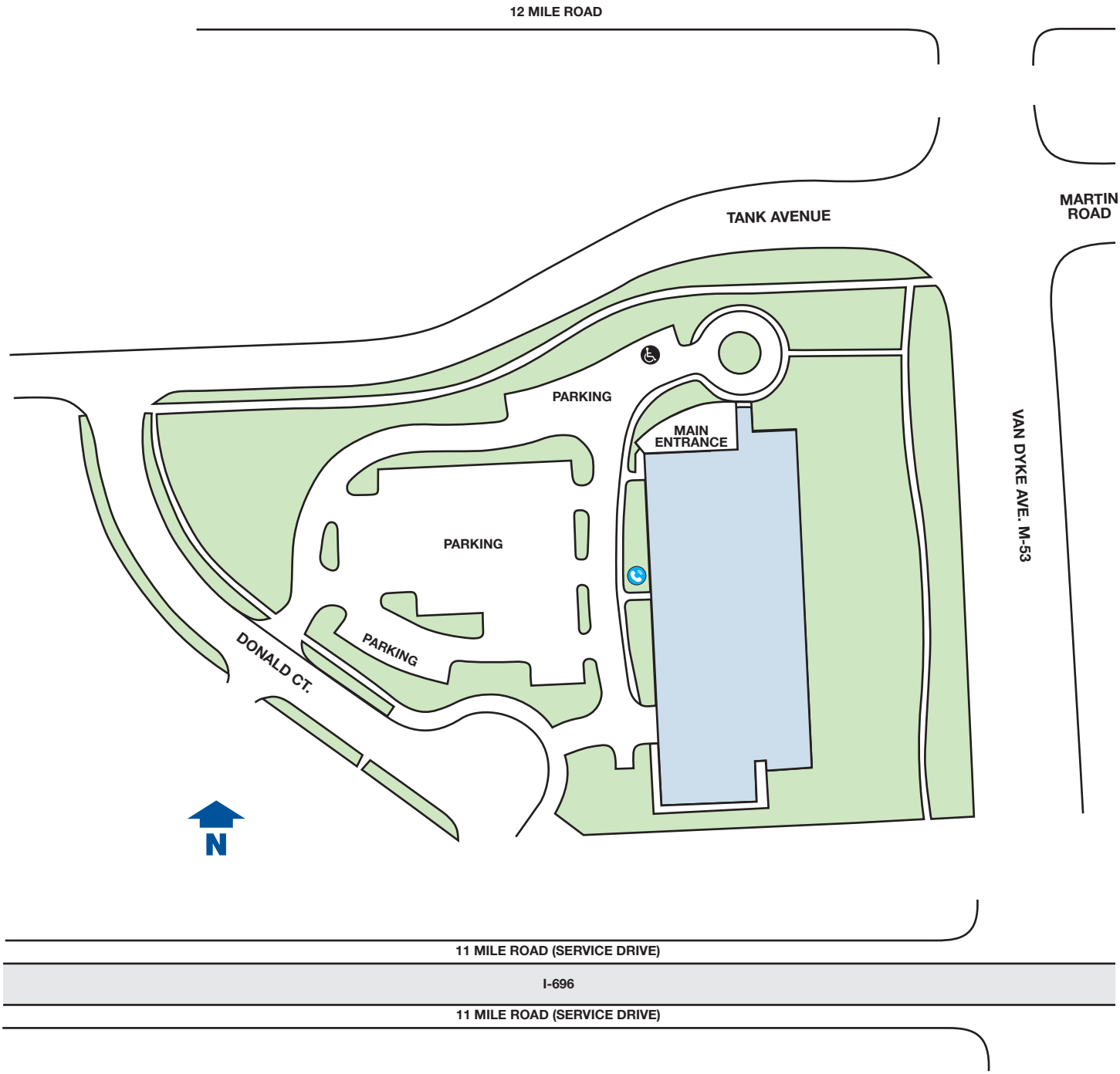
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MACOMB COMMUNITY COLLEGE

M-TEC℠

7900 Tank Avenue, Warren, MI 48092 • 1.866.Macomb1



Disabled Parking
4 Spaces

Blue Light Emergency Phone

Wireless Available Campus Wide

REVISED 10/22/20

TAB 6

MTEC



GENERAL OVERVIEW

Use: Classroom

Total Area: 37,885 SF

Floors: 2

DMB: $5,794,983

CRV: $15,154,000

FCI: 38.24%

COMMENTS

Roof System

- Johns Manville single-ply roof installed in 2001. Roof warranty expired in 2016. Roof should be scheduled for replacement.

HVAC System

- HVAC system is original from 2001 and has reached its useful life. Major HVAC equipment should be scheduled for replacement.

Plumbing System

- Plumbing systems are original from 2001.

Fire Protection

- Full suppression system is original from 2001.

Temperature Controls

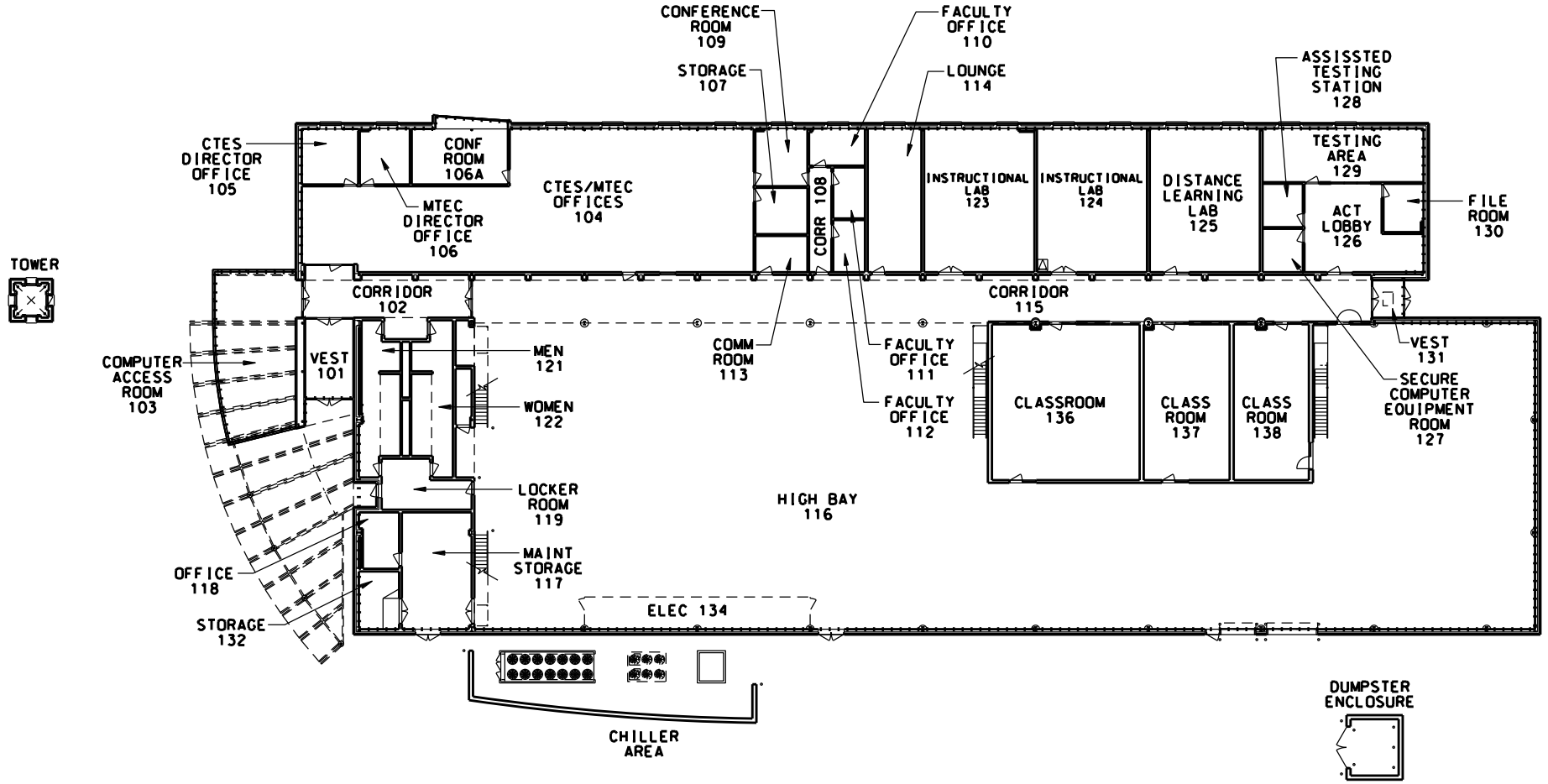
- Temperature controls are original from 2001. Remove the existing Continuum (Andover) controls and replace with Tridium (Honeywell).

Power Systems

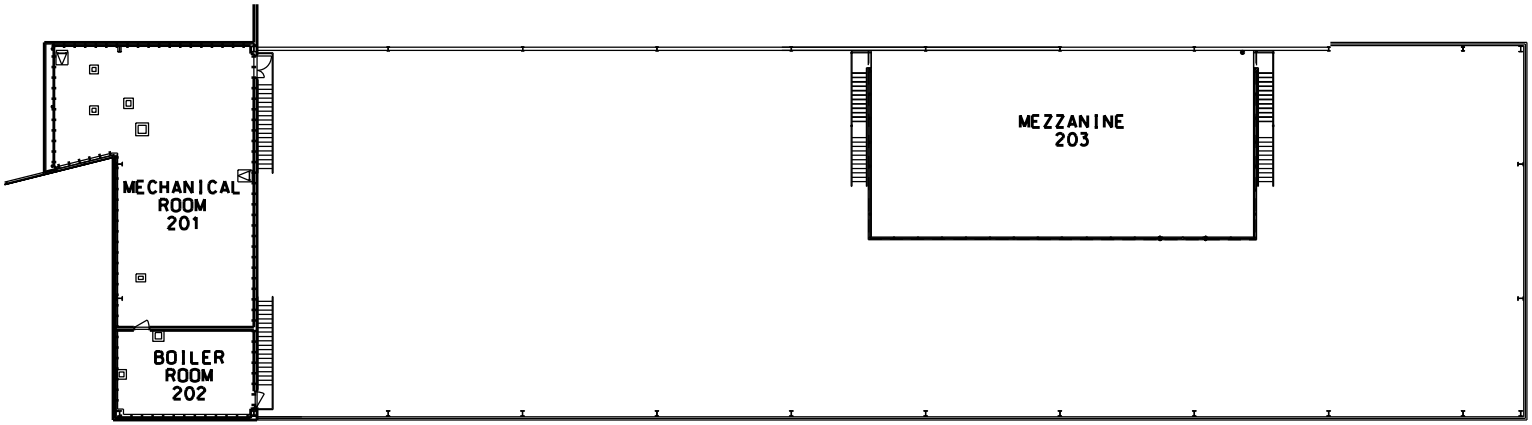
- Electrical equipment was installed in 2001 and is good condition.

Lighting System

- Some classroom lighting has been replaced with LED light fixtures, but the controls have not been updated to the current ASHRAE standards. These areas are considered to be included in the full replacement of lighting/controls.



MTEC 100 LEVEL



NORTH

MTEC 200 LEVEL

MTEC

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
Roof System													
1	Roof System	Entrance	Clean translucent panels at entrance.	1	LS	$ 2,500.00	$ 2,500					$ 2,500	$ 3,625
2	Roof System	Roof	Roof has exceeded useful like and should be replaced	37,885	SF	$ 14.00	$ 530,390					$ 530,390	$ 769,066
Enclosure System													
1	Enclosure System	West Elevation	Replace door frame at overhead door.	1	LS	$ 2,000.00	$ 2,000					$ 2,000	$ 2,900
2	Enclosure System	North Elevation	Replace door frame at door to locker rooms.	1	LS	$ 1,500.00	$ 1,500					$ 1,500	$ 2,175
3	Enclosure System	Entrance	Caulk soffit.	1	LS	$ 500.00	$ 500					$ 500	$ 725
4	Enclosure System	Entrance	Re-finish canopy supports/ framing.	1	LS	$ 5,000.00	$ 5,000					$ 5,000	$ 7,250
5	Enclosure System	West Elevation	Install metal coping on screen wall.	1	LS	$ 2,000.00	$ 2,000					$ 2,000	$ 2,900
6	Enclosure System	West Elevation	Repair and refinish screen wall.	1	LS	$ 1,500.00	$ 1,500					$ 1,500	$ 2,175
7	Enclosure System	Throughout	Recaulk control joints in brick.	1	LS	$ 5,000.00	$ 5,000					$ 5,000	$ 7,250
8	Enclosure System	Throughout	Recaulk windows in brick.	1	LS	$ 3,000.00	$ 3,000					$ 3,000	$ 4,350
Finish System													
1	Finish System	Vestibule	Repair gysum ceiling.	1	LS	$ 500.00	$ 500					$ 500	$ 725
HVAC Systems													
1	Existing HVAC Systems	Roof and mechanical rooms	All mechanical equuipment is original to the building and has exceeded its useful life. Equipment should be replaced.	37,885	SF			$ 65.00	$ 2,462,525			$ 2,462,525	$ 3,570,661
Temperature Controls													
1	Temperature Controls	Building	Replace existing Continuum (Andover) BAS controls with Tridium (Honeywell) system.	37,885	SF			$ 10.00	$ 378,850			$ 378,850	$ 549,333
Power Systems													
1	Power Systems	General	Electrical equipment had no indication of maintenance or testing since original installation. Testing / maintenance is recommended at regular intervals.	1	LS					$ 10,000.00	$ 10,000	$ 10,000	$ 14,500
2	Power Systems	General	Existing arc flash labels are generic type and do not indicate incident energy boundaries, available fault current, etc.. While not required by code, it is recommended to update power system study and labeling to match that of building CA.	1	LS					$ 10,000.00	$ 10,000	$ 10,000	$ 14,500
3	Power Systems	Equipment Yard	Backup power hydrogen fuel cell system (manufacture: PlugPower). Appears to be original to the building, approximately 20 years old. No labels or markings indicated recent testing or maintenance on the equipment. Testing / maintenance is recommended at regular intervals.	1	LS					$ 7,500.00	$ 7,500	$ 7,500	$ 10,875
Lighting System													
1	Lighting System	General	Existing lighting is fluorescent & current controls are not fully code compliant with latest energy codes. Recommended to replace with LED and controls as a part of the next major building renovation.	37,885	SF					$ 15.00	$ 568,275	$ 568,275	$ 823,999
1	Lighting System	West facing and South facing Exterior Doors	Exterior doors do not appear to have sufficient emergency lighting. It is recommended to add a wall sconce with battery backup adjacent or above the door to provide adequate illumination.	4	EA					$ 2,000.00	$ 8,000	$ 8,000	$ 11,600
							$ 551,390		**$ 2,841,375**		**$ 603,775**	**$ 3,996,540**	**$ 5,794,983**

CRIMINAL JUSTICE TRAINING CENTER



GENERAL OVERVIEW

Use: Classroom

Total Area: 61,207 SF

Floors: 1

DMB: $4,725,979

CRV: $24,482,800

FCI: 19.30%

COMMENTS

Roof System

- Johns Manville EPDM roof over criminal justice is original, installed in 2002 and should be replaced.
- Johns Manville EPDM roof replaced in 2013 (Fire). Warranty expires in 2028.

HVAC System

- Original 1994 Fire Training Center HVAC system was updated during the 2002 Criminal Justice Training Center addition.
- The 2006 Emergency Training Center addition was provided with all new HVAC system.

Plumbing System

- Domestic water heaters were installed/upgraded similar to HVAC system.

Fire Protection

- 1994 Fire Training Center and the 2002 Criminal Justice Center are not sprinklered.
- The 2006 Emergency Training Center addition is provided with a wet type protection system throughout.
- The three (3) rooftop HVAC unit and HVAC unit serving the gun range should be scheduled for replacement.

Temperature Controls

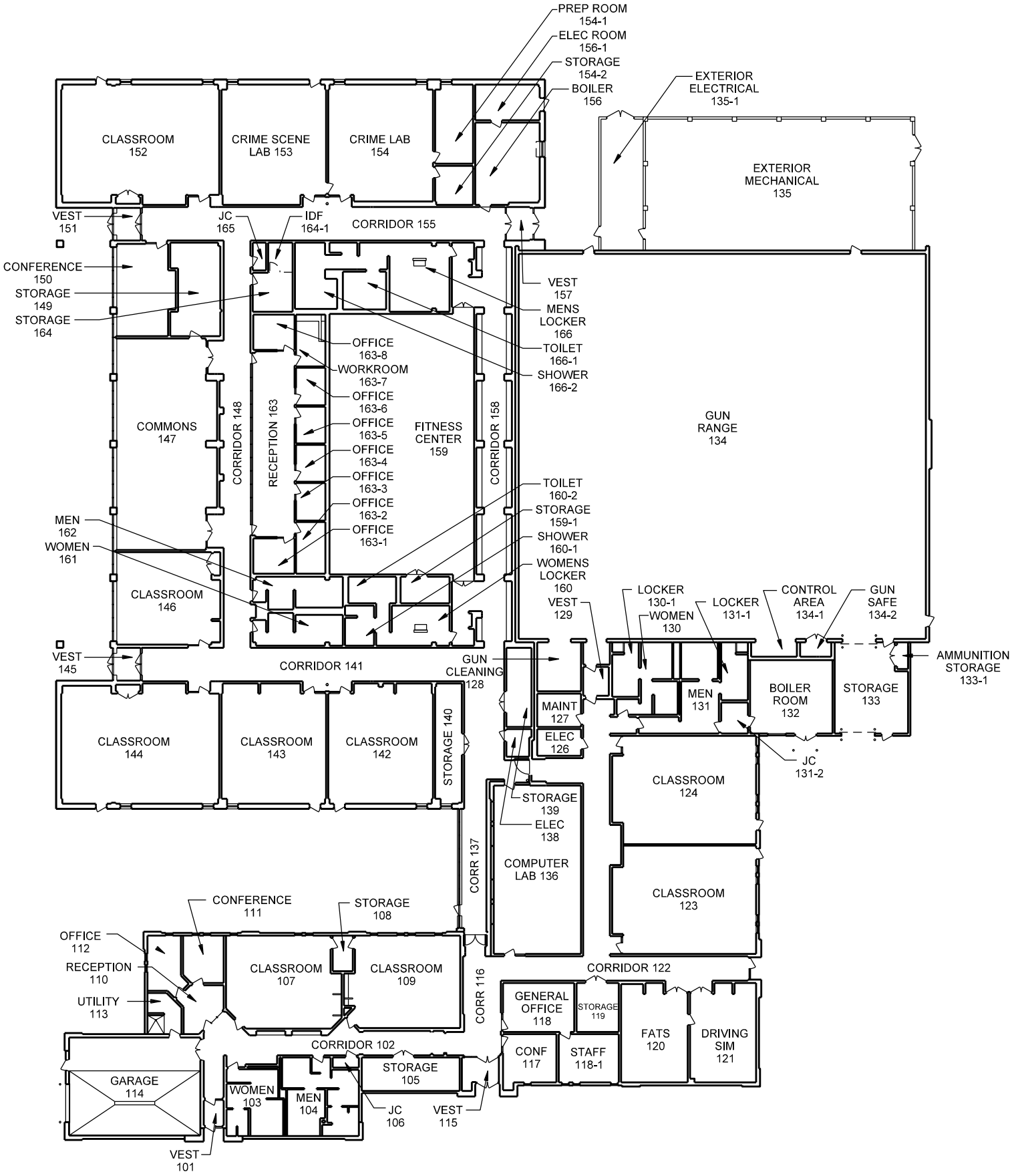
- Replace existing Desigo (Siemens) BAS controls with new Tridium (Honeywell) system.

Power Systems

- Electrical equipment appears original to the construction of the 2007 building and 2007 addition.

Lighting System

- The exit signs are LED.



EAST CAMPUS 100 LEVEL

Criminal Justice Training Center

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
Roof System													
1	Roof System	Throughout	Repaint gas pipe on roof.	1	LS	$ 1,500.00	$ 1,500					$ 1,500	$ 2,175
2	Roof System	Roof	Building roof except for fire training area needs replacement	50000	SF	$ 14.00	$ 700,000					$ 700,000	$ 1,015,000
Enclosure System													
1	Enclosure System	Mechanical Courtyard	Resupport stairs to air handling unit.	1	LS	$ 500.00	$ 500					$ 500	$ 725
2	Enclosure System	Throughout	Recaulk control joints in brick/block.	1	LS	$ 3,000.00	$ 3,000					$ 3,000	$ 4,350
Finish System													
1	Finish System	Apparatus Bay (114)	Recaulk control joints in brick.	1	LS	$ 500.00	$ 500					$ 500	$ 725
Temperature Controls and HVAC													
1	Temperature Controls	Building	Replace existing Desigo (Siemens) BAS controls with new Tridium (Honeywell) system	61,207	SF			$ 10.00	$ 612,070			$ 612,070	$ 887,502
2	York RTU's	Roof	York RTU's are in poor condition and shouldbe replaced	3	EA	$ 4,000.00		$ 18,000.00	$ 54,000	$ 3,000.00		$ 54,000	$ 78,300
3	Gun Range HVAC	Gun Range	Gun range HVAC unit has reached its useful life and should be replaced	1	LS	$ 5,000.00	$ 5,000	$ 750,000.00	$ 750,000	$ 10,000.00	$ 10,000	$ 765,000	$ 1,109,250
Power Systems													
7	Power Systems	General	Electrical equipment had no indication of maintenance or testing since original installation in 2007. Testing / maintenance is recommended at regular intervals.	1	LS					$ 7,500.00	$ 7,500	$ 7,500	$ 10,875
8	Power Systems	General	Existing arc flash labels are generic type and do not indicate incident energy boundaries, available fault current, etc.. While not required by code, it is recommended to update power system study and labeling to match that of building CA.	1	LS					$ 10,000.00	$ 10,000	$ 10,000	$ 14,500
9	Power Systems	Electrical Equipment Yard	35kW Natural Gas Generator startup date: 2003, with 584 running hours. Last indication of maintenance on the generator was noted to be in 2019. Date code on the battery indicates it was manufactured in 2019. Testing / maintenance is recommended at regular intervals. Note: The existing generator currently serves optional standby and life safety loads via (2) seperate automatic transfer switches.	1	LS					$ 5,000.00	$ 5,000	$ 5,000	$ 7,250
Lighting System													
10	Lighting System	General	Existing lighting is fluorescent and current controls are not fully code compliant with latest energy codes. Recommended to replace with LED and controls as a part of the next major building renovation.	61,207	SF					$ 18.00	$ 1,101,726	$ 1,101,726	$ 1,597,503
						$ 709,000		**$ 1,416,070**		**$ 1,134,226**	**$ 3,259,296**	**$ 4,725,979**	