


# MACOMB COMMUNITY COLLEGE
## CENTER CAMPUS

## FACILITIES ASSESSMENT AND DEFERRED MAINTENANCE CAPITAL PLANNING REPORT

IDS Project No. 21195-4000

November 2023

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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 Center 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 $38,740,667. Category deficiencies breakdown in the following manner: architectural items $4,382,595 (includes code related items), mechanical items $11,623,145 and electrical items $22,734928. 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 Manager.....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 |
|---|---|
| Building CA (Business and Public Services) | $ 76,633 |
| Building CB (General Classrooms) | $ 23,200 |
| Building CC (Library) | $ 1,734,257 |
| Building CD (Meter) | $ 706,144 |
| Building CE (Health and Human Services) | $ 232,943 |
| Building CF (General Classrooms) | $ 27,550 |
| Building CG (Student Services) | $ 1,204,209 |
| Building CH (Student Services/classrooms) | $ 1,736,288 |
| Building CI (Campus Police/Plant Operations) | $ 1,450,209 |
| Building CK (Cultural Center) | $ 3,434,136 |
| Building CL (Fine Arts) | $ 777,454 |
| Building CM (Performing Arts) | $ 4,310,157 |
| Building CN (General Classrooms) | $ 1,535,920 |
| Building CP (Student Center/Bookstore) | $ 2,160,874 |
| Building CR (Health Science Technology) | $ 1,978,133 |
| Building CS (Administrative Center) | $ 2,571,506 |
| Building UC-1 (Professional Development Center) | $ 5,134,806 |
| Building UC-2 (Engineeering and Technical Center) | $ 6,745,226 |
| Building UC-3 (Classroom and Lab Building) | $ 1,777,048 |
| Building UC-4 (Osteopathic Medicine) | $ 1,123,976 |

**Current Replacement Values**

The CRV per building are as follows:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Building CA (Business and Public Services) | 37,533 | SF | x | $426 | SF | = | $15,989,058 |
| Building CB (General Classrooms) | 18,716 | SF | x | $403 | SF | = | $7,542,548 |
| Building CC (Library) | 57,502 | SF | x | $370 | SF | = | $21,275,740 |
| Building CD (Meter) | 1,562 | SF | x | $420 | SF | = | $656,040 |
| Building CE (Health and Human Services) | 63,737 | SF | x | $480 | SF | = | $30,593,760 |
| Building CF (General Classrooms) | 19,629 | SF | x | $453 | SF | = | $8,891,937 |
| Building CG (Student Services) | 19,708 | SF | x | $410 | SF | = | $8,080,280 |
| Building CH (Student Services/Classrooms) | 34,430 | SF | x | $405 | SF | = | $13,944,150 |
| Building CI (Campus Police/Plant Operations) | 16,523 | SF | x | $420 | SF | = | $6,939,660 |
| Building CK (Cultural Center) | 51,880 | SF | x | $420 | SF | = | $21,789,600 |
| Building CL (Fine Arts) | 30,400 | SF | x | $542 | SF | = | $16,476,800 |
| Building CM (Performing Arts) | 71,954 | SF | x | $585 | SF | = | $42,093,090 |
| Building CN (General Classrooms) | 65,357 | SF | x | $401 | SF | = | $26,208,157 |
| Building CP (Student Center/Bookstore) | 34,496 | SF | x | $414 | SF | = | $14,281,344 |
| Building CR (Health Science Technology) | 36,478 | SF | x | $450 | SF | = | $16,415,100 |
| Building CS (Administrative Center) | 42,055 | SF | x | $420 | SF | = | $17,663,100 |
| Building UC-1 (Professional Development Center) | 88,768 | SF | x | $417 | SF | = | $37,016,256 |
| Building UC-2 (Engineeering and Technical Center) | 53,290 | SF | x | $439 | SF | = | $23,394,310 |
| Building UC-3 (Classroom and Lab Building) | 36,718 | SF | x | $458 | SF | = | $16,816,844 |
| Building UC-4 (Osteopathic Medicine) | 25,444 | SF | x | $515 | SF | = | $13,103,660 |

TAB 4

**FCI Index Table**

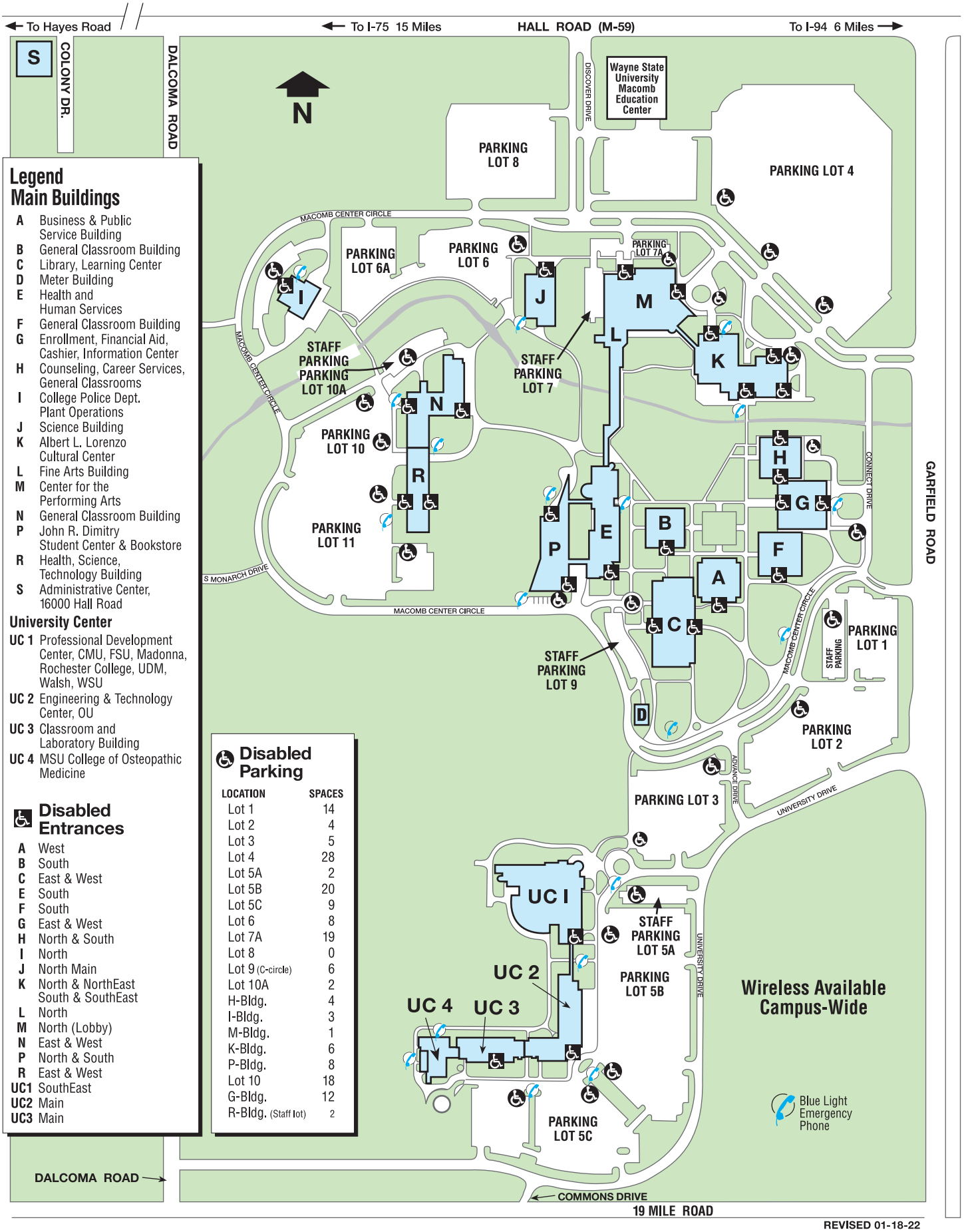
| Building | Square Feet | Replacement Cost (CRV) | Total Deficiencies Construction Cost | Total Deficiencies Project Cost (5 Year DMB) | FCI |
|---|---|---|---|---|---|
| Building CA (Business and Public Services) | 37,533 | $ 15,989,058 | $ 52,850 | $ 76,633 | 0.48% |
| Building CB (General Classrooms) | 18,716 | $ 7,542,548 | $ 16,000 | $ 23,200 | 0.31% |
| Building CC (Library) | 57,502 | $ 21,275,740 | $ 1,196,039 | $ 1,734,257 | 8.15% |
| Building CD (Meter) | 1,562 | $ 656,040 | $ 486,996 | $ 706,144 | 107.64% |
| Building CE (Health and Human Services) | 63,737 | $ 30,593,760 | $ 160,650 | $ 232,943 | 0.76% |
| Building CF (General Classrooms) | 19,629 | $ 8,891,937 | $ 19,000 | $ 27,550 | 0.31% |
| Building CG (Student Services) | 19,708 | $ 8,080,280 | $ 830,489 | $ 1,204,209 | 14.90% |
| Building CH (Student Services/Classrooms) | 34,430 | $ 13,944,150 | $ 1,197,440 | $ 1,736,288 | 12.45% |
| Building CI (Campus Police/Plant Operations) | 16,523 | $ 6,939,660 | $ 1,000,144 | $ 1,450,209 | 20.90% |
| Building CK (Cultural Center) | 51,880 | $ 21,789,600 | $ 2,368,369 | $ 3,434,136 | 15.76% |
| Building CL (Fine Arts) | 30,400 | $ 16,476,800 | $ 536,175 | $ 777,454 | 4.72% |
| Building CM (Performing Arts) | 71,954 | $ 42,093,090 | $ 2,972,522 | $ 4,310,157 | 10.24% |
| Building CN (General Classrooms) | 65,357 | $ 26,208,157 | $ 1,059,255 | $ 1,535,920 | 5.86% |
| Building CP (Student Center/Bookstore) | 34,496 | $ 14,281,344 | $ 1,490,258 | $ 2,160,874 | 15.13% |
| Building CR (Health Science Technology) | 36,478 | $ 16,415,100 | $ 1,364,230 | $ 1,978,133 | 12.05% |
| Building CS (Administrative Center) | 42,055 | $ 17,663,100 | $ 1,773,453 | $ 2,571,506 | 14.56% |
| Building UC-1 (Professional Development Center) | 88,768 | $ 37,016,256 | $ 3,541,245 | $ 5,134,806 | 13.87% |
| Building UC-2 (Engineeering and Technical Center) | 53,290 | $ 23,394,310 | $ 4,651,880 | $ 6,745,226 | 28.83% |
| Building UC-3 (Classroom and Lab Building) | 36,718 | $ 16,816,844 | $ 1,225,550 | $ 1,777,048 | 10.57% |
| Building UC-4 (Osteopathic Medicine) | 25,444 | $ 13,103,660 | $ 775,156 | $ 1,123,976 | 8.58% |

- 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

44575 Garfield Road • Clinton Twp., MI 48038-1139 • 1.866.Macomb1 • www.macomb.edu




## 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

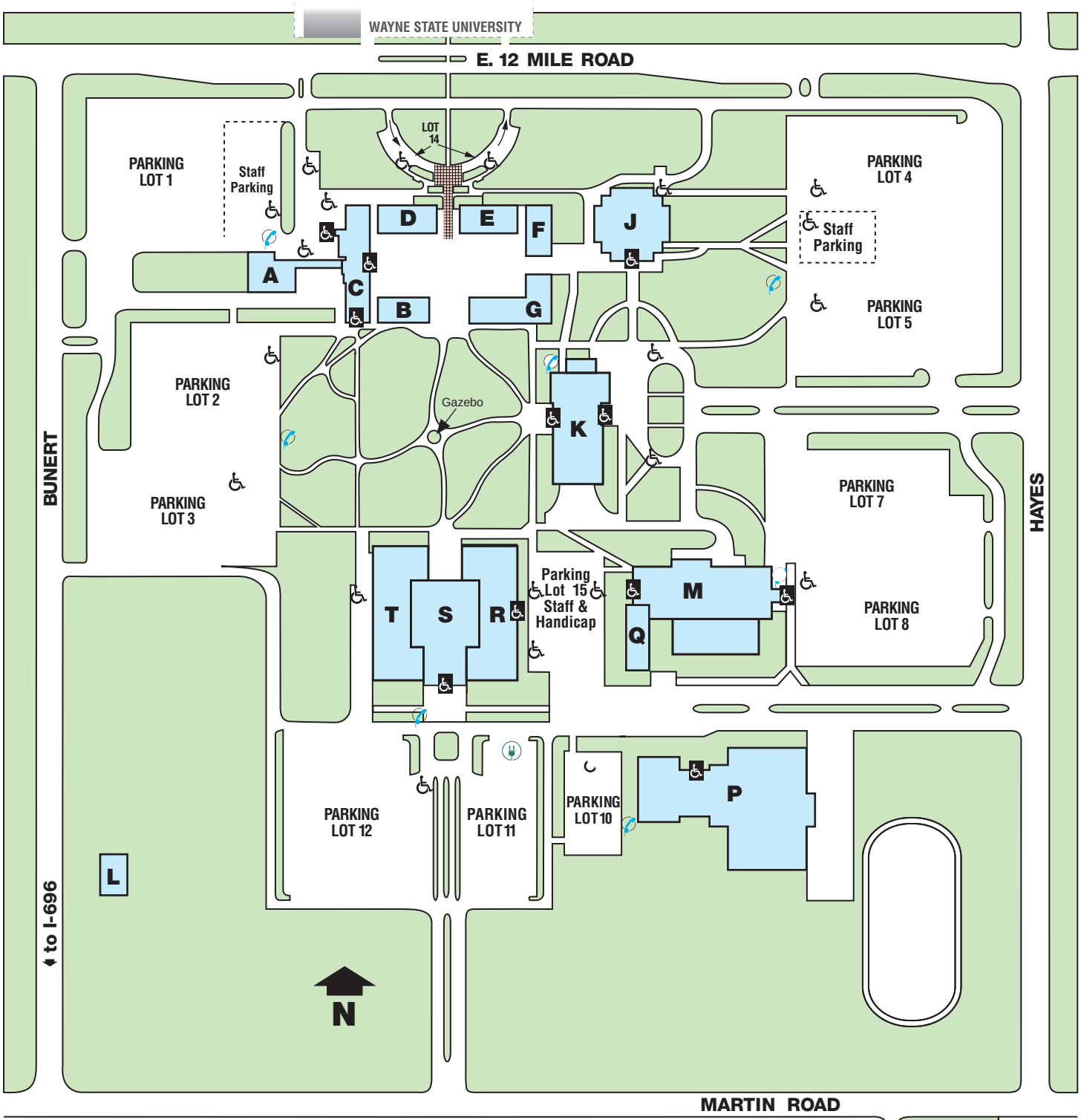
| LOCATION | SPACES |
|---|---|
| Lot 1 | 14 |
| Lot 2 | 4 |
| Lot 3 | 5 |
| Lot 4 | 28 |
| Lot 5A | 2 |
| Lot 5B | 20 |
| Lot 5C | 9 |
| Lot 6 | 8 |
| Lot 7A | 19 |
| Lot 8 | 0 |
| Lot 9 (C-circle) | 6 |
| Lot 10A | 2 |
| H-Bldg. | 4 |
| I-Bldg. | 3 |
| M-Bldg. | 1 |
| K-Bldg. | 6 |
| P-Bldg. | 8 |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

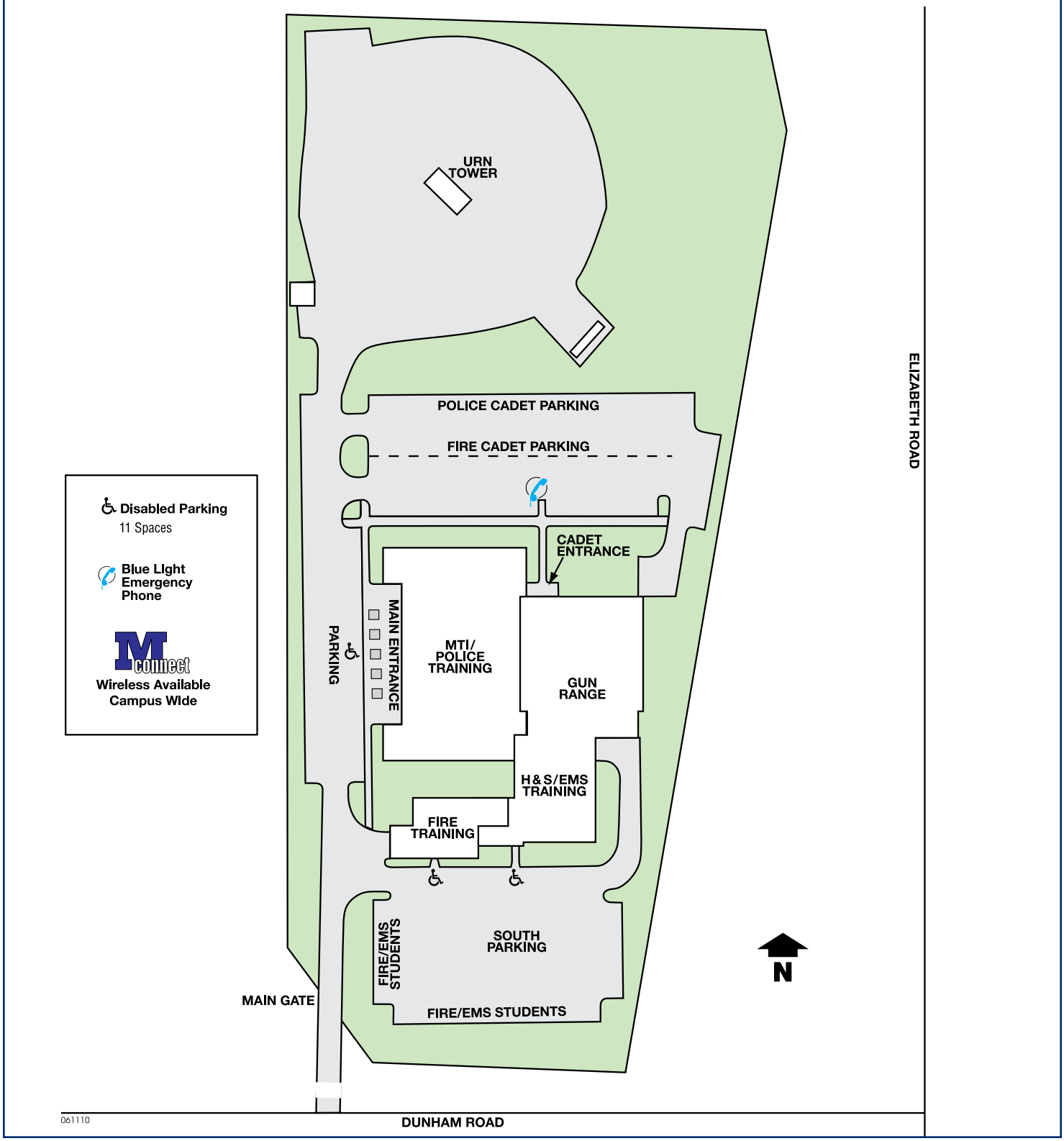
### Disabled Entrances

- **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

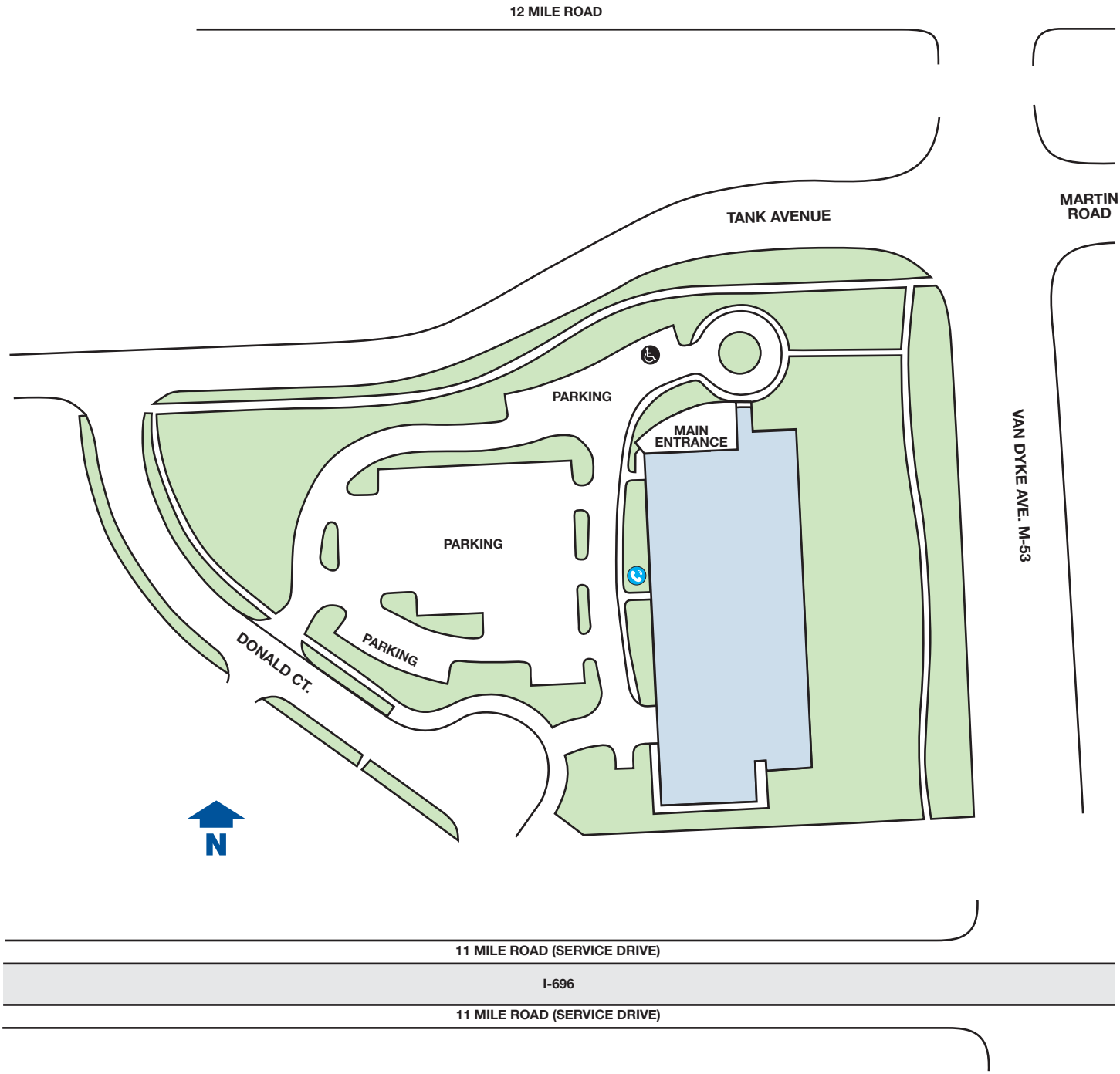
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MACOMB COMMUNITY COLLEGE

# 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

BUILDING CA



## GENERAL OVERVIEW

Use: 75% Classroom, 10% Lab, 15% Offices

Year Built: 1969

Total Area: 37,533 SF

Floors: 2

5 Year DMB: $76,633

CRV: $15,989,058

FCI: 0.48%

## COMMENTS

### Roof System

- Firestone EPDM roof installed in 2016.
- Roof warranty expires in 2031.

### HVAC System

- HVAC system was replaced in Summer 2016.

### Plumbing System

- Plumbing system was replaced in Summer 2016.

### Fire Protection

- Full fire suppression system was added in Summer 2016.

### Temperature Controls

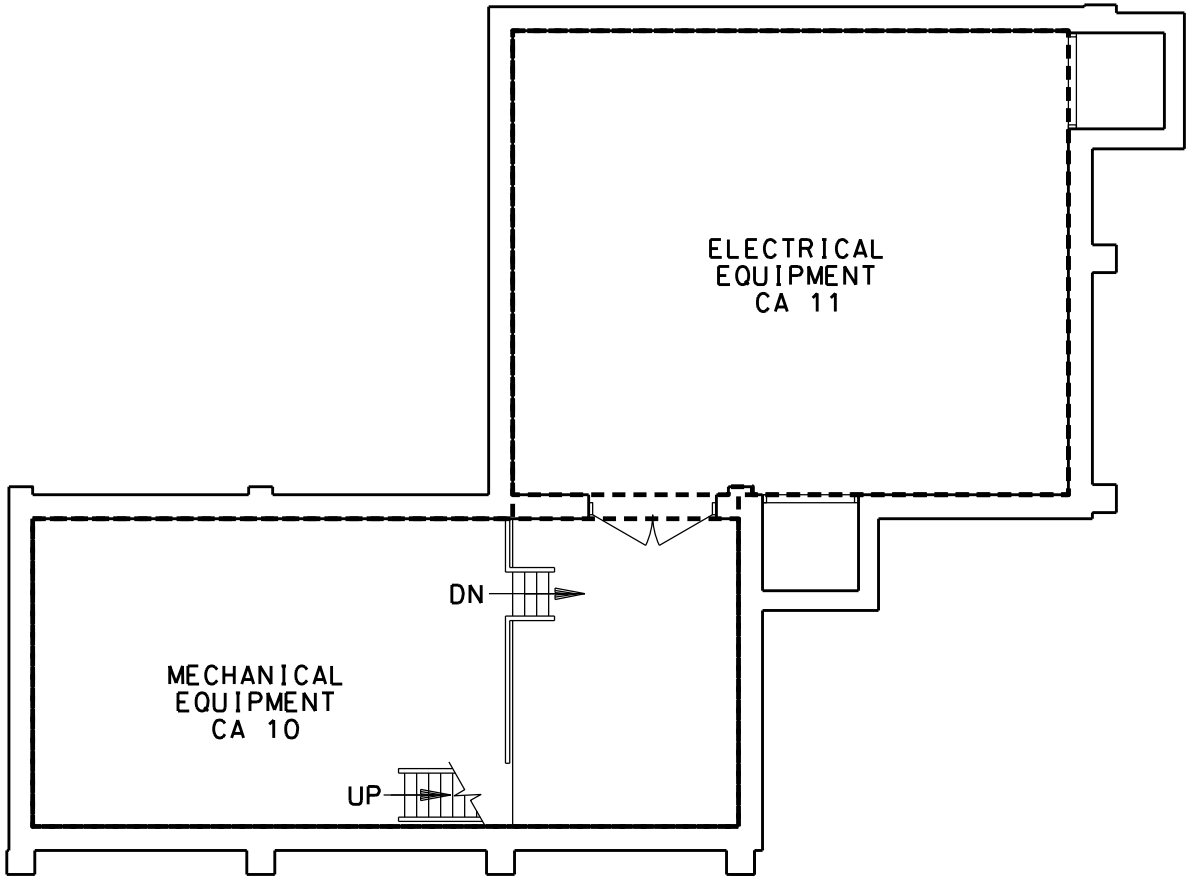
- Temperature controls were replaced in Summer 2016.

### Power Systems

- Electrical equipment was upgraded in Summer 2016.

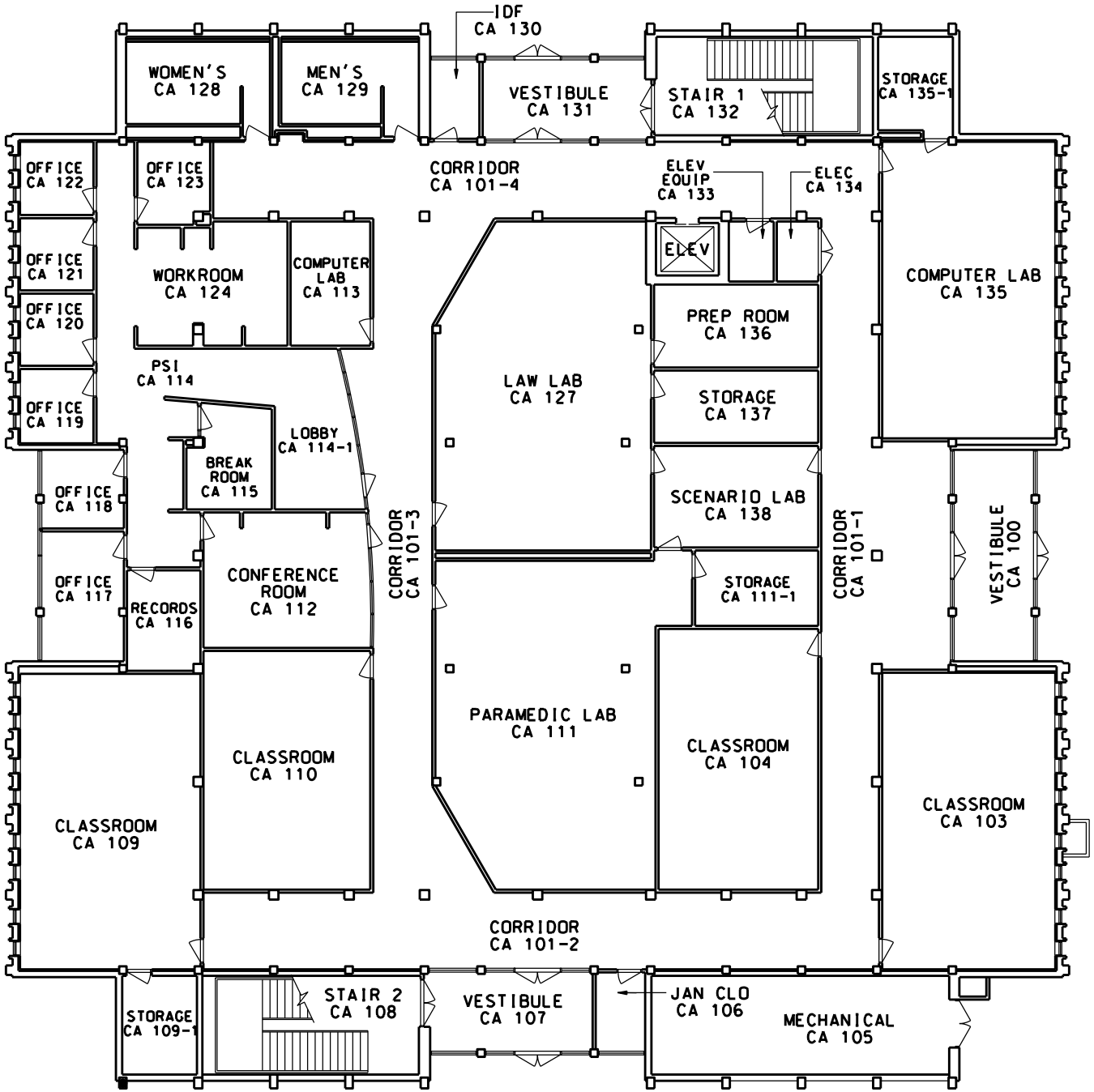
### Lighting System

- Lighting was replaced with LED fixtures and controls were added in Summer 2016.

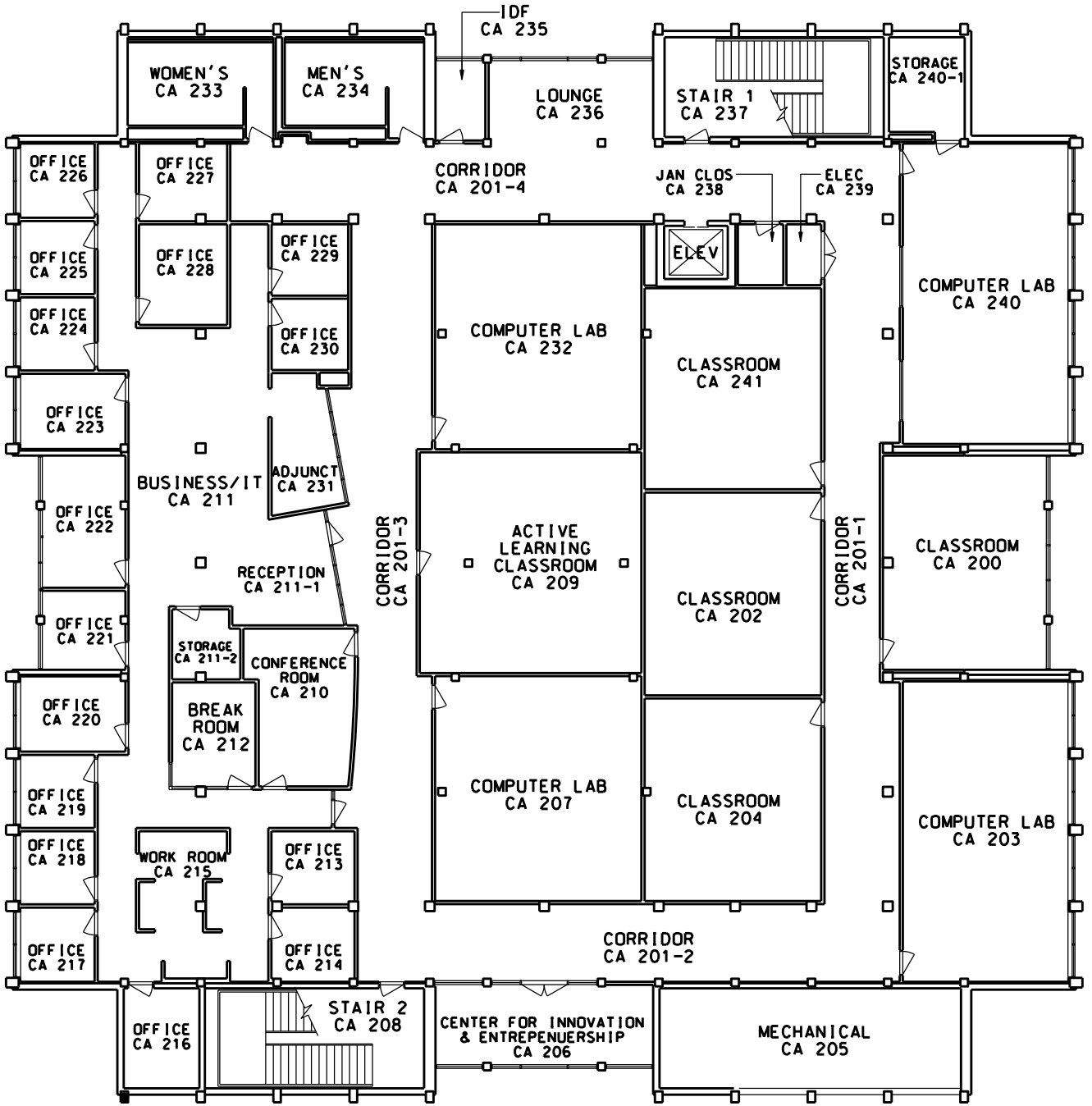



# BUILDING "CA" BASEMENT

NORTH




# BUILDING "CA" 100 LEVEL




# BUILDING "CA" 200 LEVEL

**Building CA**

| No. | Item/Description | Location | Notes | Qty. | Unit | Architectural | | Mechanical | | Electrical | | Construction Cost | Project Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unit Cost | Subtotal | Unit Cost | Subtotal | Unit Cost | Subtotal | | |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | General | Louvers on east side of building not caulked. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| 2 | Enclosure System | General | Patch concrete soffit with exposed rebar at north entry. | 1 | LS | $ 4,000.00 | $ 4,000 | | | | | $ 4,000 | $ 5,800 |
| 3 | Enclosure System | General | Repair backside of concrete parapet wall where spalling in northwest corner. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| 4 | Enclosure System | General | Repair/seal crack in backside of north concrete parapet wall. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | General | Caulk door from mechanical room to exterior. | 1 | LS | $ 500.00 | $ 500 | | | | | $ 500 | $ 725 |
| 2 | Finish System | General | Caulk door from lower mechanical room to electrical room. | 1 | LS | $ 500.00 | $ 500 | | | | | $ 500 | $ 725 |
| 3 | Finish System | General | Refinish epoxy floor in lower level electrical room. | 1 | LS | $ 3,000.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| 4 | Finish System | General | Repair cast concrete stair treads at Stair #1. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| 5 | Finish System | General | Repair cast concrete stair treads at Stair #2. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| **HVAC System** | | | | | | | | | | | | | |
| 1 | Jacketing/Insulation | Roof | Repair/replace portion of damaged CHW piping insulation and jacketing. | 1 | LS | | | $ 750.00 | $ 750 | | | $ 750 | $ 1,088 |
| **Power System** | | | | | | | | | | | | | |
| 1 | Electrical Equipment | General | Electrical equipment had no indication of maintenance or testing since original installation in 2016. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 7,500.00 | $ 7,500 | $ 7,500 | $ 10,875 |
| 2 | Electrical Equipment | General | One of the two meters at the main switchboard is inoperable. The remaining meter displayed maximum values that exceeded expected ranges by a significant amount. Further testing & investigation is recommended. | 1 | LS | | | | | $ 12,000.00 | $ 12,000 | $ 12,000 | $ 17,400 |
| 3 | Electrical Equipment | General | NFPA 70E requires updating arc flash studies at an interval not to exceed 5 years. The existing labeling is not dated however appears to be original. It is recommended to update the building-wide power systems study. | 1 | LS | | | | | $ 7,000.00 | $ 7,000 | $ 7,000 | $ 10,150 |
| 4 | Utility Spaces | Mechanical/Electrical Rooms | Various j-boxes were observed with missing coverplates and exposed wiring. This is a code violation. It is recommended this be corrected. | 1 | LS | | | | | $ 500.00 | $ 500 | $ 500 | $ 725 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | Lighting System | General | Various areas with damaged or inoperable fixtures were observed. (stairwell fixture lens, conf rm 210 fixtures, classroom 202 fixtures) Replace/repair damaged lighting fixtures | 4 | EA | | | | | $ 400.00 | $ 1,600 | $ 1,600 | $ 2,320 |
| **Codes Systems and Barrier Free** | | | | | | | | | | | | | |
| 1 | Code Systems and Barrier Free | General | Stoop at door from mechanical room to exterior is too low; needs to be at floor elevation. | 1 | LS | $ 7,000.00 | $ 7,000 | | | | | $ 7,000 | $ 10,150 |
| | | | | | | **$ 23,500** | | **$ 750** | | **$ 28,600** | | **$ 52,850** | **$ 76,633** |

BUILDING CB



## GENERAL OVERVIEW

Use: Classrooms and Offices

Year Built: 1968

Total Area: 18,716 SF

Floors: 1

5 Year DMB: $23,200

CRV: $7,542,548

FCI: 0.31%

## COMMENTS

### Roof System

- Firestone EPDM roof installed in 2017.
- Roof warranty expires in 2032.

### HVAC System

- HVAC systems were replaced in 2019.

### Plumbing System

- Plumbing systems were replaced in 2019.

### Temperature Controls

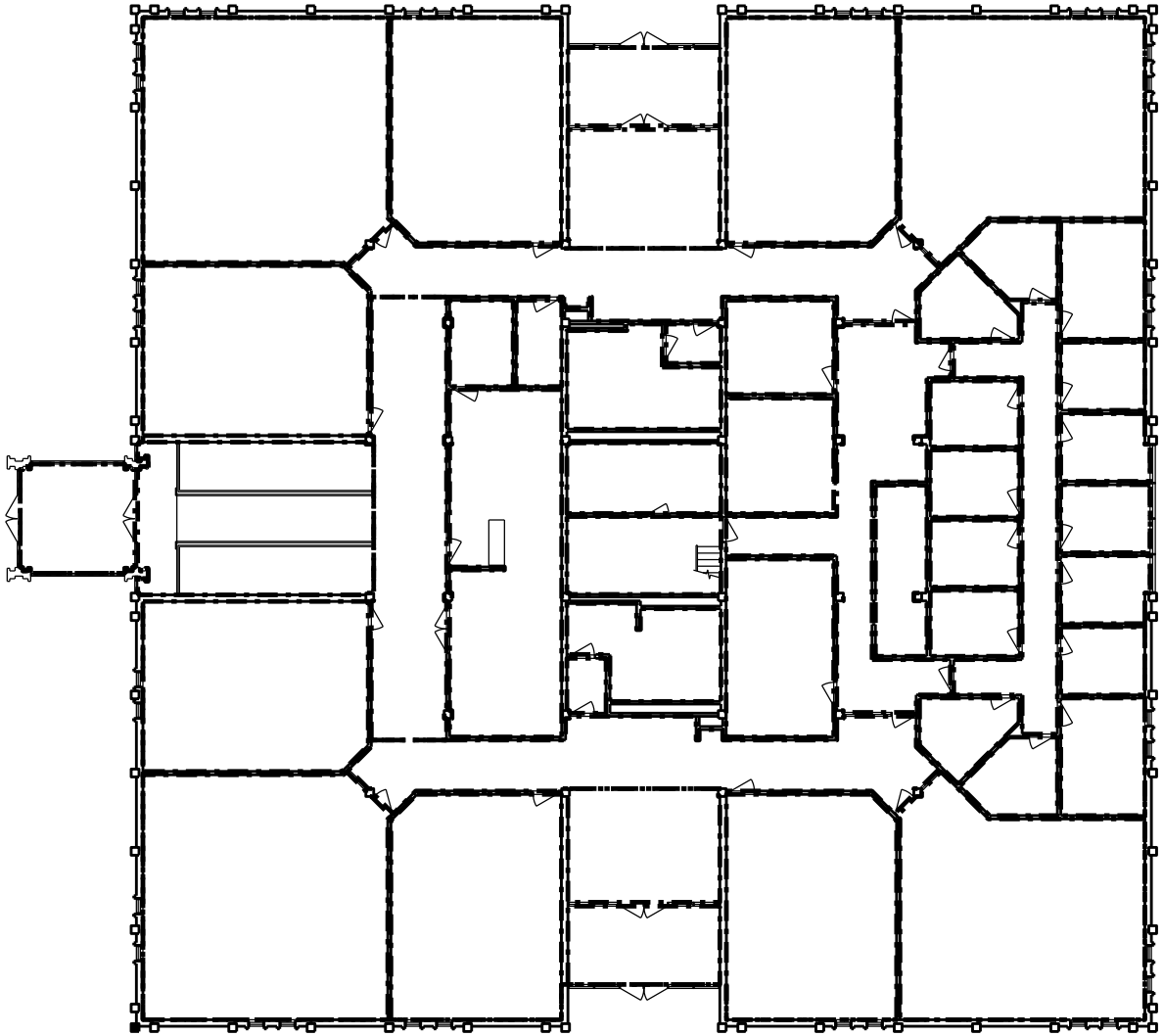
- Temperature controls were replaced in 2019.

### Power Systems

- Electrical equipment was upgraded in 2019 and is good condition.

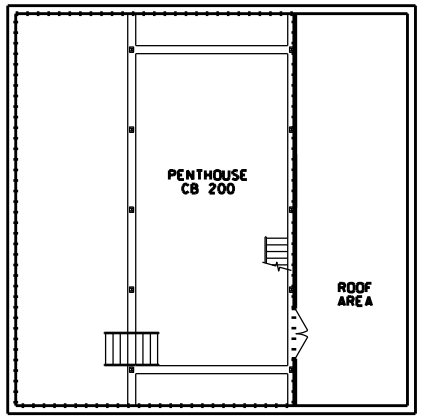
### Lighting System

- Lighting and controls were upgraded in 2019 and are in good condition.



# BUILDING "CB" 100 LEVEL

NORTH




# BUILDING "CB" 200 LEVEL

NORTH

**Building CB**

| No. | Item/Description | Location | Notes | Qty. | Unit | Architectural | | Mechanical | | Electrical | | Construction Cost | Project Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unit Cost | Subtotal | Unit Cost | Subtotal | Unit Cost | Subtotal | | |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | General | Precast concrete soffit have rusted exposed rebar. | 1 | LS | $ 3,000.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| 2 | Enclosure System | General | Sealants dried and cracking at control joints. | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| 3 | Enclosure System | General | Patch hole in brick where conduit removed. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| 4 | Enclosure System | General | Precast concrete piers have rusting exposed rebar. | 1 | LS | $ 3,000.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | 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 (Note: CB is sub-fed from CA) | 1 | LS | | | | | $ 4,000.00 | $ 4,000 | $ 4,000 | $ 5,800 |
| | | | | | | | **$ 12,000** | | **$ -** | | **$ 4,000** | **$ 16,000** | **$ 23,200** |

BUILDING CC



## GENERAL OVERVIEW

Use: Library

Year Built: 1969

Total Area: 57,502 SF

Floors: 2

5 Year DMB: $1,734,257

CRV: $21,275,740

FCI: 8.15%

## COMMENTS

### Roof System

- Trocal single-ply roof installed in 1994.
- Roof warranty expired in 2002.
- Entire roof should be scheduled for replacement.

### HVAC System

- Mechanical system was renovated Summer 2017 (reconditioned air handling units and replaced equipment).

### Temperature Controls

- Temperature controls were replaced in 2017.

### Lighting System

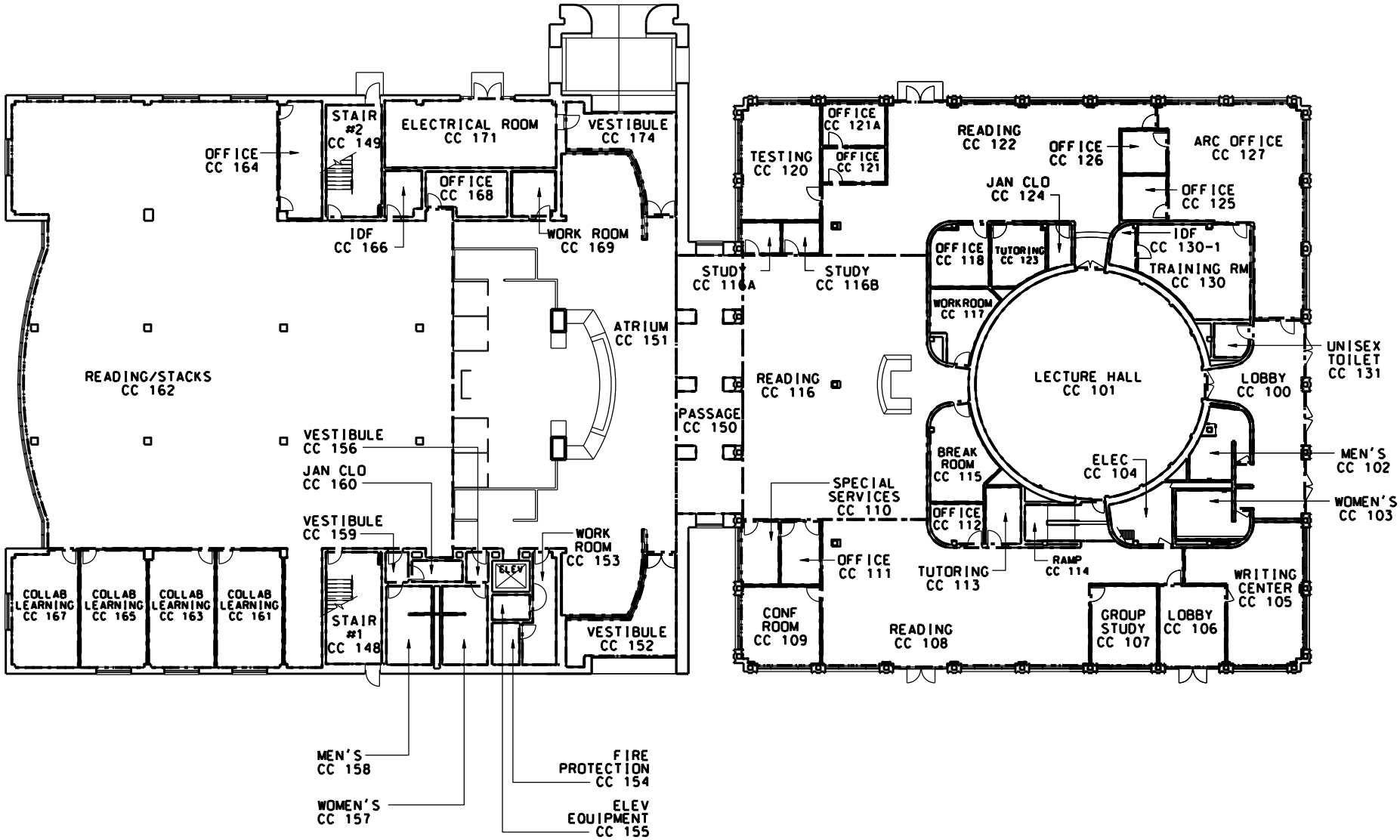
- Lighting and controls were upgraded in 2017 and are in good condition.




Existing Substation

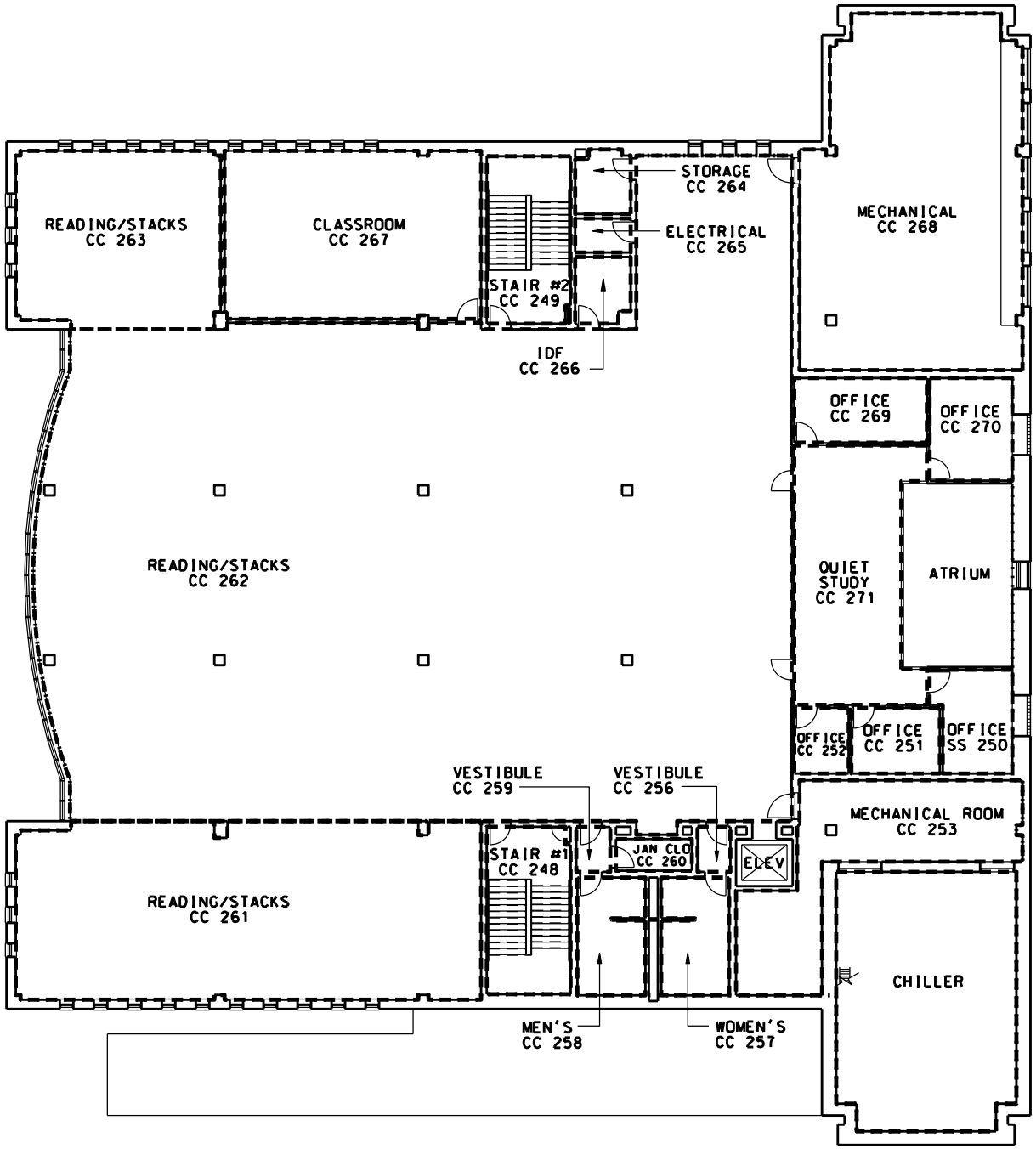



Existing Distribution Equipment




# BUILDING "CC" 100 Level

NORTH




# BUILDING "CC" 200 LEVEL

NORTH

**Building CC**

| 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 | Roof | Replace membrane roof. | 38,500 | SF | $ 15.00 | $ 577,500 | | | | | $ 577,500 | $ 837,375 |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | General | Glass block windows are leaking in two (2) locations. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| 2 | Enclosure System | General | Sealants dried and cracking at control joints. | 1 | LS | $ 10,000.00 | $ 10,000 | | | | | $ 10,000 | $ 14,500 |
| 3 | Enclosure System | General | Tuckpoint facebrick and precast concrete. | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| 4 | Enclosure System | General | Cast concrete below arched window sills are cracking. | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| 5 | Enclosure System | General | Replace door seals at mechanical/electrical room exterior doors. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | General | Replace epoxy flooring in mechanical rooms. | 1 | LS | $ 10,000.00 | $ 10,000 | | | | | $ 10,000 | $ 14,500 |
| 2 | Finish System | General | Repair gypsum board sofffits. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| 3 | Finish System | General | Repair vinyl wall covering. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| **Plumbing System** | | | | | | | | | | | | | |
| 1 | Plumbing System | Building | Portion of the domestic cold water distribution piping system is galvanized steel. Due to its age the piping is showing signs of deterioration and should be replaced. | 60 | LF | | | $ 55.00 | $ 3,300 | | | $ 3,300 | $ 4,785 |
| 2 | Plumbing System | Building | Portion of the cold and hot water piping has missing and damaged insulation. The insulation should be replaced . | 19,791 | SF | | | $ 0.77 | $ 15,239 | | | $ 15,239 | $ 22,097 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | Electrical Room C171 | Main electrical equipment from 1993 addition. This equipment is nearing the end of its life expectancy and should be considered for replacement in the next renovation (MV switches, Transformer, main switchboard, distribution panels and branch panelboards). | 1 | LS | | | | | $415,000.00 | $ 415,000 | $ 415,000 | $ 601,750 |
| 2 | Power Systems | Electrical Room C104 | Legacy equipment from the original 1968 building is passed it's life expectancy and should be replaced with the next renovation. | 1 | LS | | | | | $121,000.00 | $ 121,000 | $ 121,000 | $ 175,450 |
| 3 | 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 | | | | | $ 4,000.00 | $ 4,000 | $ 4,000 | $ 5,800 |
| 4 | Power Systems | General | Most of the electrical equipment had no indication of maintenance or testing since original installation, while the main electrical equipment was last tested in 2013. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 7,500.00 | $ 7,500 | $ 7,500 | $ 10,875 |
| **Code Systems and Barrier Free** | | | | | | | | | | | | | |
| 1 | Code Systems and Barrier Free | Stairs | Guard rails are not compliant with current code. Balluster spacing greater than 4". No cane rail where below 80". | 2 | EA | $ 7,500.00 | $ 15,000 | | | | | $ 15,000 | $ 21,750 |
| 2 | Code Systems and Barrier Free | Stairs | No handrail at steps to Lecture Hall CC101. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| | | | | | | | **$ 630,000** | | **$ 18,539** | | **$ 547,500** | **$ 1,196,039** | **$ 1,734,257** |

BUILDING CD



## GENERAL OVERVIEW

Use: Meter

Year Built:

Total Area: 1,562 SF

Floors: 1

5 Year DMB: $706,144

CRV: $656,040

FCI: 107.64%

## COMMENTS

### Roof System

- Roof replaced in 1998.

### HVAC System

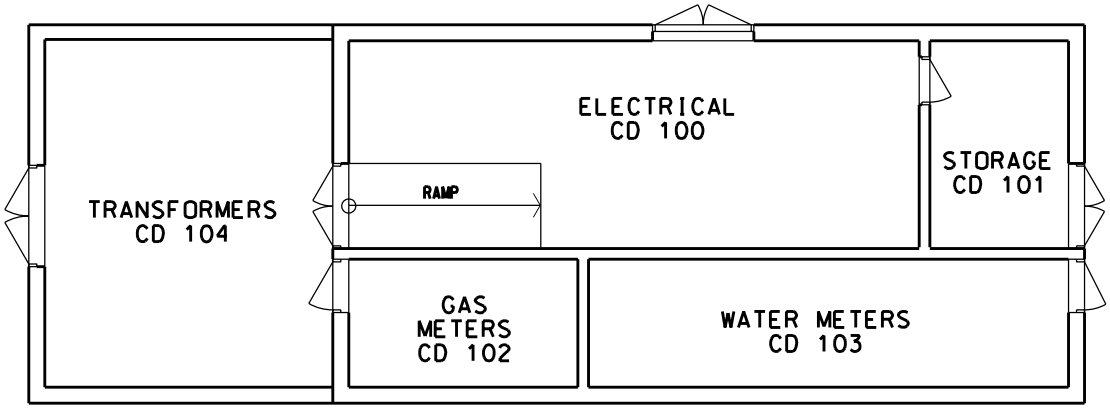
- Ventilation added for the transformer room in Summer 2013.
- Electrical unit heaters were replaced in approximately 2019.

### Temperature Controls

- Controls added to the transformer room ventilation in Summer 2013.




Existing Switchgear




# BUILDING "CD" 100 LEVEL

NORTH

**Building CD**

| No. | Item/Description | Location | Notes | Qty. | Unit | Architectural | | Mechanical | | Electrical | | Construction Cost | Project Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unit Cost | Subtotal | Unit Cost | Subtotal | Unit Cost | Subtotal | | |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | Main Electrical Room | MV Switch lineup appears to have been installed at different intervals of time, ranging from 2004, 1993 and 1969.<br>Switches from 1993 and earlier are nearing or past life expectancy and should be considered for replacement within the next renovation. | 7 | EA | | | | | $ 60,000.00 | $ 420,000 | $ 420,000 | $ 609,000 |
| 2 | Power Systems | Main Electrical Room | Secondary power panels, transformers and disconnects serving the receptacles, lighting, heating, ventilation of building CD appears original from 1968. This equipment is passed it's life expectancy and should be replaced with the next renovation. | 1 | LS | | | | | $ 40,000.00 | $ 40,000 | $ 40,000 | $ 58,000 |
| 3 | Power Systems | Main Electrical Room | Pullbox was observed with partially open cover and exposed wiring. This is a code violation. It is recommended this be corrected. | 1 | LS | | | | | $ 500.00 | $ 500 | $ 500 | $ 725 |
| 4 | 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 | | | | | $ 4,000.00 | $ 4,000 | $ 4,000 | $ 5,800 |
| 5 | Power Systems | General | The electrical equipment had no indication of recent maintenance or testing. The labels indicate the latest testing was done in 2013 on the equipment. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 10,000.00 | $ 10,000 | $ 10,000 | $ 14,500 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | Lighting System | General | Lighting consists of fluorescent fixtures containing T12 lamps. Lighting should be replaced throughout with LED. | 1,562 | SF | | | | | $ 8.00 | $ 12,496 | $ 12,496 | $ 18,119 |
| | | | | | | | | | | | **$ 486,996** | **$ 486,996** | **$ 706,144** |

BUILDING CE



## GENERAL OVERVIEW

Use: Classrooms, Labs and Offices

Year Built: 1981

Total Area: 63,737 SF

Floors: 2

5 Year DMB: $232,943

CRV: $30,593,760

FCI: 0.76%

## COMMENTS

### Roof System

- Johns Manville EPDM room installed in 2013.
- Roof warranty expires in 2028.

### Finish System

- All finishes have been updated.

### HVAC System

- HVAC systems were replaced in 2018.

### Plumbing System

- Plumbing and medical gas systems were replaced in 2018.

### Temperature Controls

- Temperature controls were replaced in 2018.

### Power Systems

- Medium voltage switches and pad mounted transformer were upgraded in 2018 and appear in good condition.

### Lighting System

- Lighting and controls were upgraded in 2018 and are in good condition.

### Code Systems and Barrier Free

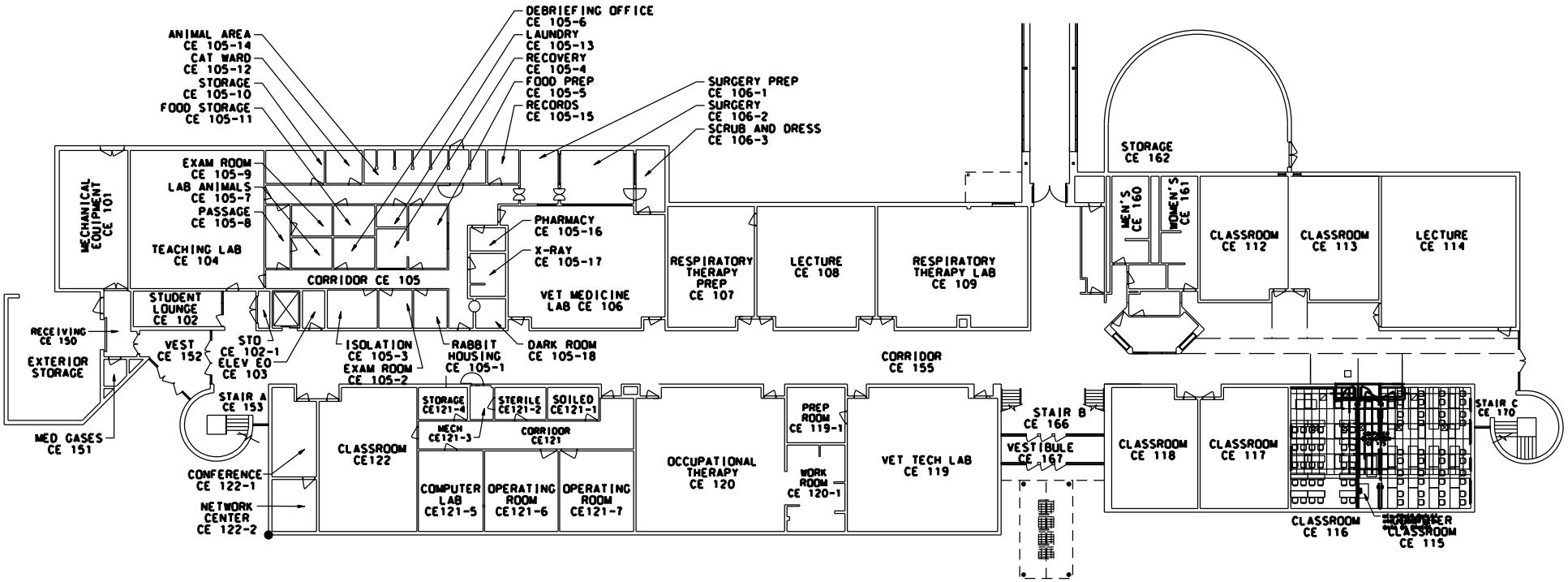
- Tiered lecture hall seating does not have barrier free space allocated throughout the space. No action required.




Existing Generator

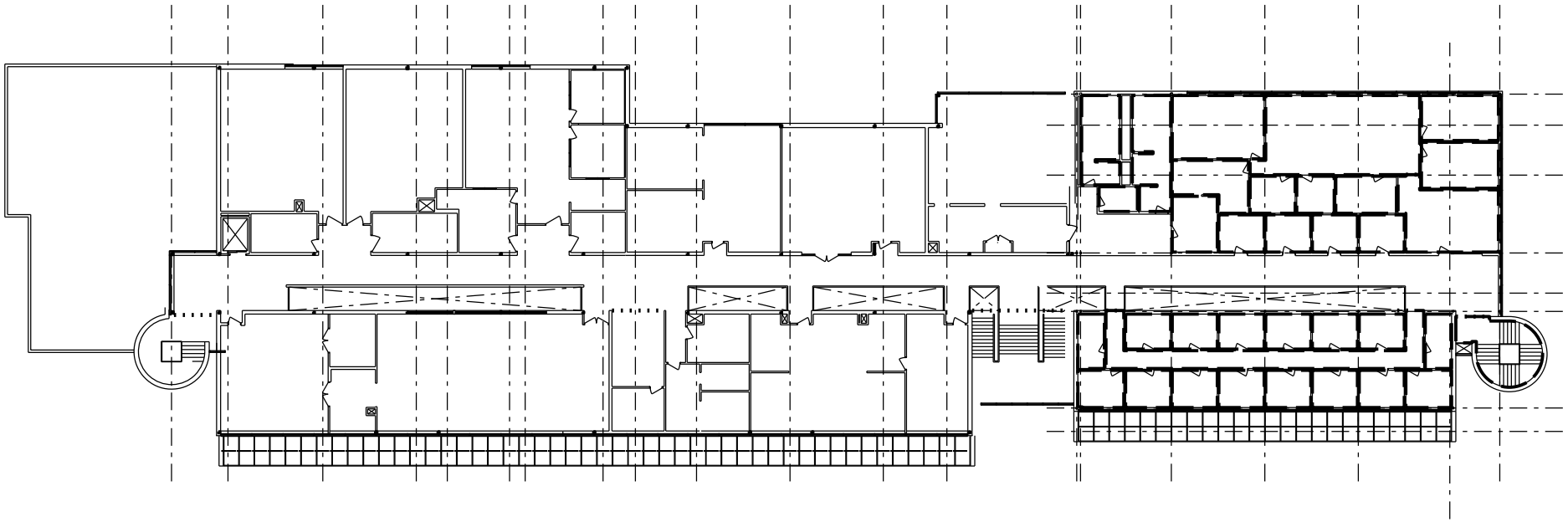



Existing Distribution Equipment




# BUILDING "CE" 100 LEVEL

NORTH



# BUILDING "CE" 200 LEVEL

NORTH

**Building CE**

| No. | Item/Description | Location | Notes | Qty. | Unit | Architectural | | Mechanical | | Electrical | | Construction Cost | Project Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unit Cost | Subtotal | Unit Cost | Subtotal | Unit Cost | Subtotal | | |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | West Side | Soffits on west side of building have water damage. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| **HVAC System** | | | | | | | | | | | | | |
| 1 | HVAC System | Building | Replace roof mounted exhaust fan (no fan identification) with Greenheck model GB-071. | 1 | EA | | | $ 750.00 | $ 750 | | | $ 750 | $ 1,088 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | Electrical Room E213 | Main switchboard and electrical distribution equipment appear to have been installed in 1981.<br>This equipment is past it's life expectancy and should be considered for replacement within the next renovation. | 1 | LS | | | | | $130,000.00 | $ 130,000 | $ 130,000 | $ 188,500 |
| 2 | Power Systems | Courtyard | 60kW Natural Gas Generator manufactured date: 2003, with 955 running hours.<br>Generators purpose is to back up MDF equipment and doesn't appear to serve life safety loads. Last indication of maintenance on the generator was noted to be in 2016. Battery date code indicates it was manufactured in 2007.<br>Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 7,500.00 | $ 7,500 | $ 7,500 | $ 10,875 |
| 3 | Power Systems | Mechanical E101 | ATS appears to have been installed in 2004. The latest testing date is not legible.<br>The cover of the Generator Annunciator Panel is not secure and should be corrected.<br>Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 1,000.00 | $ 1,000 | $ 1,000 | $ 1,450 |
| 4 | Power Systems | Connector | ADA pushbutton covers (interior and exterior) are loose, and conductors are visible. These were possibly undergoing maintenance during the site visit. | 4 | EA | | | | | $ 250.00 | $ 1,000 | $ 1,000 | $ 1,450 |
| 5 | 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 | | | | | $ 4,000.00 | $ 4,000 | $ 4,000 | $ 5,800 |
| 6 | Power Systems | General | Electrical equipment had no indication of maintenance or testing since original installation in 1981. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 10,000.00 | $ 10,000 | $ 10,000 | $ 14,500 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | Lighting System | IDF Closet E213-2 | Lighting consists of fluorescent fixtures containing T8 lamps. Lighting should be replaced with LED. | 1 | LS | | | | | $ 400.00 | $ 400 | $ 400 | $ 580 |
| **Code Systems and Barrier Free** | | | | | | | | | | | | | |
| 1 | Code Systems and Barrier Free | Stairwells - First Floor | No guard rail protection for stringers below 80". | 4 | EA | $ 1,000.00 | $ 4,000 | | | | | $ 4,000 | $ 5,800 |
| | | | | | | **$ 6,000** | | **$ 750** | | **$ 153,900** | | **$ 160,650** | **$ 232,943** |

BUILDING CF



## GENERAL OVERVIEW

Use: Classrooms and Labs

Year Built: 1970

Total Area: 19,629 SF

Floors: 1

5 Year DMB: $27,550

CRV: $8,891,937

FCI: 0.31%

## COMMENTS

**Roof System**

- Firestone EPDM roof installed in 2015.
- Roof warranty expires in 2030.

**Finish System**

- Finishes updated in 2015.

**HVAC System**

- All new HVAC equipment provided including ductwork in Summer 2015.

**Plumbing System**

- Plumbing replaced in Summer 2015.

**Fire Protection**

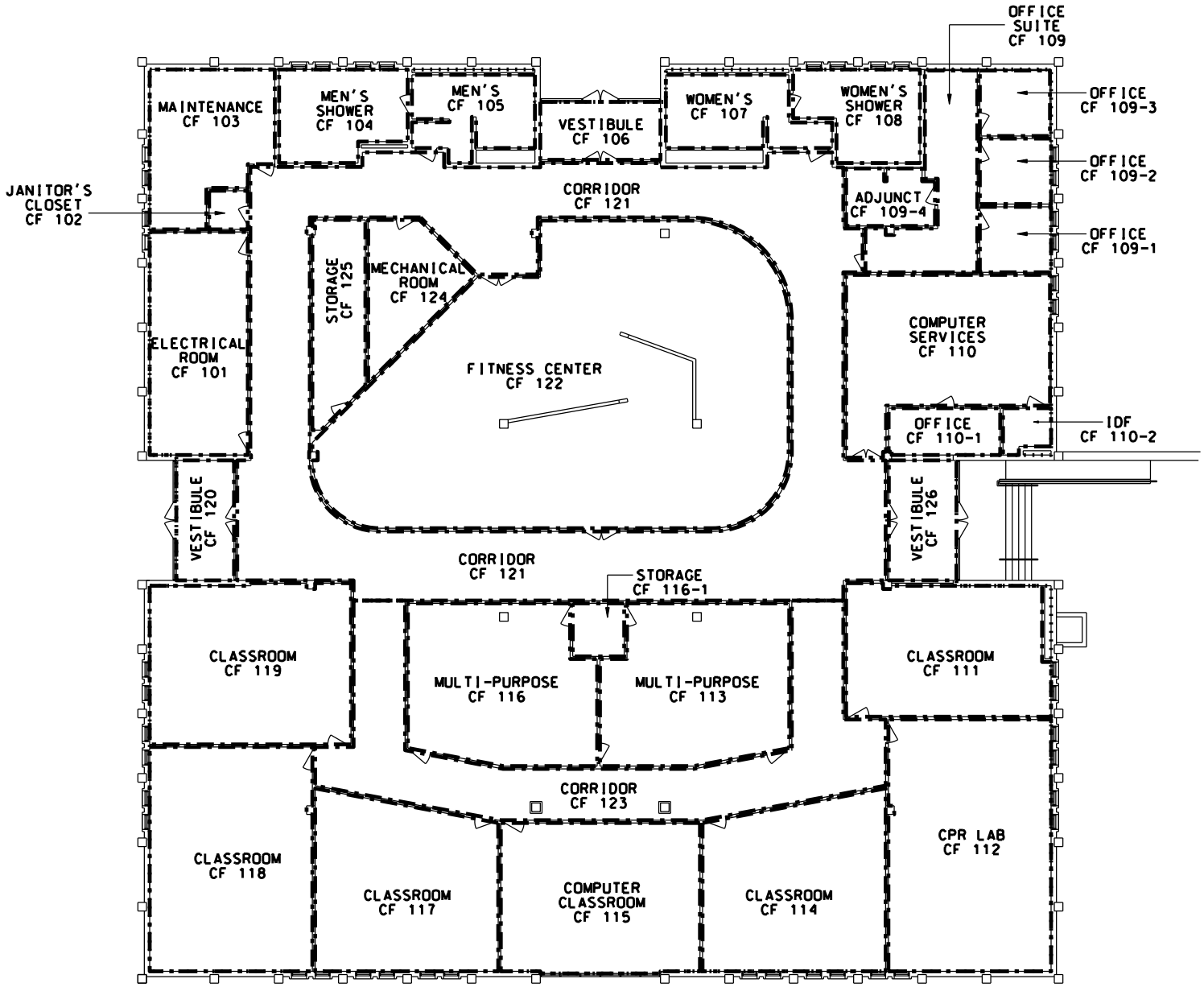
- Fire rated walls in lieu of automatic fire suppression system were added in 2015.

**Temperature Controls**

- Temperature controls replaced in Summer 2015.

**Power Systems**

- Electrical equipment was upgraded in 2015 and is in good condition.




# BUILDING "CF" 100 LEVEL

**Building CF**

| No. | Item/Description | Location | Notes | Qty. | Unit | Architectural | | Mechanical | | Electrical | | Construction Cost | Project Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unit Cost | Subtotal | Unit Cost | Subtotal | Unit Cost | Subtotal | | |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | General | Patch holes in wall on north, east and west elevations. | 3 | EA | $ 1,000.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| 2 | Enclosure System | General | Concrete soffit on west elevation is cracked. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| **HVAC System** | | | | | | | | | | | | | |
| 1 | HVAC System | General | Corrosion at seals of CF CP-1 and CP-2 was observed. Plan for replacement I near future. | 2 | EA | | | $ 1,500.00 | $ 3,000 | | | $ 3,000 | $ 4,350 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | 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 | | | | $ - | $ 4,000.00 | $ 4,000 | $ 4,000 | $ 5,800 |
| 2 | Power Systems | General | Electrical equipment had no indication of maintenance or testing since original installation in 2015. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | $ - | $ 7,500.00 | $ 7,500 | $ 7,500 | $ 10,875 |
| | | | | | | | **$ 4,500** | | **$ 3,000** | | **$ 11,500** | **$ 19,000** | **$ 27,550** |

BUILDING CG



## GENERAL OVERVIEW

Use: Student Services

Year Built: 1969, 2012 Renovation

Total Area: 19,708 SF

Floors: 1

5 Year DMB: $1,204,209

CRV: $8,080,280

FCI: 14.90%

## COMMENTS

### Roof System

- Firestone EPDM roof installed in 2018.
- Roof warranty expires in 2033.

### HVAC System

- All new HVAC system installed in 2012.
- Existing rooftop units were refurbished. RTU G-1 and RTU G-2, Seasons-4, DX cooling with gas heat (multi-zone). Originally installed in 2005, 18 years old. Median useful life expectancy

### Plumbing System

- Toilets renovated and piping replaced in 2012.

### Fire Protection

- Corridors were fire rated in lieu of adding fire suppression.

### Temperature Controls

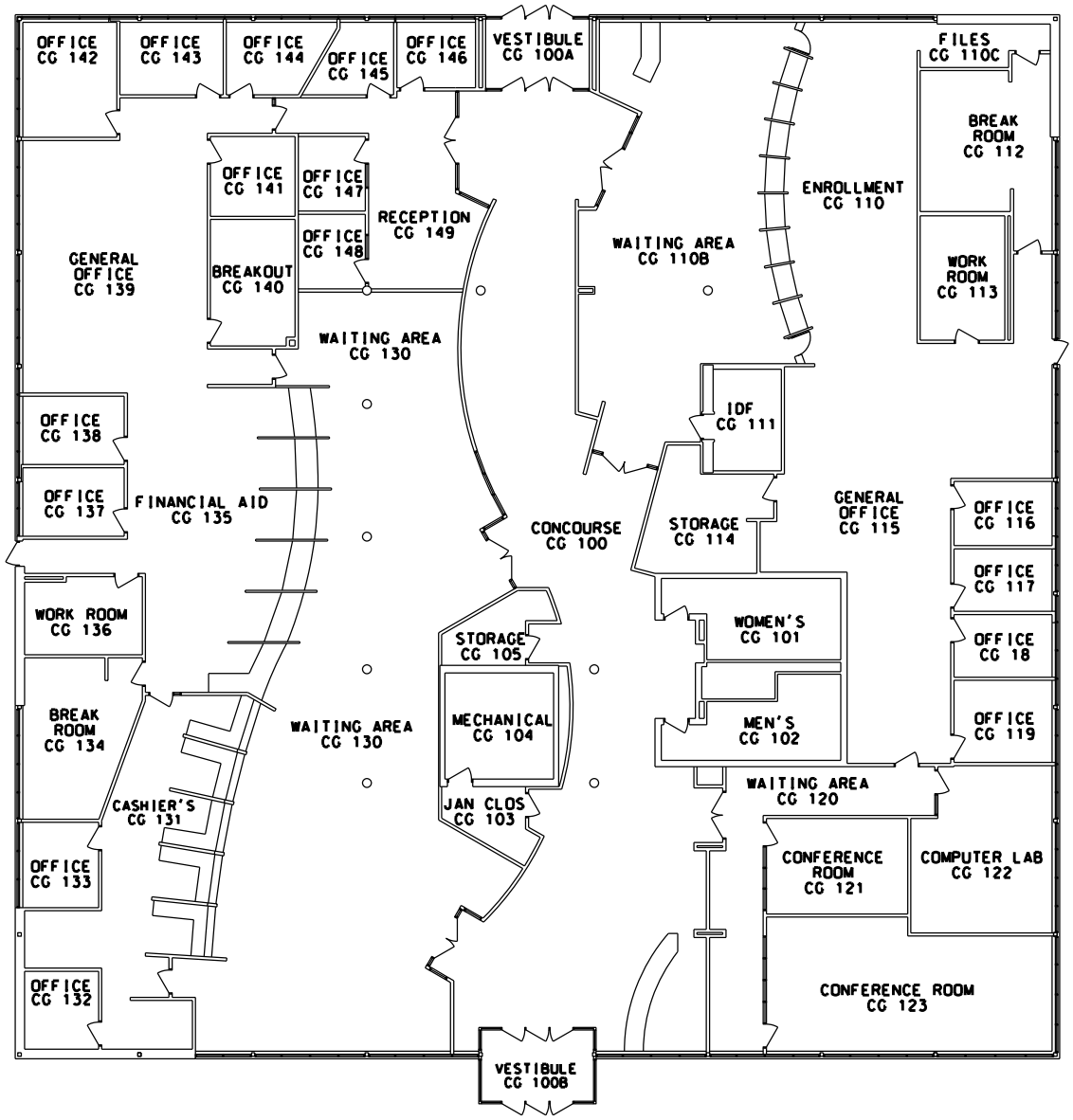
- Replace existing Continuum (Andover) BAS controls with new Tridium (Honeywell) system.

### Power Systems

- Electrical equipment was upgraded in 2012 and is good condition.
- The existing generator serves a single automatic transfer switch which already serves optional standby loads. The generator will not be permitted to also serve future life safety loads without distribution system modifications.

### Lighting System

- Lighting and controls were upgraded in 2012 and are in good condition. The majority of the existing light fixtures utilize T8 fluorescent lamps. Emergency lighting is provided via batteries. Within the next renovation, new LED lighting and controls should be included to meet current ASHRAE standards, and emergency lighting should be provided for all exterior egress landings and for exterior egress paths.
- Exit signs are LED.




# BUILDING "CG" 100 LEVEL

NORTH

**Building CG**

| 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 | General | Review roof at covered walkway; signs of water infiltration in piers. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| **BAS System** | | | | | | | | | | | | | |
| 1 | BAS System | General | Replace existing Continuum (Andover) BAS controls with new Tridium (Honeywell). | 19,708 | SF | | | $ 10.00 | $ 197,080 | | $ - | $ 197,080 | $ 285,766 |
| **HVAC System** | | | | | | | | | | | | | |
| 1 | Multizone Rooftop Air Handling Unit | Roof | Replace nominal 40 ton DX/gas rooftop unit. | 1 | EA | | | $ 265,000.00 | $ 265,000 | | $ - | $ 265,000 | $ 384,250 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | General | Electrical equipment had no indication of maintenance or testing since original installation in 2012. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 7,500.00 | $ 7,500 | $ 7,500 | $ 10,875 |
| 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 provide power system study and labeling to match that of building CA. | 1 | LS | | | | | $ 4,000.00 | $ 4,000 | $ 4,000 | $ 5,800 |
| 3 | Power Systems | General | A convenience receptacle on the roof is missing a cover. | 1 | LS | | | | | $ 165.00 | $ 165 | $ 165 | $ 239 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | Lighting System | General | Lighting consists of fluorescent fixtures. Lighting should be replaced with LED. | 19,708 | SF | | $ - | | $ - | $ 18.00 | $ 354,744 | $ 354,744 | $ 514,379 |
| | | | | | | | **$ 2,000** | | **$ 462,080** | | **$ 366,409** | **$ 830,489** | **$ 1,204,209** |

BUILDING CH



## GENERAL OVERVIEW

Use: Classrooms and Student Services

Year Built: 1968

Total Area: 34,430 SF

Floors: 2

5 Year DMB: $1,486,671

CRV: $13,944,150

FCI: 10.66%

## COMMENTS

### Roof System

- Trocal single-ply roof installed in 1998. Roof warranty expired in 2010. Upper roof was recently replaced. Lower roof should be scheduled for replacement.

### Elevator

- Elevator, including machine and cab, should be replaced.

### HVAC System

- All new HVAC system installed in 2011. HVAC systems should be retro-commissioned.

### Plumbing System

- Toilets renovated and piping replaced in 2011.

### Fire Protection

- Fire suppression added in 2011.

### Temperature Controls

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

### Power Systems

- Electrical equipment was upgraded in 2011 and is good condition.

### Lighting System

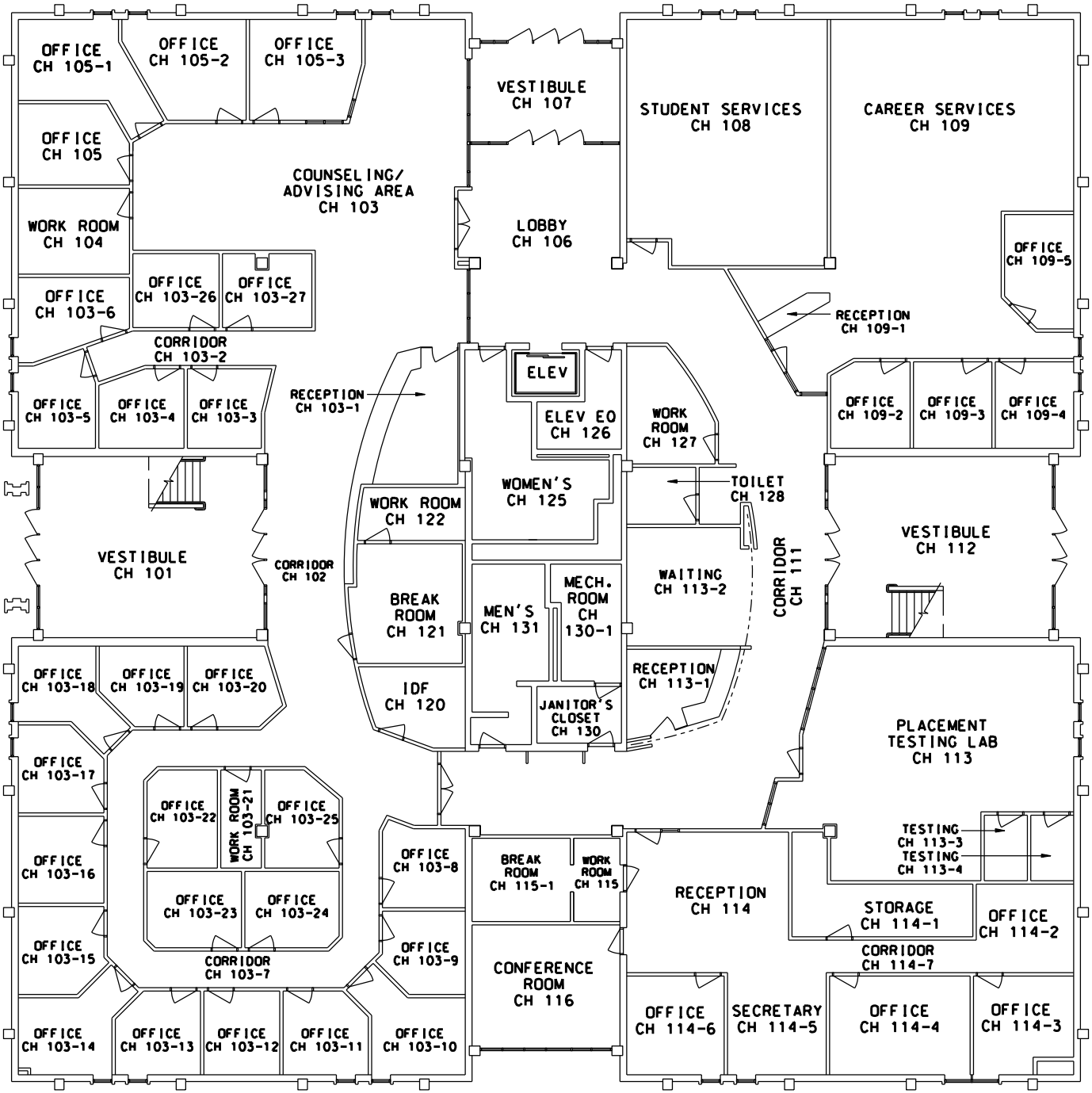
- Lighting and controls were upgraded in 2011 and are generally in good condition. The majority of the existing light fixtures utilize fluorescent lamps. Emergency lighting is provided via batteries. Within the next renovation, new LED lighting and controls should be included to meet current ASHRAE standards, and emergency lighting should be provided for all exterior egress landings.

- Exit signs are LED.

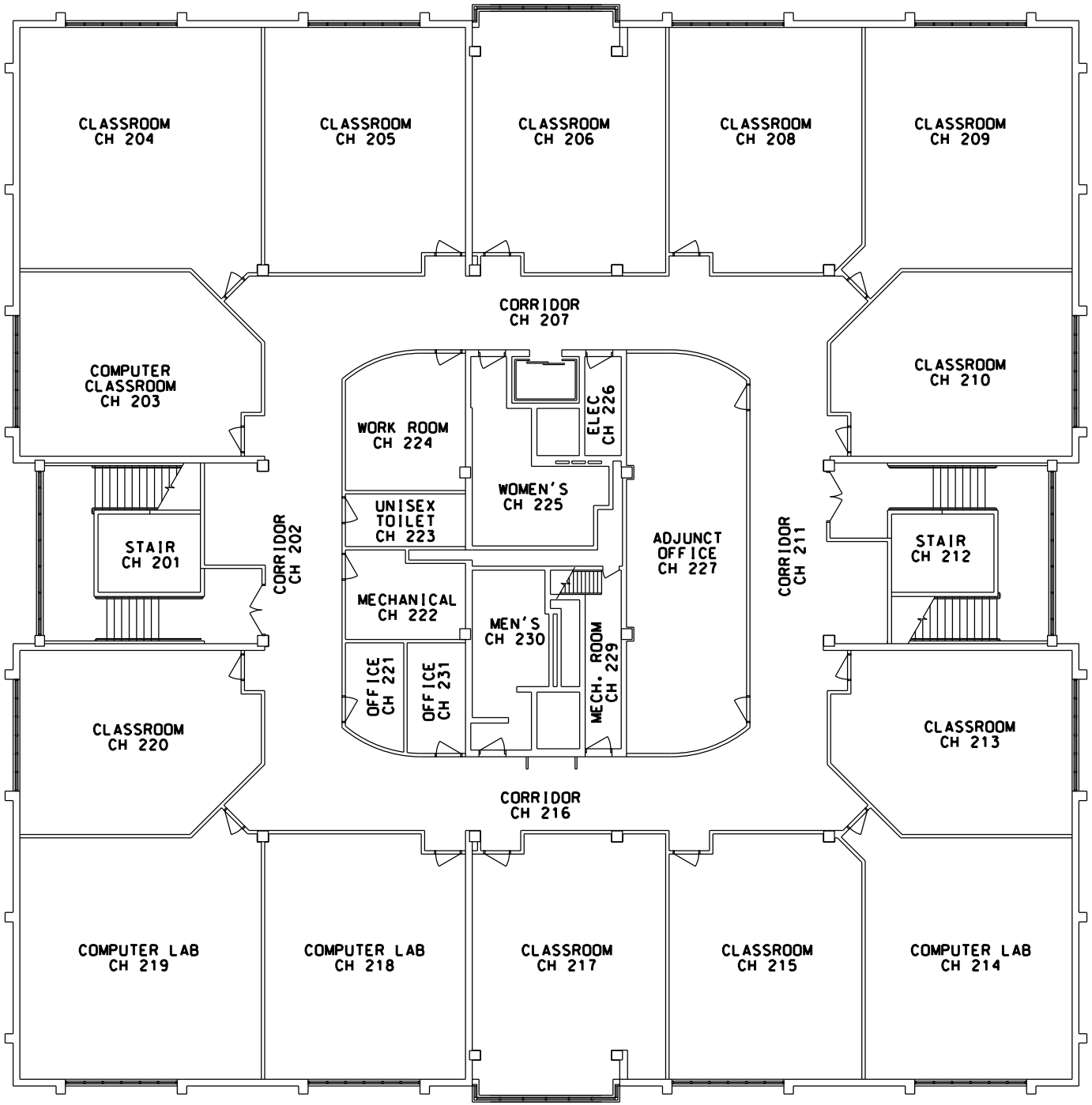
- North Lobby:  Emergency lighting levels in this area are likely below code minimum. Revision costs are included in Lighting item 1, above.

- South Lobby:  Emergency lighting levels in this area are likely below code minimum. Revision costs are included in Lighting item 1, above.

- Building Entrances:  Lights at building entrances generally need to be cleaned.




# BUILDING "CH" 100 LEVEL




# BUILDING "CH" 200 LEVEL

**Building CH**

| No. | Item/Description | Location | Notes | Qty. | Unit | Architectural | | Mechanical | | Electrical | | Construction Cost | Project Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unit Cost | Subtotal | Unit Cost | Subtotal | Unit Cost | Subtotal | | |
| **Architectural System** | | | | | | | | | | | | | |
| 1 | Elevator | General | Replace elevator equipment and cab. | 1 | LS | $140,000.00 | $ 140,000 | | | | | $ 140,000 | $ 203,000 |
| 2 | Roof | Roof | Replace roof on lower section | 30,730 | SF | $ 14.00 | $ 430,220 | | | | | $ 430,220 | $ 623,819 |
| **HVAC System** | | | | | | | | | | | | | |
| 1 | HVAC System | General | Recommend adding supplemental split system A/C unit to serve IDF Closet H120. | 1 | LS | | | $ 2,500.00 | $ 2,500 | | | $ 2,500 | $ 3,625 |
| 2 | HVAC System | General | Repair/replace boiler stack on roof; currently plastic wrapped. | 1 | LS | | | $ 750.00 | $ 750 | | | $ 750 | $ 1,088 |
| 3 | HVAC System | Building | Perform a mechanical systems retro commissioning to restore the building mechanical systems back to the orginal desing intent and complete air and water system balance | 34,430 | SF | | | $ 5.00 | $ 172,150 | | | $ 172,150 | $ 249,618 |
| **BAS System** | | | | | | | | | | | | | |
| 1 | Building Controls Systems | General | Replace existing Desigo (Siemens) BAS controls with new Tridium (Honeywell). | 34,430 | SF | | | $ 10.00 | $ 344,300 | | | $ 344,300 | $ 499,235 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | General | Electrical equipment had no indication of maintenance or testing since original installation in 2011. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 7,500.00 | $ 7,500 | $ 7,500 | $ 10,875 |
| 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 provide power system study and labeling to match that of building CA. | 1 | LS | | | | | $ 4,000.00 | $ 4,000 | $ 4,000 | $ 5,800 |
| 3 | Power Systems | General | Several clocks in the building are not master system clocks. Quantity is approximate. | 12 | EA | | | | | $ 1,000.00 | $ 12,000 | $ 12,000 | $ 17,400 |
| 4 | Power Systems | Roof | A junction box on the roof near a mechanical unit is connected to a long length of flexible conduit that is not properly supported and not suitable for the exterior, wet location. | 1 | LS | | | | | $ 3,000.00 | $ 3,000 | $ 3,000 | $ 4,350 |
| 5 | Power Systems | Elevator | Re-work power and controls as required to support elevator replacement | 1 | LS | | | | | $ 25,000.00 | $ 25,000 | $ 25,000 | $ 36,250 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | Lighting System | General | Lighting consists of fluorescent fixtures. Lighting should be replaced with LED. | 34,430 | SF | | | | | $ 18.00 | $ 619,740 | $ 619,740 | $ 898,623 |
| 2 | Lighting System | Dean of Students H114 | Lighting in the Dean of Students office is LED, however there is a mix of color temperatures, making the light from approximately (3) light fixtures appear to be more blue. | 1 | LS | | | | | $ 3,500.00 | $ 3,500 | $ 3,500 | $ 5,075 |
| 3 | Lighting System | West Lobby (Exterior) | An exterior light fixture outside the West Lobby was on during the day. The photocell that is attached to the fixture may have failed. | 1 | EA | | | | | $ 1,000.00 | $ 1,000 | $ 1,000 | $ 1,450 |
| **Code Systems and Barrier Free** | | | | | | | | | | | | | |
| 1 | Code Systems and Barrier Free | Stairwells - First Floor | No cane rail protection for stringers below 80". | 2 | EA | $ 1,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| | | | | | | | $ 2,000 | | $ 519,700 | | $ 675,740 | $ 1,197,440 | $ 1,736,288 |

BUILDING CI



**GENERAL OVERVIEW**

Use: Offices, Storage, Shops

Year Built: 1970

Total Area: 16,523 SF

Floors: 1.5

5 Year DMB: $1,450,209

CRV: $6,939,660

FCI: 20.90%

**COMMENTS**

**Roof System**

- Johns Manville roof installed in 2003. Roof warranty expired in 2018. Roof should be scheduled for replacement.

**HVAC System**

- Furnace F-3 was recently replaced (2022). All other major equipment appears to be original from 2003. Consider adding air conditioning to Level 1 shop areas; occupants noted uncomfortable heat during summer months.

**Plumbing System**

- Domestic water heaters replaced in 2019. All other plumbing systems appear to be original from 2003.

**Temperature Controls System**

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

**Power Systems**

- Electrical equipment was installed in 2003 and is in good condition.

**Lighting System**

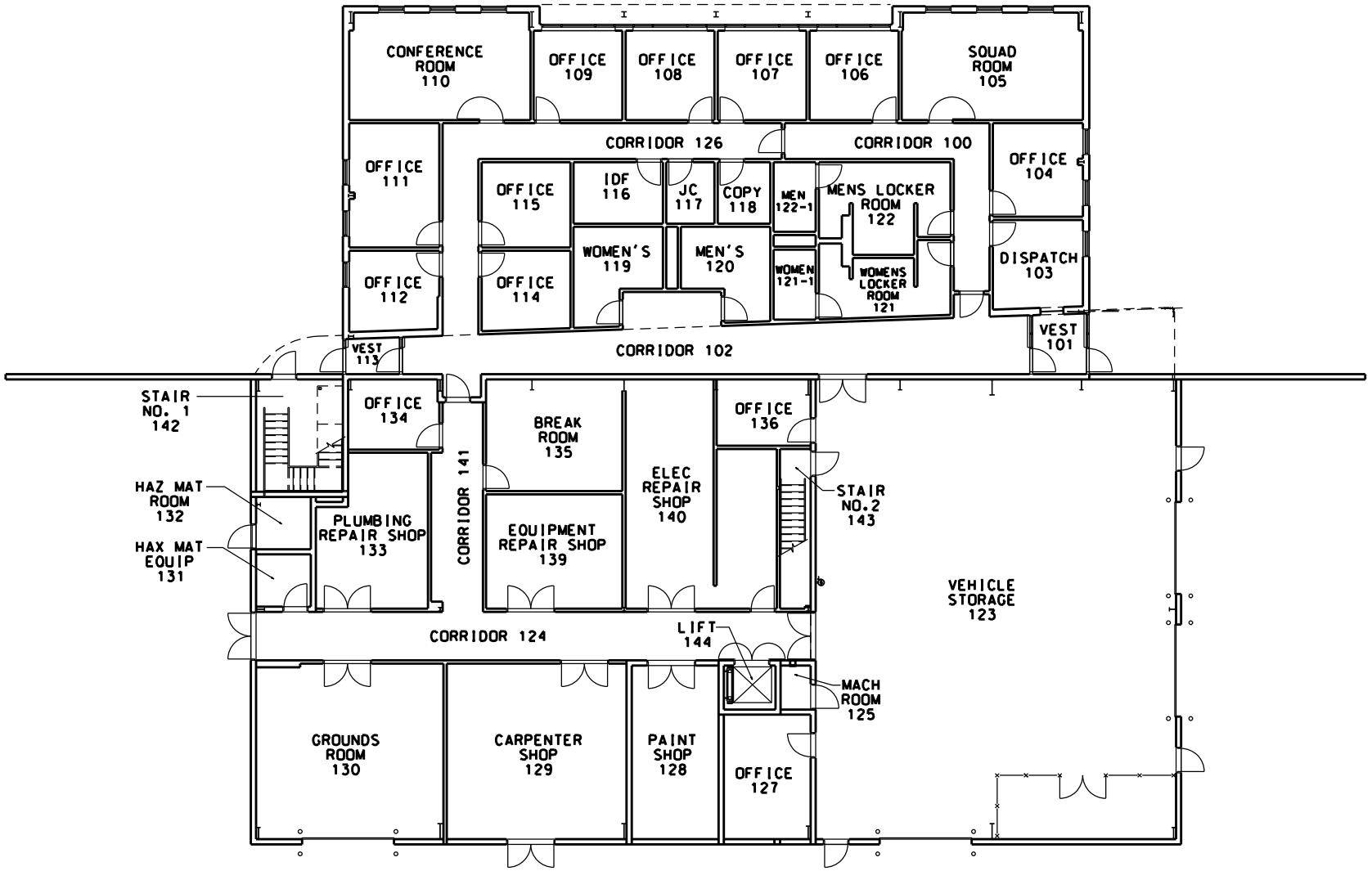
- Exit signs are LED.
- Stair 142/204: All lights were off in Stair 142/204 with no apparent local means of control. Revision costs are included in Lighting Item 1 on attached cost spreadsheet.
- Emergency lighting levels and emergency lighting controls are not compliant with current codes. Revision costs are included in Lighting Item 1 on attached cost spreadsheet.
- Paint Shop 128: LED lighting is installed in the Paint Shop, but the light level is too low. Revision costs are included in Lighting Item 1 on attached cost spreadsheet.
- Electrical Storage 140: LED panels have been installed in Elec Storage 140, however, light levels are too low. Revision costs are included in Lighting Item 1 on attached cost spreadsheet.

- Office 134: LED light fixtures have been installed in Office 134, however, light levels are too low and the color temperature is inconsistent with the rest of the building. Revision costs are included in Lighting Item 1 on attached cost spreadsheet.

- Toilet Rooms: Normal lighting levels in some Toilet Room stalls are low. Revision costs are included in Lighting Item 1 on attached cost spreadsheet.

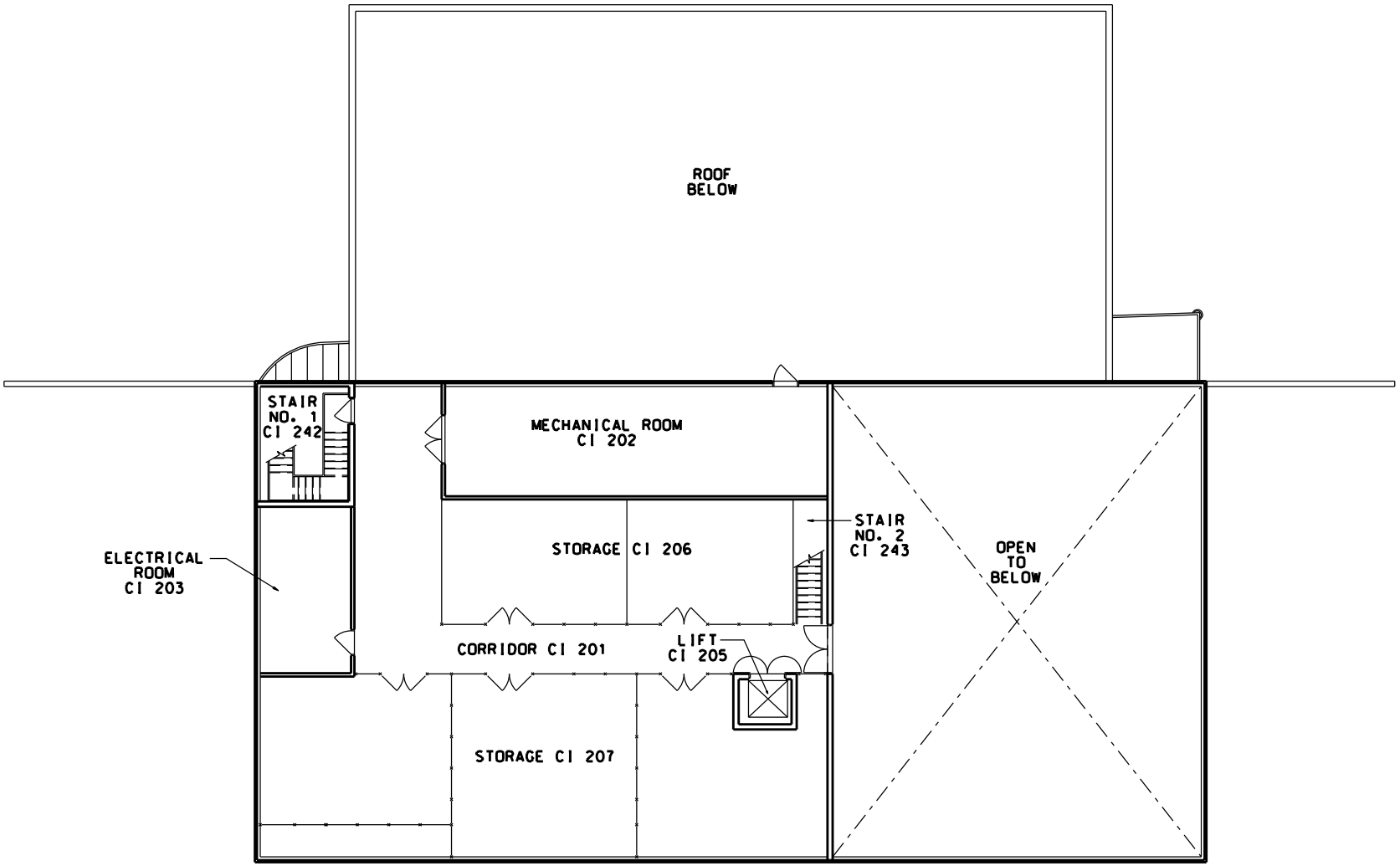
- Squad Room 105: Downlights are not operational. Revision costs are included in Lighting Item 1 on attached cost spreadsheet.

- Corridor 102: A number of light fixtures in this main corridor are not functional. Revision costs are included in Lighting Item 1 on attached cost spreadsheet.




# BUILDING "CI" 100 LEVEL

NORTH




# BUILDING "CI" 200 LEVEL

**Building CI**

| 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 | Roof | Clean and seal translucent panels at entries. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| 1 | Roof System | Roof | Repalce roof | 16,523 | LS | $ 14.00 | $ 231,322 | | | | | $ 231,322 | $ 335,417 |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | Mezzanine | Numerous cracks in mezzanine floor should be repaired and control joints added. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| **HVAC System** | | | | | | | | | | | | | |
| 1 | HVAC System | Building | Perform mechanical system retro-commissioning to restore the building mechanical system back to the original design intent and complete an air and water system balance report to identify potential operational issues. | 1 | LS | | | $ 47,300.00 | $ 47,300 | | | $ 47,300 | $ 68,585 |
| 2 | HVAC System | Building | Implementation of the recommendations that come out of retro-commissioning activities. | 16,523 | SF | | | $ 1.38 | $ 22,802 | | | $ 22,802 | $ 33,063 |
| **Temperature Controls** | | | | | | | | | | | | | |
| 1 | Temperature Controls | Building | Replace existing Desigo (Siemens) BAS controls with new Tridium (Honeywell) system. Commission controls, replace pneumatic operators with electric, calibrate devices, review sequences of operation, etc. | 16,523 | SF | | | $ 4.83 | $ 79,806 | | | $ 79,806 | $ 115,719 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | General | Life Safety and Optional Standby emergency loads are served from the single 100A automatic transfer switch in the building. This is no longer compliant with the National Electrical Code. A second ATS dedicated to Optional Standby Loads should be added and loads should be redistributed. | 1 | LS | | | | | $ 75,000.00 | $ 75,000 | $ 75,000 | $ 108,750 |
| 2 | Power Systems | General | Electrical equipment had no indication of maintenance or testing since original installation in 2003. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 12,500.00 | $ 12,500 | $ 12,500 | $ 18,125 |
| 3 | Power Systems | General | Arc flash hazard warning labels are generally not installed on distribution equipment. Generic labels are required by code (at minimum). While not required by code, it is recommended to update provide system study and labeling to match that of building CA. | 1 | LS | | | | | $ 4,000.00 | $ 4,000 | $ 4,000 | $ 5,800 |
| 4 | Power Systems | Outdoor Generator | The 30 kW natural gas generator is approaching 20 years old. The useful life of a generator is 20-40 years. Replace generator with a new 100 kW generator with sufficient capacity to serve all code-required emergency lighting and additional optional standby loads. | 1 | LS | | | | | $ 90,000.00 | $ 90,000 | $ 90,000 | $ 130,500 |
| 5 | Power Systems | Mechanical Room 202 | Panelboard RP-MECH has insufficient clearance from side to side | 1 | LS | | | | | $ 8,000.00 | $ 8,000 | $ 8,000 | $ 11,600 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | Lighting System | General | In general, lighting consists of fluorescent fixtures containing T8 lamps. Lighting should be replaced throughout with LED with new controls meeting current ASHRAE requirements. Some areas have already been retrofitted to LED, such as the Garage (2950 sqft) and Conference Room 110 (350 sqft). | 16,523 | SF | | | | | $ 18.00 | $ 297,414 | $ 297,414 | $ 431,250 |
| 2 | Lighting System | Exterior | Paint is peeling from HID parking lot lighting fixtures. Provide new LED light fixtures and new poles. | 16 | EA | | | | | $ 8,000.00 | $ 128,000 | $ 128,000 | $ 185,600 |
| | | | | | | | **$ 235,322** | | **$ 149,908** | | **$ 614,914** | **$ 1,000,144** | **$ 1,450,209** |

BUILDING CK



## GENERAL OVERVIEW

Use: Food Service and Conference

Year Built: 1976

Total Area: 51,880 SF

Floors: 1

5 Year DMB: $3,434,136

CRV: $21,789,600

FCI: 15.76%

## COMMENTS

**Roof System (High)**

- Firestone EPDM roof installed in 2016.
- Roof warranty expires in 2031.

**Roof System (East)**

- Duro-Last single-ply roof installed in 2005.
- Roof warranty expired in 2020.

**Roof System (West)**

- Johns Manville single-ply roof installed in 2010.
- Roof warranty expires in 2025.

**HVAC Systems**

- Existing rooftop HVAC units (3) have exceeded their useful life and should be replaced.
- Steam heating system serving connector, including steam boiler, should be removed and replaced with electric heat.

**Temperature Controls**

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

**Power Systems**

- Most electrical equipment was upgraded in 2005 and that equipment is generally in good condition. The 25 kW Kohler natural gas generator located on the roof was also installed at that time to serve emergency lighting in 80% of the building area.
- Roof: Roof disconnect switches for mechanical equipment are extremely rusty and should be replaced. Revision cost is included in Power Systems Item 8 on attached cost spreadsheet.

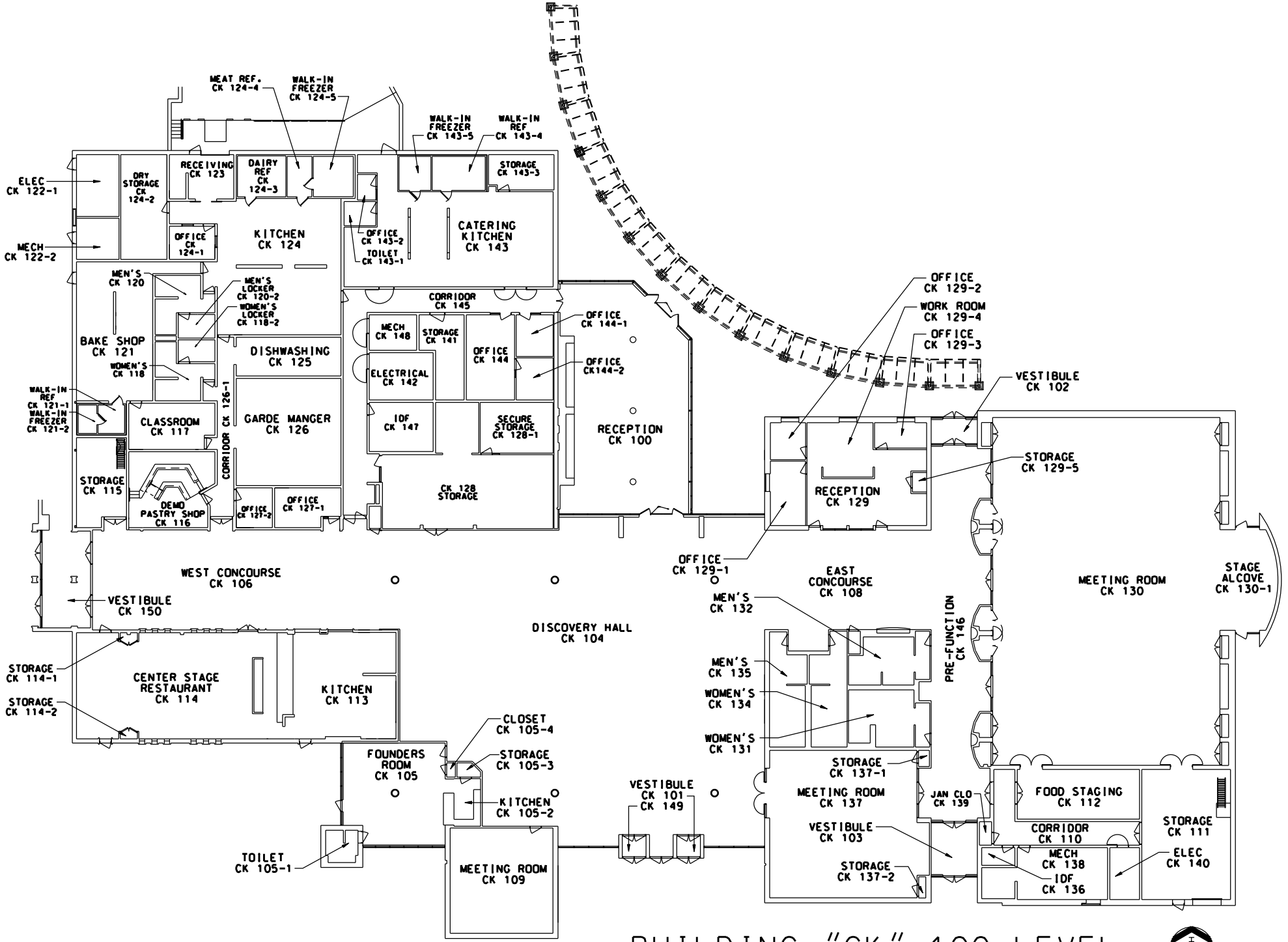
**Lighting System**

- Lighting and controls were upgraded in 2005 in about 80% of the building area and are generally in good condition. The majority of the existing light fixtures utilize T8 and compact fluorescent lamps. Emergency lighting is provided via the emergency generator in these areas. Within the next renovation, new LED lighting and controls should be included to meet current ASHRAE standards.

- Exit signs are LED.



Existing Outdoor Primary Switch and Transformer




# BUILDING "CK" 100 LEVEL

**Building CK**

| 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 | North Entrance | Check for roof leaks around translucent roof panels at north entrance. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | General | Sealants dried and cracking at control joints | 1 | LS | $ 4,000.00 | $ 4,000 | | | | | $ 4,000 | $ 5,800 |
| 2 | Enclosure System | Southeast Corner | Repair cracked brick at overhead door (Storage CK111) - possible bearing issue | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| 3 | Enclosure System | Connector to Building CM | Tuck point and repair brick | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| 4 | Enclosure System | Southwest Corner | Clean brick at SW corner of building - possible roof leak | 1 | LS | $ 500.00 | $ 500 | | | | | $ 500 | $ 725 |
| 5 | Enclosure System | Kitchen | Replace rusted door & frames to loading dock | 1 | LS | $ 2,500.00 | $ 2,500 | | | | | $ 2,500 | $ 3,625 |
| 6 | Enclosure System | Southwest Corner | Check for leaks in sloping curtain wall in SW corner of building | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| 7 | Enclosure System | Connector to Building CM | Add sill flashing to direct water away from brick | 1 | LS | $110,000.00 | $ 110,000 | | | | | $ 110,000 | $ 159,500 |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | General | Repair water damage to interior soffits | 1 | LS | $ 2,500.00 | $ 2,500 | | | | | $ 2,500 | $ 3,625 |
| **HVAC System** | | | | | | | | | | | | | |
| 1 | HVAC System | Building | Perform mechanical system retro-commissioning to restore the building mechanical system back to the original design intent and complete an air and water system balance report to identify potential operation issues. | 1 | LS | | | $ 91,850.00 | $ 91,850 | | | $ 91,850 | $ 133,183 |
| 2 | HVAC System | Roof | Replace HV/MUA units 1,2,&3 | 3 | EA | | | $ 9,075.00 | $ 27,225 | | | $ 27,225 | $ 39,476 |
| 3 | HVAC System | Roof | Replace exhaust fans EF-2 and EF-3. | 2 | EA | | | $ 6,050.00 | $ 12,100 | | | $ 12,100 | $ 17,545 |
| 4 | HVAC System | Roof | Replace damaged powered unit. | 1 | EA | | | $ 6,650.00 | $ 6,650 | | | $ 6,650 | $ 9,643 |
| 5 | HVAC System | Building | Implementation of the recommendations that come out of the retro-commissioning activates. | 51,880 | SF | | | $ 1.38 | $ 71,594 | | | $ 71,594 | $ 103,812 |
| 6 | HVAC System | Roof | Replace RTU 1, 2, and 3 with new RTU's with DX cooling and hot water heat | 3 | EA | $ 3,000.00 | | $ 70,000.00 | $ 210,000 | $ 3,000.00 | | $ 210,000 | $ 304,500 |
| 7 | HVAC System | Mechanical Room and connector | Remove steam boiler and install electric heat in connector | 1 | LS | | | $ 25,000.00 | $ 25,000 | | | $ 25,000 | $ 36,250 |
| **Plumbing System** | | | | | | | | | | | | | |
| 1 | Plumbing System | Mechanical CK-148 | Water heaters continue to have issues/problems and are always being fixed. Replace the two water heaters with high efficiency units. | 1 | LS | | | $ 18,150.00 | $ 18,150 | | | $ 18,150 | $ 26,318 |
| **Temperature Controls** | | | | | | | | | | | | | |
| 1 | Temperature Controls | Building | Replace existing Desigo (Siemens) BAS controls with new Tridium (Honeywell) system. Replace pneumatic operation with electric. Calibrate devices, review sequences of operation, etc.including terminal box controlers | 51,880 | SF | | | $ 10.00 | $ 518,800 | | | $ 518,800 | $ 752,260 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | General | Several panels serving kitchen areas in the northwest part of the building were not replaced in 2005 and are due for replacement. | 5 | EA | | | | | $ 5,000.00 | $ 25,000 | $ 25,000 | $ 36,250 |
| 2 | Power Systems | Exterior | The medium-voltage S&C "PMH" pad-mount switch and 1000 kVA transformer are rusty and appear to be due for replacement. There are insect nests under the top cover of the transformer. | 1 | LS | | | | | $ 54,400.00 | $ 54,400 | $ 54,400 | $ 78,880 |
| 3 | Power Systems | General | Electrical equipment had no indication of maintenance or testing since original installation in 2005. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 7,500.00 | $ 7,500 | $ 7,500 | $ 10,875 |
| 4 | Power Systems | General | Existing arc flash labels (where installed) are generic type and do not indicate incident energy boundaries, available fault current, etc.. While not required by code, it is recommended to provide power system study and labeling to match that of building CA. | 1 | LS | | | | | $ 4,000.00 | $ 4,000 | $ 4,000 | $ 5,800 |
| 5 | Power Systems | Kitchens | In the Main Kitchen and the Demo Pastry Shop (CK-116), there are no apparent means for automatic shutoff for electrical devices under the hoods. These devices must be de-energized upon hood fire suppression activation. | 3 | EA | | | | | $ 5,000.00 | $ 15,000 | $ 15,000 | $ 21,750 |
| 6 | Power Systems | Men's Toilet CK-132<br>Women's Toilet CK-131 | Two branch panels are located in Toilet Rooms, which is not permitted by the NEC. These panels should be moved. Includes $20,000 for architectural repairs. | 2 | EA | | | | | $ 32,000.00 | $ 64,000 | $ 64,000 | $ 92,800 |
| 7 | Power Systems | General | Electrical revisions needed in support of HVAC equipment replacement. | 51,880 | SF | | | | | $ 2.00 | $ 103,760 | $ 103,760 | $ 150,452 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | Lighting System | General | Lighting consists of fluorescent fixtures. Lighting should be replaced with LED. | 51,880 | SF | | | | | $ 18.00 | $ 933,840 | $ 933,840 | $ 1,354,068 |
| **Code Systems and Barrier Free** | | | | | | | | | | | | | |
| 1 | Code Systems and Barrier Free | Northwest Kitchen | Toilet rooms are not accessible, including toilet stalls, lavatories and entry doors. They will require complete remodel. Accessible lockers and bench should also be provided. | 1 | LS | $ 50,000.00 | $ 50,000 | | | | | $ 50,000 | $ 72,500 |
| | | | | | | | **$ 179,500** | | **$ 981,369** | | **$ 1,207,500** | **$ 2,368,369** | **$ 3,434,136** |

BUILDING CL


MACOMB CENTER
FOR THE PERFORMING ARTS
L BUILDING
FINE AND PERFORMING ARTS
L

## GENERAL OVERVIEW

Use: Classrooms, Office and Labs

Year Built: 1982

Total Area: 30,400 SF

Floors: 1

5 Year DMB: $777,545

CRV: $16,476,800

FCI: 4.72%

## COMMENTS

### Roof System

- JD Chandler roof installed in 2018.

### Exterior

- Exterior brick needs to be tuck pointed and coping replaced with full copings.

### Finish System

- Finishes updated.

### HVAC Systems

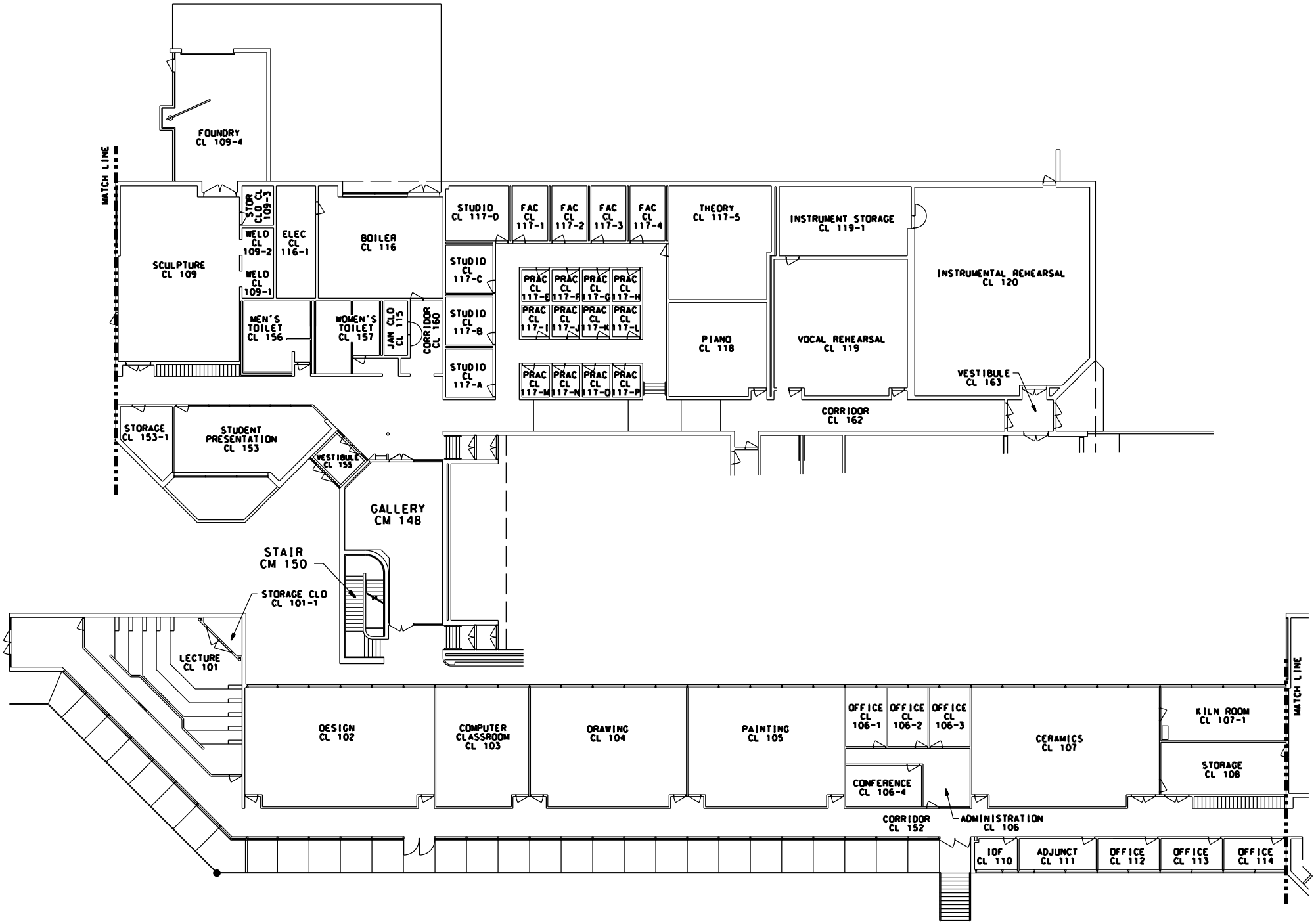
- HVAC equipment, including controls, was replaced in 2018.

### Lighting System

- Lighting and controls were upgraded in 2018 and are in good condition.



Existing Switchboard




# BUILDING "CL" 100 LEVEL

NORTH

**Building CL**

| 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 | Copings | Replace all copings with full width copings. | 1 | LS | $ 15,000.00 | $ 15,000 | | | | | $ 15,000 | $ 21,750 |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Finish System | All Elevations | Clean and tuck point brick. | 1 | LS | $ 12,000.00 | $ 12,000 | | $ - | | $ - | $ 12,000 | $ 17,400 |
| 2 | Finish System | All Windows | Caulk windows. | 1 | LS | $ 3,000.00 | $ 3,000 | | $ - | | $ - | $ 3,000 | $ 4,350 |
| 3 | Finish System | East Elevation | Repair/ replace window mullions. | 1 | LS | $ 3,000.00 | $ 3,000 | | $ - | | $ - | $ 3,000 | $ 4,350 |
| 4 | Finish System | Foundry | Replace lintel over foundry opening. | 1 | LS | $ 3,000.00 | $ 3,000 | | $ - | | $ - | $ 3,000 | $ 4,350 |
| 5 | Finish System | East Elevation | Replace expansion joint in walkway. | 1 | LS | $ 1,500.00 | $ 1,500 | | $ - | | $ - | $ 1,500 | $ 2,175 |
| **Plumbing System** | | | | | | | | | | | | | |
| 1 | Plumbing System | Boiler Room CL-116 | Water heater and flue damaged from water and need to be replaced. | 1 | LS | | | $ 4,275.00 | $ 4,275 | | | $ 4,275 | $ 6,199 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | General | A majority of electrical distribution equipment is 41 years of age and is nearing end of expected useful life. Replacement is recommended in next major renovation. | 30,400 | SF | | | | | $ 16.00 | $ 486,400 | $ 486,400 | $ 705,280 |
| 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 | | | | | $ 8,000.00 | $ 8,000 | $ 8,000 | $ 11,600 |
| | | | | | | | **$ 37,500** | | **$ 4,275** | | **$ 494,400** | **$ 536,175** | **$ 777,454** |

BUILDING CM



## GENERAL OVERVIEW

Use: Theater

Year Built: 1982

Total Area: 71,954 SF

Floors: 2

5 Year DMB: $4,310,157

CRV: $42,093,090

FCI: 10.24%

## COMMENTS

### Roof System

- JD Chandler roof installed in 2012.

### Finish System

- Finishes updated in 2018.

### HVAC Systems

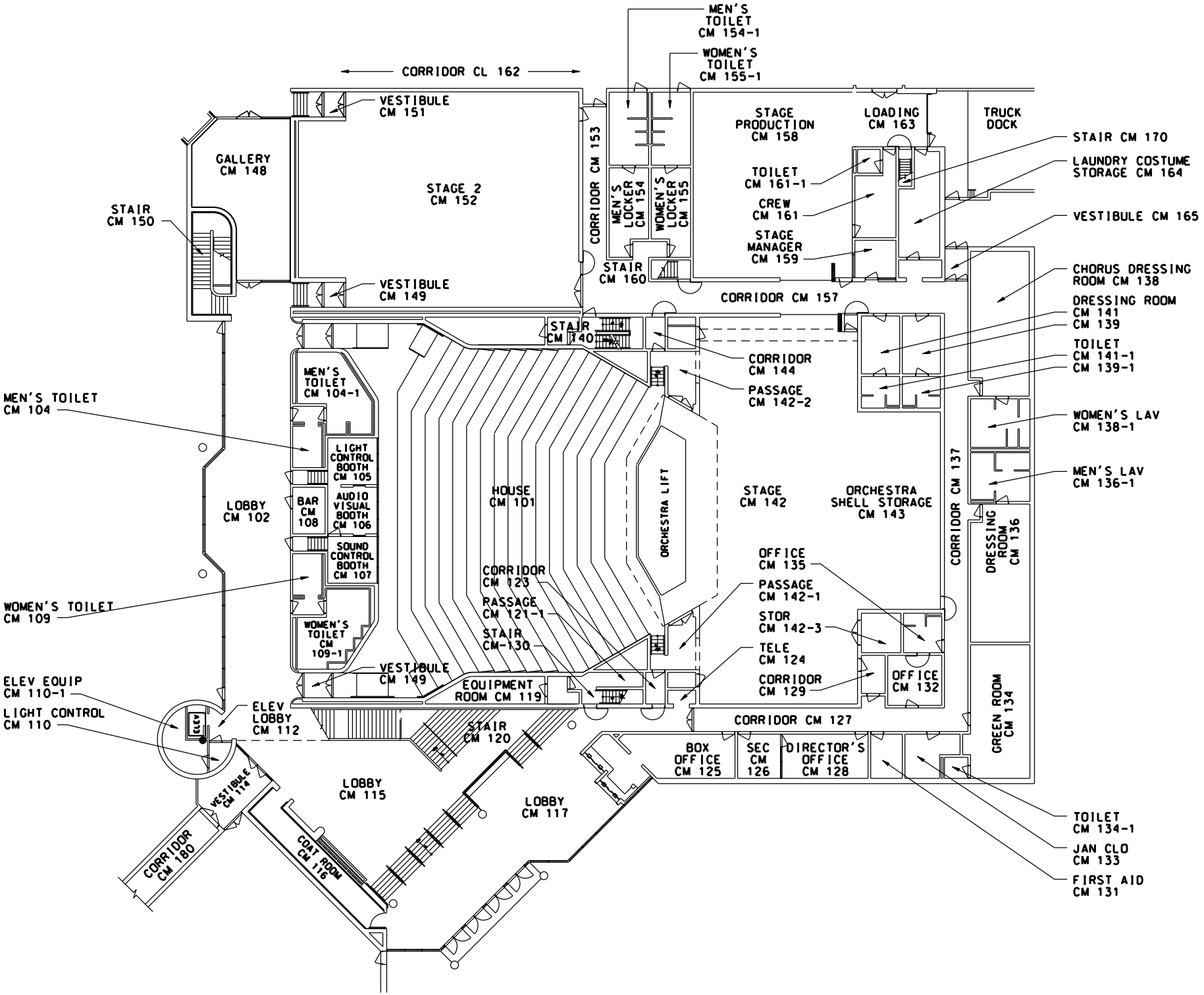
- HVAC systems, including controls, was replaced in 2018.

### Lighting System

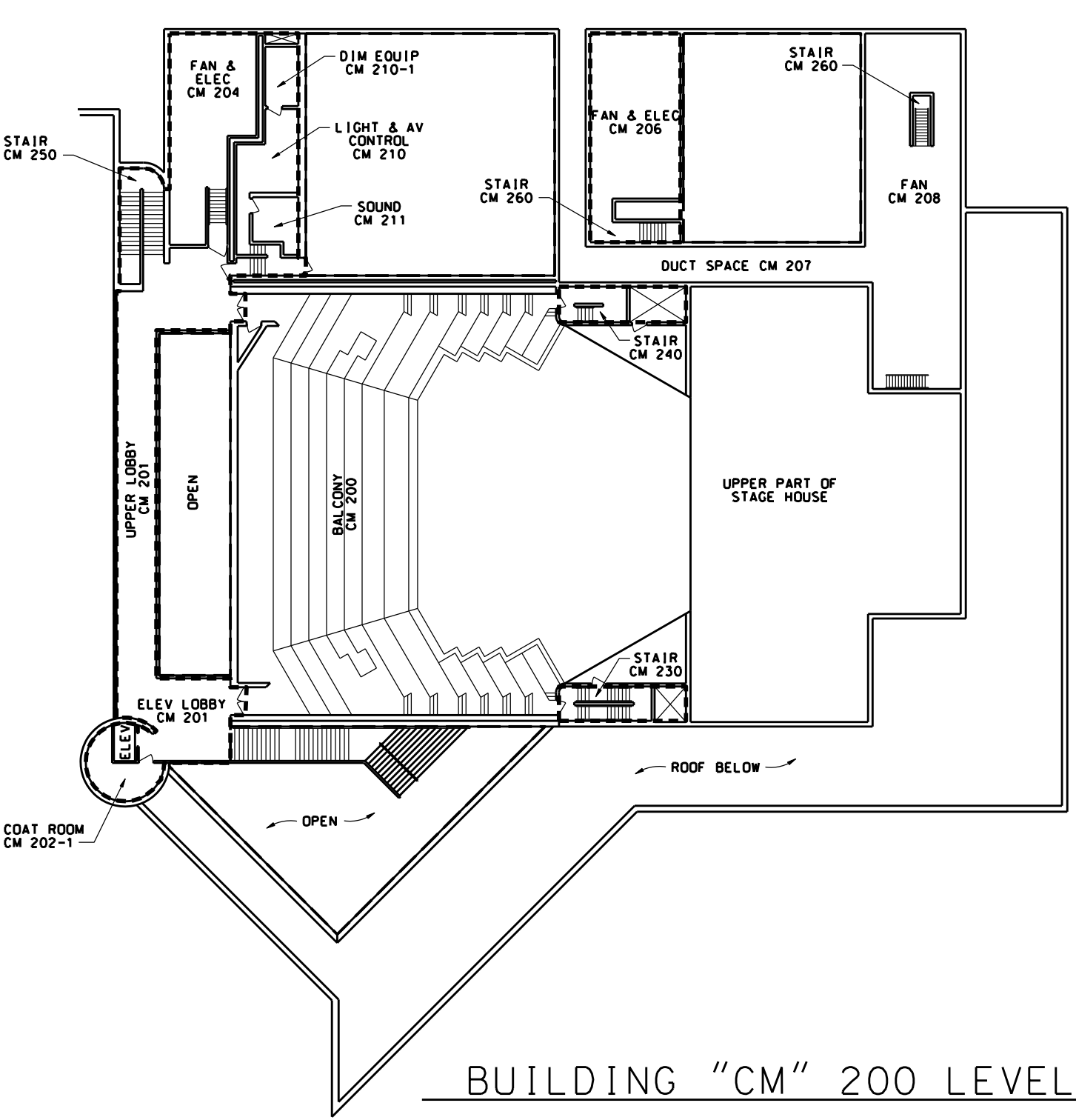
- Lighting and controls for theater and lobby areas should be replaced with new light fixtures and controls.

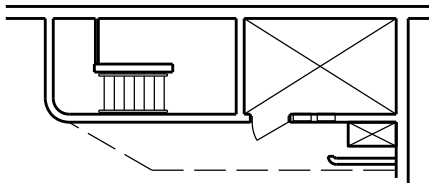


Existing Distribution Equipment

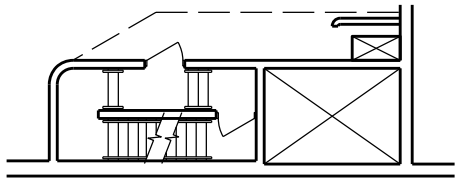



# BUILDING "CM" 100 LEVEL

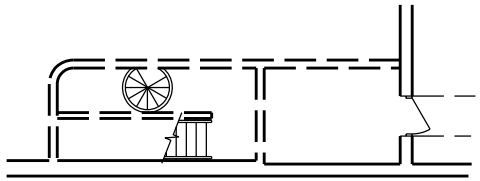


STAIR TO SUB ATTIC LEVEL
CM 240-A



STAIR TO SUB ATTIC LEVEL
CM 230-A



STAIR TO SUB ATTIC LEVEL
CM 330

# BUILDING "CM" 200 LEVEL

NORTH

**Building CM**

| 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** | | | | | | | | | | | | | |
| 2 | Roof System | Roof | Replace coping with a coping that goes down over the face of the brick. | 1 | LS | $ 15,000.00 | $ 15,000 | | | | | $ 15,000 | $ 21,750 |
| 3 | Roof System | Roof | Inspect and repair roof at upper lobby. | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| **Enclosure System** | | | | | | | | | | | | | |
| 2 | Enclosure System | Windows | Add sill flashing at windows. | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| 3 | Enclosure System | Throughout | Clean and tuck point brick where sill flashing added. | 1 | LS | $150,000.00 | $ 150,000 | | | | | $ 150,000 | $ 217,500 |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | Lobby | Repair soffit on second level at south windows. | 1 | LS | $ 2,500.00 | $ 2,500 | | | | | $ 2,500 | $ 3,625 |
| 2 | Finish System | Lobby | Repair soffit on second level at west entrance to seating. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| 3 | Finish System | Back of House | All finishes need to be updated in back of house. | 1 | LS | | $ - | | | | | $ - | $ - |
| 4 | Finish System | Lobby | All finishes need to be updated in lobby. | 1 | LS | | $ - | | | | | $ - | $ - |
| 5 | Finish System | Seating | All finishes need to be updated in seating area. | 1 | LS | | $ - | | | | | $ - | $ - |
| **Fixed Equipment** | | | | | | | | | | | | | |
| 1 | Fixed Equipment | Auditorium | Orchestra platform lift equiopment is at the end of it's expected life. | 1 | LS | $ 50,000.00 | $ 50,000 | | | | | $ 50,000 | $ 72,500 |
| 2 | Fixed Equipment | Scene Shop | Review mezzanine framing and supports for proper sizing - framing member size and spacing appears inadequate. | 1 | LS | $ 20,000.00 | $ 20,000 | | | | | $ 20,000 | $ 29,000 |
| **Plumbing System** | | | | | | | | | | | | | |
| 1 | Plumbing System | Building | Portion of the domestic cold water distribution piping system are galvanized steel. Due to it's age the piping is showing signs of deterioration and should be replaced. | 600 | LF | | | $ 55.00 | $ 33,000 | | | $ 33,000 | $ 47,850 |
| 2 | Plumbing System | Building | Portion of the cold and hot water piping have missing and damaged insulation. The insulation should be replaced. | 71,954 | SF | | | $ 0.77 | $ 55,405 | | | $ 55,405 | $ 80,337 |
| **Temperature Controls** | | | | | | | | | | | | | |
| 1 | Temperature Controls | Building | Replace and upgrade controllers and control components for added efficiency and enhanced maintenance functions. | 71,954 | SF | | | $ 4.83 | $ 347,538 | | | $ 347,538 | $ 503,930 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | General | A majority of electrical distribution equipment is 41 years of age and is nearing end of expected useful life. Replacement is recommended in next major renovation. | 71,954 | SF | | | | | $ 20.00 | $ 1,439,080 | $ 1,439,080 | $ 2,086,666 |
| 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 | | | | | $ 8,000.00 | $ 8,000 | $ 8,000 | $ 11,600 |
| 3 | Power Systems | Roof | Extention cords are being used on the roof for holiday lighting. The extension cords are plugged into a receptacle (not equipped with an in-use cover) installed in the exterior wall at grade. It is recommended to add GFCI receptacles provided with weatherproof, in-use covers on the roof. | 4 | EA | | | | | $ 1,500.00 | $ 6,000 | $ 6,000 | $ 8,700 |
| 4 | Power Systems | Exterior (East Facing Wall) | Cored openings (approximately 24" above grade) where conduits/LB fittings are leaving the building are not sealed. A draft was noticed through these openings in the brick exterior. These openings should be properly sealed. | 2 | EA | | | | | $ 500.00 | $ 1,000 | $ 1,000 | $ 1,450 |
| 5 | Power Systems | Catwalk Above Theater (Stage Left) | Cable routed through catwalk access door opening (appears to be a coax cable for theatrical use) is severely damaged from the door/frame. Providing conduit sleeves, based on theatrical needs, is recommended (cost assumes (1) 2" sleeve at each catwalk door above theatre). | 4 | EA | | | | | $ 500.00 | $ 2,000 | $ 2,000 | $ 2,900 |

**Building CM**

| No. | Item/Description | Location | Notes | Qty. | Unit | Architectural | | Mechanical | | Electrical | | Construction Cost | Project Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unit Cost | Subtotal | Unit Cost | Subtotal | Unit Cost | Subtotal | | |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | Lighting System | Theater and Lobby | The lighting within the Theater and Lobby consists of multiple types of non-LED fixtures. Lighting within the Lobby (approximately 12,500sqft) should be replaced with LED and new controls to meet the current ASHRAE requirements. Back of house corridors, restrooms, green room, and offices areas have already been updated to LED as part of a 2018 renovation to buildings CL and CM. | 12,500 | SF | | | | | $ 65.00 | $ 812,500 | $ 812,500 | $ 1,178,125 |
| **Code Systems and Barrier Free** | | | | | | | | | | | | | |
| 1 | Code Systems and Barrier Free | General | Lobby railings are not graspable | 1 | LS | $ 8,500.00 | $ 8,500 | | | | | $ 8,500 | $ 12,325 |
| 2 | Code Systems and Barrier Free | General | Seating railings are not graspable and landings are not adequate | 1 | LS | $ 2,500.00 | $ 2,500 | | | | | $ 2,500 | $ 3,625 |
| 3 | Code Systems and Barrier Free | General | Barrier free seating not dispersed | 1 | LS | $ 3,000.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| 4 | Code Systems and Barrier Free | General | Barrier free stalls are not up to date | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| | | | | | | | **$ 268,000** | | **$ 435,942** | | **$ 2,268,580** | **$ 2,972,522** | **$ 4,310,157** |

BUILDING CN



## GENERAL OVERVIEW

Use: Classrooms and Offices

Year Built: 1996, 2017 Renovation

Total Area: 65,357 SF

Floors: 2

5 Year DMB: $1,535,920

CRV: $26,208,157

FCI: 5.86%

## COMMENTS

### Roof System

- JD Chandler roof installed in 2017.
- Roof warranty expired in 2021.

### HVAC System

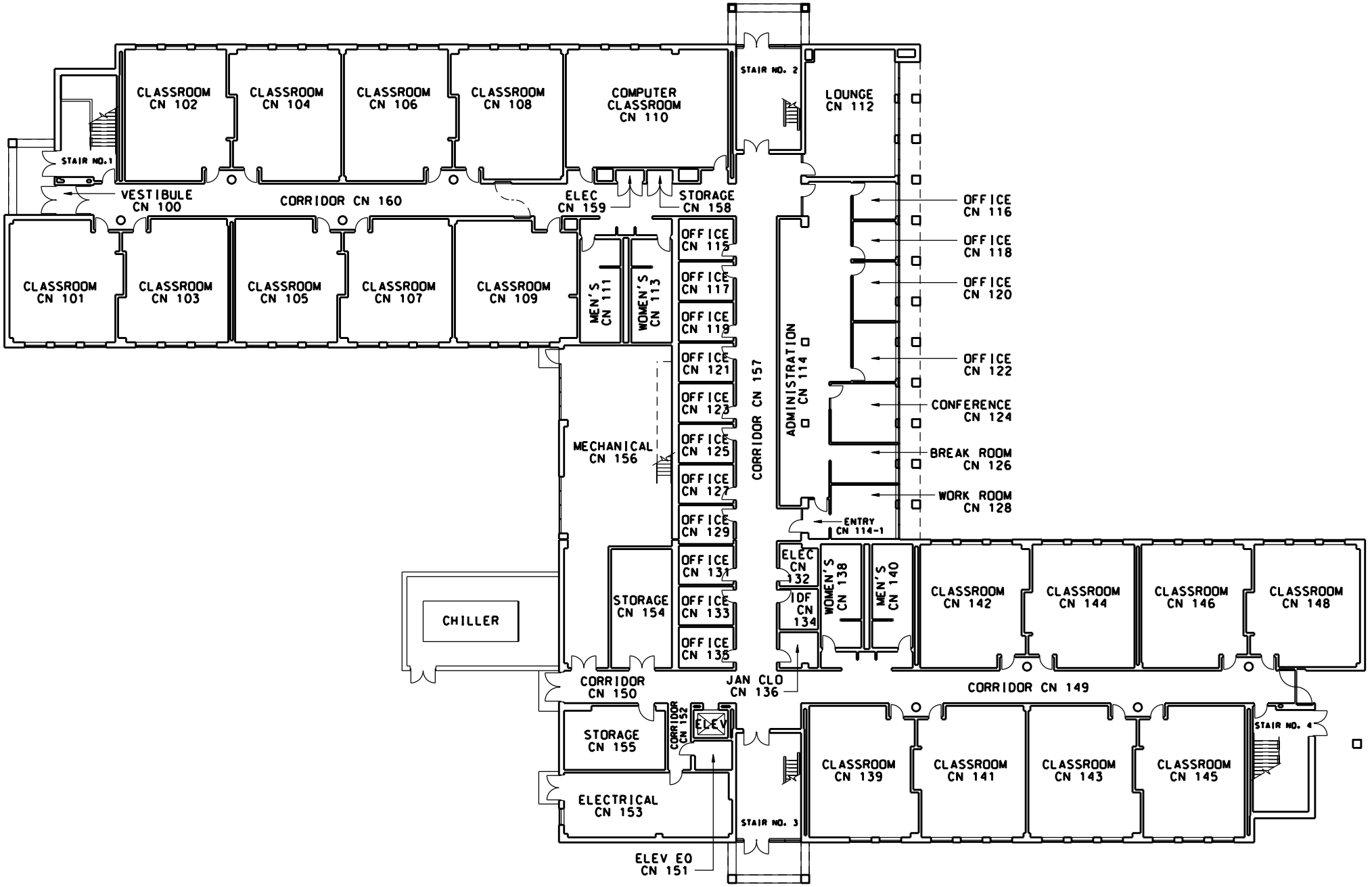
- New chiller buffer tank provided to reduce cycling of chiller in Summer 2017.
- Air handling units, boilers and pumps were replaced in Summer 2017.

### Temperature Controls

- Temperature controls were upgraded in Summer 2017.

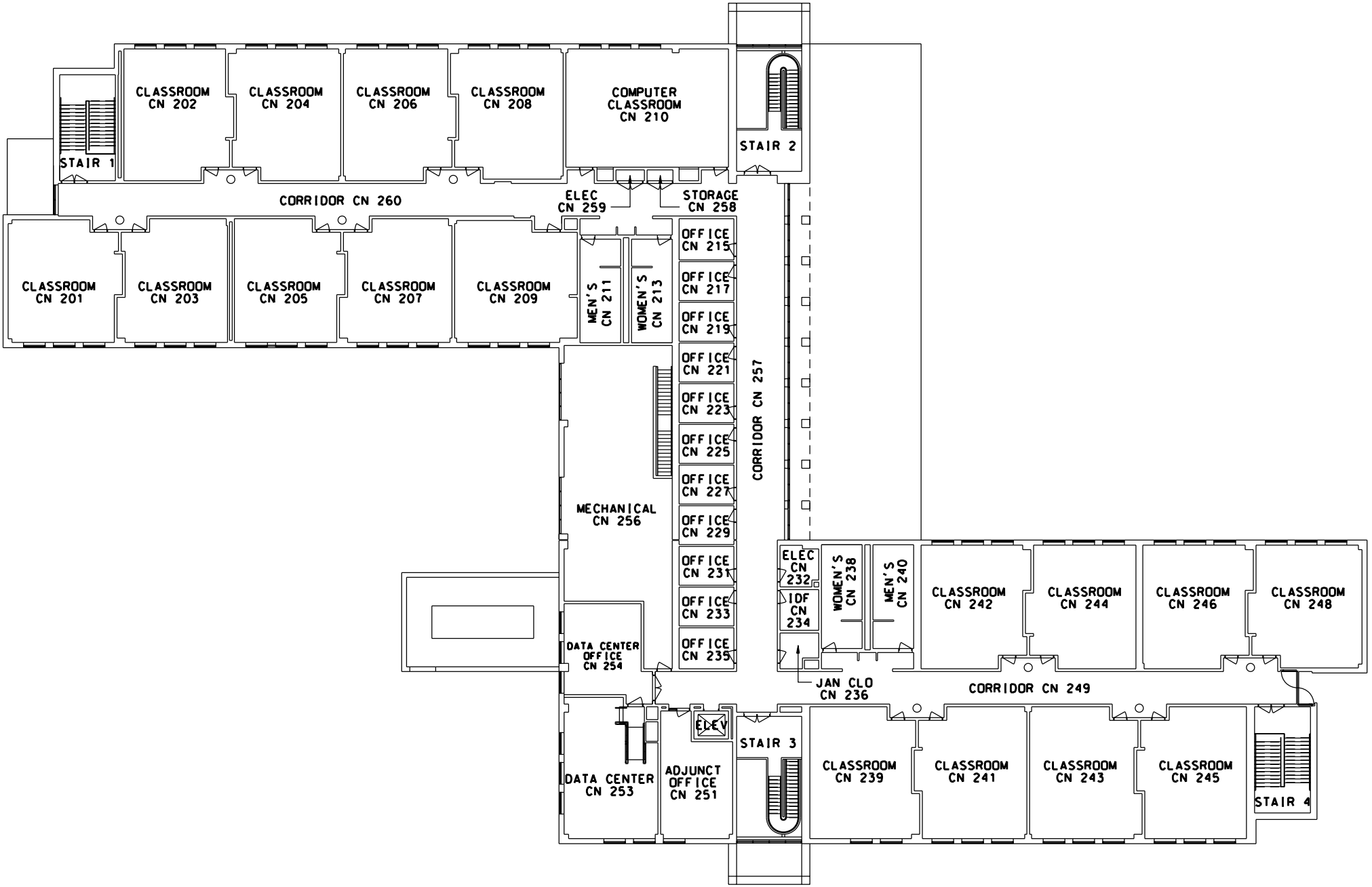
### Lighting System

- Lighting and controls were upgraded in 2017 and are in good condition.




# BUILDING "CN" 100 LEVEL

NORTH




# BUILDING "CN" 200 LEVEL

**Building CN**

| No. | Item/Description | Location | Notes | Qty. | Unit | Architectural | | Mechanical | | Electrical | | Construction Cost | Project Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unit Cost | Subtotal | Unit Cost | Subtotal | Unit Cost | Subtotal | | |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | Substation | Install sweep at substation doors to exterior. | 1 | LS | $ 500.00 | $ 500 | | | | | $ 500 | $ 725 |
| 2 | Enclosure System | Exterior | Re-caulk windows - exterior. | 1 | LS | $ 10,000.00 | $ 10,000 | | | | | $ 10,000 | $ 14,500 |
| 3 | Enclosure System | Substation | Repair or replace exterior door frame to substation room. | 1 | LS | $ 3,000.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | Interior | Re-caulk windows. | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | Main Electrical Room | A majority of electrical distribution equipment is 26 years of age and is nearing end of expected useful life. Replacement is recommended in next major renovation. | 65,357 | SF | | | | | $ 15.00 | $ 980,355 | $ 980,355 | $ 1,421,515 |
| 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 | | | | | $ 8,000.00 | $ 8,000 | $ 8,000 | $ 11,600 |
| 3 | Power Systems | Roof | It appears the existing lightning protection system was removed from the roof as part of a previous renovation. Air terminals were noticed to be remaining on some mechanical HVAC equipment. The lightning protection should be removed in its entireity. A partially installed lightning protection system can negatively impact the possible damage caused by a lightning strike. | 5 | EA | | | | | $ 200.00 | $ 1,000 | $ 1,000 | $ 1,450 |
| 4 | Power Systems | IDF Closet N234 | Ceiling smoke detector is not secure to its box and is hanging by wires. This smoke detector should be inspected for damage and properly fastened to the box. | 1 | LS | | | | | $ 100.00 | $ 100 | $ 100 | $ 145 |
| 5 | Power Systems | Electrical N132 | RP-1B is installed behind the door swing, which is not permitted by the NEC. The door should be revised to swing out of the room. | 1 | LS | | | | | $ 20,000.00 | $ 20,000 | $ 20,000 | $ 29,000 |
| 6 | Power Systems | Electrical N232 | RP-2B is installed behind the door swing, which is not permitted by the NEC. The door should be revised to swing out of the room. | 1 | LS | | | | | $ 20,000.00 | $ 20,000 | $ 20,000 | $ 29,000 |
| 7 | Power Systems | Data Center Office N254 | Coverplate is missing from the light switch, exposing the wiring behind the device. A cover plate should be installed. | 1 | LS | | | | | $ 100.00 | $ 100 | $ 100 | $ 145 |
| 8 | Power Systems | General | It was noticed in IDF closets that the floor/ceiling cores were not sealed around the passing cables. These should be sealed to maintain fire rating. | 8 | EA | | | | | $ 300.00 | $ 2,400 | $ 2,400 | $ 3,480 |
| **Code Systems and Barrier Free** | | | | | | | | | | | | | |
| 1 | Code Systems and Barrier Free | Stairs | Provide cane rail under stairs in lobby. | 2 | EA | $ 1,500.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| 2 | Code Systems and Barrier Free | Toilet Rooms | provide pipe protection at toilet room sinks. | 24 | EA | $ 200.00 | $ 4,800 | | | | | $ 4,800 | $ 6,960 |
| 3 | Code Systems and Barrier Free | Technology Closets | Seal penetrations in floor in tech closets. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| | | | | | | | **$ 27,300** | | **$ -** | | **$ 1,031,955** | **$ 1,059,255** | **$ 1,535,920** |

BUILDING CP



## GENERAL OVERVIEW

Use: Food Service, Conference and Bookstore

Year Built: 2004

Total Area: 34,496 SF

Floors: 1

5 Year DMB: $2,160,874

CRV: $14,281,344

FCI: 15.13%

## COMMENTS

### Roof System

- Single-ply roof installed in 2004.
- Roof warranty expired in 2019.

### HVAC Systems

- Existing air-cooled chiller and pumps have exceeded their useful life and should be replaced.
- Existing boilers and pumps have exceeded their useful life and should be replaced.

### Temperature Controls

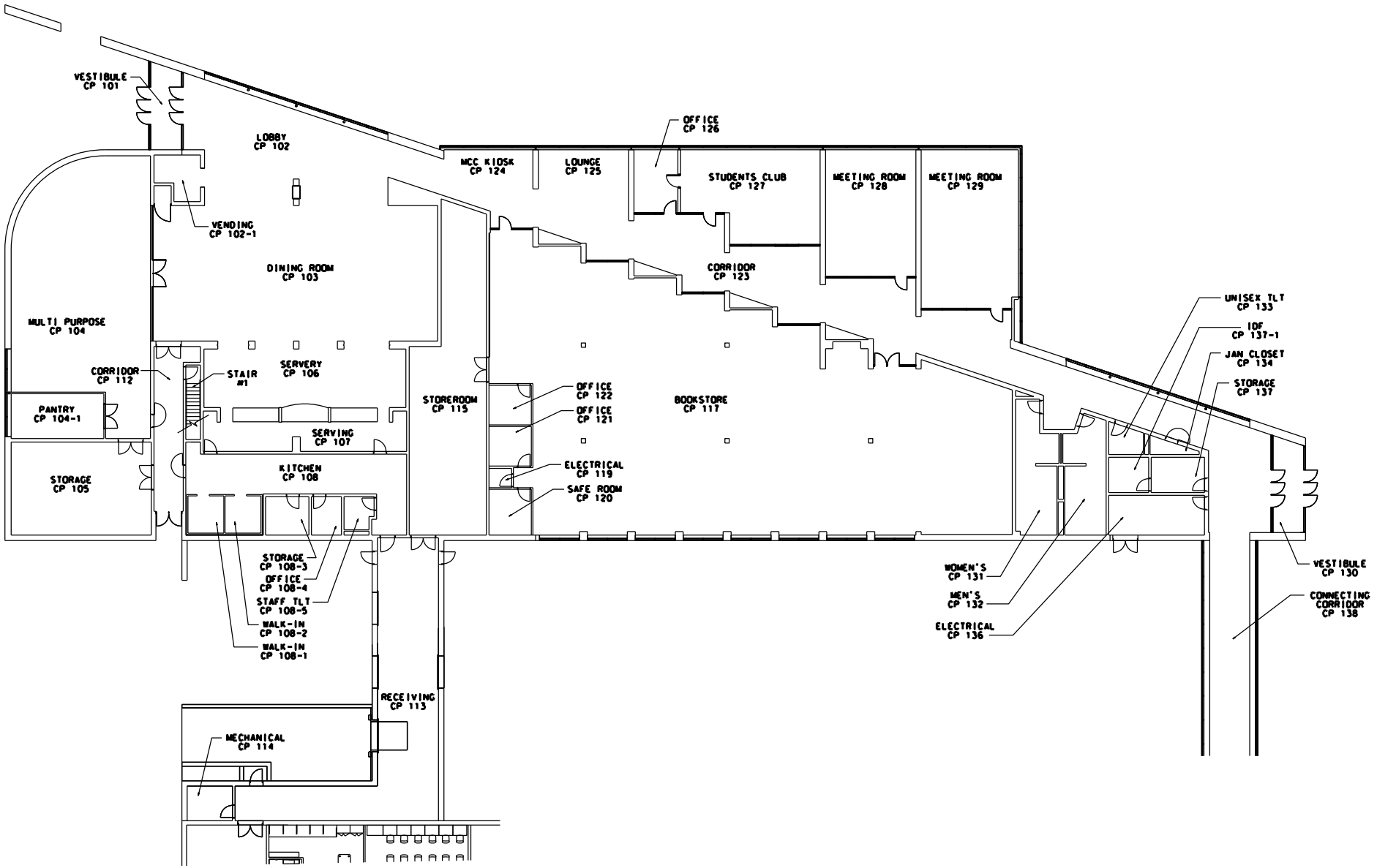
- Replace existing Desigo (Siemens) BAS controls with new Tridium (Honeywell) system.

### Power Systems

- Most electrical equipment was upgraded in 2004 and that equipment is generally in good condition.

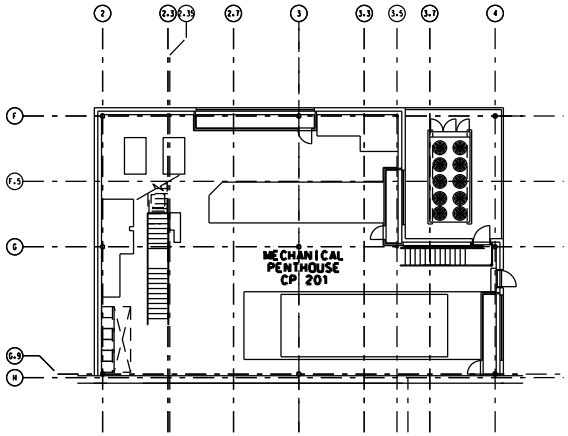
### Lighting System

- Exit signs are LED.




# BUILDING "CP" 100 LEVEL

NORTH




# BUILDING "CP" 200 LEVEL

NORTH

**Building CP**

| 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 | Roof | Tapered insulation around drains holds water. | 1 | LS | $ 8,000.00 | $ 8,000 | | | | | $ 8,000 | $ 11,600 |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | Exterior | Recaulk control joints in brick. | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| 2 | Enclosure System | South Entrance | Replace damaged metal wall panels at south entrance. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| 3 | Enclosure System | South Elevation | Recaulk windows on south elevation. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| 4 | Enclosure System | North Entrance | Clean transleucent panels at north entrance. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| 5 | Enclosure System | Throughout | Add sill flashing at curtainwall. | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | South Entrance | Repair gypsum board soffit at south entrance. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| **HVAC System** | | | | | | | | | | | | | |
| 1 | HVAC System | Building | Perform mechanical system retro-commissioning to restore the building mechanical system back to the original design intent and complete an air and water system balance report to identify potential operation issues. | 1 | LS | | | $ 71,610.00 | $ 71,610 | | | $ 71,610 | $ 103,835 |
| 2 | HVAC System | Building | Implementation of the recommendations that come out of retro commissioning activities | 34,496 | SF | | | $ 1.38 | $ 47,604 | | | $ 47,604 | $ 69,026 |
| 2 | HVAC System | Mechanical Room | Replace air cooled chiller and pumps | 1 | LS | | | $ 300,000.00 | $ 300,000 | | | $ 300,000 | $ 435,000 |
| 2 | HVAC System | Chiller Yard | Replace gas fired boilers and pumps | 1 | LS | | | $ 210,000.00 | $ 210,000 | | | $ 210,000 | $ 304,500 |
| **Temperature Controls** | | | | | | | | | | | | | |
| 1 | Temperature Controls | Building | Replace existing Desigo (Siemens) BAS controls with new Tridiuum (Honeywell) system. Commission controls, replace pneumatic operation with electric. Calibrate devices, review sequences of operation, etc. | 34,496 | SF | | | $ 4.83 | $ 166,616 | | | $ 166,616 | $ 241,593 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | Kitchen Servery | RP-5 is installed behind the door swing, which is not permitted by the NEC. This panel should be moved. Includes $20,000 for architectural repairs. | 1 | LS | | | | | $ 32,000.00 | $ 32,000 | $ 32,000 | $ 46,400 |
| 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 | | | | | $ 8,000.00 | $ 8,000 | $ 8,000 | $ 11,600 |
| 3 | Power Systems | General | Electrical equipment had no indication of maintenance or testing since original installation in 2004. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 10,000.00 | $ 10,000 | $ 10,000 | $ 14,500 |
| **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. | 34,496 | SF | | | | | $ 18.00 | $ 620,928 | $ 620,928 | $ 900,346 |
| | | | | | | | **$ 23,500** | | **$ 795,830** | | **$ 670,928** | **$ 1,490,258** | **$ 2,160,874** |

BUILDING CR



## GENERAL OVERVIEW

Use: Classrooms, Offices and Labs

Year Built: 2007

Total Area: 36,478 SF

Floors: 2

5 Year DMB: $1,978,133

CRV: $16,415,100

FCI: 12.05%

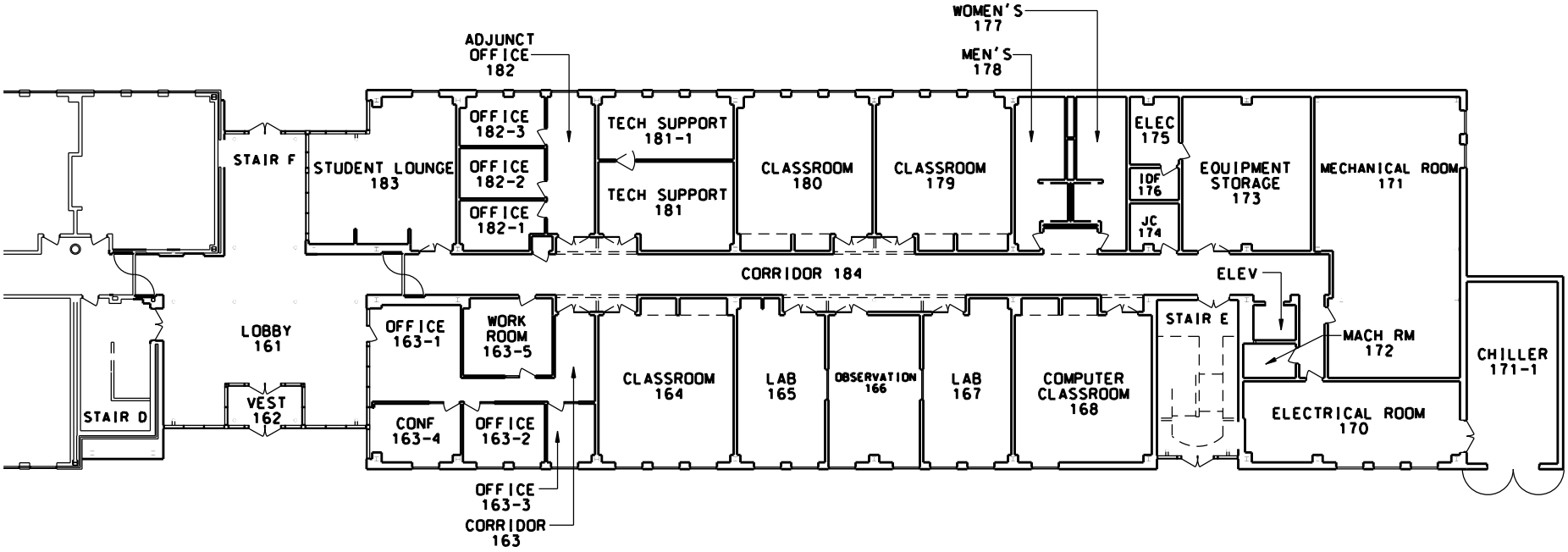
## COMMENTS

### Roof System

- Bondcote single-ply roof installed in 2008. Roof should be scheduled for replacement.

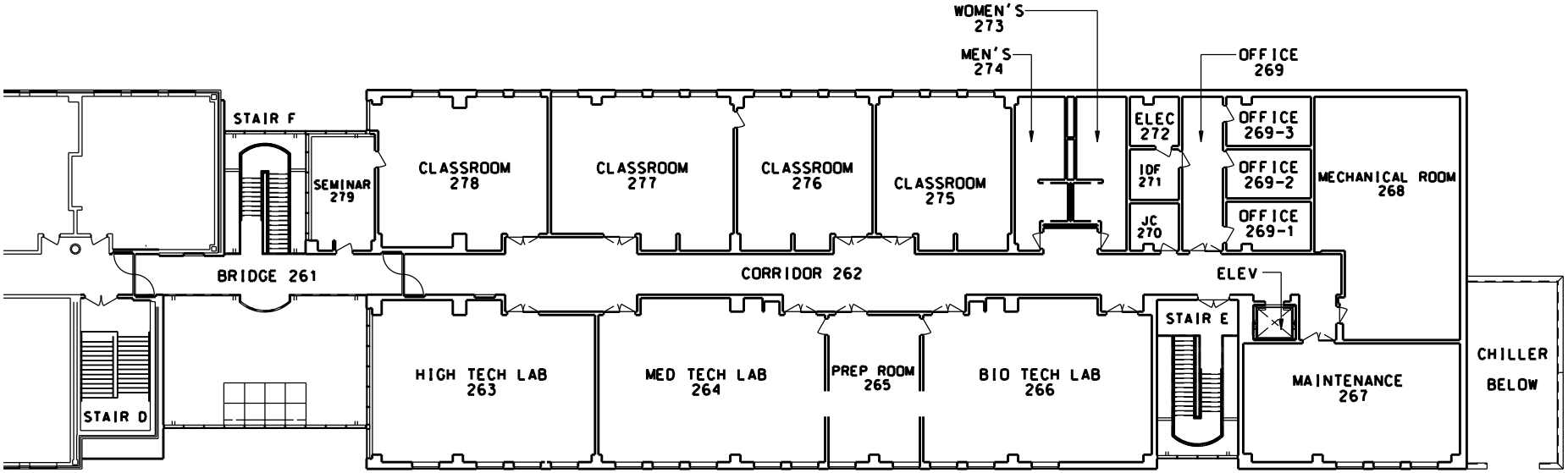
### Temperature Controls

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




# BUILDING "R" 100 LEVEL

NORTH




# BUILDING "R" 200 LEVEL

NORTH

**Building CR**

| No. | Item/Description | Location | Notes | Qty. | Unit | Architectural | | Mechanical | | Electrical | | Construction Cost | Project Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unit Cost | Subtotal | Unit Cost | Subtotal | Unit Cost | Subtotal | | |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | General | Recaulk control joints in brick. | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| 2 | Enclosure System | General | Recaulk louvers. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| 2 | Enclosure System | Roof | Replace roof | 18,240 | SF | $ 14.00 | $ 255,360 | | | | | $ 255,360 | $ 370,272 |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | Main Entrance Lobby | Repair gypsum ceiling at main entry. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| **HVAC System** | | | | | | | | | | | | | |
| 1 | HVAC System | Building | Perform mechanical system retro-commissioning to restore the building mechanical system back to the original design intent and complete an air and water system balance report to identify potential operation issues. | 1 | LS | | | $ 76,780.00 | $ 76,780 | | | $ 76,780 | $ 111,331 |
| 2 | HVAC System | Building | Implementation of the recommendations that come out of retro commissioning activities | 36,478 | SF | | | $ 1.38 | $ 50,340 | | | $ 50,340 | $ 72,992 |
| **Temperature Controls** | | | | | | | | | | | | | |
| 1 | Temperature Controls | Building | Replace existing Desigo (Siemens) BAS controls with new Tridium (Honeywell) system. Commission controls, replace pneumatic operation with electric. Calibrate devices, review sequences of operation, etc. including terminal box controlers | 36,478 | SF | | | $ 10.00 | $ 364,780 | | | $ 364,780 | $ 528,931 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | General | A majority of electrical equipment was missing arc flash labels. It is recommended to provide a power system study and labeling. | 1 | LS | | | | | $ 15,000.00 | $ 15,000 | $ 15,000 | $ 21,750 |
| 2 | Power Systems | General | Per existing labels, testing and maintenance has not been performed on electrical equipment since 2013. | 1 | LS | | | | | $ 20,000.00 | $ 20,000 | $ 20,000 | $ 29,000 |
| 3 | Power Systems | General | Outdoor receptacles do not have in-use covers | 1 | LS | | | | | $ 3,000.00 | $ 3,000 | $ 3,000 | $ 4,350 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | Lighting System | General | Lighting in elec / mech spaces cannot incorporate auto-off controls. Replace local controls | 1 | LS | | | | | $ 300.00 | $ 300 | $ 300 | $ 435 |
| 2 | Lighting System | General | Existing lighting is fluorescent & current controls are not code compliant. Recommended to replace with LED and controls as a part of the next major building renovation. | 36,478 | SF | | | | | $ 15.00 | $ 547,170 | $ 547,170 | $ 793,397 |
| 3 | Lighting System | General | Central inverter unit for emergency lighting did not have operable indicator lights. It is unclear if unit is working properly. Recommend repair or replacement of inverter unit. Cost shown represents replacement. | 1 | LS | | | | | $ 20,000.00 | $ 20,000 | $ 20,000 | $ 29,000 |
| **Code Systems and Barrier Free** | | | | | | | | | | | | | |
| 1 | Code Systems and Barrier Free | General | Install can rail under stairs. | 2 | EA | $ 1,500.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| | | | | | | | **$ 266,860** | | **$ 491,900** | | **$ 605,470** | **$ 1,364,230** | **$ 1,978,133** |

BUILDING CS



**GENERAL OVERVIEW**

Use: Offices and Unassigned

Year Built: 1988

Total Area: 42,055

Floors: 4

5 Year DMB: $2,571,506

CRV: $17,663,100

FCI: 14.56%

**COMMENTS**

**Roof System**

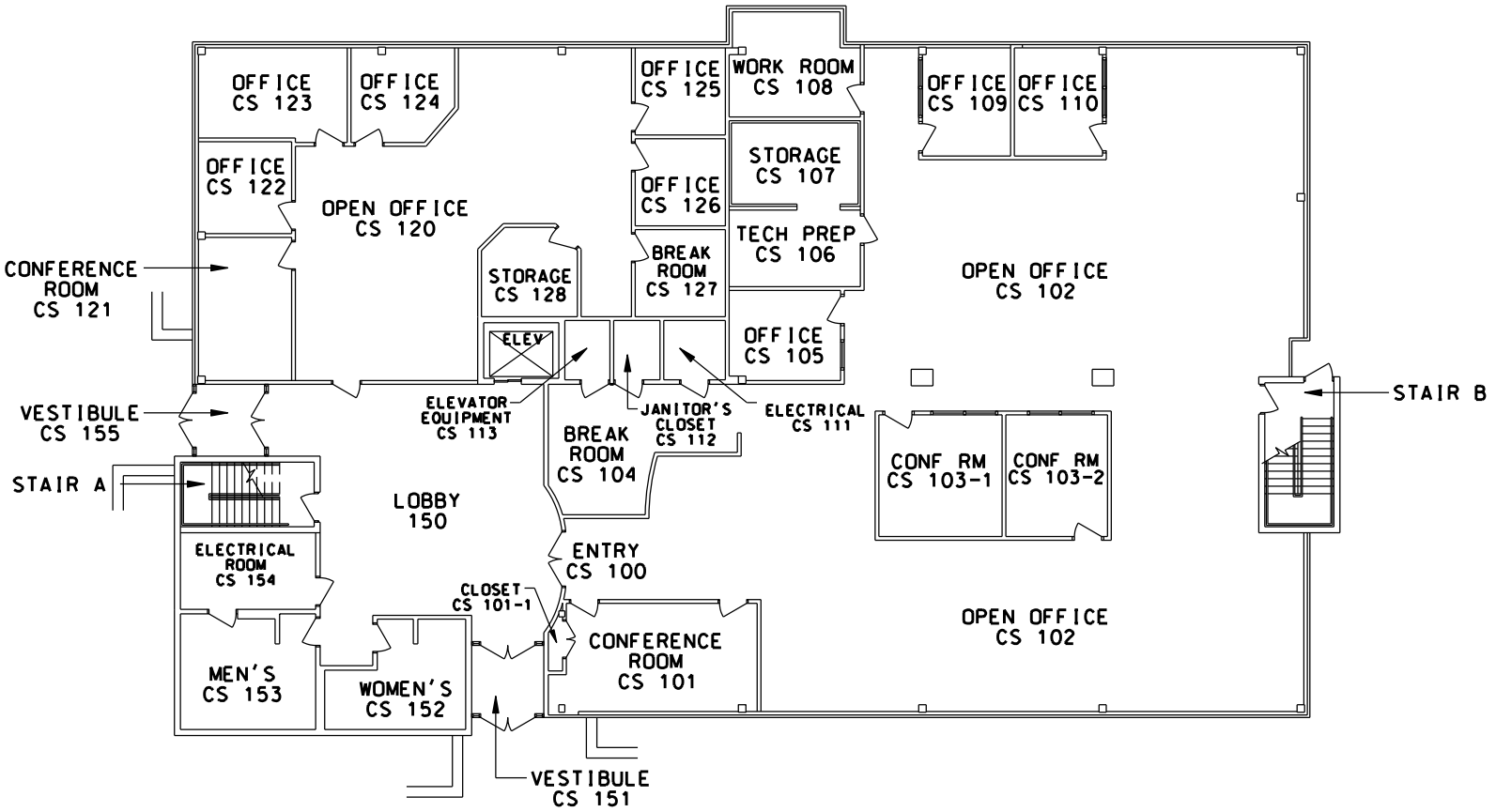
- Roof installed in 2005. Roof should be scheduled for replacement.

**HVAC Systems**

- Existing rooftop HVAC units (2) serving building have exceeded their useful life and should be replaced.

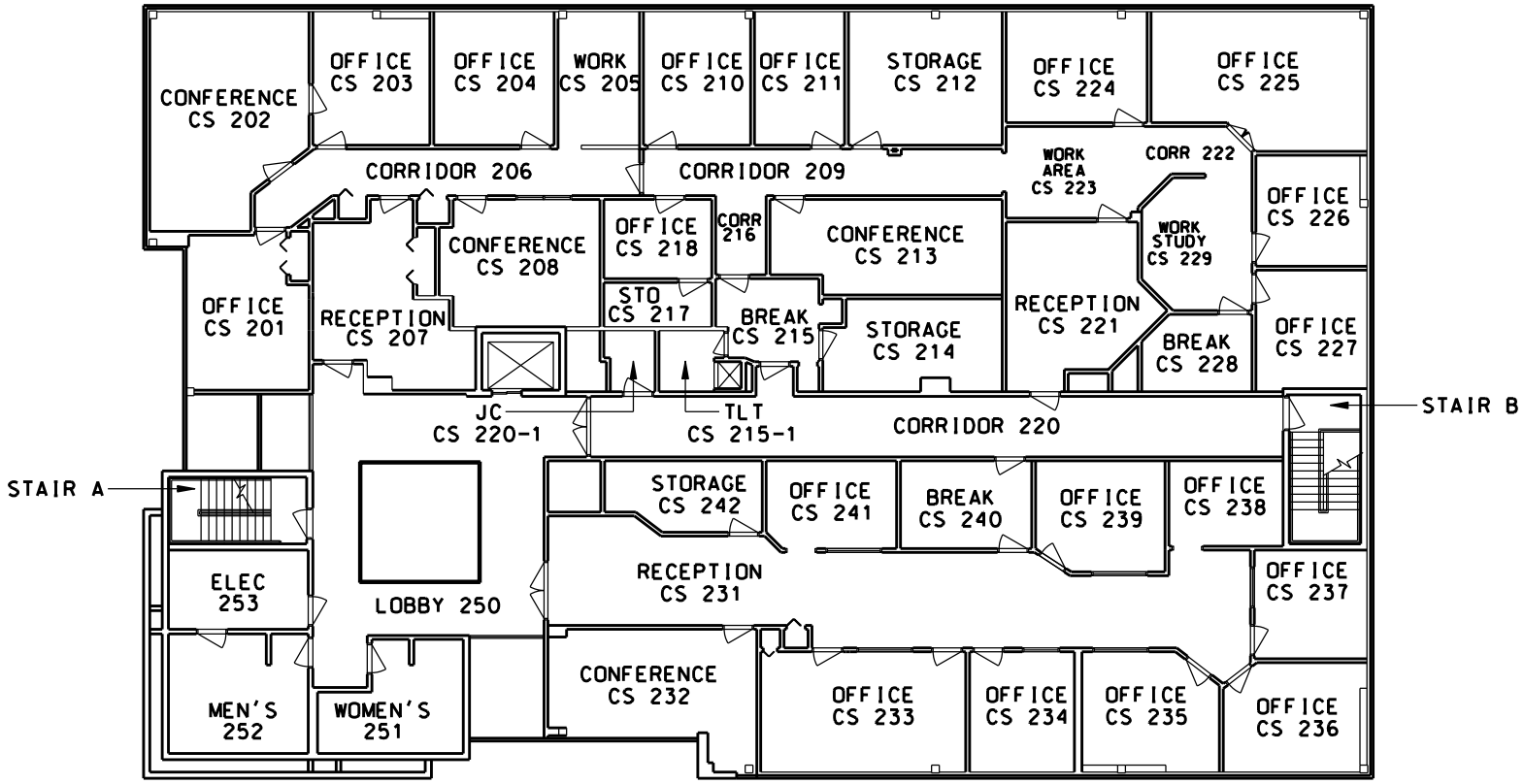
**Lighting System**

- Insufficient lighting (normal and emergency) at upper level. Included in lighting replacement cost in item 1 above.

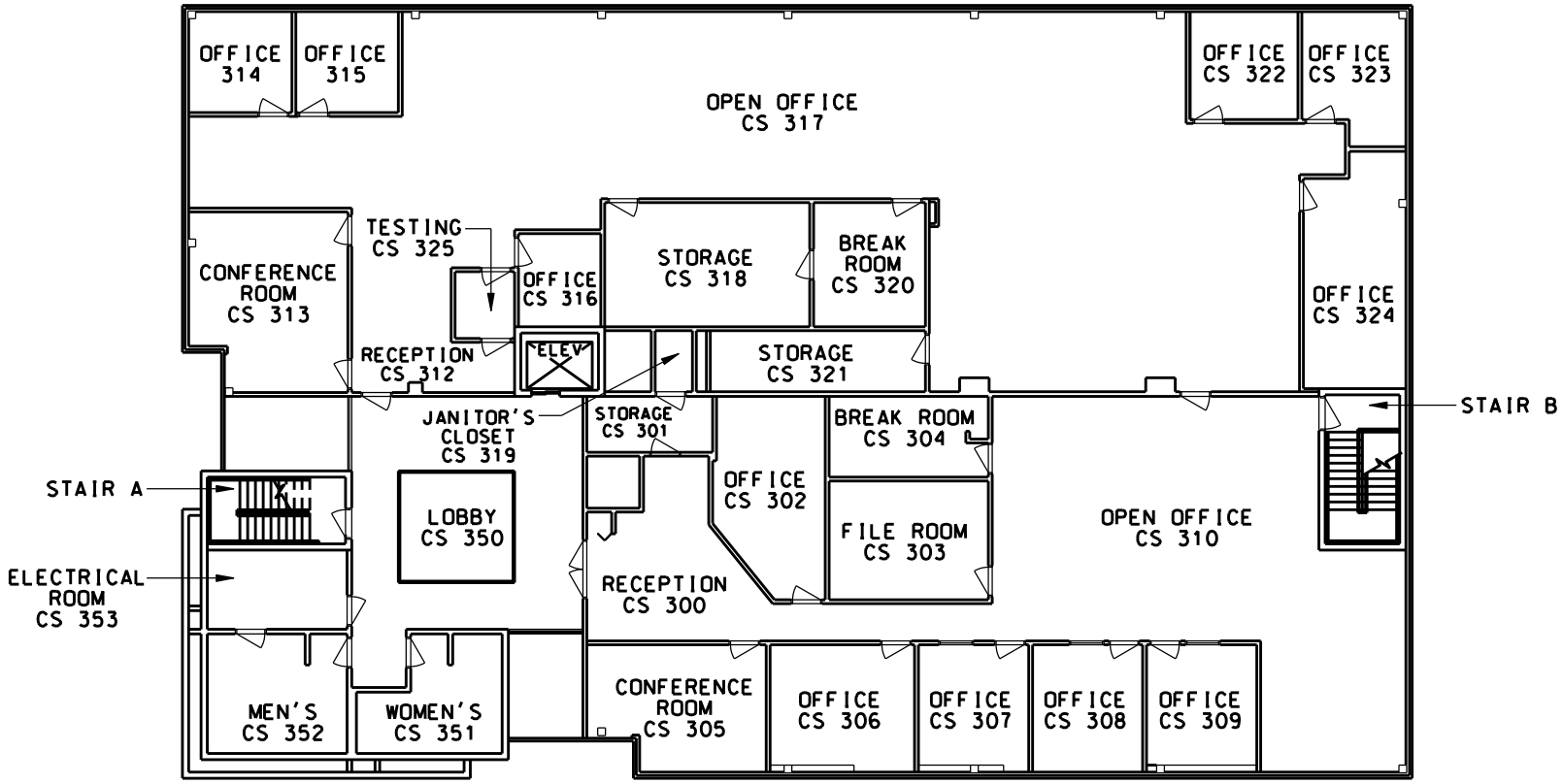



# "CS" BUILDING 100 LEVEL

NORTH

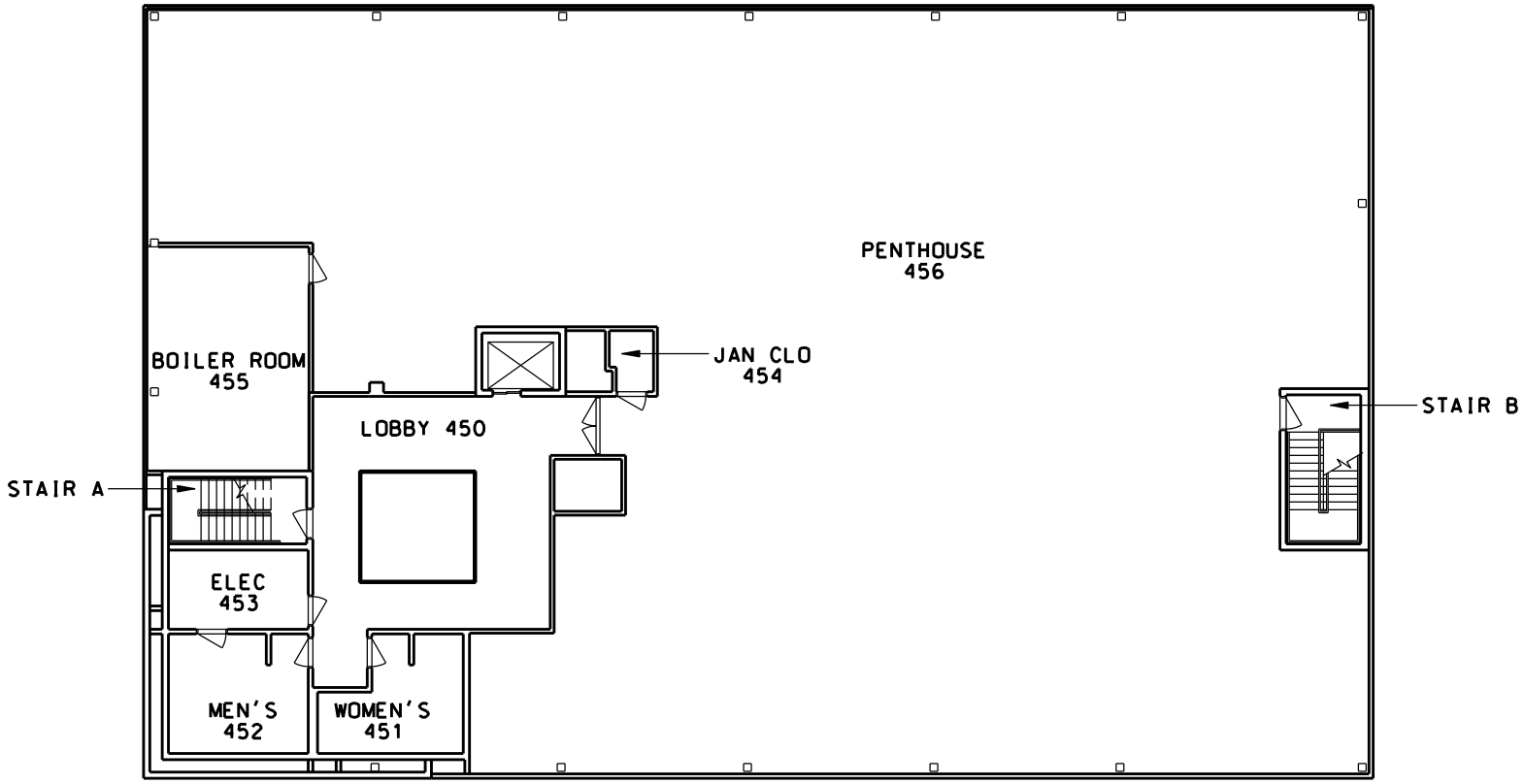



# "CS" BUILDING 200 LEVEL




# "CS" BUILDING 300 LEVEL

NORTH




# "CS" BUILDING 400 LEVEL

**Building CS**

| 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 | Building | Provide overflow drains/ scuppers. | 3 | EA | $ 2,000.00 | $ 6,000 | | | | | $ 6,000 | $ 8,700 |
| 2 | Roof System | Canopies | Rework downspouts to not drain onto sidewalk. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| 3 | Roof System | Roof | Replace roof | 10514 | SF | $ 14.00 | $ 147,196 | | | | | $ 147,196 | $ 213,434 |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | North and West Elevations | Repair wall at grade below windows on north and west elevations. | 1 | LS | $ 8,000.00 | $ 8,000 | | | | | $ 8,000 | $ 11,600 |
| 2 | Enclosure System | Throughout | Clean metal panels. | 1 | LS | $ 10,000.00 | $ 10,000 | | | | | $ 10,000 | $ 14,500 |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | Lobby | Repair vinyl wall finish in lobby - all levels. | 1 | LS | $ 2,500.00 | $ 2,500 | | | | | $ 2,500 | $ 3,625 |
| **HVAC System** | | | | | | | | | | | | | |
| 1 | HVAC System | Boiler Room 445 | The boiler room is not ventilated to remove the heat generated by the boilers. | 1 | LS | | | $ 18,150.00 | $ 18,150 | | | $ 18,150 | $ 26,318 |
| 2 | HVAC System | Building | The piping system is not completely labels. Label the piping. | 42,055 | SF | | | $ 0.15 | $ 6,308 | | | $ 6,308 | $ 9,147 |
| 3 | HVAC System | Roof | Repalce two RTU's with new. | 2 | EA | $ 3,000.00 | $ 6,000 | $ 190,000.00 | $ 380,000 | $ 3,000.00 | $ 6,000 | $ 392,000 | $ 568,400 |
| **Plumbing System** | | | | | | | | | | | | | |
| 1 | Plumbing System | Building | Portion of the domestic cold water distribution piping are galvanized steel. Due to it's age the piping is showing signs of deterioration and should be replaced. | 100 | LF | | | $ 55.00 | $ 5,500 | | | $ 5,500 | $ 7,975 |
| 2 | Plumbing System | Building | Portion of the cold and hot water piping have missing and damages insulation. The insulation should be replaced. | 42,055 | SF | | | $ 0.06 | $ 2,523 | | | $ 2,523 | $ 3,659 |
| **Temperature Controls** | | | | | | | | | | | | | |
| 1 | Temperature Controls | Building | Update and commission controls, replace pneumatic operation with electric. Calibrate devices, review sequences of operation, etc. Provide battery backup on central temperature controls panel. | 42,055 | SF | | | $ 10.00 | $ 420,550 | | | $ 420,550 | $ 609,798 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | 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 provide power system study and labeling. | 1 | LS | | | | | $ 15,000.00 | $ 15,000 | $ 15,000 | $ 21,750 |
| 2 | Power Systems | General | No signs of electrical equipment maintenance or testing. Given the age of the existing equipment, electrical testing is recommended. | 1 | LS | | | | | $ 20,000.00 | $ 20,000 | $ 20,000 | $ 29,000 |
| 3 | Power Systems | Roof | Existing natural gas generator is 18 years old and is approaching end of useful expected life. Recommend replacement within next 2-5 years. | 1 | EA | | | | | $ 70,000.00 | $ 70,000 | $ 70,000 | $ 101,500 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | Lighting System | General | Majority of existing lighting is fluorescent & current controls are not code compliant. Recommended to replace with LED and controls as a part of the next major building renovation. | 42,055 | SF | | | | | $ 15.00 | $ 630,825 | $ 630,825 | $ 914,696 |
| **Code Systems and Barrier Free** | | | | | | | | | | | | | |
| 1 | Code Systems and Barrier Free | Toilet Rooms | Barrier Free water closets are not current code complient. | 1 | LS | $ 15,000.00 | $ 15,000 | | | | | $ 15,000 | $ 21,750 |
| 2 | Code Systems and Barrier Free | Toilet Rooms | Install pipe protection below lavatories and sinks. | 12 | EA | $ 200.00 | $ 2,400 | | | | | $ 2,400 | $ 3,480 |
| | | | | | | | **$ 198,596** | | **$ 833,032** | | **$ 741,825** | **$ 1,773,453** | **$ 2,571,506** |

BUILDING UC-1



## GENERAL OVERVIEW

Use: Classrooms, Conference and Offices

Year Built: 1991

Total Area: 88,768 SF

Floors: 2

5 Year DMB: $5,134,806

CRV: $37,016,256

FCI: 13.87%

## COMMENTS

### Roof System

- Firestone EPDM roof installed in 2014.
- Roof warranty expires in 2029.

### Roof System (Addition)

- Firestone EPDM roof installed in 2019.
- Roof warranty expires in 2034.

### HVAC System

- Air handling units, boilers and pumps replaced summer 2014.
- Two original Mammoth rooftop air handling units (DX cooling with gas heat) are currently in design stage of replacement. Associated replacement costs are not included within this report but called out for informational purposes ($750,800).
- Cooling towers replacement is currently in design phase. Estimated replacement cost is indicated for informational purposes ($194,000).

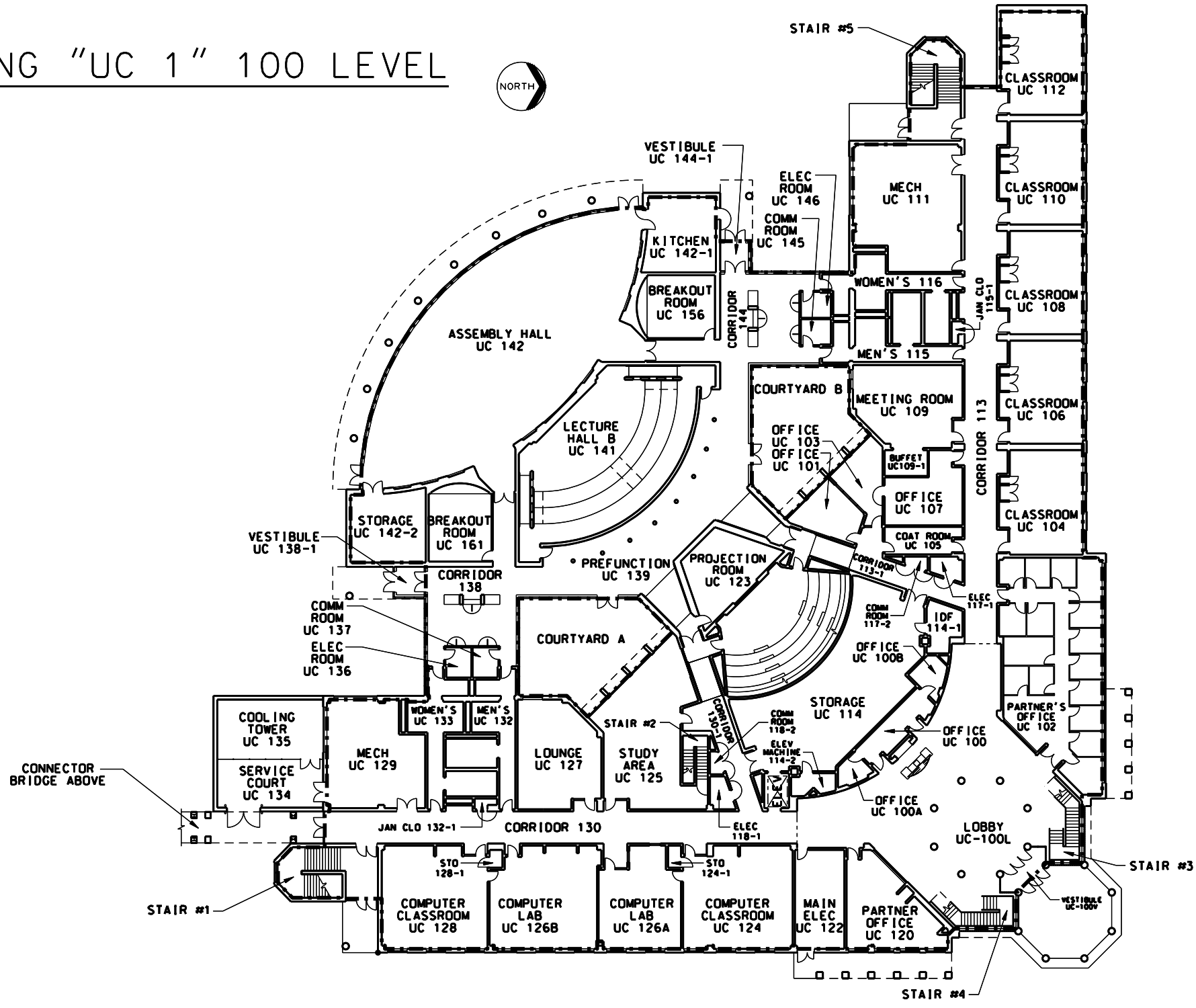
### Temperature Controls

- Building is served by both Tridium (Honeywell) and Continuum (Andover) controls. Remove the Andover portion and replace with Tridium.

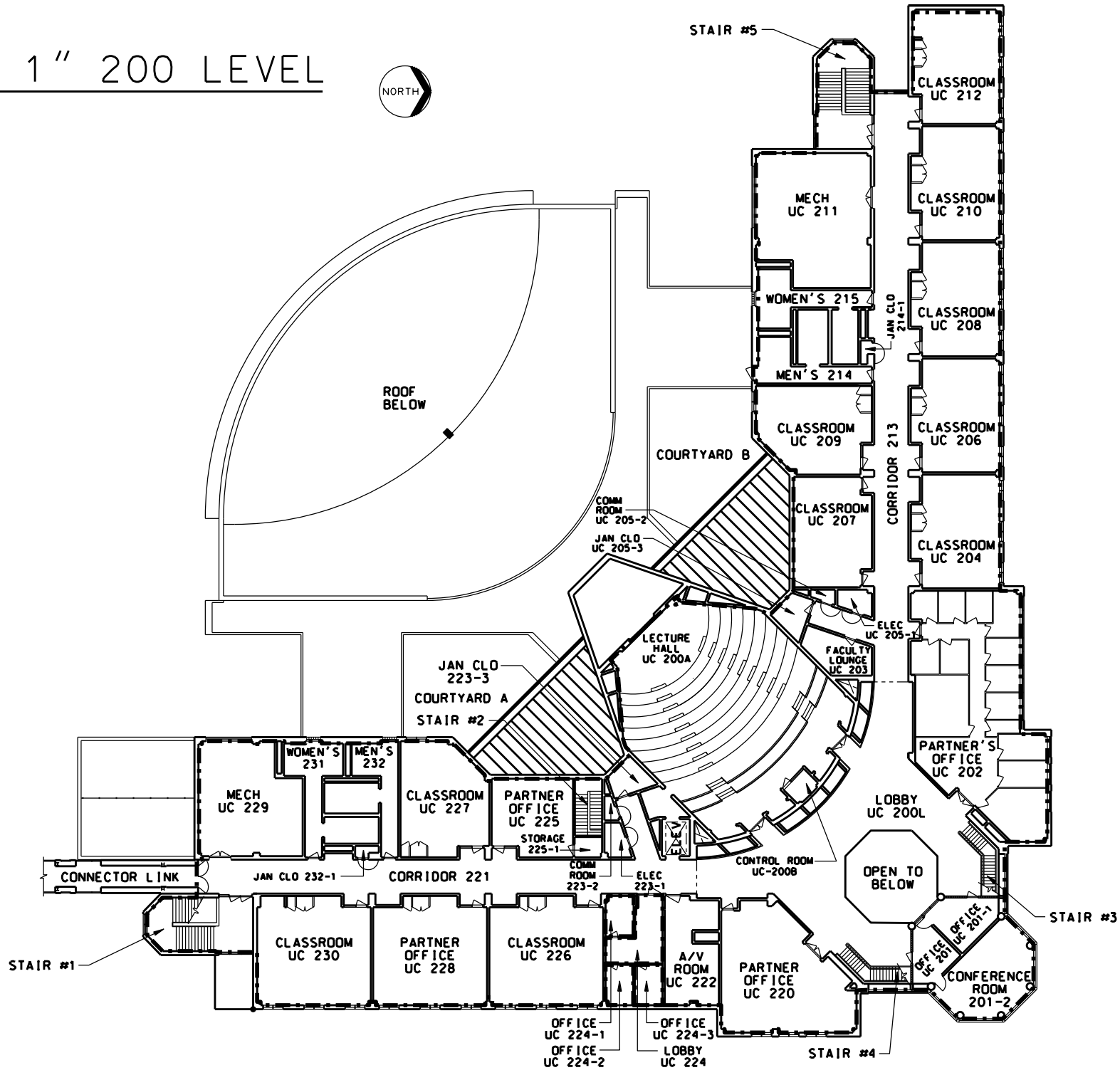


Existing Substation

# BUILDING "UC 1" 100 LEVEL



# BUILDING "UC 1" 200 LEVEL



**University Center 1**

| No. | Item/Description | Location | Notes | Qty. | Unit | Architectural | | Mechanical | | Electrical | | Construction Cost | Project Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Unit Cost | Subtotal | Unit Cost | Subtotal | Unit Cost | Subtotal | | |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | Southwest Elevation | Recaulk control joints in granite base at Hall/ Dining. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| 2 | Enclosure System | Southwest Elevation | Seal gaps in soffit at Hall/ Dining. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| 3 | Enclosure System | East Elevation | Repair soffit at South entrance - east elevation. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| 4 | Enclosure System | Throughout | Recaulk control joints in brick. | 1 | LS | $ 7,000.00 | $ 7,000 | | | | | $ 7,000 | $ 10,150 |
| 5 | Enclosure System | Throughout | Clean limestone. | 1 | LS | | $ - | | | | | $ - | $ - |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | General | Refinish soffit at entry vestibule in Lobby. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| 2 | Finish System | General | Refinish floor in Mechanical Room UC 129. | 1 | LS | $ 5,000.00 | $ 5,000 | | | | | $ 5,000 | $ 7,250 |
| 3 | Finish System | General | Refinish perimeter soffit at Hall/ Dining UC 142. | 1 | LS | $ 3,000.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| 4 | Finish System | General | Recaulk windows in East facing offices on second floor. | 9 | EA | $ 150.00 | $ 1,350 | | | | | $ 1,350 | $ 1,958 |
| **Plumbing System** | | | | | | | | | | | | | |
| 1 | Plumbing System | Building | Portion of the domestic cold water distribution piping are galvanized steel. Due to it's age the piping is showing signs of deterioration and should be replaced. | 600 | SF | | | $ 55.00 | $ 33,000 | | | $ 33,000 | $ 47,850 |
| 2 | Plumbing System | Building | Portion of the cold and hot water piping have missing and damages insulation. The insulation should be replaced. | 88,768 | SF | | | $ 0.77 | $ 68,351 | | | $ 68,351 | $ 99,109 |
| 3 | Plumbing System | Building | Replace domestic gas fired water heaters. | 3 | EA | | | $ 2,000.00 | $ 6,000 | | | $ 6,000 | $ 8,700 |
| **Temperature Controls** | | | | | | | | | | | | | |
| 1 | Temperature Controls | Building | Building is served by both Tridium (Honeywell) and Continuum (Andover) controls. Remove the Andover portion and replace with Tridium (50% assumed). | 44,000 | SF | | | $ 10.00 | $ 440,000 | | | $ 440,000 | $ 638,000 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | General | A majority of electrical distribution equipment is 30 years of age and is nearing end of expected useful life. Replacement is recommended in next major renovation. | 88,768 | SF | | | | | $ 18.00 | $ 1,597,824 | $ 1,597,824 | $ 2,316,845 |
| 2 | Power Systems | General | As an alternative to item 1 above, building-wide electrical testing and maintenance is recommended to identify potential issues with any older equipment. Labeling indicates testing and maintenance has not been performed since 2013. | 1 | LS | | | | | $ 28,000.00 | $ 28,000 | $ 28,000 | $ 40,600 |
| 3 | Power Systems | UC1-123 Projection Room | Emergency lighting inverter for lecture hall lighting appears operational, but is indicating 1 alarm status at time of site visit. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 1,000.00 | $ 1,000 | $ 1,000 | $ 1,450 |
| 4 | 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 | | | | | $ 8,000.00 | $ 8,000 | $ 8,000 | $ 11,600 |
| 5 | Power Systems | Roof | It appears the existing lightning protection system was removed from the roof as part of a previous renovation. Air terminals were noticed to be remaining on some portions of the roof and HVAC equipment. The lightning protection should be removed in its entireity. A partially installed lightning protection system can negatively impact the possible damage caused by a lightning strike. | 5 | EA | | | | | $ 200.00 | $ 1,000 | $ 1,000 | $ 1,450 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | Lighting System | General | Lighting and controls were upgraded in 2014 with LED downlights and new fluorescent lamps in general lighting fixtures. Within the next renovation, new LED lighting and controls should be included to meet current Ashrae standards. | 88,768 | SF | | | | | $ 15.00 | $ 1,331,520 | $ 1,331,520 | $ 1,930,704 |
| 2 | Lighting System | UC1-125 Study Area | Light switch in this space was audibly arcing when operated. Light switches indicating this level of deterioration should be replaced as soon as possible. | 1 | LS | | | | | $ 200.00 | $ 200 | $ 200 | $ 290 |
| **Code Systems and Barrier Free** | | | | | | | | | | | | | |
| 1 | Code Systems and Barrier Free | Lobby | Install cane rail at underside of stairs in Lobby | 2 | EA | $ 1,500.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| 2 | Code Systems and Barrier Free | Second Floor | Seal floor penetrations in IDF/ IT closets | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| | | | | | | | **$ 26,350** | | **$ 547,351** | | **$ 2,967,544** | **$ 3,541,245** | **$ 5,134,806** |

BUILDING UC-2



## GENERAL OVERVIEW

Use: Classrooms, Labs and Offices

Year Built: 1999

Total Area: 52,290 SF

Floors: 2

5 Year DMB: $6,745,226

CRV: $23,394,310

FCI: 28.83%

## COMMENTS

### Roof System

- Single-ply roof installed in 1999. Roof warranty expired in 2014. Roof should be scheduled for replacement.

### Connector Bridge

- Bridge enclosure system, including roof, windows and panels, leaks and should be replaced.

### HVAC Systems

- Building HVAC systems should be retro-commissioned.

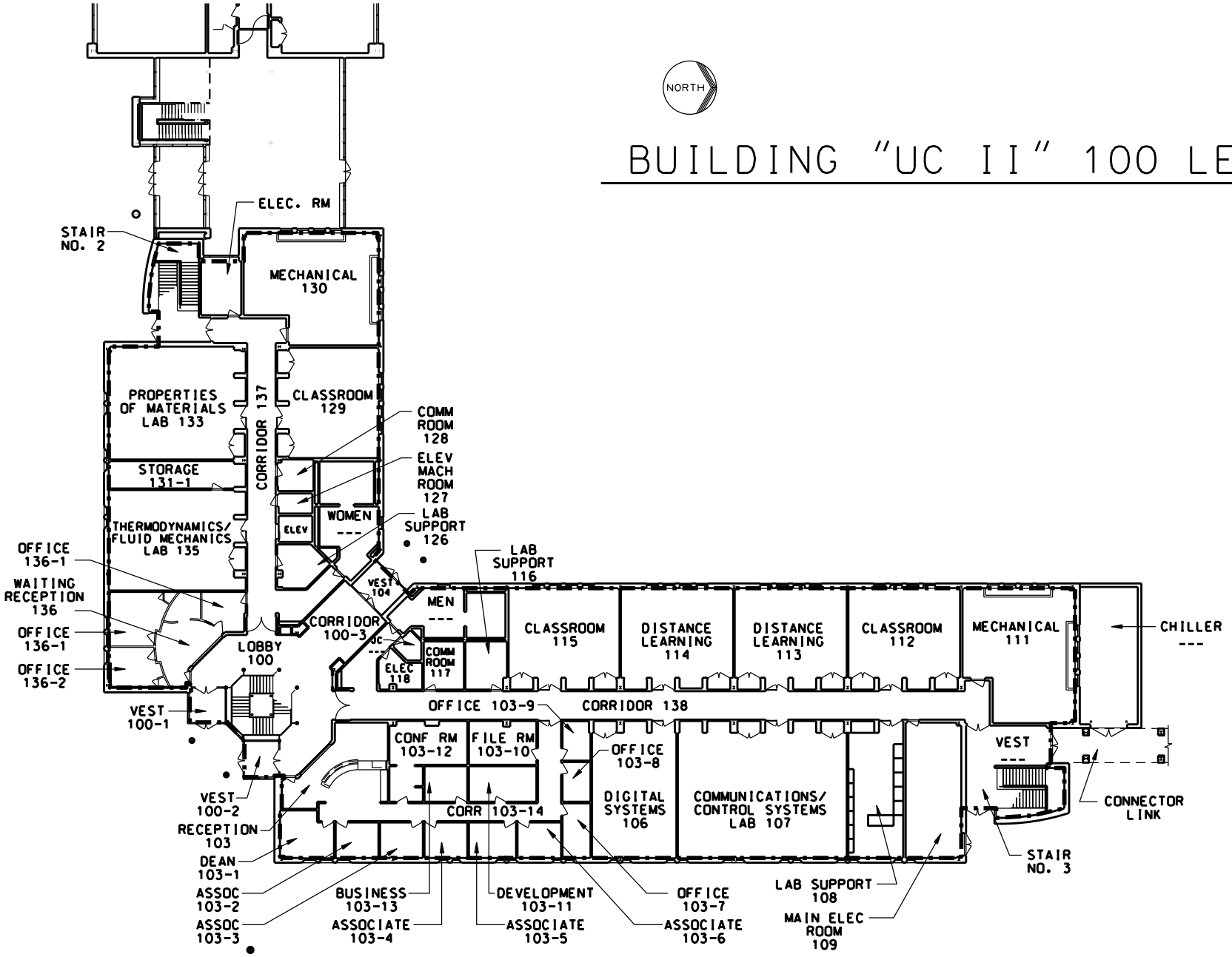
### Temperature Controls

- Building is served by both Tridium (Honeywell) and Desigo (Siemens) controls. Remove the Desigo portion and replace with Tridium.

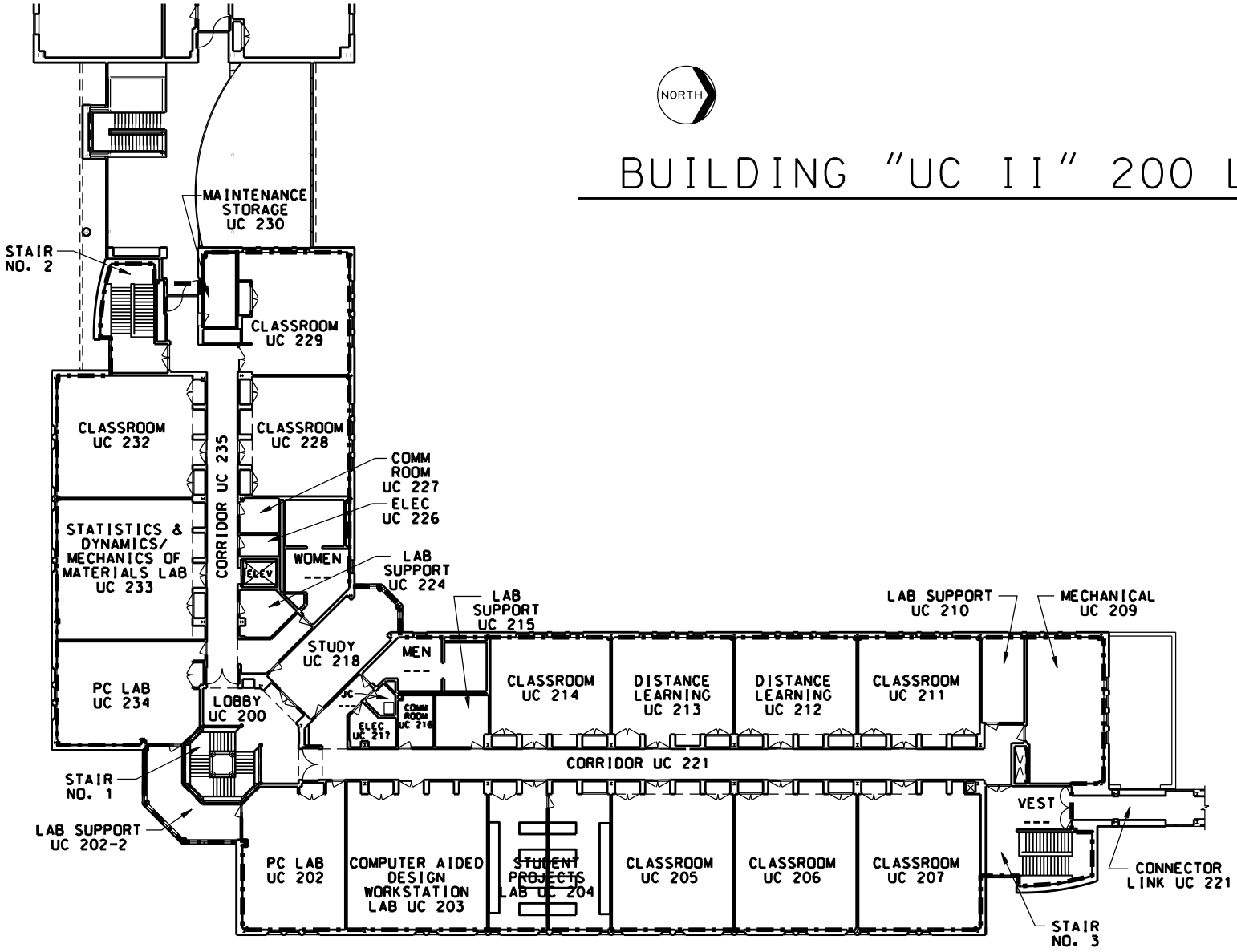



Existing Substation

# BUILDING "UC II" 100 LEVEL



# BUILDING "UC II" 200 LEVEL



**University Center 2**

| 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 | Above Lobby | Re-seal Kal wall system. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| 2 | Roof System | Roof | Re-paint gas piping. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| 2 | Roof System | Roof | Repalce roof | 26645 | SF | $ 14.00 | $ 373,030 | | | | | $ 373,030 | $ 540,894 |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | Electrical Room | Replace door frame at electrical room. | 1 | LS | $ 2,500.00 | $ 2,500 | | | | | $ 2,500 | $ 3,625 |
| 2 | Enclosure System | Bridge | Replace exterior finishes including roof and windows. | 1 | LS | $240,000.00 | $ 240,000 | | | | | $ 240,000 | $ 348,000 |
| 3 | Enclosure System | Mechanical Louvers | Clean stained limestone at mechancial louvers. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | Office Suite 136 | Repair vinyl wall covering. | 1 | LS | $ 500.00 | $ 500 | | | | | $ 500 | $ 725 |
| **HVAC System** | | | | | | | | | | | | | |
| 1 | HVAC System | Building | Perform mechanical system retro-commissioning to restore the building mechanical system back to the original design intent and complete an air and water system balance report to identify potential operation issues. | 1 | LS | | | $ 89,980.00 | $ 89,980 | | | $ 89,980 | $ 130,471 |
| 2 | HVAC System | Building | Implementation of the recommendations that come out of retro-commissioning activities. | 53,290 | SF | | | $ 30.00 | $ 1,598,700 | | | $ 1,598,700 | $ 2,318,115 |
| **Temperature Controls** | | | | | | | | | | | | | |
| 1 | Temperature Controls | Building | Building is served by both Tridium (Honeywell) and Desigo (Siemens) controls. Remove the Desigo portion and replace with Tridium. Commission conrols, replace pneumatic operation with electric, calibrate devices, review sequences of operation, etc. | 53,290 | SF | | | $ 10.00 | $ 532,900 | | | $ 532,900 | $ 772,705 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | General | A majority of electrical distribution equipment is 23 years of age and is nearing end of expected useful life. Replacement is recommended in next major renovation. | 53,290 | SF | | | | | $ 18.00 | $ 959,220 | $ 959,220 | $ 1,390,869 |
| 2 | Power Systems | General | As an alternative to item 1 above, building-wide electrical testing and maintenance is recommended to identify potential issues with any older equipment. Labeling indicates testing and maintenance has not been performed since 2013. | 1 | LS | | | | | $ 28,000.00 | $ 28,000 | $ 28,000 | $ 40,600 |
| 3 | Power Systems | General | A majority of electrical equipment was missing arc flash labels. It is recommended to provide a power system study and labeling. | 1 | LS | | | | | $ 21,000.00 | $ 21,000 | $ 21,000 | $ 30,450 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | 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. Includes 'UC connector' square footage. | 53,290 | SF | | | | | $ 15.00 | $ 799,350 | $ 799,350 | $ 1,159,058 |
| **Code Systems and Barrier Free** | | | | | | | | | | | | | |
| 1 | Code Systems and Barrier Free | General | Install pipe protection below lavatories and sinks. | 16 | EA | $ 200.00 | $ 3,200 | | $ - | | $ - | $ 3,200 | $ 4,640 |
| | | | | | | | **$ 622,730** | | **$ 2,221,580** | | **$ 1,807,570** | **$ 4,651,880** | **$ 6,745,226** |

BUILDING UC-3



**GENERAL OVERVIEW**

Use: Classrooms and Lab

Year Built: 2007

Total Area: 36,718

Floors: 2

5 Year DMB: $1,777,048

CRV: $16,816,844

FCI: 10.57%

**COMMENTS**

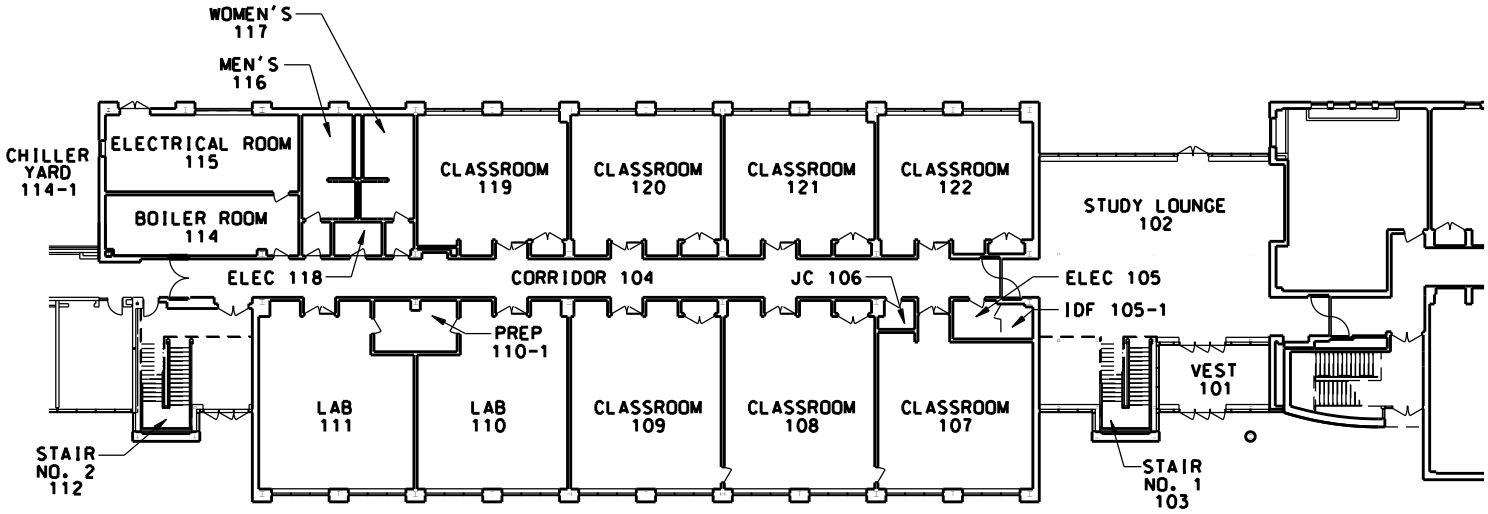
**Roof System**

- Duro-Last single-ply roof installed in 2007. Roof warranty expired in 2022. Roof should be scheduled for replacement.

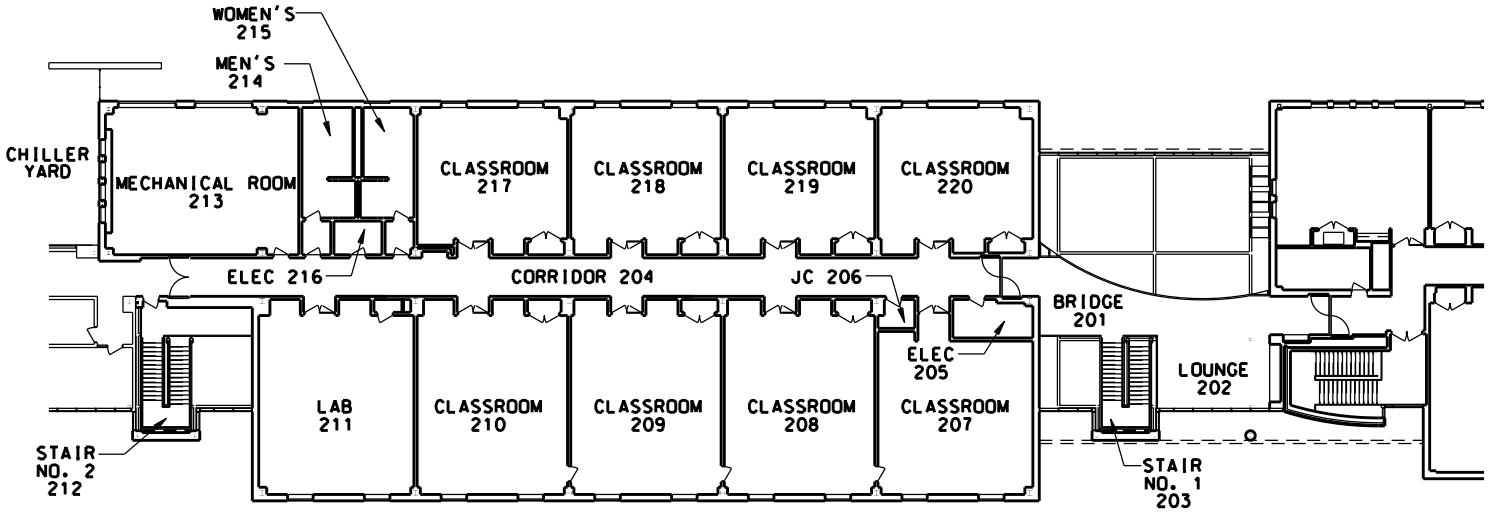
**Temperature Controls**

- Building Siemens Desigo controls should be upgraded to Tridium.

# BUILDING "UC III" 100 LEVEL



# BUILDING "UC III" 200 LEVEL



**University Center 3**

| 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 | Roof | Repair roof leak at main entry. | 1 | LS | $ 3,000.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| 2 | Roof System | Roof | Re-paint gas piping. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| 3 | Roof System | Roof | Repalce roof | 18400 | SF | $ 14.00 | $ 257,600 | | | | | $ 257,600 | $ 373,520 |
| **Enclosure System** | | | | | | | | | | | | | |
| 1 | Enclosure System | Several Locations | Missing or loose mullion caps. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| 2 | Enclosure System | Throughout | Reseal joints in limestone base. | 1 | LS | $ 2,000.00 | $ 2,000 | | | | | $ 2,000 | $ 2,900 |
| 3 | Enclosure System | Throughout | Reseal control joints in brick. | 1 | LS | $ 3,000.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| **Finish System** | | | | | | | | | | | | | |
| 1 | Finish System | Second Level | Repair gypsum soffit at main entry. | 1 | LS | $ 1,500.00 | $ 1,500 | | | | | $ 1,500 | $ 2,175 |
| 2 | Finish System | Second Level | Replace damaged ceiling tiles at main entry. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| 3 | Finish System | Second Level | Repair wall damage at fire doors to UC-2 - second level. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| **Fixed Equipment** | | | | | | | | | | | | | |
| 1 | Fixed Equipment | General | Install cane rail under stairs. | 2 | EA | $ 1,500.00 | $ 3,000 | | | | | $ 3,000 | $ 4,350 |
| **Temperature Controls** | | | | | | | | | | | | | |
| 1 | Temperature Controls | Building | Repalce existing Siemens Desigo control system with Tridium | 36718 | SF | | | $ 10.00 | $ 367,180 | | | $ 367,180 | $ 532,411 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | General | NFPA 70E requires updating arc flash studies at an interval not to exceed 5 years. The existing labeling is not dated however appears to be original. It is recommended to update the building-wide power systems study. | 1 | LS | | | | | $ 8,000.00 | $ 8,000 | $ 8,000 | $ 11,600 |
| 2 | Power Systems | General | No signs of electrical equipment maintenance or testing since original installation in ~2007. Electrical testing and maintenance is recommended. | 1 | LS | | | | | $ 20,000.00 | $ 20,000 | $ 20,000 | $ 29,000 |
| **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. | 36,718 | SF | | | | | $ 15.00 | $ 550,770 | $ 550,770 | $ 798,617 |
| 2 | Lighting System | Various | Multiple utility spaces contained emergency battery unit light fixtures that were broken or had battery error lights on. Immediate replacement of damaged and inoperable emergency lights is recommended. | 1 | LS | | | | | $ 5,000.00 | $ 5,000 | $ 5,000 | $ 7,250 |
| | | | | | | $ 274,600 | | $ 367,180 | | $ 583,770 | | $ 1,225,550 | $ 1,777,048 |

BUILDING UC-4



## GENERAL OVERVIEW

Use: Classrooms and Lab

Year Built: 2008

Total Area: 25,444 SF

Floors: 2

5 Year DMB: $1,123,976

CRV: $13,103,660

FCI: 8.58%

## COMMENTS

### Roof System

- Duro-Last single-ply roof installed in 2009. Roof should be scheduled for replacement.

### HVAC Systems

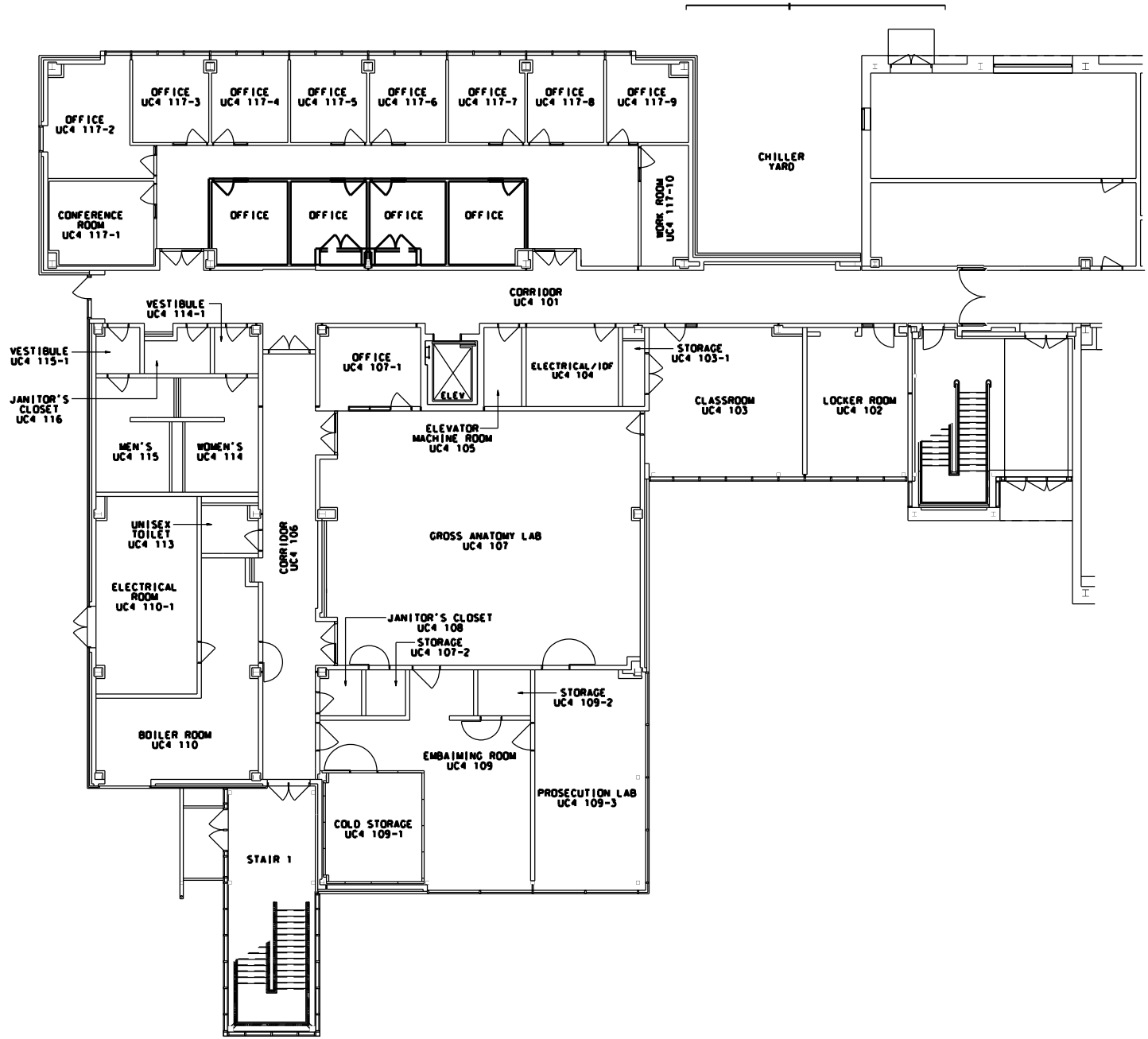
- Existing rooftop HVAC unit should be scheduled for replacement.

### Temperature Controls

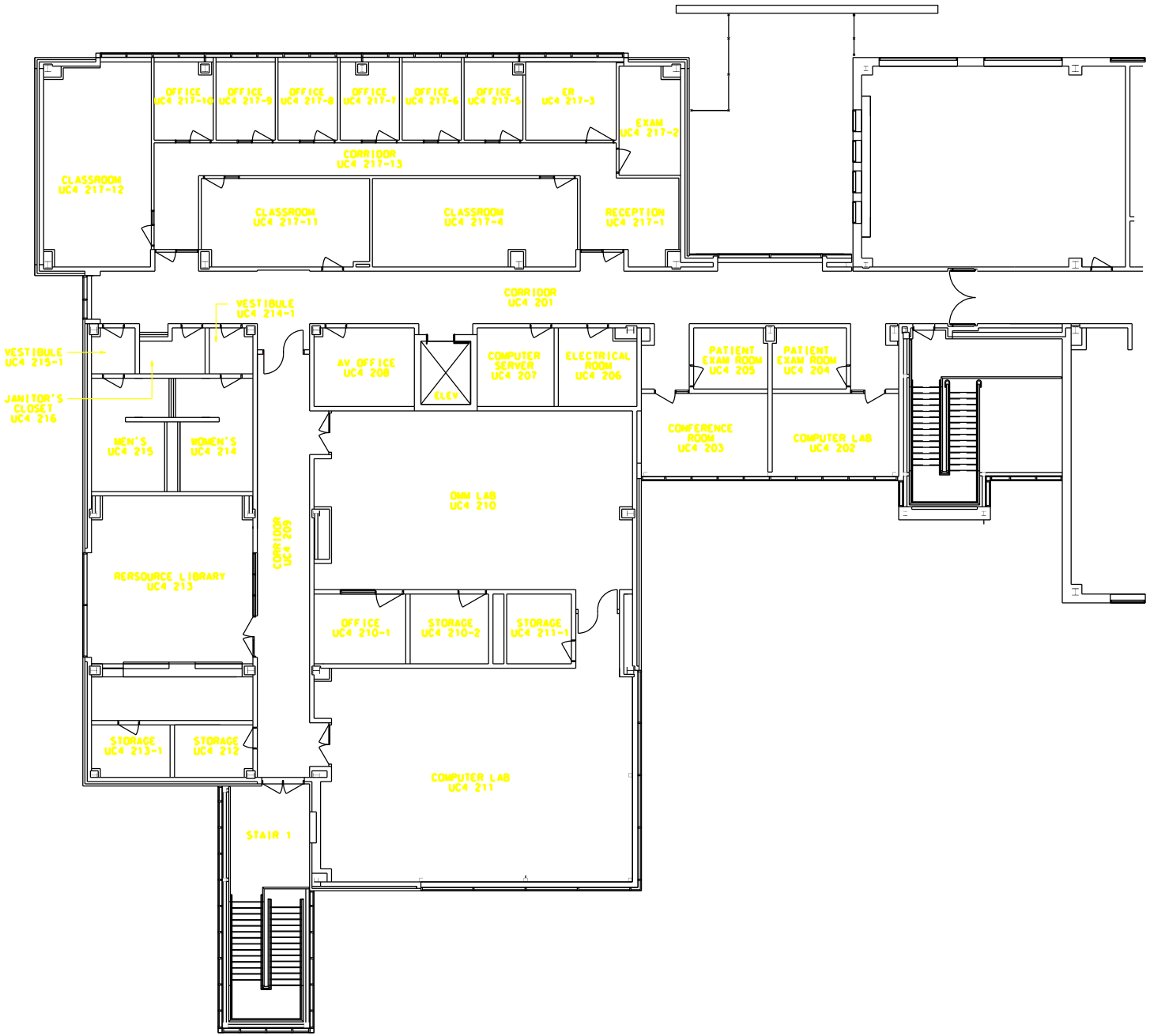
- Building is served by both Tridium (Honeywell) and Desigo (Siemens) controls. Remove the Desigo portion and replace with Tridium.

### Power Systems

- Electrical equipment was upgraded in 2009 and is good condition.




# BUILDING "UC 4" 100 LEVEL




# BUILDING "UC 4" 200 LEVEL

**University Center 4**

| 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 | Roof | Repaint gas piping. | 1 | LS | $ 1,000.00 | $ 1,000 | | | | | $ 1,000 | $ 1,450 |
| 2 | Roof System | Roof | Replace roof | 12730 | SF | $ 14.00 | $ 178,220 | | | | | $ 178,220 | $ 258,419 |
| **HVAC Systems** | | | | | | | | | | | | | |
| 1 | HVAC System | Building | Building is served by both Tridium (Honeywell) and Desigo (Siemens) controls. Remove the Desigo portion and replace with Tridium. | 1 | LS | $ 3,000.00 | $ 3,000 | $ 80,000.00 | $ 80,000 | $ 3,000.00 | $ 3,000 | $ 86,000 | $ 124,700 |
| **Plumbing System** | | | | | | | | | | | | | |
| 1 | Plumbing System | Building | Investigate source of water leak near domestic water heater DWH-4and repair. | 1 | LS | | | $ 500.00 | $ 500 | | | $ 500 | $ 725 |
| 2 | Plumbing System | Building | Investigate cause of excessive natural gas order at building exterior service entrance gas pressure regulators and repair. | 1 | LS | | | $ 500.00 | $ 500 | | | $ 500 | $ 725 |
| **Temperature Controls** | | | | | | | | | | | | | |
| 1 | Temperature Controls | Building | Building is served by both Tridium (Honeywell) and Desigo (Siemens) controls. Remove the Desigo portion and replace with Tridium. | 25,444 | SF | | | $ 4.00 | $ 101,776 | | | $ 101,776 | $ 147,575 |
| **Power Systems** | | | | | | | | | | | | | |
| 1 | Power Systems | General | A majority of electrical equipment was missing arc flash labels. It is recommended to provide a power system study and labeling. | 1 | LS | | | | | $ 8,000.00 | $ 8,000 | $ 8,000 | $ 11,600 |
| 2 | Power Systems | General | Electrical equipment had no indication of maintenance or testing since original installation in 2009. Testing / maintenance is recommended at regular intervals. | 1 | LS | | | | | $ 10,000.00 | $ 10,000 | $ 10,000 | $ 14,500 |
| 3 | Power Systems | Generator Yard | 300kW Natural Gas Generator installed in 2015. Testing / maintenance is recommended at regular intervals. Note: The existing generator provides back up power to substation UC-4, via 800A automatic transfer switch. The generator will not be permitted to also serve future life safety loads without distribution system modifications. | 1 | LS | | | | | $ 7,500.00 | $ 7,500 | $ 7,500 | $ 10,875 |
| **Lighting System** | | | | | | | | | | | | | |
| 1 | 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. | 25,444 | SF | | | | | $ 15.00 | $ 381,660 | $ 381,660 | $ 553,407 |
| | | | | | | | **$ 182,220** | | **$ 182,776** | | **$ 410,160** | **$ 775,156** | **$ 1,123,976** |