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MACOMB COMMUNITY COLLEGE
SOUTH CAMPUS

FACILITIES ASSESSMENT AND DEFERRED MAINTENANCE CAPITAL PLANNING REPORT

IDS Project No. 21195-4000

November 2023

IDS

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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 South 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 $37,791,054. Category deficiencies breakdown in the following manner: architectural items $2,650,412 (includes code related items), mechanical items $19,514,609 and electrical items $15,626,034. 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 SA (Power House)	$ 5,791,432
Building SB (Classrooms, Labs, Offices)	$ 26,100
Building SC (Classrooms)	$ 908,135
Building SE (Classrooms)	$ 172,550
Building SF (Classrooms)	$ 107,300
Building SG (Student Services)	$ 50,750
Building SJ (Classrooms, Library, Offices)	$ 925,029
Building SK (Student Services, Conference, Dining)	$ 426,953
Building SL (Science - Bunert Building)	$ 121,285
Building SM (Classrooms, Auto Labs, Construction Labs)	$ 10,936,463
Building SN (Office, Graphics Department)	$ 106,575
Building SP (Athletics)	$ 18,218,482

Current Replacement Values

The CRV per building are as follows:

Building SA (Power House)	19,852	SF	x	$426	SF	=	$8,456,952
Building SB (Classrooms, Labs, Offices)	32,850	SF	x	$400	SF	=	$13,140,000
Building SC (Classrooms)	63,590	SF	x	$400	SF	=	$25,436,000
Building SE (Classrooms)	30,012	SF	x	$400	SF	=	$12,004,800
Building SF (Classrooms)	23,981	SF	x	$400	SF	=	$9,592,400
Building SG (Student Services)	69,877	SF	x	$410	SF	=	$28,649,570
Building SJ (Classrooms, Library, Offices)	89,516	SF	x	$393	SF	=	$35,179,788
Building SK (Student Services, Conference, Dining)	97,734	SF	x	$410	SF	=	$40,070,940
Building SL (Science - Bunert Building)	3,586	SF	x	$420	SF	=	$1,506,120
Building SM (Classrooms, Auto Labs, Construction Labs)	82,725	SF	x	$597	SF	=	$49,386,825
Building SN (Office, Graphics Department)	14,547	SF	x	$420	SF	=	$6,109,740
Building SP (Athletics)	103,238	SF	x	$549	SF	=	$56,677,662

TAB 4

FCI Index Table

Building	Square Feet	Replacement Cost (CRV)	Total Deficiencies Construction Cost	Total Deficiencies Project Cost (5 Year DMB)	FCI
Building SA (Power House)	19,852	$8,456,952	$ 3,994,091	$ 5,791,432	68.48%
Building SB (Classrooms, Labs, Offices)	32,850	$13,140,000	$ 18,000	$ 26,100	0.20%
Building SC (Classrooms)	63,590	$25,436,000	$ 626,300	$ 908,135	3.57%
Building SE (Classrooms)	30,012	$12,004,800	$ 119,000	$ 172,550	1.44%
Building SF (Classrooms)	23,981	$9,592,400	$ 74,000	$ 107,300	1.12%
Building SG (Student Services)	69,877	$28,649,570	$ 35,000	$ 50,750	0.18%
Building SJ (Classrooms, Library, Offices)	89,516	$35,179,788	$ 637,951	$ 925,029	2.63%
Building SK (Student Services, Conference, Dining)	97,734	$40,070,940	$ 294,450	$ 426,953	1.07%
Building SL (Science - Bunert Building)	3,586	$1,506,120	$ 83,645	$ 121,285	8.05%
Building SM (Classrooms, Auto Labs, Construction Labs)	82,725	$49,386,825	$ 7,542,388	$ 10,936,463	22.14%
Building SN (Office, Graphics Department)	14,547	$6,109,740	$ 73,500	$ 106,575	1.74%
Building SP (Athletics)	103,238	$56,677,662	$ 12,564,470	$ 18,218,482	32.14%

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

TAB 5

MACOMB COMMUNITY COLLEGE
CENTER CAMPUS

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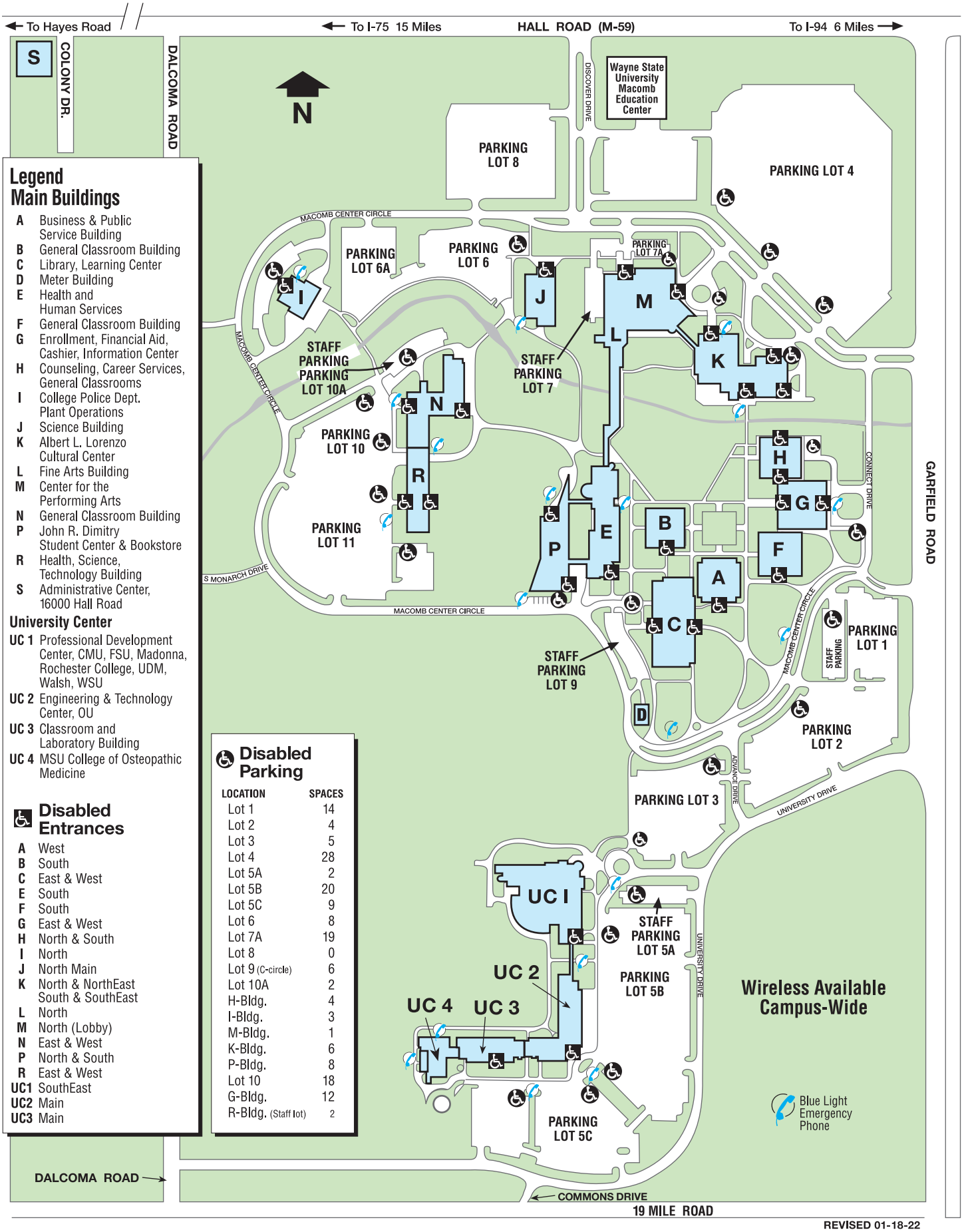


Legend
Main Buildings

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

University Center

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

Disabled Entrances

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

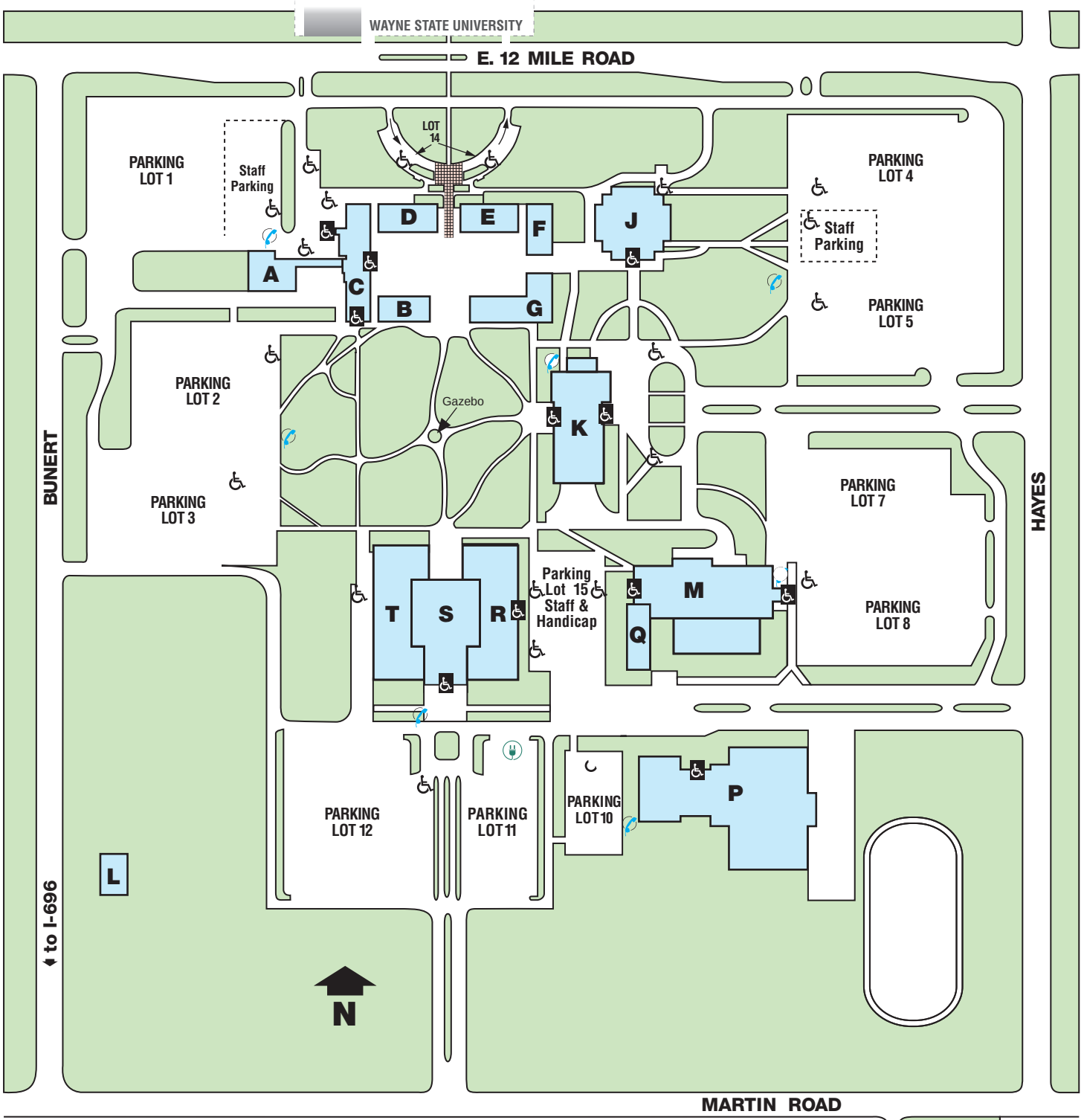
Disabled Parking

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

REVISED 01-18-22

MACOMB COMMUNITY COLLEGE
SOUTH CAMPUS

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



REVISED 5/11/17

LEGEND—MAIN BUILDINGS

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

Robert E. Turner Complex

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

Disabled Parking

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

Blue Light Emergency Phone

Elec.Vehicle Outlet

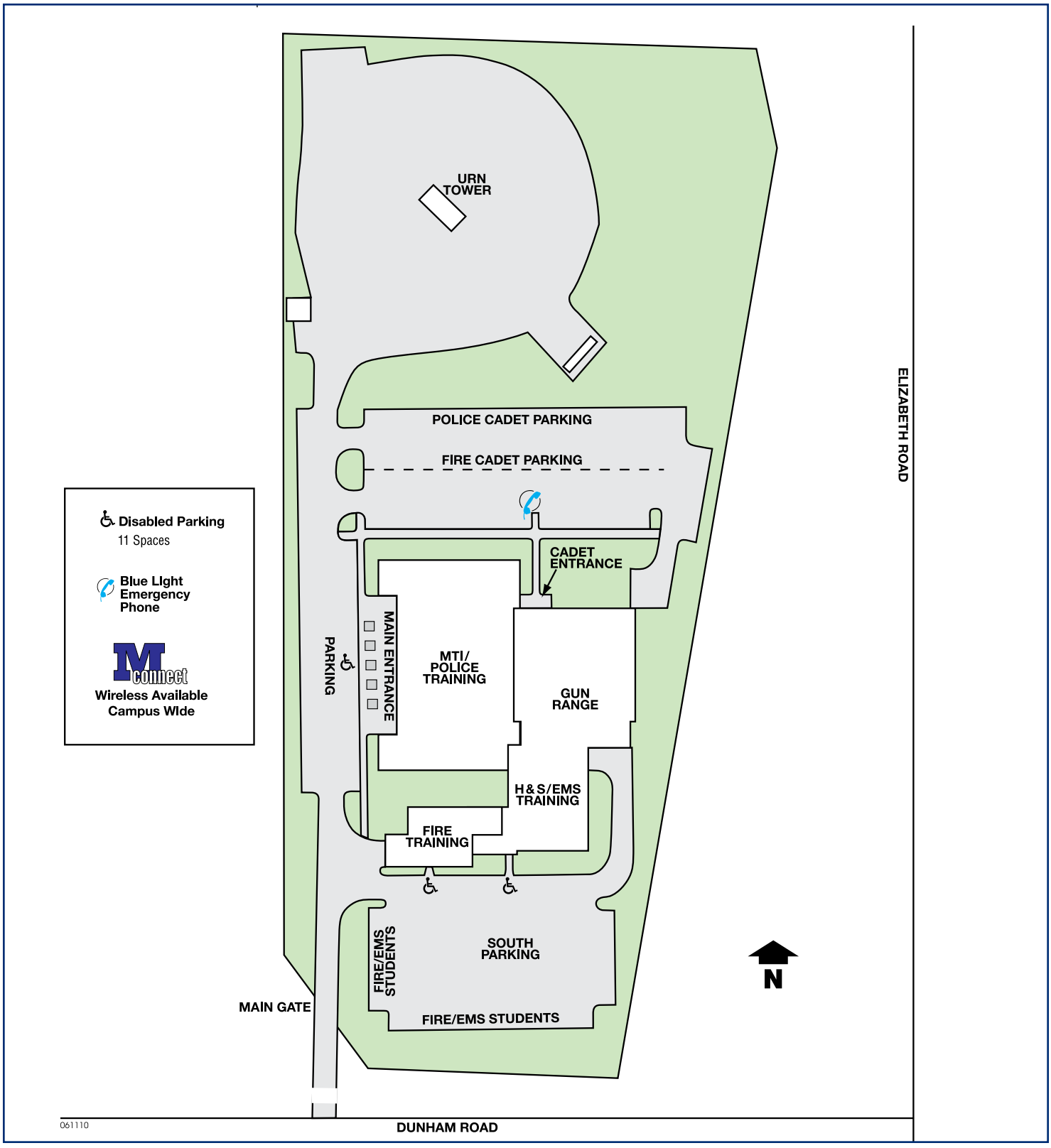
Disabled Entrances

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

Wireless Available Campus-Wide

East Campus

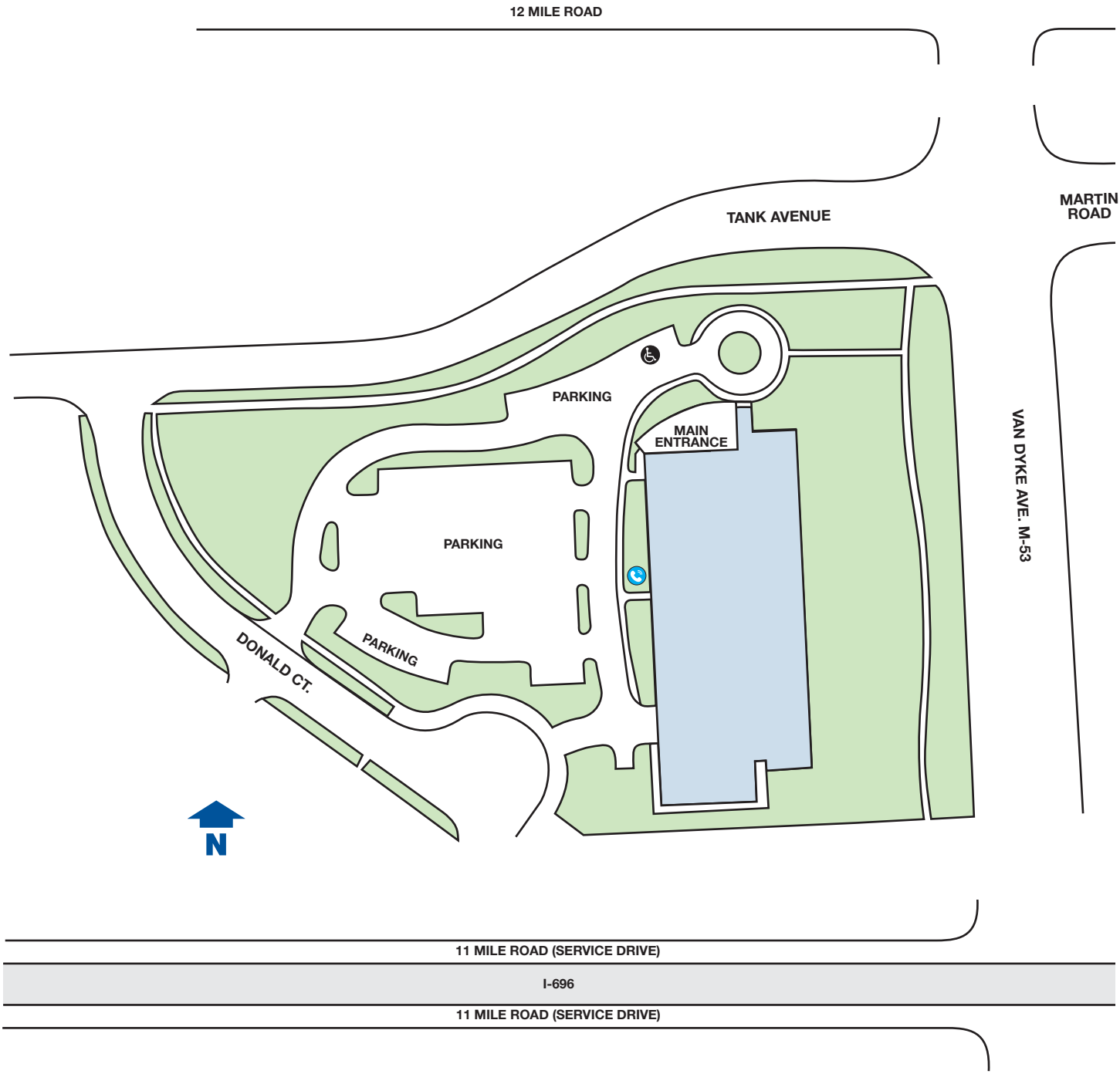
21901 Dunham Road, Clinton Township, MI 48036 • 1.866.Macomb1 • www.macomb.edu



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 SA

GENERAL OVERVIEW

Use:	Power House
Year Built:	1965
Total Area:	19,825 SF
Floors:	2
5 Year DMB:	$5,791,432
CRV:	$8,456,952
FCI:	68.48%

COMMENTS

Roof System

- Warranty expired in 2022.
- Passage roof replaced in 2014.

Mechanical Systems

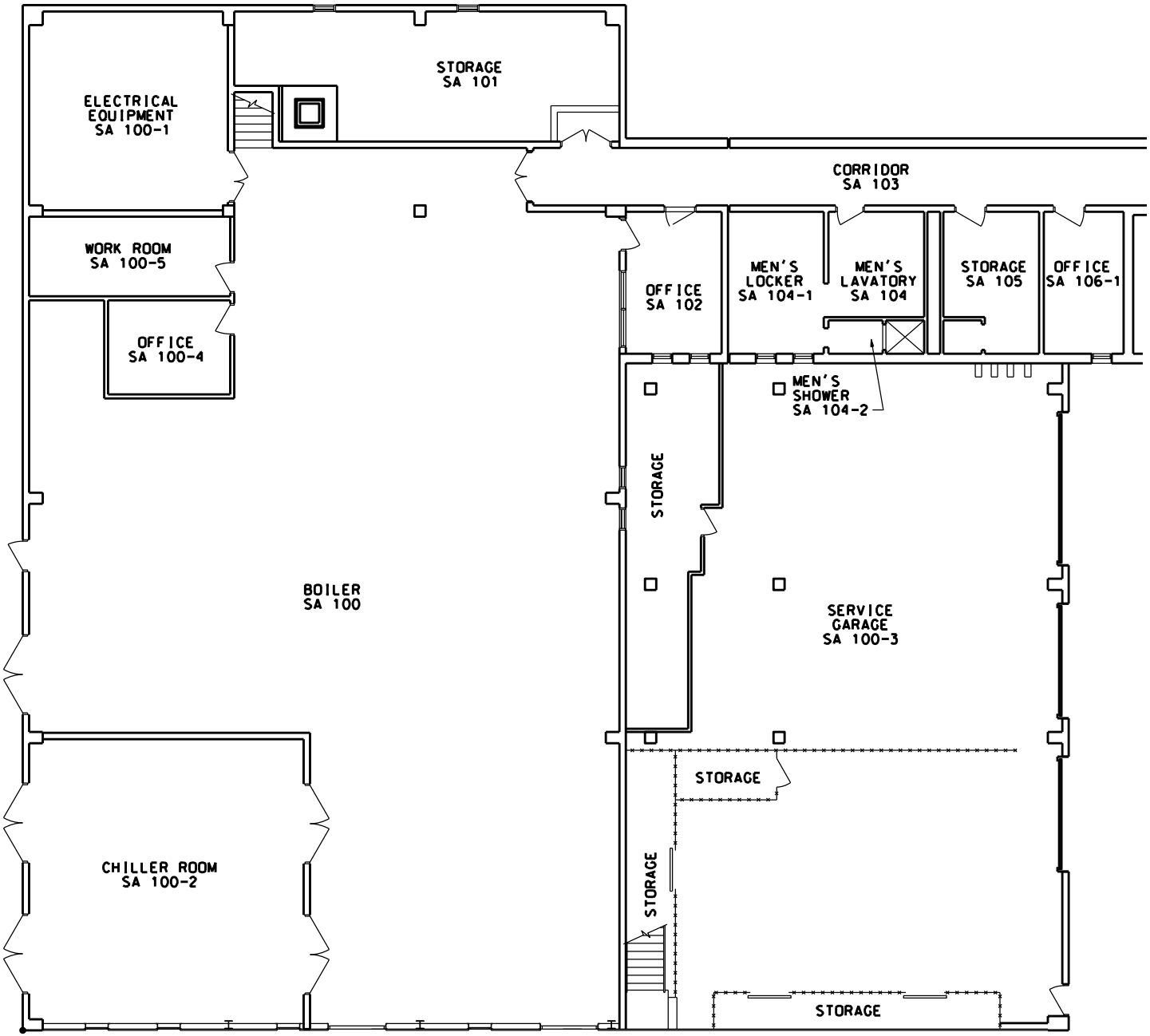
- Replace existing Desigo (Siemens) and Continuum (Andover) BAS controls with Tridium (Honeywell).
- Existing gas-fired, low pressure, fire tube, steam boilers have exceeded their useful life and should be replaced.
- Existing electric centrifugal chillers should be rebuilt/retrofit. Associated chilled water pumps, condenser water pumps and cooling towers should be replaced.

Power Systems

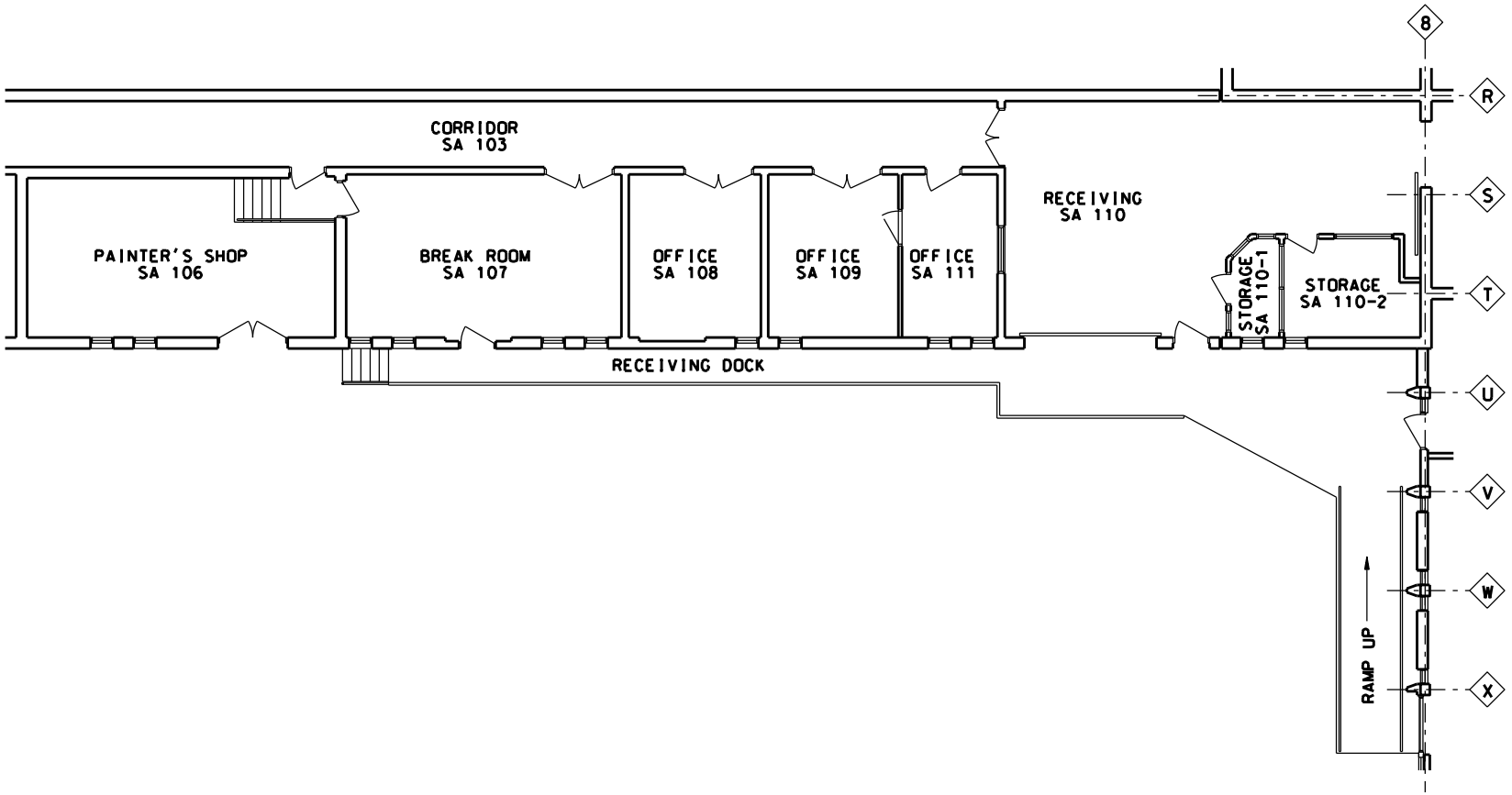
- Main Electrical Room: Existing substation A1 appears original to the building and is at, or nearing, end of expected useful life and should be replaced with next major renovation.
- Main Electrical Room: Pad mount transformer and switchboard A2 were installed during a renovation in 2011 and appear to be in good condition.
- Equipment Yard: Medium voltage campus primary switch line-up was installed during 2011 renovation. The equipment appears to be in good condition.

Lighting System

- Shop: Lighting fixtures in the shop/garage area have recently been replaced with LED. This area was excluded from the cost for upgrading the building lighting to LED.

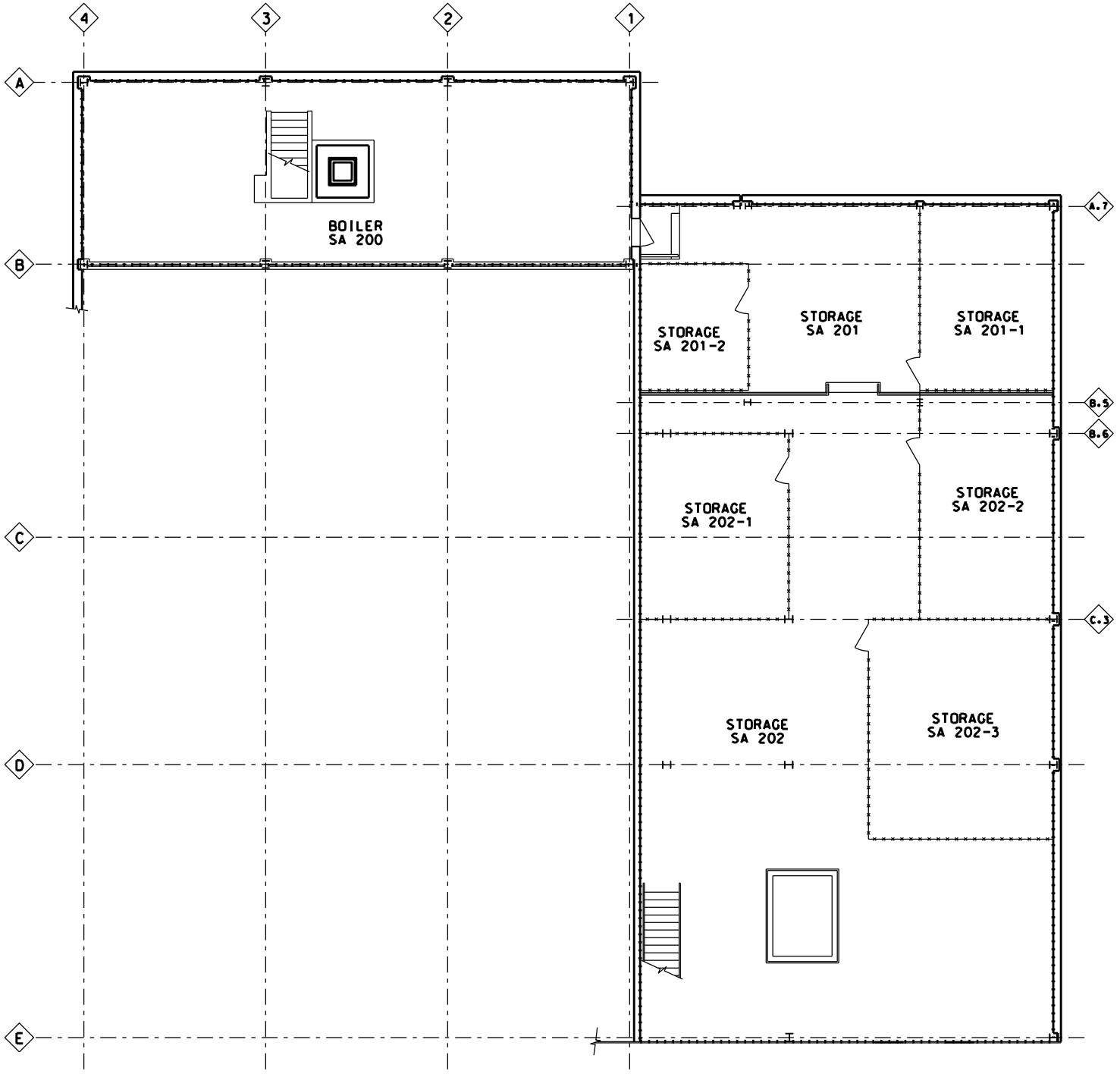


BUILDING "SA" 100 LEVEL



BUILDING "SA" PASSAGE 100 LEVEL

NORTH



BUILDING "SA" 200 LEVEL

NORTH

Building SA

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 coping; finish failing.	440	SF	$ 15.00	$ 6,600					$ 6,600	$ 9,570
Enclosure System													
1	Enclosure System	West Elevation	Replace door frames on west elevation.	3	EA	$ 2,000.00	$ 6,000					$ 6,000	$ 8,700
2	Enclosure System	Loading Dock	Install treshold at loading dock door.	1	LS	$ 500.00	$ 500					$ 500	$ 725
3	Enclosure System	Paint Shop	Replace windows.	2	EA	$ 1,000.00	$ 2,000					$ 2,000	$ 2,900
4	Enclosure System	Paint Shop	Remove louver at floor level and infill hole.	1	LS	$ 2,500.00	$ 2,500					$ 2,500	$ 3,625
5	Enclosure System	Locker Room	Replace windows.	2	EA	$ 1,000.00	$ 2,000					$ 2,000	$ 2,900
6	Enclosure System	IDF	Replace windows.	1	EA	$ 1,000.00	$ 1,000					$ 1,000	$ 1,450
7	Enclosure System	Storage	Replace windows.	1	EA	$ 1,000.00	$ 1,000					$ 1,000	$ 1,450
8	Enclosure System	Custodial Office	Replace windows.	1	EA	$ 1,000.00	$ 1,000					$ 1,000	$ 1,450
9	Enclosure System	Custodial Break Room	Replace windows.	1	EA	$ 1,000.00	$ 1,000					$ 1,000	$ 1,450
10	Enclosure System	Maintenance Break Room	Replace windows.	3	EA	$ 1,000.00	$ 3,000					$ 3,000	$ 4,350
11	Enclosure System	Engineer's Office	Replace windows.	2	EA	$ 1,000.00	$ 2,000					$ 2,000	$ 2,900
12	Enclosure System	Service Garage	Paint overhead door.	1	LS	$ 750.00	$ 750					$ 750	$ 1,088
Finish System													
1	Finish System	Corridor	Replace/repair gypsum ceiling in corridor at offices.	1	LS	$ 3,000.00	$ 3,000					$ 3,000	$ 4,350
2	Finish System	Corridor	Repair and repaint north wall in corridor at offices.	1	LS	$ 4,000.00	$ 4,000					$ 4,000	$ 5,800
HVAC System													
1	HVAC System	Corridor/Lockers, Paint Shop	Fill transfer opening in wall.	2	EA			$ 250.00	$ 500			$ 500	$ 725
2	HVAC System	Garage	Provide heating and ventilation unit.	1	EA			$ 54,500.00	$ 54,500			$ 54,500	$ 79,025
3	HVAC System	Rooms 102-111	Provide new rooftop/ventilating unit.	1	EA			$ 75,260.00	$ 75,260			$ 75,260	$ 109,127
4	HVAC System	Garage	Replace existing system.	1	EA			$ 17,490.00	$ 17,490			$ 17,490	$ 25,361
5	HVAC System	Storage Room	Provide ventilation for rooms 200-202.	1	EA			$ 53,265.00	$ 53,265			$ 53,265	$ 77,234
6	HVAC System	Building	Clean existing ductwork.	1	EA			$ 21,200.00	$ 21,200			$ 21,200	$ 30,740
7	HVAC System	Room SA 106	Replace inoperable exhaust.	1	LS			$ 2,400.00	$ 2,400			$ 2,400	$ 3,480
8	HVAC System	Garage South	Add vehicle exhaust.	1	EA			$ 12,455.00	$ 12,455			$ 12,455	$ 18,060
9	HVAC System	SA 100	Condensate return tank leaks.	1	EA			$ 76,108.00	$ 76,108			$ 76,108	$ 110,357
10	HVAC System	SA 100	New energy efficient boilers.	1	EA			$1,166,000.00	$ 1,166,000			$ 1,166,000	$ 1,690,700
11	HVAC System	SA 100	Dampers for combustion air louvers.	1	EA			$ 13,992.00	$ 13,992			$ 13,992	$ 20,288
12	HVAC System	SA 100	Recondition Carrier chillers	3	EA			$ 70,000.00	$ 210,000			$ 210,000	$ 304,500
13	HVAC System	SA 100	Replace cooling towers	1	LS			$ 180,000.00	$ 180,000			$ 180,000	$ 261,000
14	HVAC System	SA 100	Replace boliers	3	EA			$ 120,000.00	$ 360,000			$ 360,000	$ 522,000
15	HVAC System	SA 100	Repalce building controls with Tridium	1	LS			$ 80,000.00	$ 80,000			$ 80,000	$ 116,000
Plumbing System													
1	Plumbing System	Throughout	Add pipe identification.	300	EA			$ 2.70	$ 810			$ 810	$ 1,175
2	Plumbing System	Throughout	Replace damaged pipe insulation.	1	LS			$ 10,000.00	$ 10,000			$ 10,000	$ 14,500
3	Plumbing System	Throughout	Repair pipe leaks throughout.	1	LS			$ 10,000.00	$ 10,000			$ 10,000	$ 14,500
BAS System													
1	Building Controls System	Throughout	Replace existing Desigo (Siemens) and Continuum (Andover) BAS controls with new Tridium (Honeywell).	19,852	SF			$ 4.83	$ 95,885			$ 95,885	$ 139,033
Fire Protection													
1	Fire Protection	Throughout	Add fire protection throughout building.	19,852	SF			$ 5.50	$ 109,186			$ 109,186	$ 158,320
2	Fire Protection	Throughout	Replace fire alarm system.	19,852	SF			$ 1.96	$ 38,910			$ 38,910	$ 56,419
Power Systems													
1	Power Systems	Mezzanine	15kW Natural Gas Generator (approximately 40 to 50 years old). 1077 running hours was shown on the automatic transfer switch. Last indication of maintenance on the generator was noted to be in 2019. Date code on the battery indicates it was manufactured in 2022. The Generator is at, or nearing, end of expected useful life and should be replaced with next major renovation.	1	EA					$ 30,000.00	$ 30,000	$ 30,000	$ 43,500
2	Power Systems	General	Several electrical panels and motor control centers are 40+ years old and are at, or nearing, end of expected useful life and should be replaced with next major renovation (excludes equipment replaced/added in 2011).	1	LS					$950,000.00	$ 950,000	$ 950,000	$ 1,377,500
3	Power Systems	General	Electrical equipment had no indication of maintenance or testing since a previous renovation in 2011. Testing / maintenance is recommended at regular intervals.	1	LS					$ 20,000.00	$ 20,000	$ 20,000	$ 29,000

Building SA

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
4	Power Systems	General	A select number of electrical equipment are equipped with arc flash labels indicating incident energy boundaries and available fault current. The remainder of equipment labels are generic. 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 (2011). It is recommended to update the building-wide power systems study.	1	LS					$ 12,000.00	$ 12,000	$ 12,000	$ 17,400
Lighting System													
1	Lighting System	General	Replace fluorescent lighting with LED and new controls.	19,852	SF		$ -		$ -	$ 15.00	$ 297,780	$ 297,780	$ 431,781
Code Systems and Barrier Free													
1	Code Systems and Barrier Free	Locker Rooms	Locker room toilets/showers are not barrier free.	2	EA	$ 30,000.00	$ 60,000		$ -		$ -	$ 60,000	$ 87,000
							$ 96,350		**$ 2,587,961**		**$ 1,309,780**	**$ 3,994,091**	**$ 5,791,432**

BUILDING SB

GENERAL OVERVIEW

Use:	Classrooms and Labs
Year Built:	1967, 2017 Renovation
Total Area:	32,850 SF
Floors:	3 plus basement
5 Year DMB:	$26,100
CRV:	$13,140,000
FCI:	0.20%

COMMENTS

Roof System

- Roof installed in 2017.

Enclosure System

- Enclosure system upgraded in Summer 2017.

Finish System

- Finish system upgraded in Summer 2017.

Fixed Equipment

- Upgraded in Summer 2017.

HVAC System

- HVAC system upgraded in Summer 2017.

Plumbing System

- Plumbing system upgraded in Summer 2017.

Fire Protection

- Fire protection upgraded in Summer 2017.

Temperature Controls

- Temperature controls upgraded in Summer 2017.

Power Systems

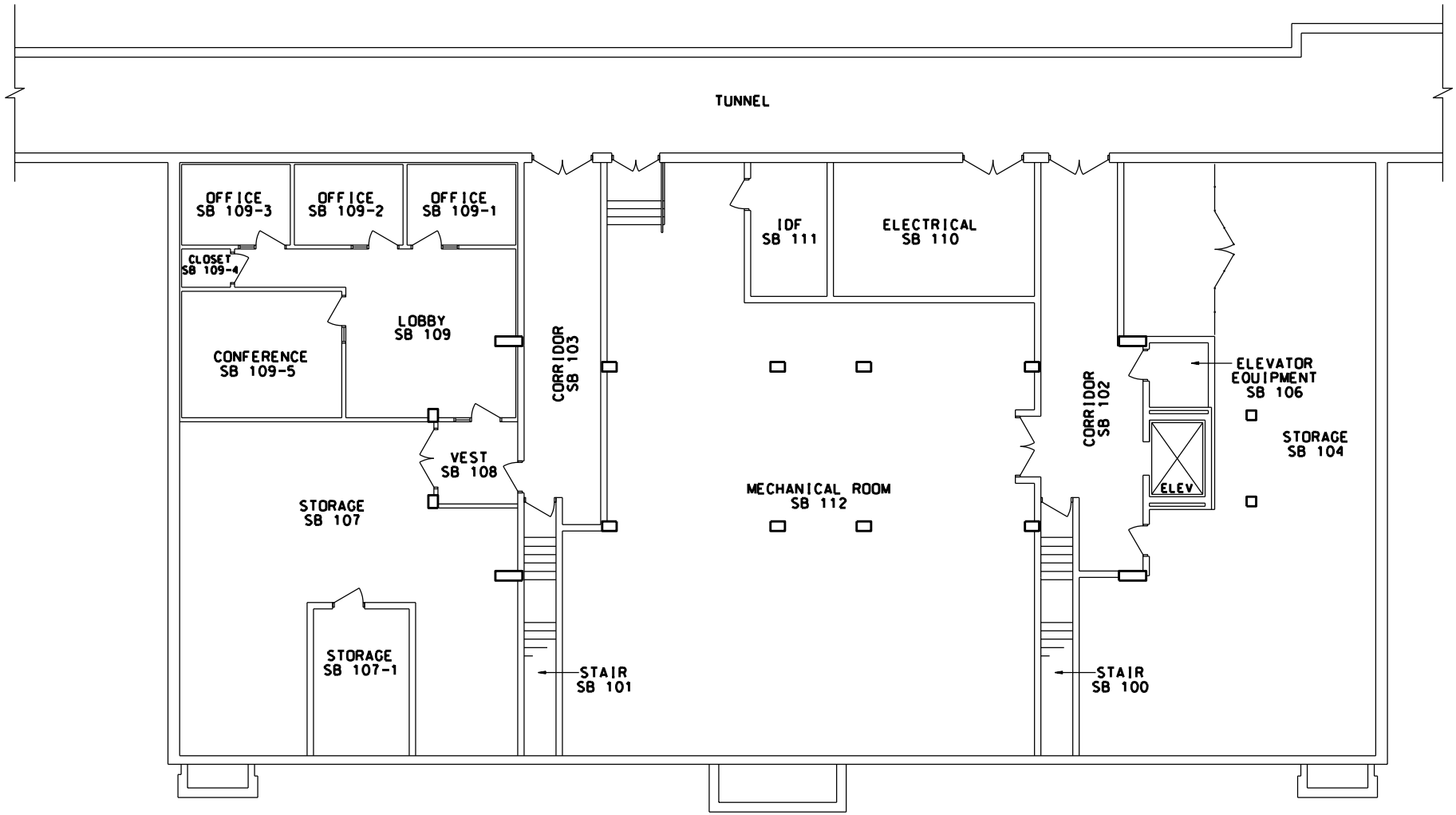
- Electrical equipment was upgraded in 2010 and 2017 and is in good condition.

Lighting System

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

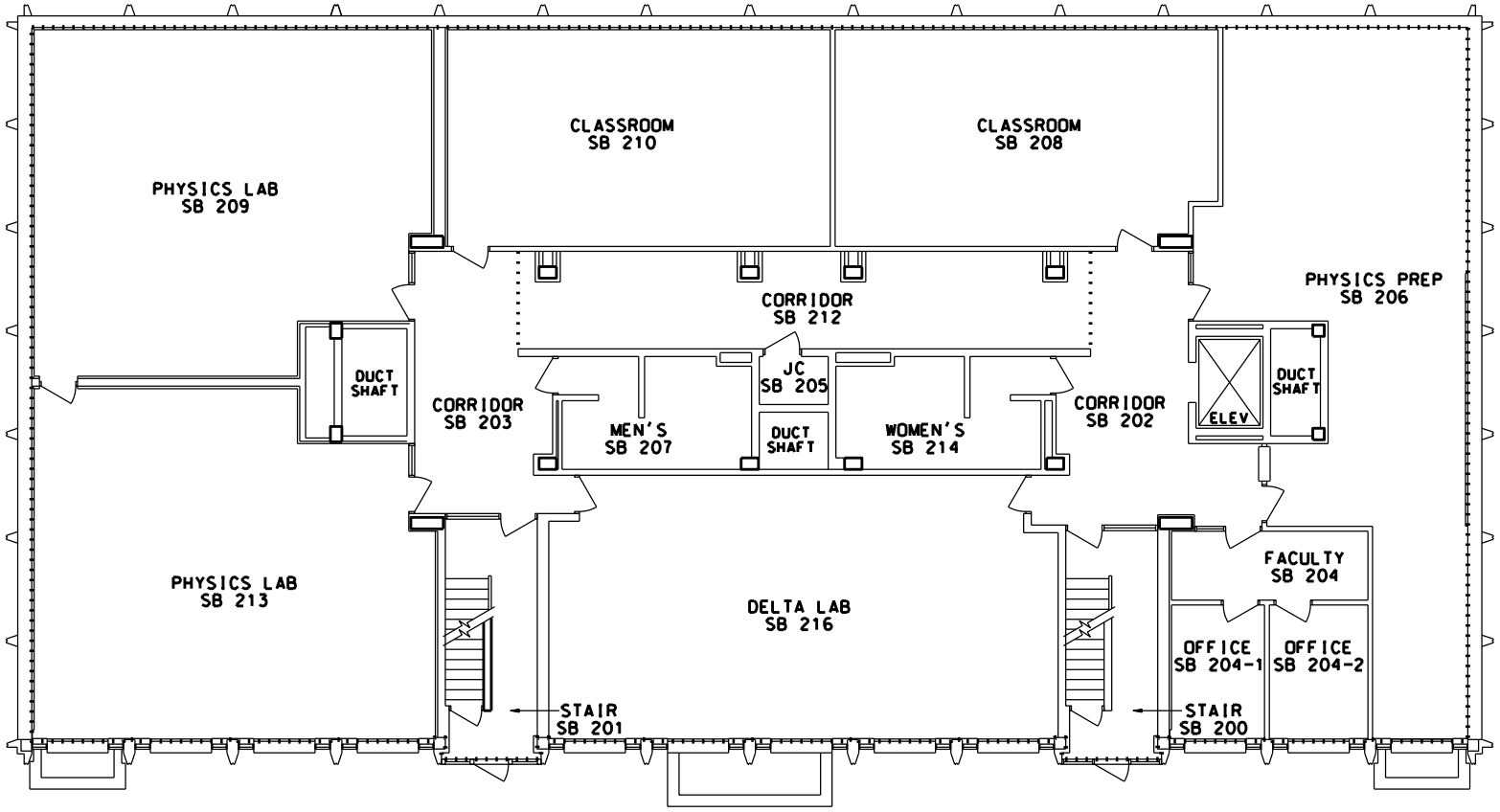
Code Systems and Barrier Free

- Upgraded in Summer 2017.
- Barrier free operators should be added to gang toilet room doors.



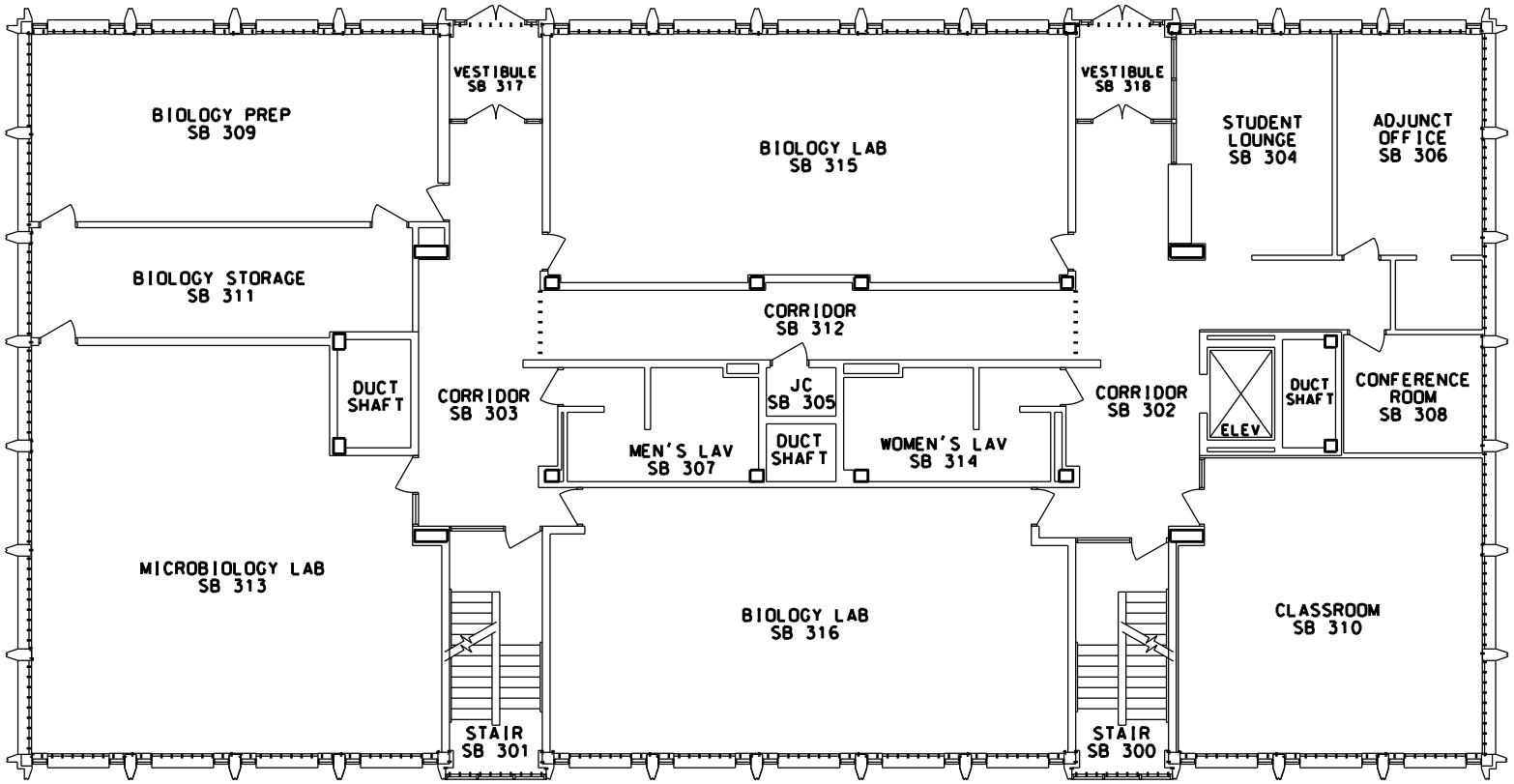
BUILDING "SB" 100 LEVEL

NORTH



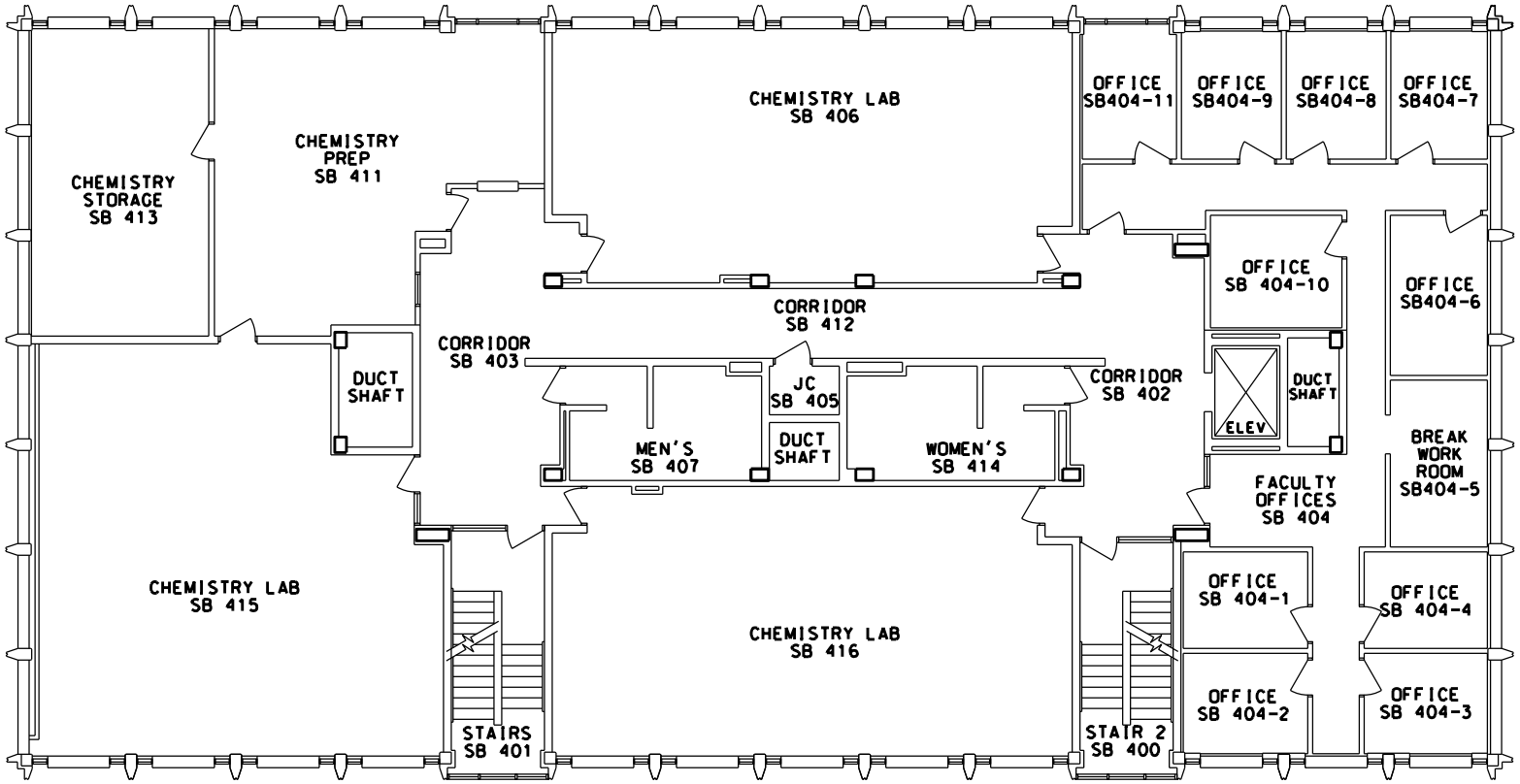
BUILDING "SB" 200 LEVEL

NORTH



BUILDING "SB" 300 LEVEL

NORTH



BUILDING "SB" 400 LEVEL

Building SB

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
Architectural Systems													
1	Door Hardware	Gang Toilets all floors	Add barrier free operators to all entry doors	6	EA	$ 3,500.00	$ 3,500		$ -			$ 3,500	$ 5,075
HVAC System													
1	HVAC System	General	Add mini-split air conditioning unit to basement IDF room.	1	LS			$ 3,500.00	$ 3,500			$ 3,500	$ 5,075
Plumbing System													
1	Plumbing System	General	Clean and repair damaged caused by leaking pump CP-5.	1	LS			$ 500.00	$ 500			$ 500	$ 725
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 dated 2017. It is recommended to update the building-wide power systems study.	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 2010. Testing / maintenance is recommended at regular intervals.	1	LS					$ 10,000.00	$ 10,000	$ 10,000	$ 14,500
							$ -		**$ 4,000**		**$ 14,000**	**$ 18,000**	**$ 26,100**

BUILDING SC

GENERAL OVERVIEW

Use: Classrooms

Year Built: 1965 (North), 1969 (South)

Total Area: 63,590 SF

Floors: 3

5 Year DMB: $908,135

CRV: $25,436,000

FCI: 3.57%

COMMENTS

Roof System

- Roof on original portion of building was installed in 2002. Roof on addition was installed in 2015. Original building roof should be replaced.

Enclosed System

- Upgraded in Summer 2015.

Finish System

- Upgraded in Summer of 2015.

Fixed Equipment

- Upgraded in Summer 2015.

HVAC System

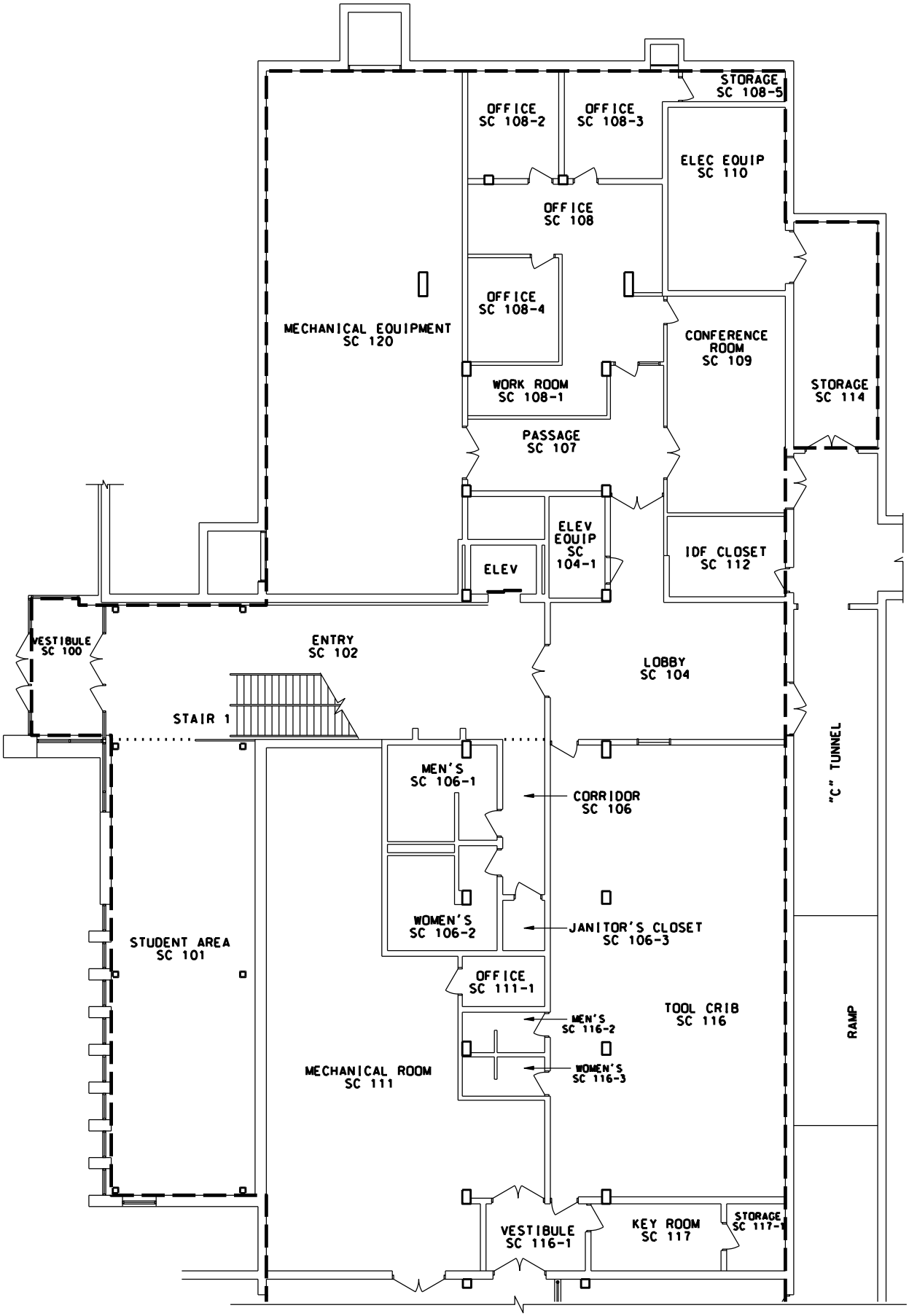
- Upgraded in Summer 2015.

Plumbing System

- Upgraded in Summer 215.
- Investigate and repair recurring water leakage on floor near baseboard of Nursing Lab SC127.
- Check/replace/provide EWC filters; occupant reports “brown” water.

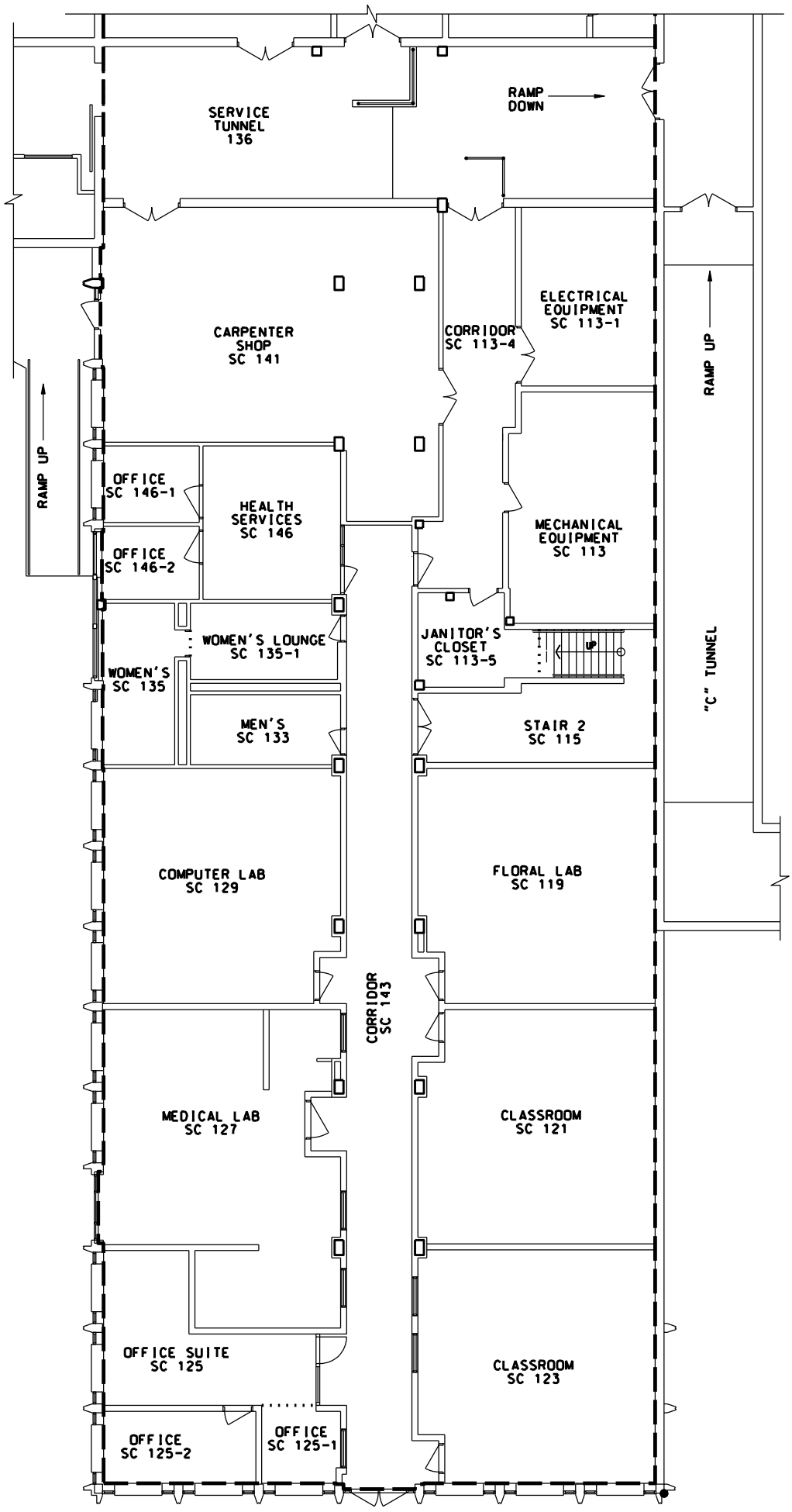
Fire Protection

- Upgraded in Summer 2015.
- Review controls settings; occupants note being too cold in winter and too hot in summer.



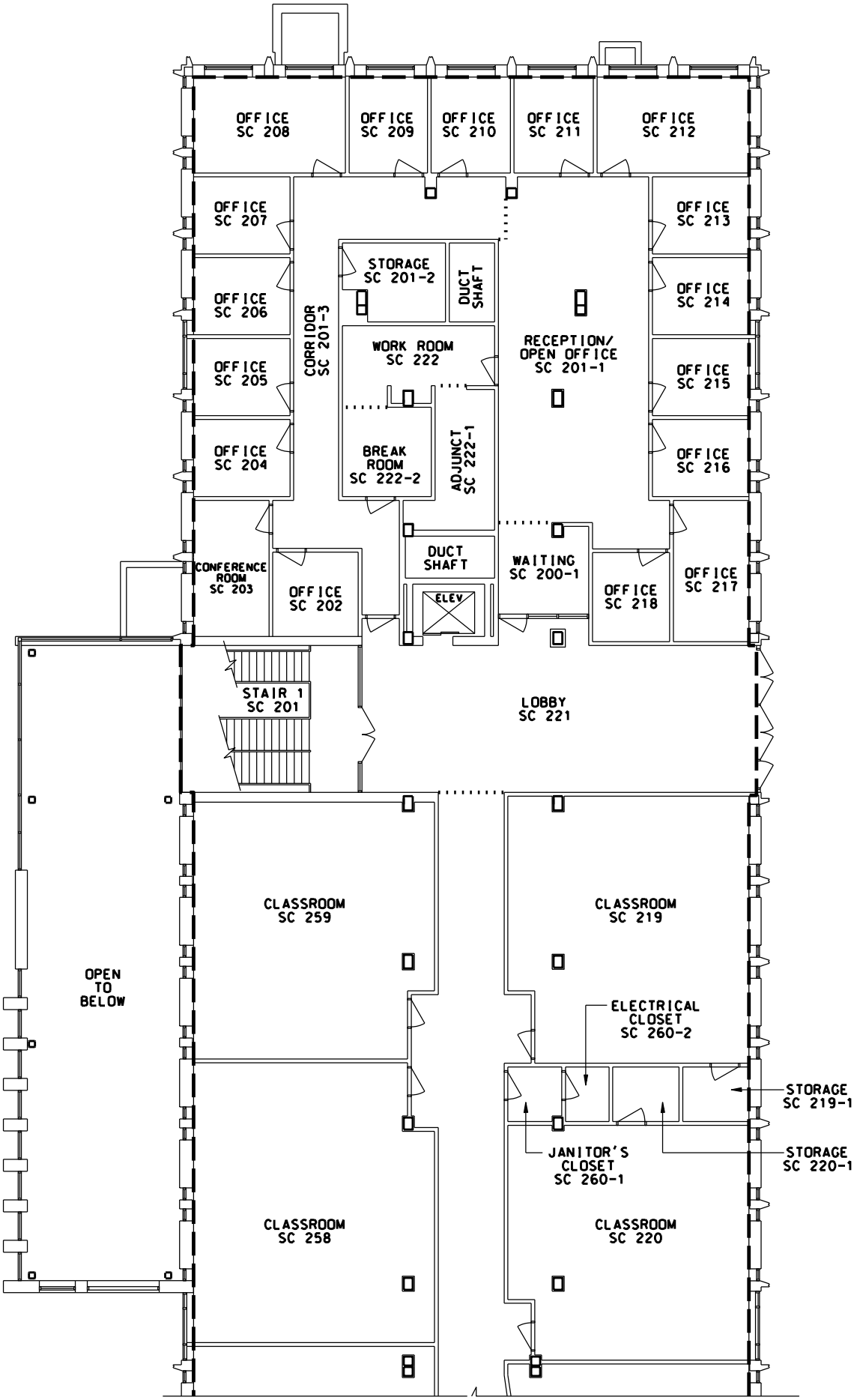
BUILDING "SC" 100 LEVEL - NORTH

NORTH



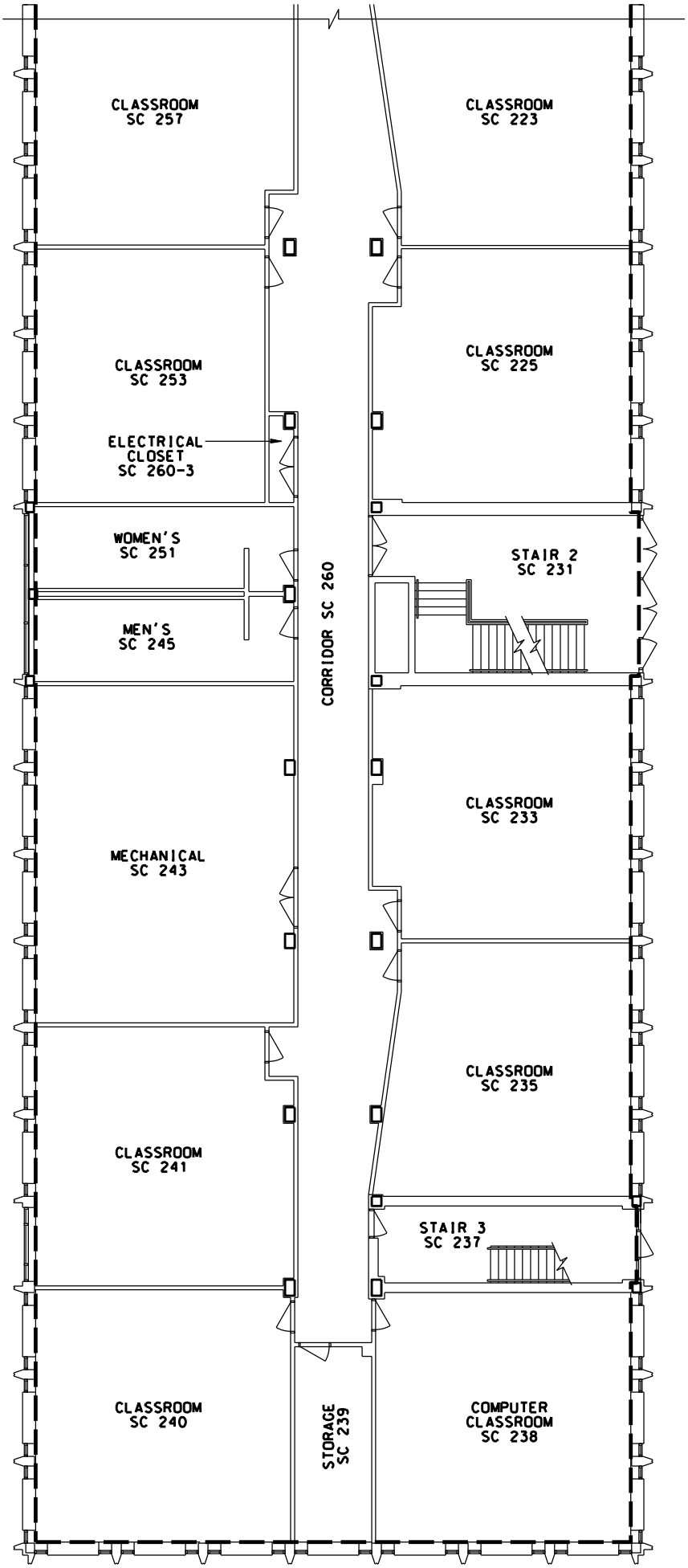
BUILDING "SC" 100 LEVEL - SOUTH

NORTH



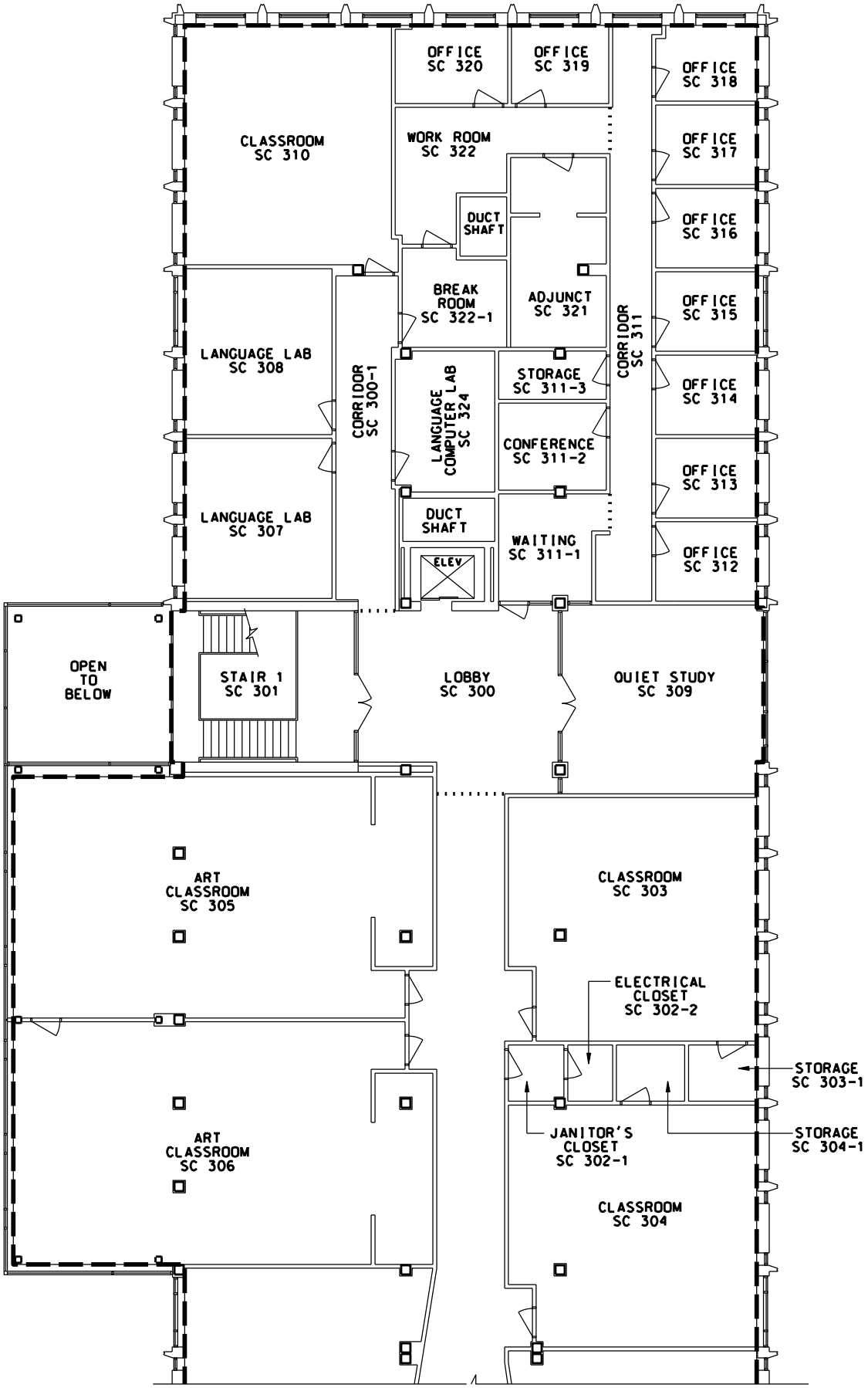
BUILDING "SC" 200 LEVEL - NORTH

NORTH



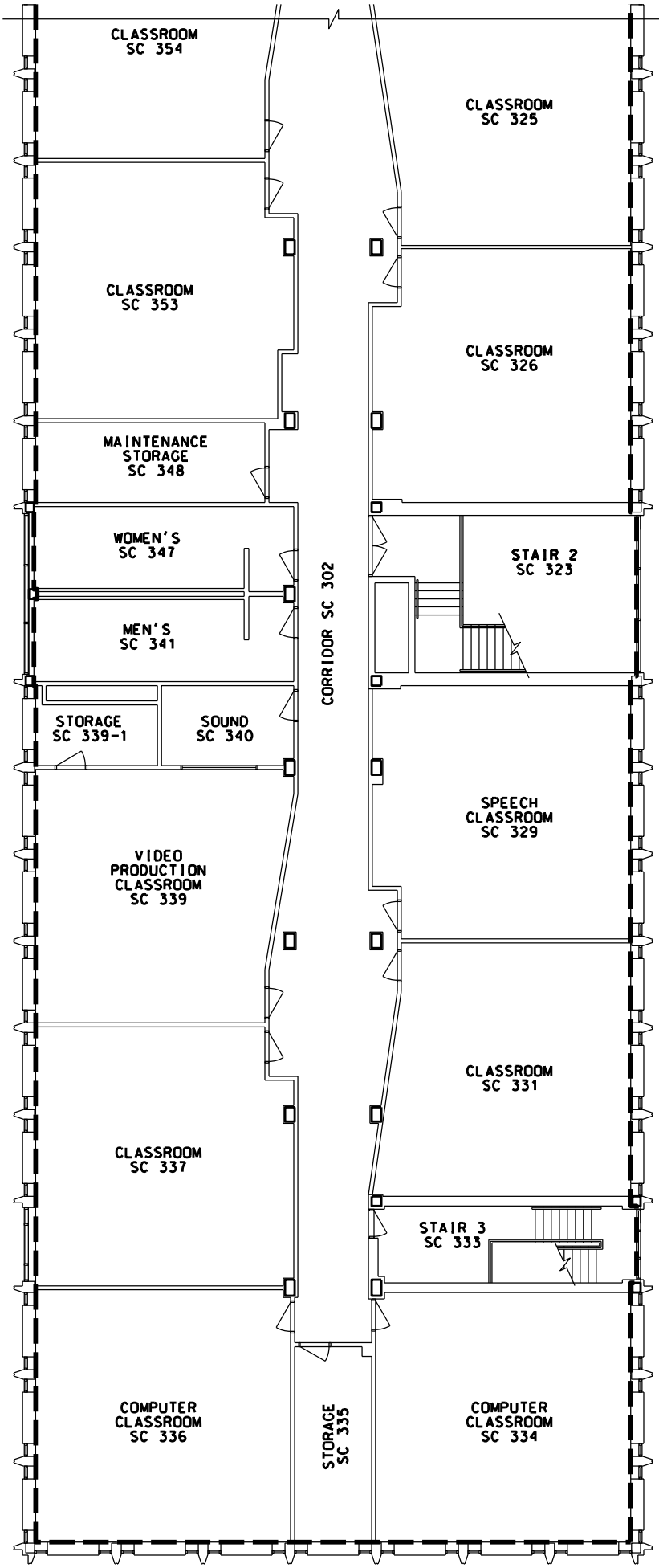
BUILDING "SC" 200 LEVEL - SOUTH

NORTH



BUILDING "SC" 300 LEVEL - NORTH

NORTH



BUILDING "SC" 300 LEVEL - SOUTH

NORTH

Building SC

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
Architectural Systems													
1	Original building roof	Rof	Repalce original building roof	32,000	SF	$ 14.00	$ 448,000		$ -			$ 448,000	$ 649,600
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 incorporate latest data.	1	LS					$ 6,000.00	$ 6,000	$ 6,000	$ 8,700
2	Power Systems	General	Existing MV switch is original; only transformer and downstream distribution were replaced in 2015 renovation. Perform maintenance and testing on MV switch.	1	LS					$ 2,500.00	$ 2,500	$ 2,500	$ 3,625
3	Power Systems	General	Replace lower level suite panels to align with remainder of building renovated in 2015	3	EA					$ 6,500.00	$ 19,500	$ 19,500	$ 28,275
Lighting System													
1	Lighting System	General	Replace lower level suite lighting system with LED fixtures and updated controls to align with remainder of building renovated in 2015.	10,000	SF					$ 15.00	$ 150,000	$ 150,000	$ 217,500
Code Systems and Barrier Free													
1	Code Systems and Barrier Free	General	Add point-of-use mixing valves at lavatories in Men's 133 and Women's 135.	4	EA	$ 75.00	$ 300					$ 300	$ 435
							$ 448,300		**$ -**		**$ 178,000**	**$ 626,300**	**$ 908,135**

BUILDING SE

GENERAL OVERVIEW

Use:	Classrooms
Year Built:	1967, 2014 Renovation
Total Area:	30,012 SF
Floors:	2 plus basement
5 Year DMB:	$172,550
CRV:	$12,004,800
FCI:	1.44%

COMMENTS

Roof System

- Single-ply Duro-Last roof installed in 2002. Roof warranty expired in 2017. Roof should be scheduled for replacement.

Enclosure System

- Upgraded in Summer of 2014.

Finish System

- Upgraded in Summer of 2014.

Fixed Equipment

- Upgraded in Summer of 2014.

HVAC System

- Upgraded in Summer of 2014. HVAC systems should be retrocommissioned.
- Check alignment of bearing on EF-SE-3 on roof.

Plumbing System

- Upgraded in Summer of 2014.

Fire Protection

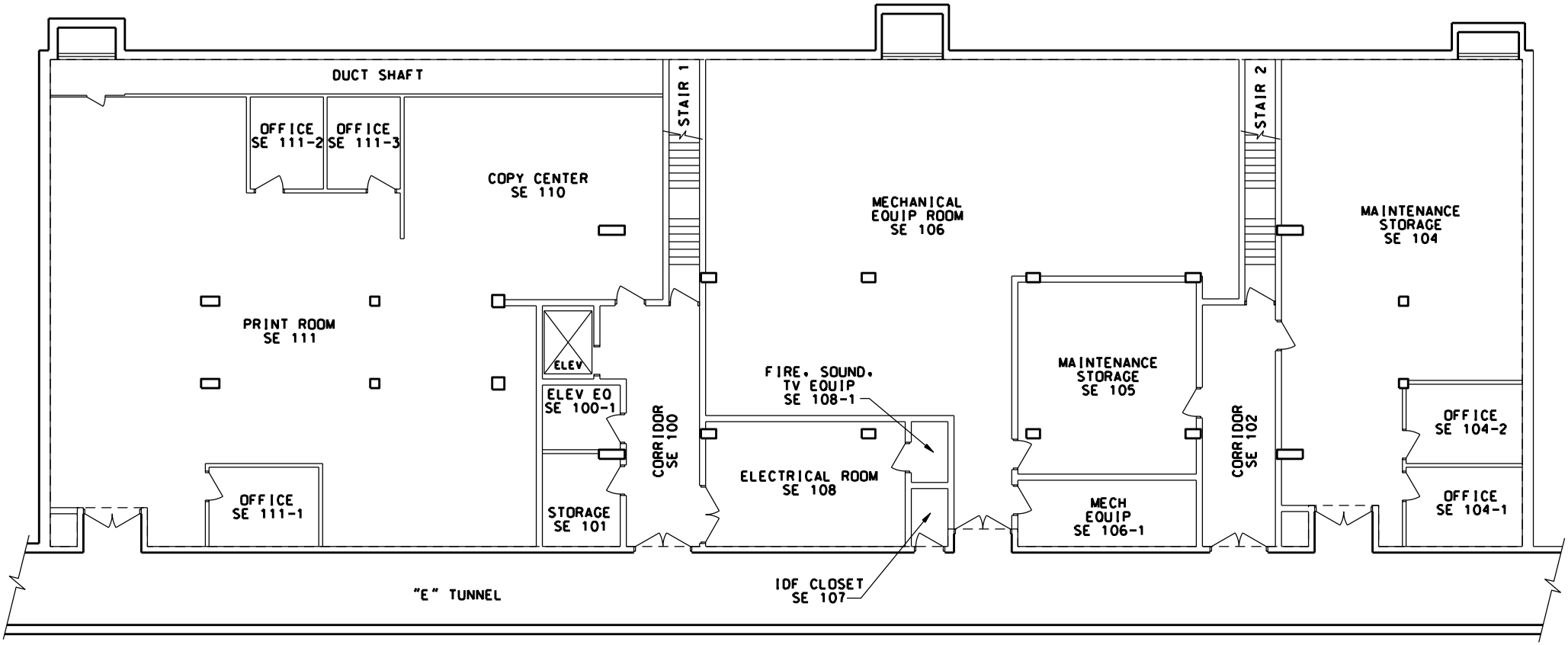
- Upgraded in Summer of 2014.

Temperature Controls

- Upgraded in Summer of 2014.

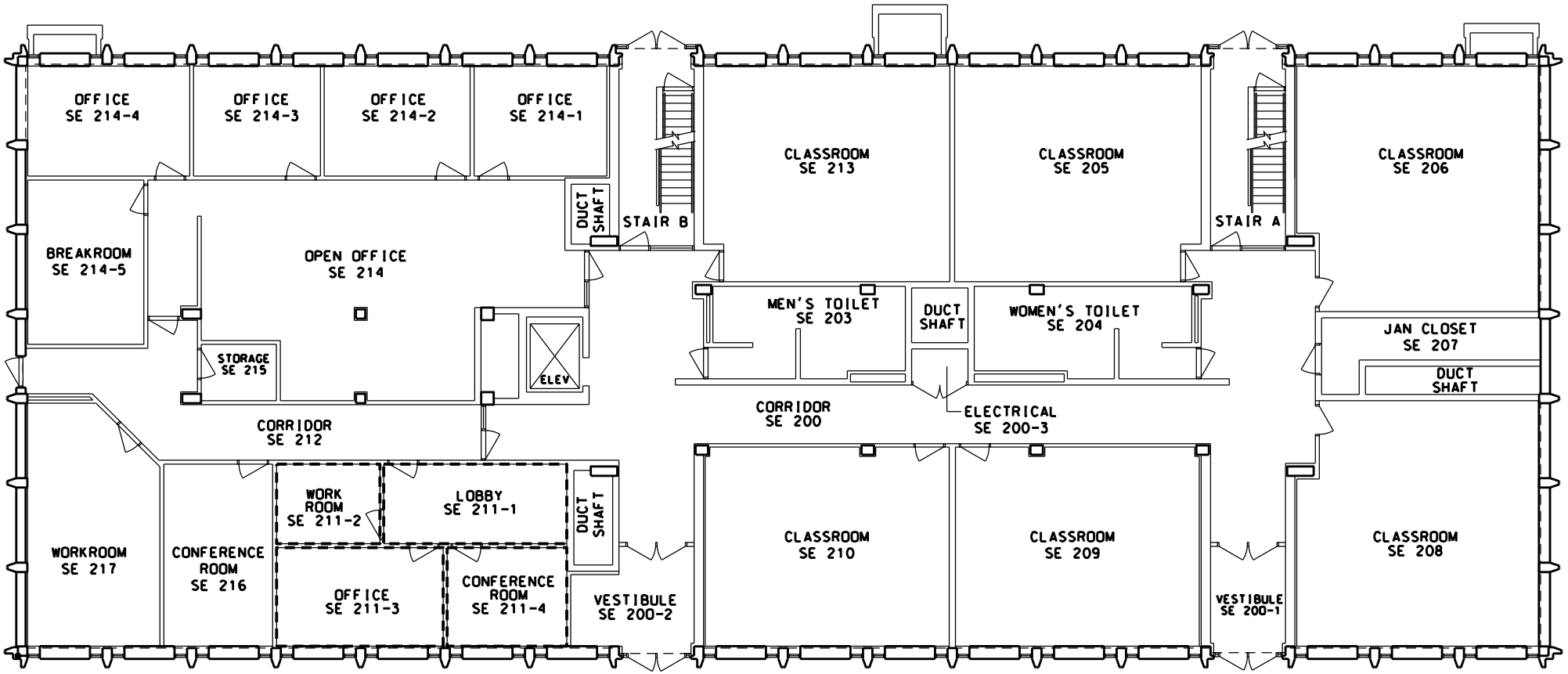
Code Systems and Barrier Free

- Upgraded in Summer of 2014.
- Barrier free operators should be added to gang toilet room doors.



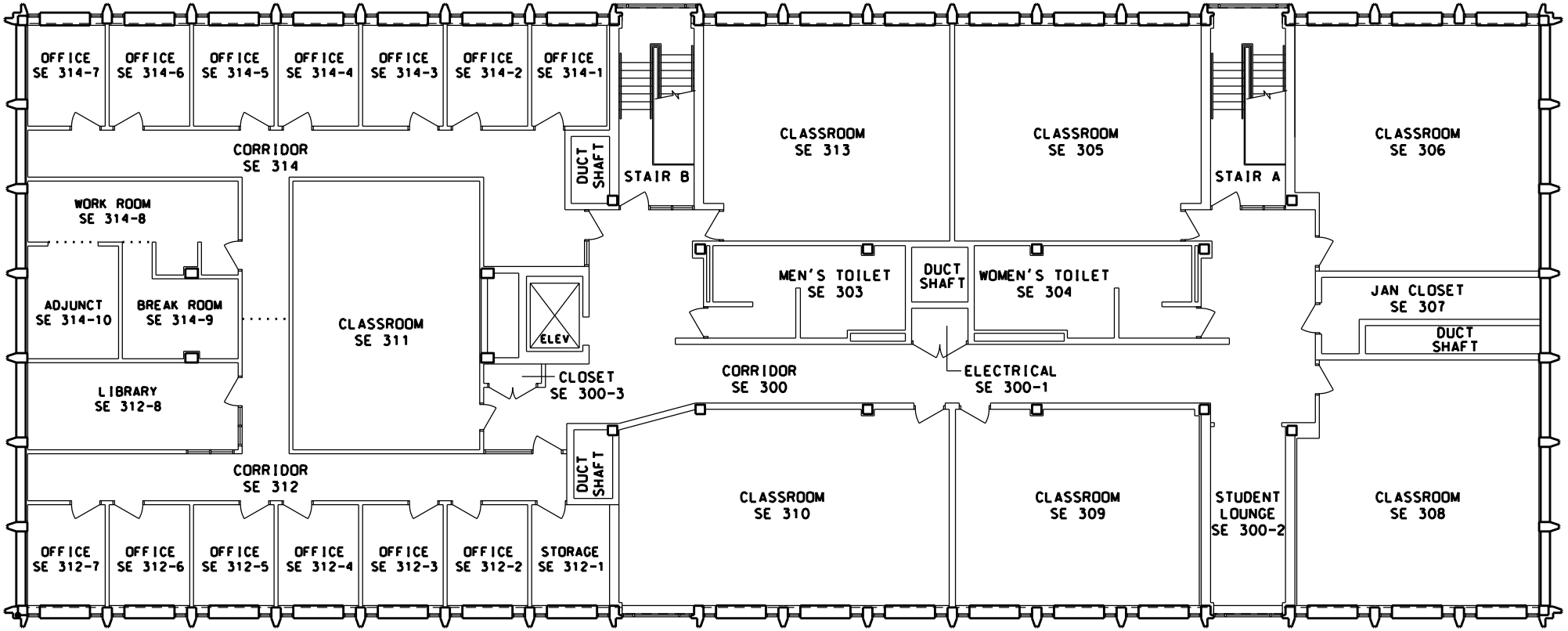
BUILDING "SE" 100 LEVEL

NORTH



BUILDING "SE" 200 LEVEL

NORTH



BUILDING "SE" 300 LEVEL

NORTH

Building SE

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
Architectural Systems													
1	Roof Replacement	Roof	Replace existing roof	30,012	SF	$ 14.00	$ 420,168			$ 4,000.00	$ 120,048,000	$ 120,468,168	$ 174,678,844
2	Door Hardware	Gang Toilets all floors	Add barrier free operators to all entry doors	4	EA	$ 3,500.00	$ 14,000		$ -			$ 14,000	$ 20,300
HVAC Systems													
1	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	30,012	SF			$ 5.00	$ 150,060				
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 incorporate latest data.	1	LS					$ 4,000.00	$ 4,000	$ 4,000	$ 5,800
2	Power Systems	General	Perform maintenance and testing on MV switch.	1	LS					$ 2,500.00	$ 2,500	$ 2,500	$ 3,625
Lighting System													
1	Lighting System	Lower Level	Replace lower level fluorescent lighting system with LED fixtures and updated controls.	7,500	SF					$ 15.00	$ 112,500	$ 112,500	$ 163,125
							$ -		**$ -**		**$ 119,000**	**$ 119,000**	**$ 172,550**

BUILDING SF

GENERAL OVERVIEW

Use:	Classrooms
Year Built:	1967
Total Area:	23,981 SF
Floors:	2 plus basement
5 Year DMB:	$107,300
CRV:	$9,592,400
FCI:	1.12%

COMMENTS

Roof System

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

Enclosure System

- Upgraded in Summer of 2018.

Finish System

- Upgraded in Summer of 2018.

Fixed Equipment

- Upgraded in Summer of 2018.

HVAC System

- Upgraded in Summer of 2018.

Plumbing System

- Upgraded in Summer of 2018.

Fire Protection

- Upgraded in Summer of 2018.

Temperature Controls

- Upgraded in Summer of 2018.

Power Systems

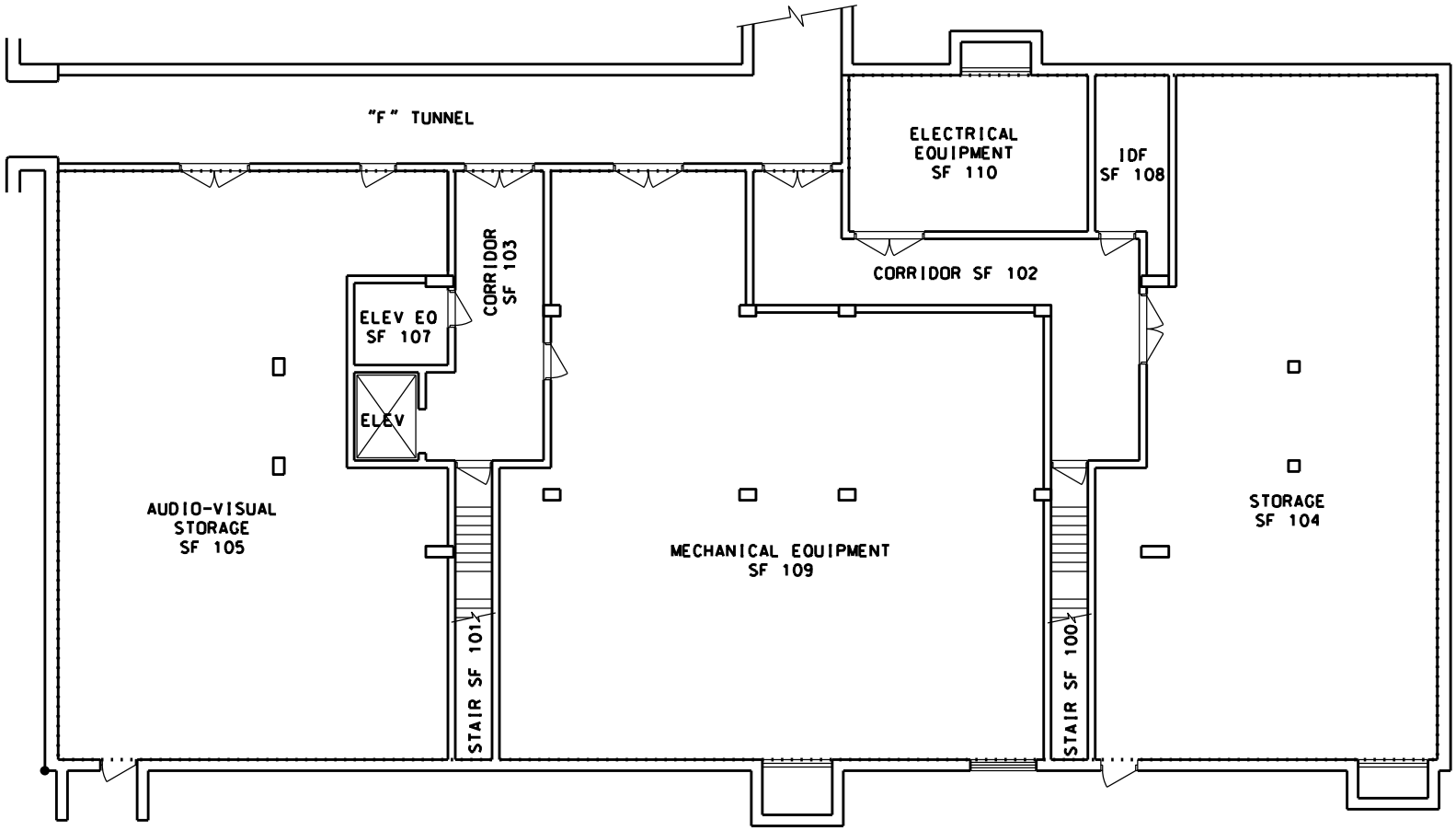
- Electrical equipment was upgraded in 2018 and is good condition.

Lighting System

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

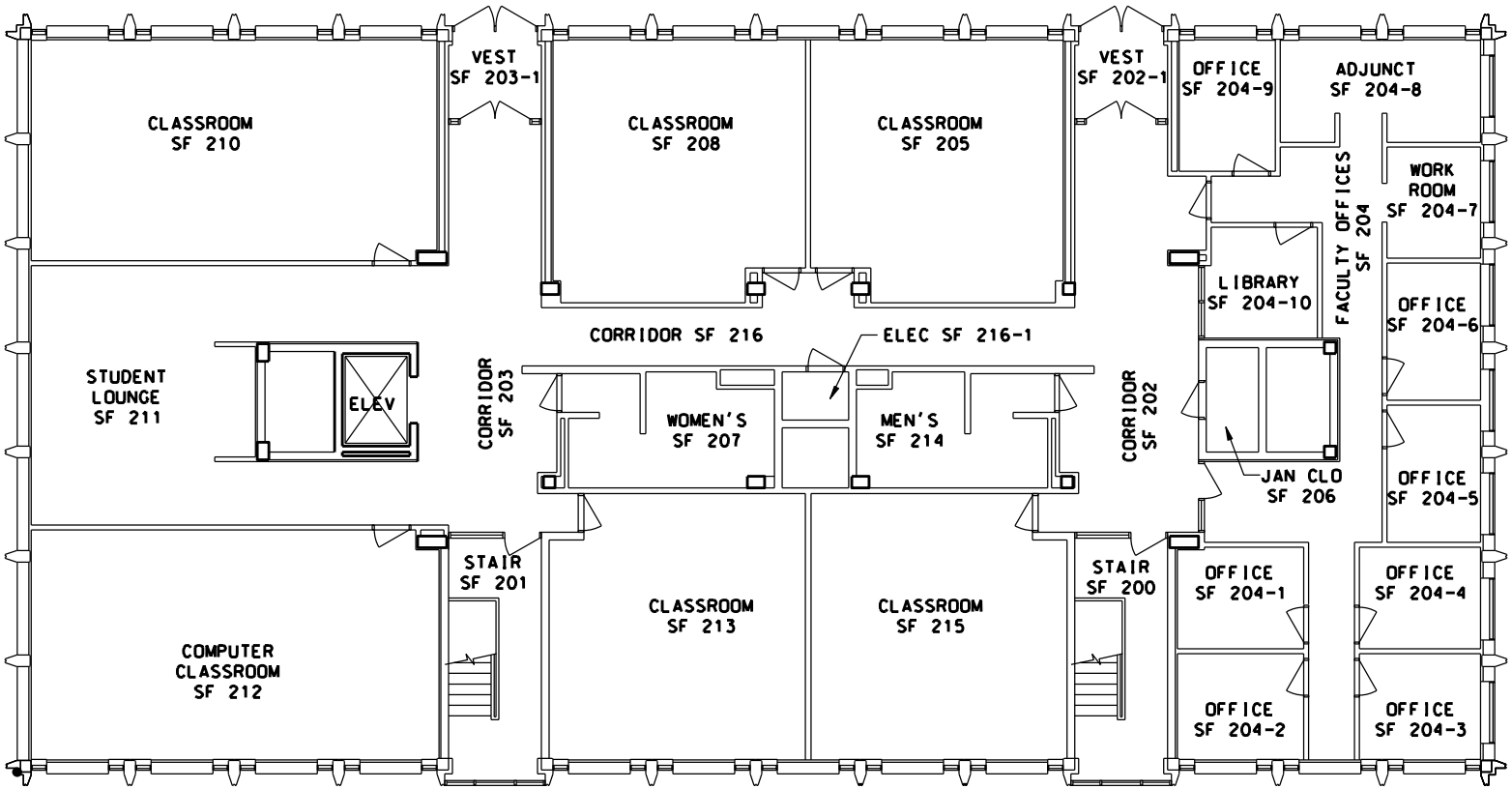
Code Systems and Barrier Free

- Upgraded in Summer 2018.
- Barrier free operators should be added to the gang toilet room doors.



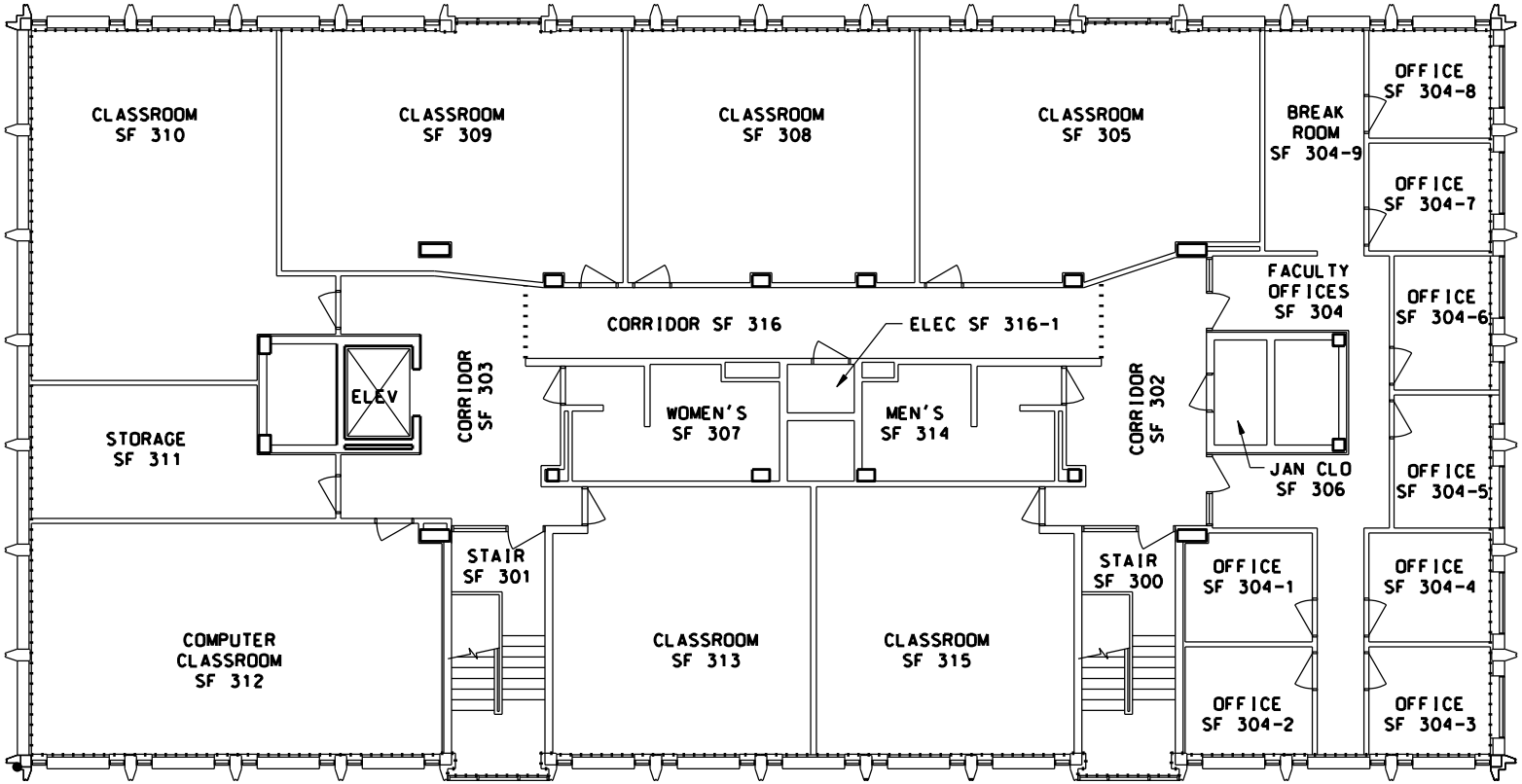
BUILDING "SF" 100 LEVEL

NORTH



BUILDING "SF" 200 LEVEL

NORTH



BUILDING "SF" 300 LEVEL

NORTH

Building SF

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
Architectural Systems													
1	Door Hardware	Gang Toilets all floors	Add barrier free operators to all entry doors	4	EA	$ 3,500.00	$ 14,000					$ 14,000	$ 20,300
Power Systems													
1	Power Systems	Main Electrical Room	The MV Switch has no markings or labels indicating age, but appears original to the building (1967). The equipment is at, or nearing, end of expected useful life and should be replaced with next major renovation.	1	LS					$ 50,000.00	$ 50,000	$ 50,000	$ 72,500
2	Power Systems	Main Electrical Room	The Transformer section of the substation is liquid filled. Judging by the small amount of oil on the floor behind the transformer and in the pan, it appears to have or previously had a slow leak (or possibly a spill from previous maintenance). The gauges on the transformer do not indicate alarming values. However, this issue should be further investigated and corrected if necessary.	1	LS					$ 10,000.00	$ 10,000	$ 10,000	$ 14,500
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 SB	1	LS					$ 8,000.00	$ 8,000	$ 8,000	$ 11,600
4	Power Systems	General	Electrical equipment had no indication of maintenance or testing since original installation. Testing / maintenance is recommended at regular intervals.	1	LS					$ 6,000.00	$ 6,000	$ 6,000	$ 8,700
							$ -		**$ -**		**$ 74,000**	**$ 74,000**	**$ 107,300**

BUILDING SG

GENERAL OVERVIEW

Use:	Student Services
Year Built:	1976
Total Area:	69,877 SF
Floors:	2 plus basement
5 Year DMB:	$50,750
CRV:	$28,649,570
FCI:	0.18%

COMMENTS

Roof System

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

Enclosure System

- Upgraded in Summer of 2016.

Finish System

- Upgraded in Summer of 2016.

Fixed Equipment

- Upgraded in Summer of 2016.

HVAC System

- Upgraded in Summer of 2016.

Plumbing System

- Upgraded in Summer of 2016.

Fire Protection

- Upgraded in Summer of 2016.

Temperature Controls

- Upgraded in Summer of 2016.

Power Systems

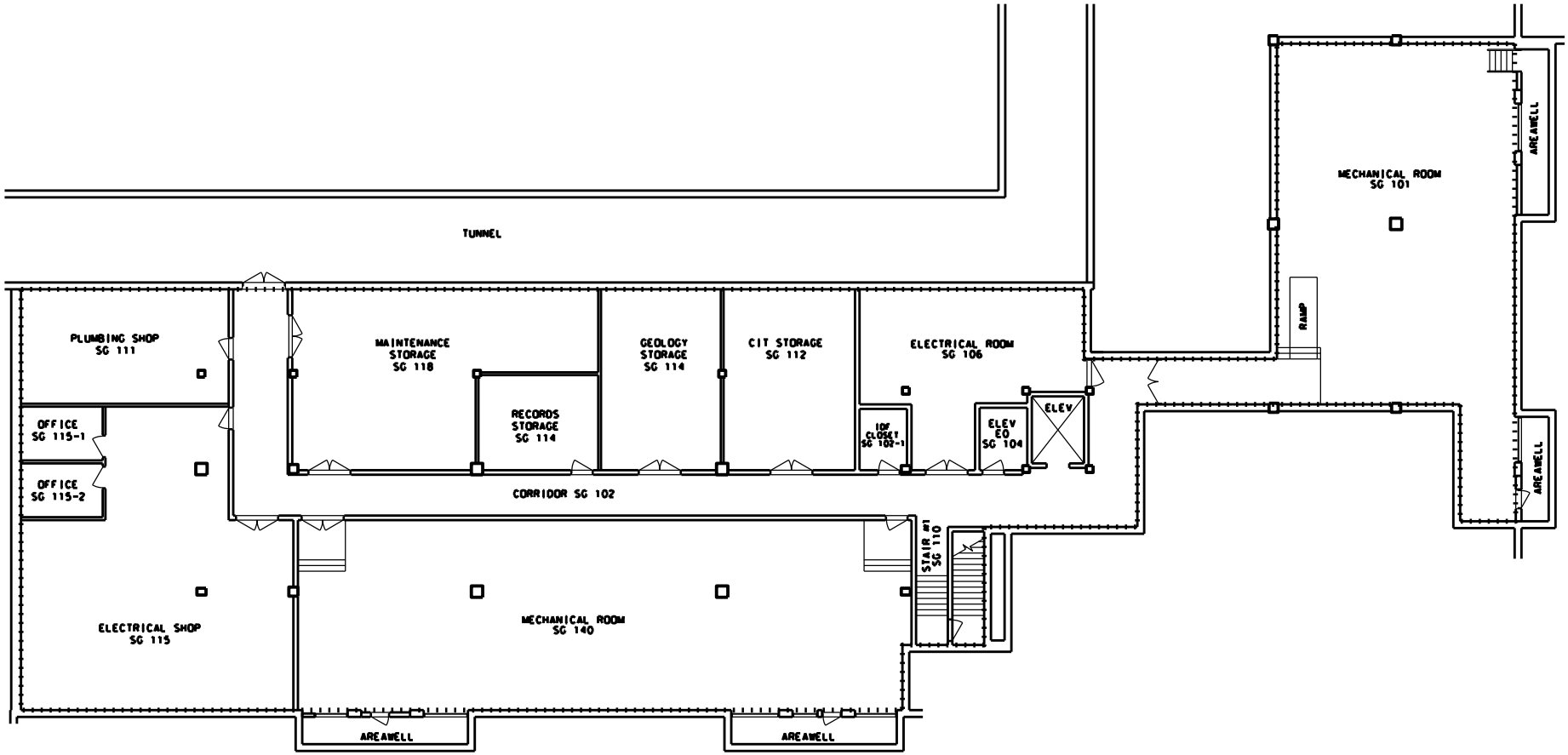
- Upgraded in Summer of 2016.

Lighting System

- Upgraded in Summer of 2016.

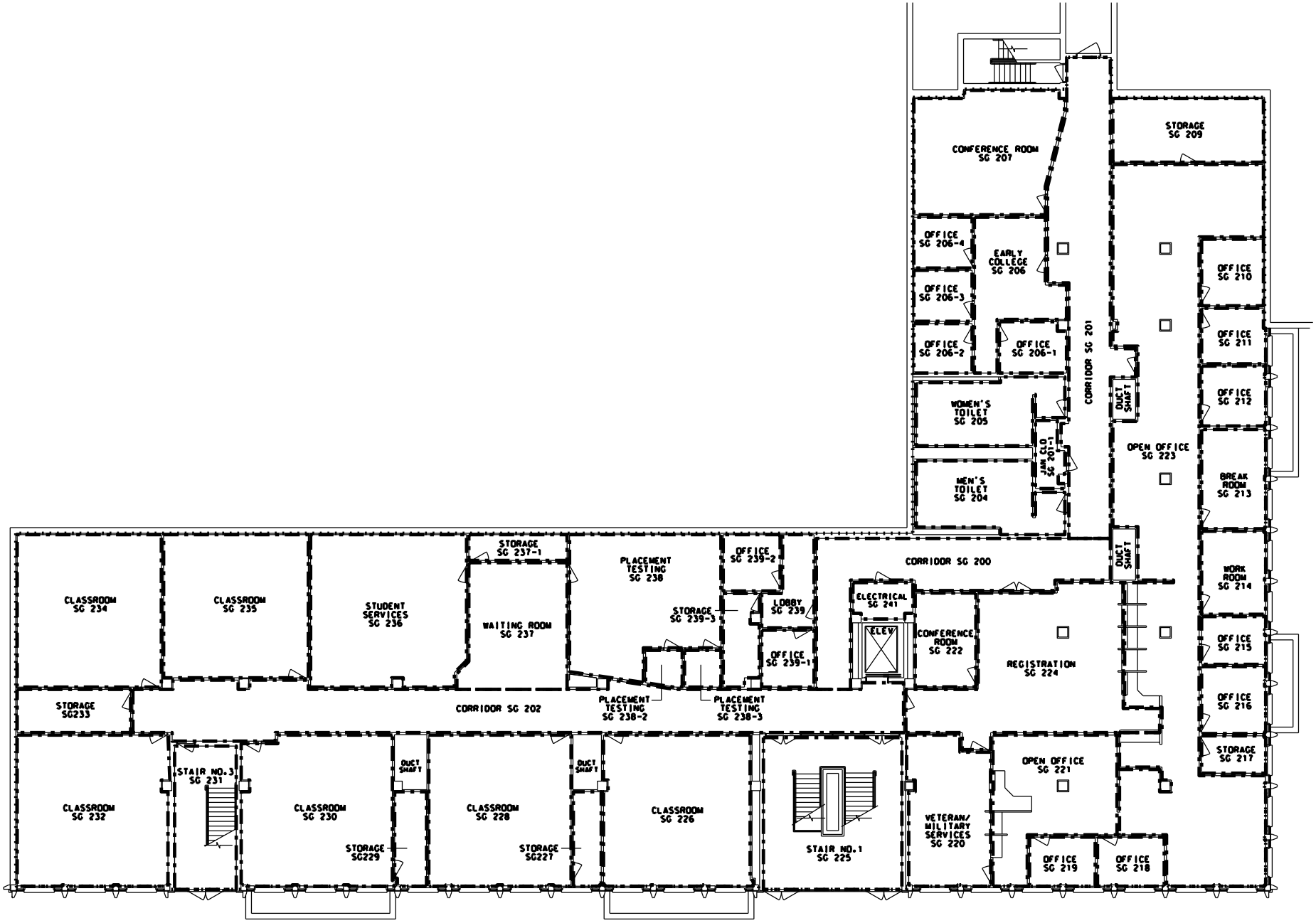
Code Systems and Barrier Free

- Upgraded in Summer of 2016.



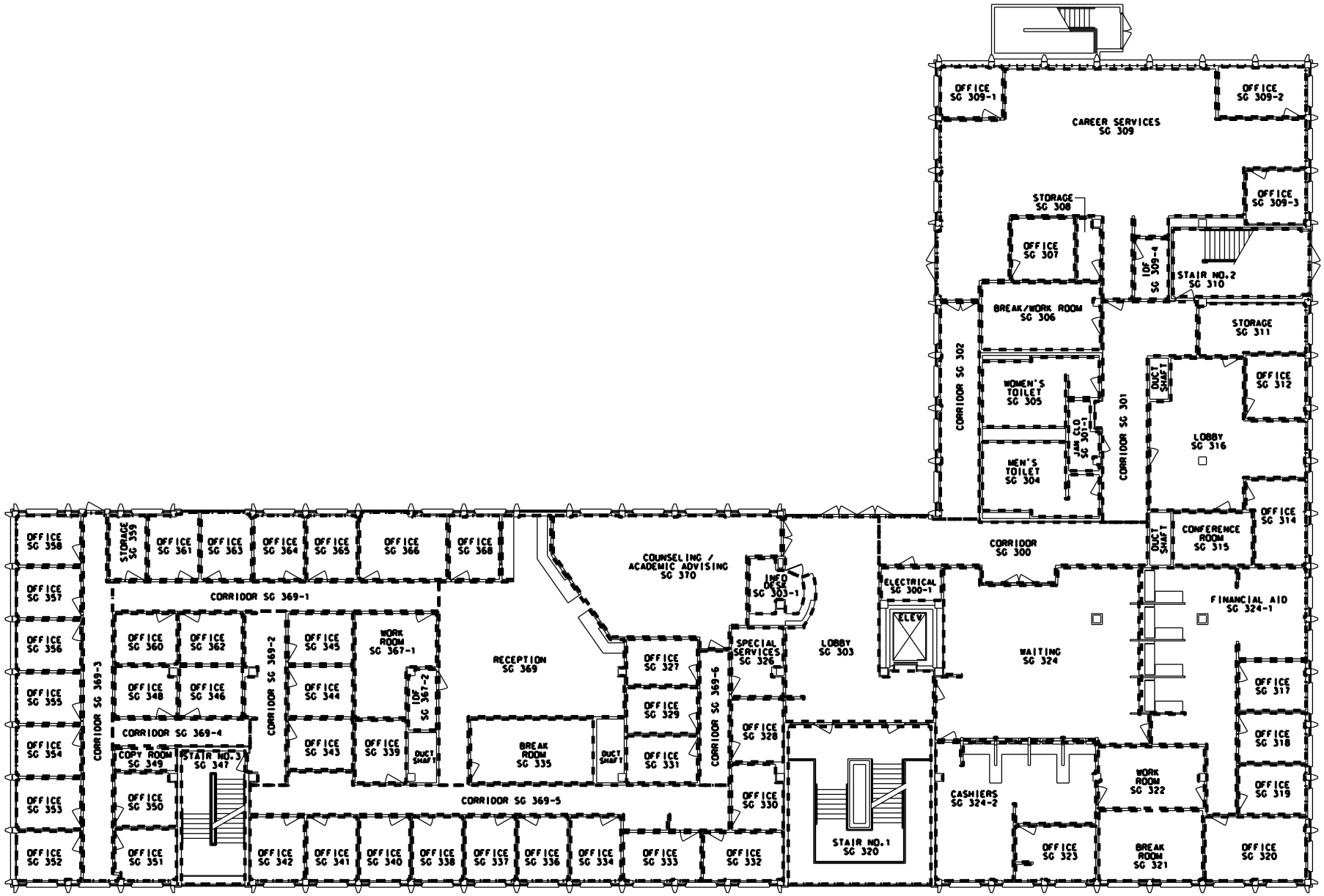
BUILDING "SG" 100 LEVEL

NORTH



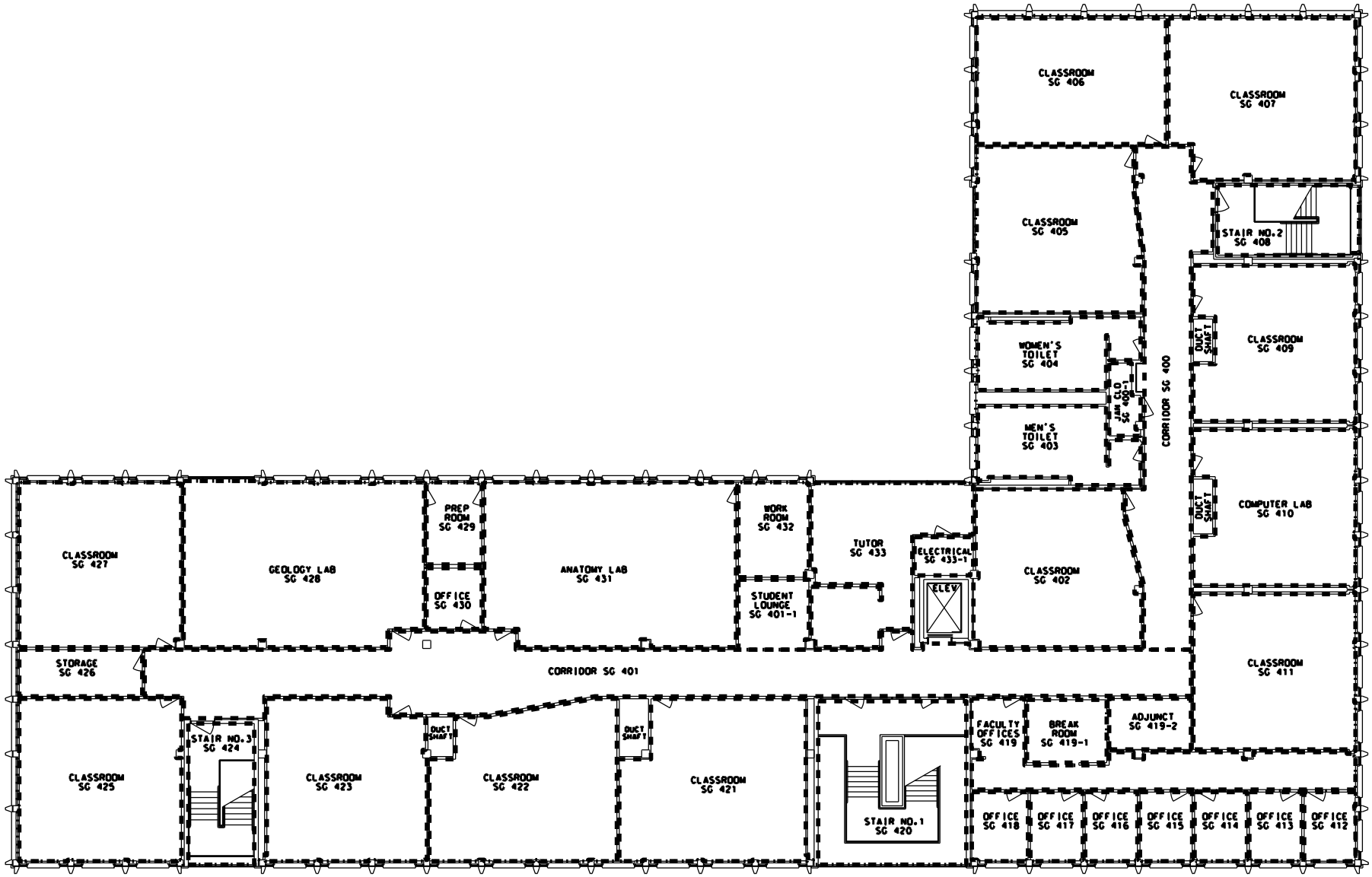
BUILDING "SG" 200 LEVEL

NORTH



BUILDING "SG" 300 LEVEL

NORTH



BUILDING "SG" 400 LEVEL

NORTH

Building SG

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
HVAC System													
1	HVAC System	IDS Closet G367-2	Install mini-split air conditioner (portable move-n-cool unit currently).	1	LS			$ 3,500.00	$ 3,500			$ 3,500	$ 5,075
2	HVAC System	Electrical Closet G-300-1	Provide ventilation.	1	LS			$ 2,500.00	$ 2,500			$ 2,500	$ 3,625
3	HVAC System	IDF Closet G309-4	Install mini-split air conditioner (portable move-n-cool unit currently).	1	LS			$ 3,500.00	$ 3,500			$ 3,500	$ 5,075
Power Systems													
1	Power Systems	Main Electrical Room G106	There are LB fittings with covers open (associated with the elevator sump pump controller) and free wires (with wire nuts on the ends) extending out of a disconnect switch adjacent to panel "RP-SG-EXT". The wiring should be concealed with covers. A permanent solution should be provided if the wires are being used by maintenance/facilities group.	1	LS					$ 5,000.00	$ 5,000	$ 5,000	$ 7,250
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 SB	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 2016. Testing / maintenance is recommended at regular intervals.	1	LS					$ 10,000.00	$ 10,000	$ 10,000	$ 14,500
4	Power Systems	Records G116	Poke-Throughs in the floor above dont appear to have the conduit openings sealed.	1	EA					$ 300.00	$ 300	$ 300	$ 435
5	Power Systems	Electrical Shop G115	Panel above the work bench is missing its dead front cover behind the door, exposing the bussing and wires. The cover is on the workbench and should be reinstalled.	1	LS					$ 200.00	$ 200	$ 200	$ 290
Lighting System													
1	Lighting System	Electrical Closet G300-1	Centeral Lighting Inverter appears to be opperational and in good condition. Approximate age is less than 10 years. There are no labels identifying dates of testing or maintenance. Testing / maintenance is recommended at regular intervals.	1	LS					$ 2,000.00	$ 2,000	$ 2,000	$ 2,900
							$ -		**$ 9,500**		**$ 25,500**	**$ 35,000**	**$ 50,750**

BUILDING SJ

GENERAL OVERVIEW

Use:	Classrooms, Libraries and Offices
Year Built:	1970
Total Area:	89,516 SF
Floors:	3 plus penthouse
5 Year DMB:	$925,029
CRV:	$35,179,788
FCI:	2.63%

COMMENTS

Roof System

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

Enclosure System

- Upgraded in Summer of 2018.

Finish System

- Upgraded in Summer of 2018.

Fixed Equipment

- Upgraded in Summer of 2018.

HVAC System

- Upgraded in Summer of 2018.

Plumbing System

- Upgraded in Summer of 2018.

Fire Protection

- Upgraded in Summer of 2018.

Temperature Controls

- Upgraded in Summer of 2018.

Power Systems

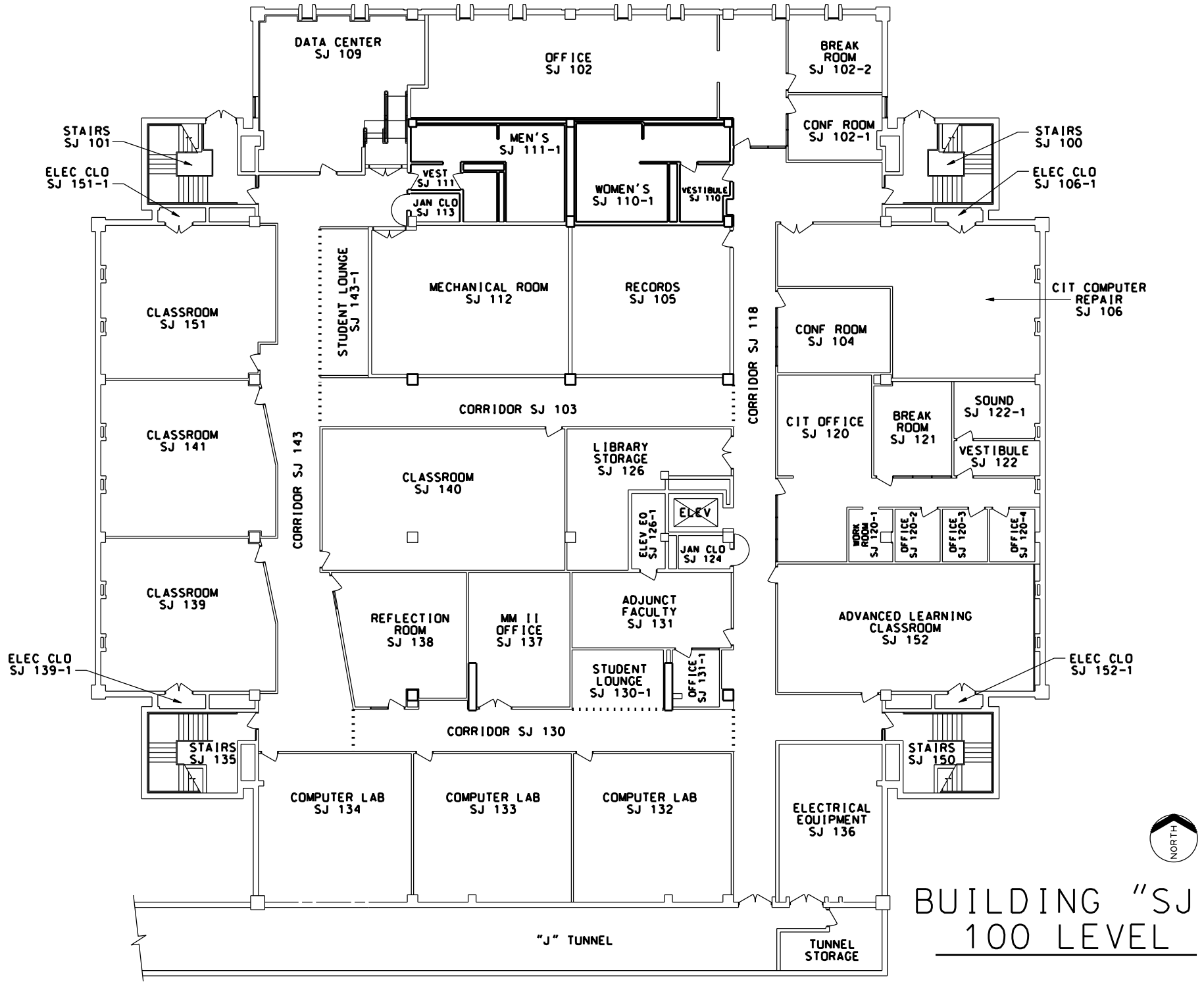
- A majority of the electrical equipment was upgraded in 2007 or later and is in good condition.

Lighting System

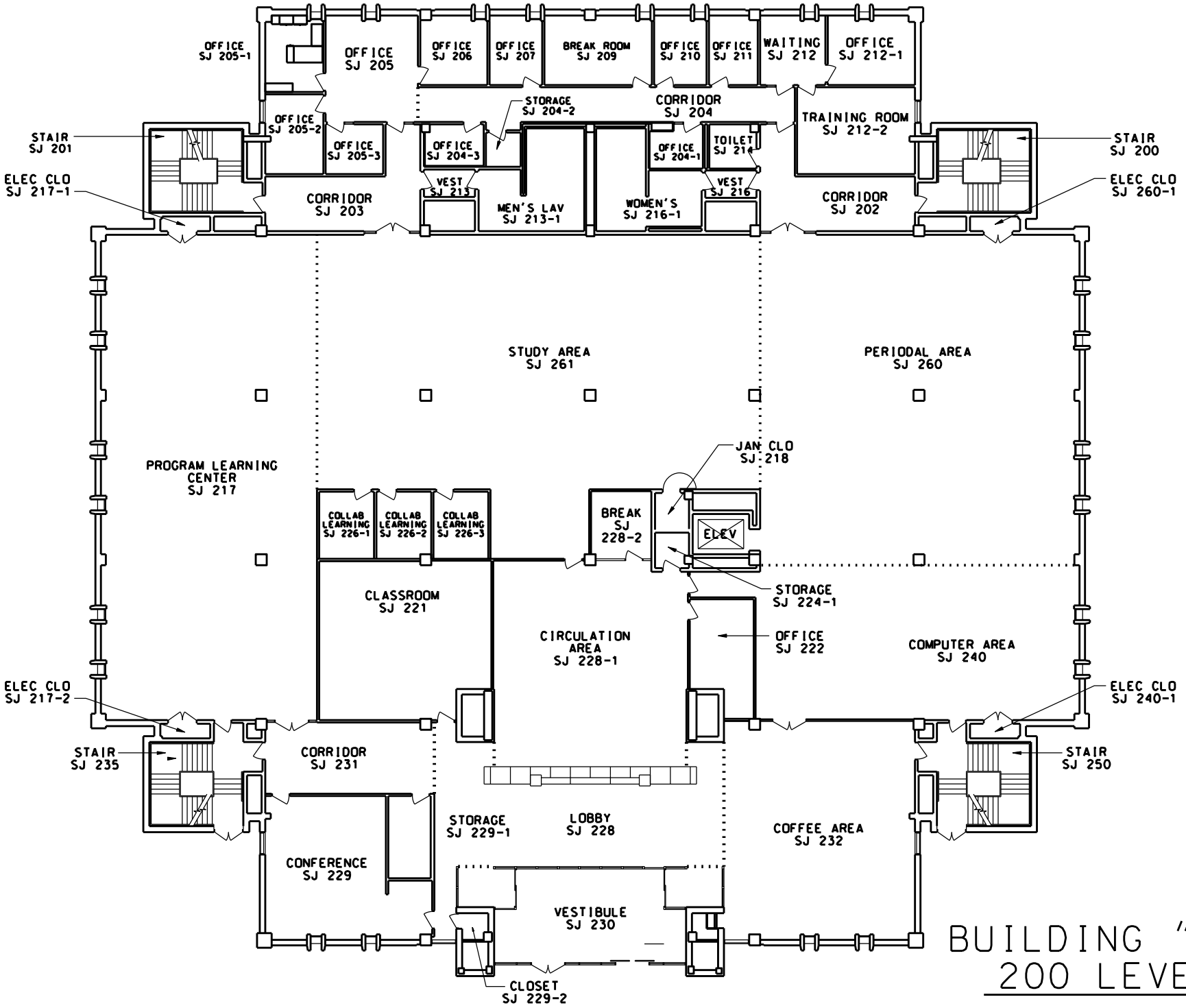
- Upgraded in Summer of 2018.

Code Systems and Barrier Free

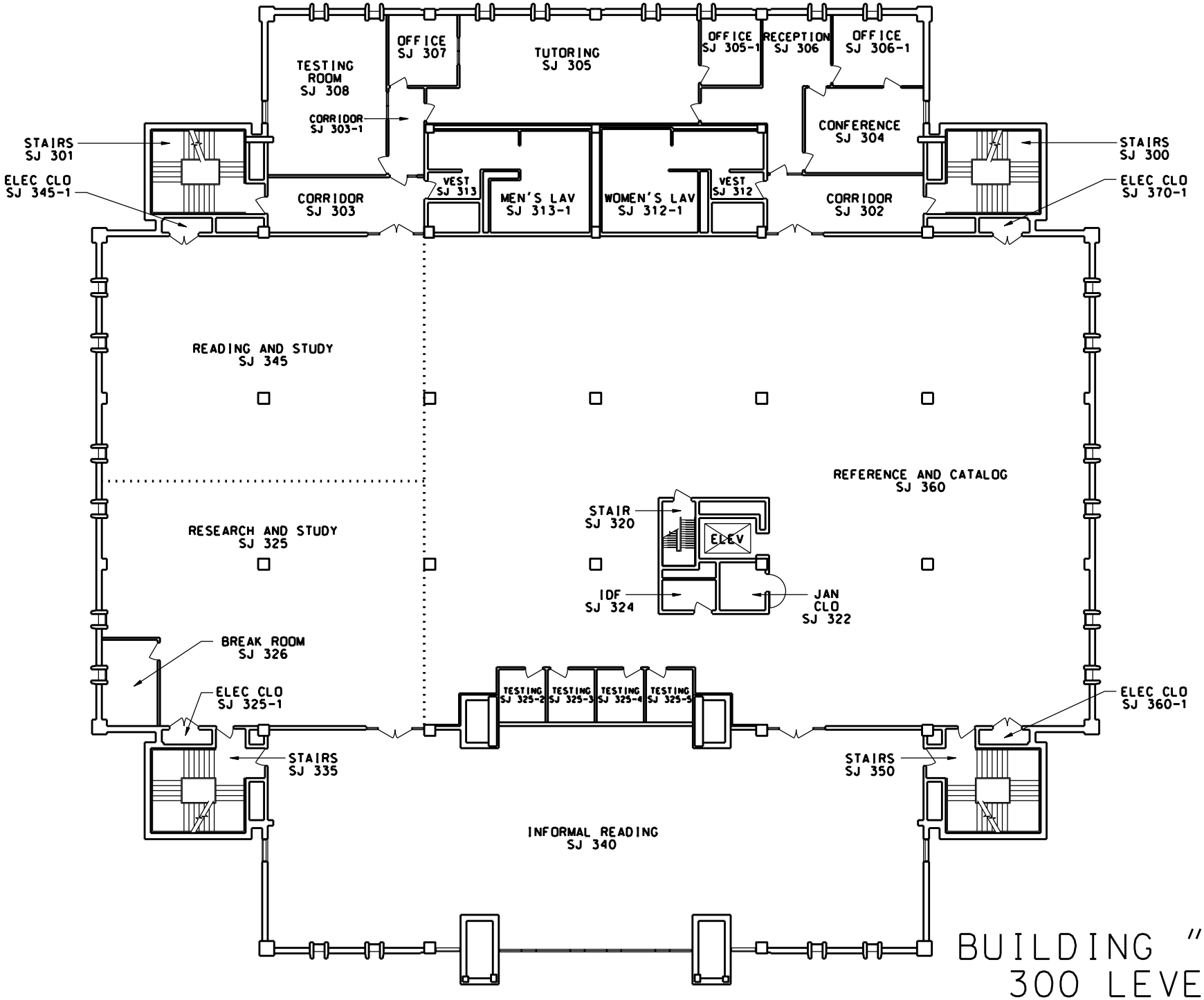
- Upgraded in Summer of 2018.



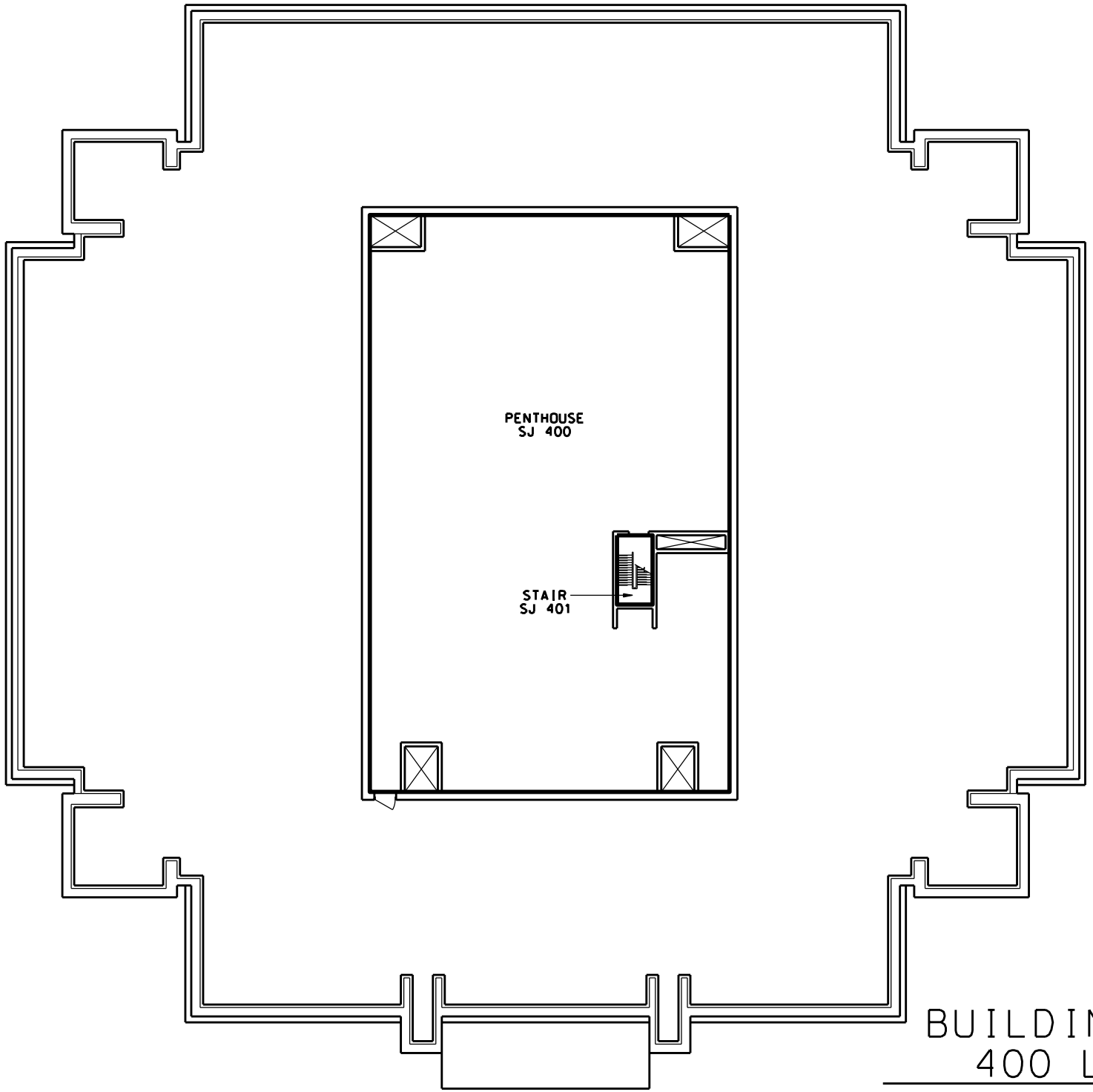
BUILDING "SJ"
100 LEVEL



BUILDING "SJ"
200 LEVEL



BUILDING "SJ"
300 LEVEL



BUILDING "SJ"
400 Level

Building SJ

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
Architectural Systems													
1	Elevator	General	Replace elevator equipment and cab.	1	LS	$180,000.00	$ 180,000					$ 180,000	$ 261,000
Fire Protection													
1	Fire Protection	General	Upgrade fire alarm system.	89,516	SF			$ 1.96	$ 175,451			$ 175,451	$ 254,404
Power Systems													
1	Power Systems	Main Electrical Room J136	Substation 1J is original to the building, manufactrurered in 1969. Labels indicate last testing was done in 2019. This equipment is at, or nearing, end of expected useful life and should be replaced with next major renovation.	1	LS					$300,000.00	$ 300,000	$ 300,000	$ 435,000
2	Power Systems	General	A number of panelboards and tranformers are original to the building. These panels/transformers are at, or nearing, end of expected useful life and should be replaced with next major renovation.	9	EA					$ 15,000.00	$ 135,000	$ 135,000	$ 195,750
3	Power Systems	General	250kW Natural Gas Generator manufactured date: 2003. Date code on the battery indicates it was manufactured in 2005. Testing / maintenance is recommended at regular intervals. Note: The existing generator currently serves optional standby loads via (3) automatic transfer switches. 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
4	Power Systems	General	A select number of electrical equipment are equipped with arc flash labels indicating incident energy boundaries and available fault current. The remainder of equipment labels are generic. NFPA 70E requires updating arc flash studies at an interval not to exceed 5 years. The existing labeling is dated 2017. It is recommended to update the building-wide power systems study.	1	LS					$ 10,000.00	$ 10,000	$ 10,000	$ 14,500
5	Power Systems	General	Some electrical equipment had no labels indicatiing maintenance or testing. The majority of electrical equipment had lables indicating testing at the date of equipment's installation. Testing / maintenance is recommended at regular intervals.	1	LS					$ 10,000.00	$ 10,000	$ 10,000	$ 14,500
							$ -		**$ 175,451**		**$ 462,500**	**$ 637,951**	**$ 925,029**

BUILDING SK

GENERAL OVERVIEW

Use:	Student Services, Conference and Dining
Year Built:	1971, 1976
Total Area:	97,734 SF
Floors:	2 plus basement
5 Year DMB:	$426,953
CRV:	$40,070,940
FCI:	1.07%

COMMENTS

Roof System

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

Enclosure System

- Upgraded in Summer of 2021.

Finish System

- Upgraded in Summer of 2021.

Fixed Equipment

- Upgraded in Summer of 2021.

HVAC System

- Upgraded in Summer of 2021.

Plumbing System

- Upgraded in Summer of 2021.

Fire Protection

- Upgraded in Summer of 2021.

Temperature Controls

- Upgraded in Summer of 2021.

Power Systems

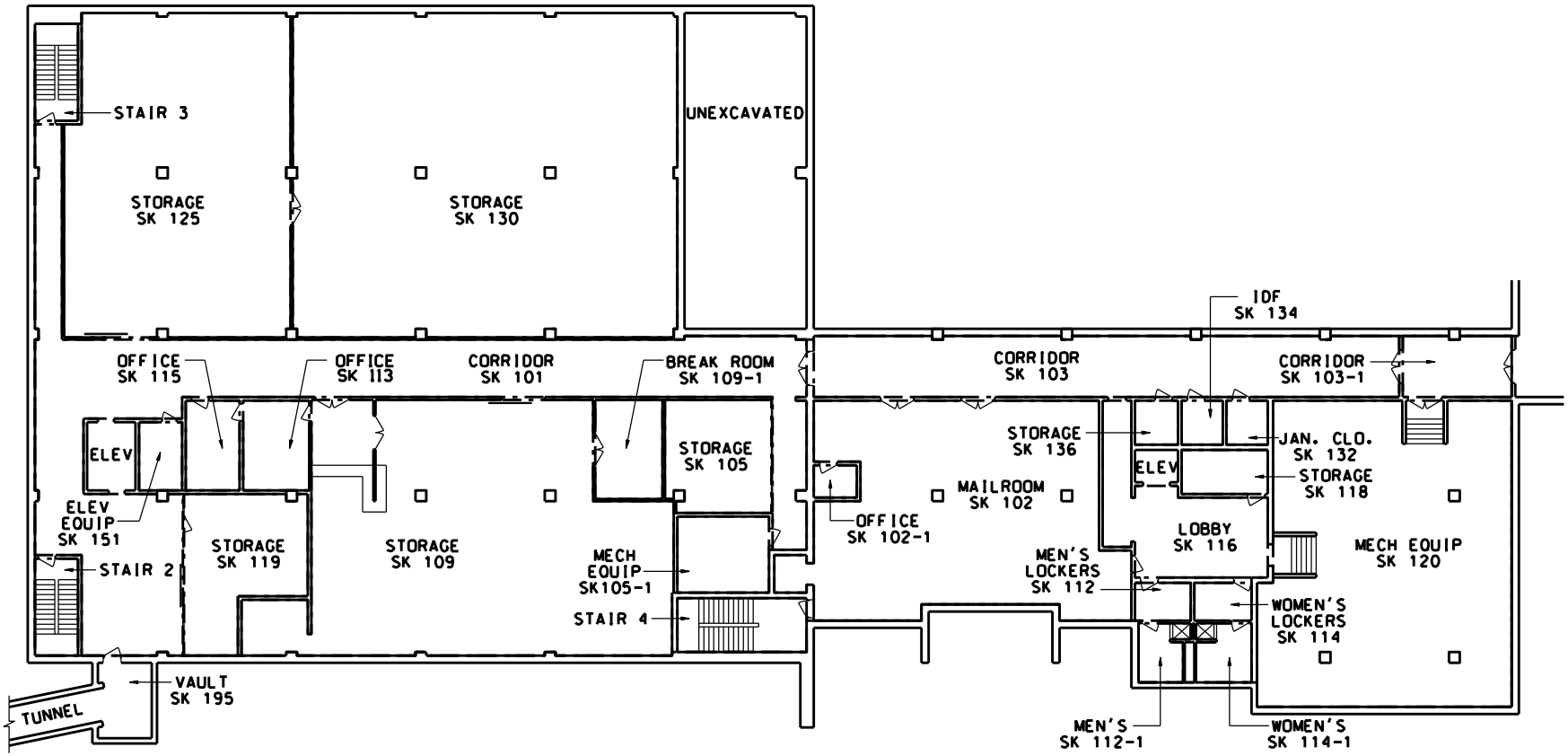
- A majority of the electrical equipment was upgraded in 2020 and is in good condition.

Lighting System

- Existing lighting in the building is LED. Lighting on the first floor and in the basement and the first floor was upgraded in 2021.
- Exit signs are LED.

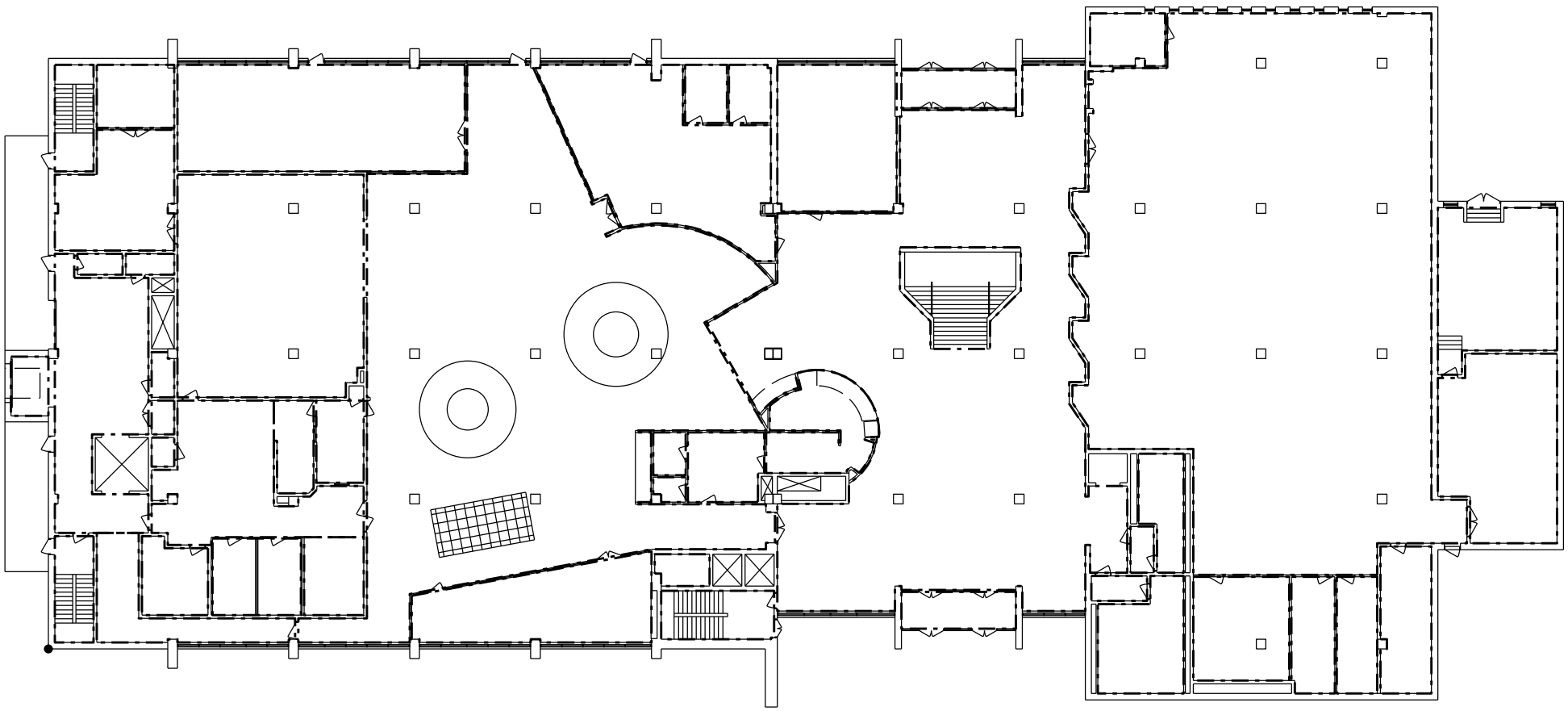
Code Systems and Barrier Free

- Upgraded in Summer of 2021.



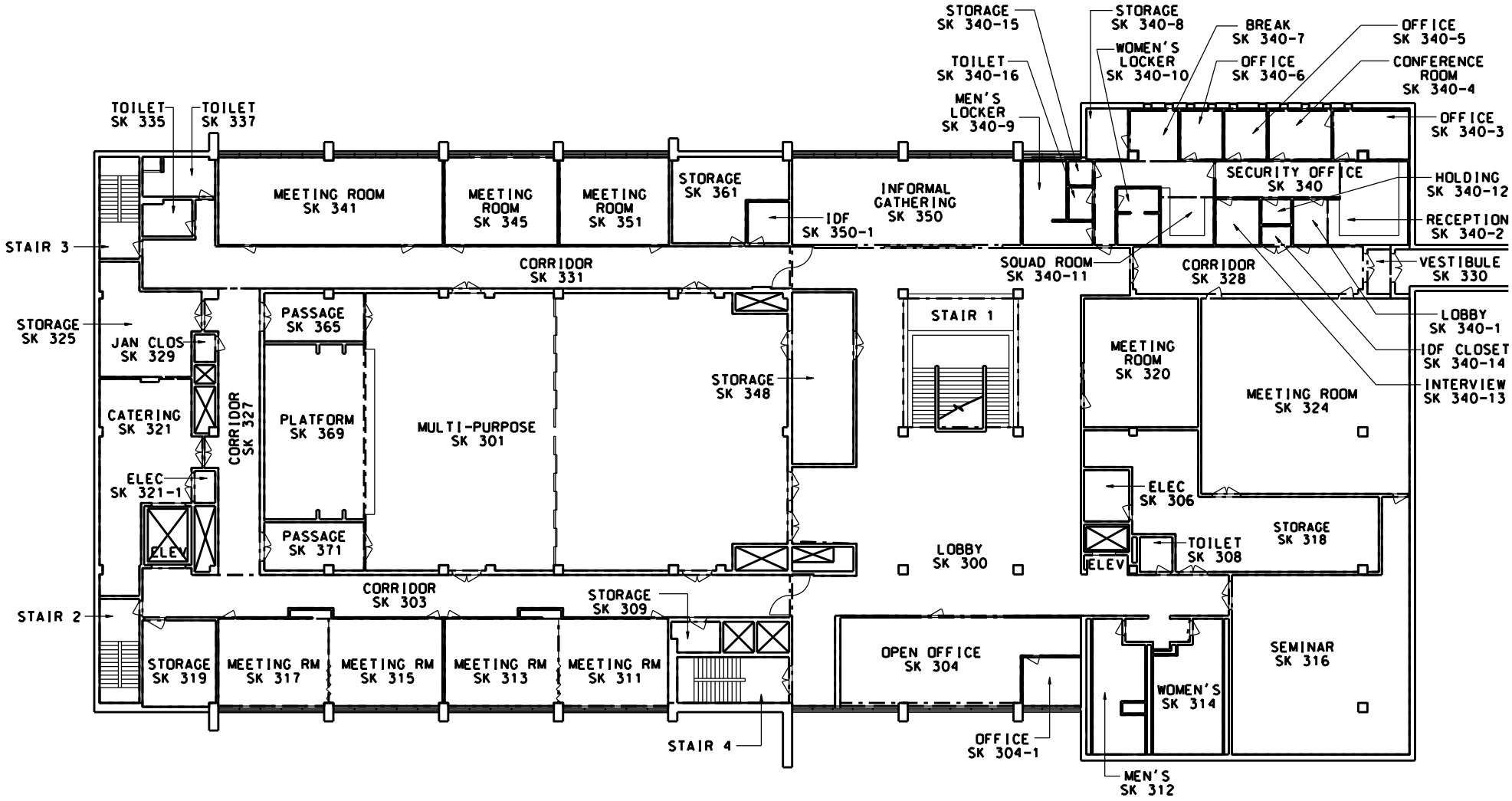
BUILDING "SK" 100 LEVEL

NORTH



BUILDING "SK" 200 LEVEL

NORTH



BUILDING "SK" 300 LEVEL

NORTH

Building SK

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
HVAC System													
1	HVAC System	General	Replace split -system air-condioning unit from K-130 storage to K-134 IDF.	1	LS			$ 1,500.00	$ 1,500			$ 1,500	$ 2,175
2	HVAC System	General	Provide ventilation for Mechanical Room K-105-1.	1	LS			$ 2,500.00	$ 2,500			$ 2,500	$ 3,625
3	HVAC System	General	Repair/replace roof mounted exposed duct jacketing and insulation serving ERU-1 located on roof.	1	LS			$ 1,000.00	$ 1,000			$ 1,000	$ 1,450
Power Systems													
1	Power Systems	General	Several panels were not replaced in 2020 and are due for replacement.	12	EA					$ 5,000.00	$ 60,000	$ 60,000	$ 87,000
2	Power Systems	General	A transformer was not replaced in 2020 and is due for replacement.	1	EA					$ 10,000.00	$ 10,000	$ 10,000	$ 14,500
3	Power Systems	General	The 15 kV medium-voltage switchgear appears to be due for replacement. The gear includes a main primary switch, two utilized fused switches and one spare fused switch.	1	LS					$142,300.00	$ 142,300	$ 142,300	$ 206,335
4	Power Systems	General	The 500 kVA 13.2kV-480Y/277V medium-voltage transformer appears to be due for replacement.	1	EA					$ 62,500.00	$ 62,500	$ 62,500	$ 90,625
5	Power Systems	General	Testing / maintenance is recommended at regular intervals for electrical equipment.	1	LS					$ 7,500.00	$ 7,500	$ 7,500	$ 10,875
6	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 SB.	1	LS					$ 4,000.00	$ 4,000	$ 4,000	$ 5,800
7	Power Systems	General	Storage Room 130 (where there is no technology rack) is cooled, whereas the adjacent IDF 134 (where there is a technology rack) is not cooled. Cost given is to move electrical connection to evaporator.	1	LS					$ 2,000.00	$ 2,000	$ 2,000	$ 2,900
8	Power Systems	General	There are open electrical rough-ins in the first floor Kitchen.	3	EA					$ 50.00	$ 150	$ 150	$ 218
9	Power Systems	General	A rooftop HVAC unit does not have a local disconnect switch.	1	EA					$ 1,000.00	$ 1,000	$ 1,000	$ 1,450
							$ -		**$ 5,000**		**$ 289,450**	**$ 294,450**	**$ 426,953**

BUILDING SL

GENERAL OVERVIEW

Use:	Offices
Year Built:	1950
Total Area:	3,586 SF
Floors:	2 plus basement
5 Year DMB:	$121,285
CRV:	$1,506,120
FCI:	8.05%

COMMENTS

Roof System

- Roof replaced in 2022.

HVAC System

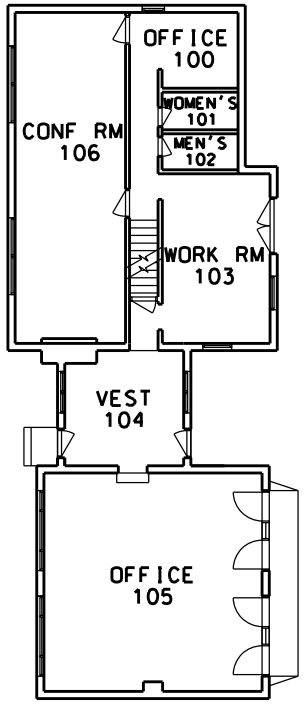
- Basement furnace and outdoor condensing unit manufactured in 2013.
- Newer exposed gas-fired standard efficiency furnace is located in Open Office area of Main Floor.

Fire Protection

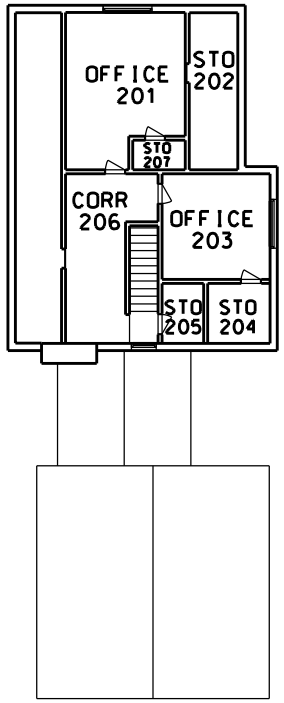
- There is no fire suppression.

Temperature Controls

- Replaced with furnace.

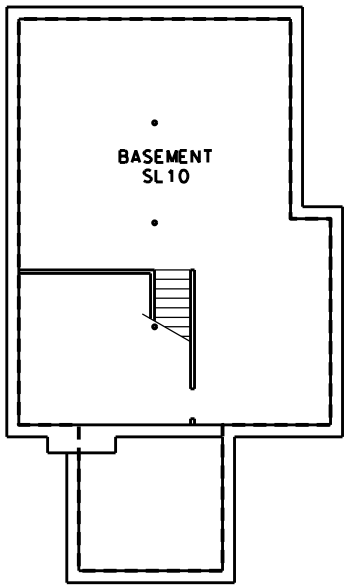


BUNERT HOUSE FIRST FLOOR



BUNERT HOUSE SECOND FLOOR

BUNERT BASEMENT



BUILDING "SL" BASEMENT LEVEL

NORTH

Building SL

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
Finish System													
1	Finish System	Basement	Replace tile flooring.	1	LS	$ 10,000.00	$ 10,000					$ 10,000	$ 14,500
2	Finish System	Throughout	Replace flooring.	1	LS	$ 15,000.00	$ 15,000					$ 15,000	$ 21,750
Plumbing System													
1	Plumbing System	General	Repair shower drain.	1	EA			$ 750.00	$ 750			$ 750	$ 1,088
2	Plumbing System	General	Replace lavatories and water closet.	1	LS			$ 3,000.00	$ 3,000			$ 3,000	$ 4,350
Power Systems													
1	Power Systems	Basement	The building (which is a house) is served by one load center which is quite old and due for replacement.	1	EA					$ 3,000.00	$ 3,000	$ 3,000	$ 4,350
2	Power Systems	Kitchen	Receptacle at sink should be replaced with a properly-grounded GFCI-type receptacle.	1	EA					$ 500.00	$ 500	$ 500	$ 725
3	Power Systems	Exterior	The disconnect switch for the pad-mounted condenser is rusty and should be replaced.	1	EA					$ 1,000.00	$ 1,000	$ 1,000	$ 1,450
4	Power Systems	Site	The parking lot is deep, surrounded by trees, and only illuminated from the building. Pole-mounted lighting is recommended.	2	EA					$ 8,000.00	$ 16,000	$ 16,000	$ 23,200
Lighting System													
1	Lighting System	General	Interior and exterior lighting is a mixture of fluorescent and incandescent sources. Light fixtures should be replaced with LED light fixtures.	3,586	SF					$ 6.00	$ 21,516	$ 21,516	$ 31,198
2	Lighting System	General	Provide automatic lighting controls throughout the building.	3,586	SF					$ 1.50	$ 5,379	$ 5,379	$ 7,800
Code Systems and Barrier Free													
1	Code Systems and Barrier Free	Entrance	Provide ramp at entrance.	1	LS	$ 7,500.00	$ 7,500					$ 7,500	$ 10,875
							$ 32,500		**$ 3,750**		**$ 47,395**	**$ 83,645**	**$ 121,285**

BUILDING SM

GENERAL OVERVIEW

Use:	Industrial Labs, Automotive Labs and Classrooms
Year Built:	1982
Total Area:	82,725 SF
Floors:	2
5 Year DMB:	$10,936,463
CRV:	$49,386,825
FCI:	22.14%

COMMENTS

Roof System

- Roof installed in 2006.

Mechanical Systems

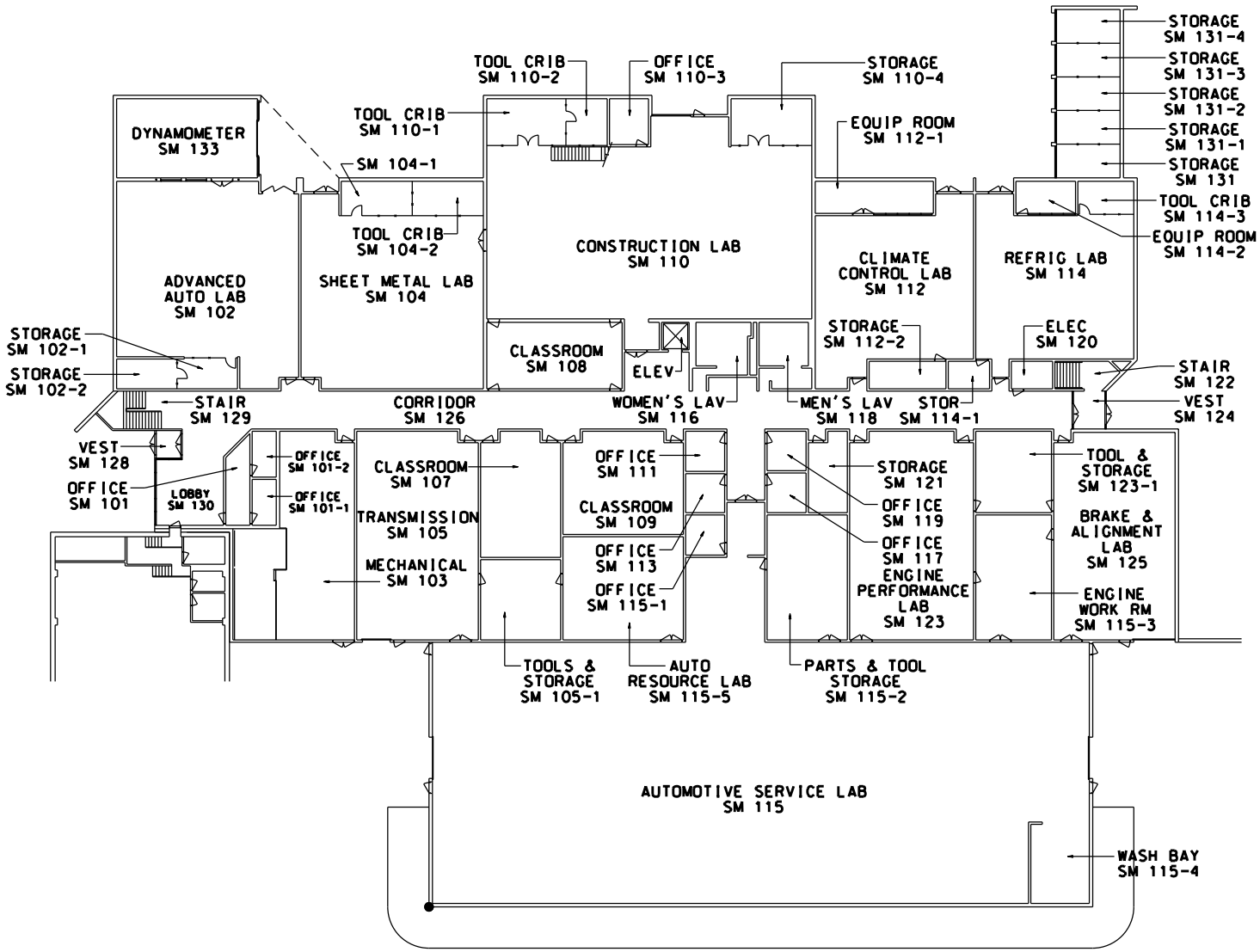
- Replace existing Continuum (Andover) BAS controls with new Tridium (Honeywell).

Fire Protection

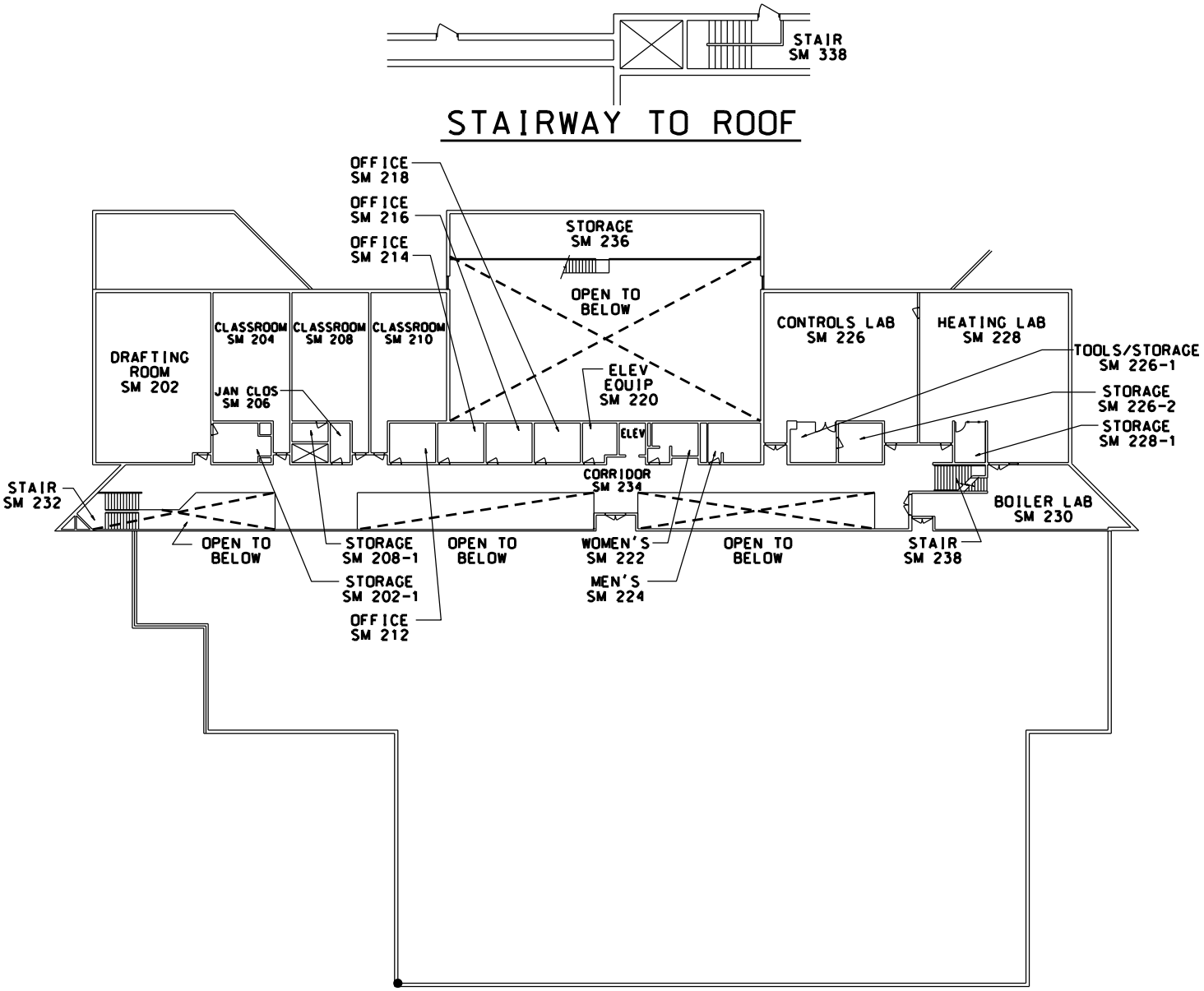
- The existing building is fully sprinkled; no revisions or corrective actions are necessary.

Lighting System

- Exit signs are LED.
- There is no evidence of emergency lighting in several interior windowless classrooms and large teaching labs. The cost to correct this is included in Item No. 1 of cost spreadsheet.



BUILDING "SM" 100 LEVEL



BUILDING "SM" 200 LEVEL

NORTH

Building SM

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
Architectural Systems													
1	Elevator	General	Replace elevator equipment and cab.	1	LS	$140,000.00	$ 140,000					$ 140,000	$ 203,000
Roof System													
1	Roof System	Roof	Sloped metal roof should be replaced.	1	LS	$450,000.00	$ 450,000					$ 450,000	$ 652,500
2	Roof System	Perimeter	Flashings around building need repair.	1	LS	$ 17,500.00	$ 17,500					$ 17,500	$ 25,375
Enclosure System													
1	Enclosure System	Sloped Roof	Sloped glazing system broken and leaks. The system should be replaced or covered with siding.	10,000	SF	$ 40.00	$ 400,000					$ 400,000	$ 580,000
2	Enclosure System	Clerestory	Clerestory windows should be replaced.	1,000	SF	$ 70.00	$ 70,000					$ 70,000	$ 101,500
3	Enclosure System	Louvers	Operable louvers do not function and should be replaced.	1,500	SF	$ 35.00	$ 52,500					$ 52,500	$ 76,125
Finish System													
1	Finish System	Corridor	Brick tile flooring is failing and should be replaced.	1	LS	$ 85,000.00	$ 85,000					$ 85,000	$ 123,250
2	Finish System	Auto Lab	Trench drain in Auto Shop damaged.	1	LS	$ 18,000.00	$ 18,000					$ 18,000	$ 26,100
3	Finish System	Throughout	Patch, repair and repaint walls.	1	LS	$ 15,000.00	$ 15,000					$ 15,000	$ 21,750
HVAC System													
1	HVAC System	Building	The building's HVAC system are in poor condition and are in need of the following: Air handling units, exhaust fans, perimeter and tempering coil hot water heating system, heat exchangers and pumps, steam condensate return unit, auto shop roof mounted heating and ventilating units and fabrication shop heating and ventilating units (indoors and mezzanine).	82,725	SF			$ 34.50	$ 2,854,013			$ 2,854,013	$ 4,138,318
2	HVAC System	Outdoors	The Fabrication Shop dust collector in in very poor conditioning and should be replaced.	1	LS			$ 20,103.00	$ 20,103			$ 20,103	$ 29,149
3	HVAC System	Auto Lab	The vehicle exhaust system is in poor condition and should be replaced.	1	LS			$ 36,186.00	$ 36,186			$ 36,186	$ 52,470
4	HVAC System	Building	Renovate existing solar hot water system (solar panels, piping controls, heat exchangers, storage tanks, etc.).	1	LS			$ 402,069.00	$ 402,069			$ 402,069	$ 583,000
Plumbing System													
1	Plumbing System	Toilet Rooms	Water closet should be replaced with water conserving units and accessible units where required.	13	EA			$ 2,332.00	$ 30,316			$ 30,316	$ 43,958
2	Plumbing System	Toilet Rooms	Urinals should be replaced with water conserving units and accessible units where required.	8	EA			$ 2,040.00	$ 16,320			$ 16,320	$ 23,664
3	Plumbing System	Toilet Rooms	Lavatories should be replaced with water conserving units and accessible units where required.	14	EA			$ 1,856.00	$ 25,984			$ 25,984	$ 37,677
4	Plumbing System	Toilet Rooms	The classroom semi-circular handwashing sinks are in poor condition and need to repaired frequently. Recommended replacing with accessible stainless steel sensor operated type.	10	EA			$ 11,660.00	$ 116,600			$ 116,600	$ 169,070
5	Plumbing System	Auto Lab	Provide oil and sand interceptor to serve the trench drain and floor drains in the auto lab as required by current code to protect the public sewers.	1	LS			$ 68,966.00	$ 68,966			$ 68,966	$ 100,001
Temperature Controls													
1	Temperature Controls	Building	Replace and upgrade controllers and control components for added efficiency and enhanced maintenance functions. Replace existing Continuumn (Andover) BAS system with new Tridium (Honeywell) system.	82,725	SF			$ 4.83	$ 399,562			$ 399,562	$ 579,365
Power Systems													
1	Power Systems	General	The vast majority of the electrical distribution equipment is due for replacement. The Automotive Service Lab is an exception, which does already have new distribution equipment (17,145 SF).	65,580	SF					$ 18.00	$ 1,180,440	$ 1,180,440	$ 1,711,638
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 SB.	1	LS					$ 10,000.00	$ 10,000	$ 10,000	$ 14,500
3	Power Systems	General	Two panels are located behind doors. Some Authorities Having Jurisdiction do not allow this condition due to the risk of being pushed into a live, open panel while working on it. It is recommended that these panels be relocated.	2	EA					$ 4,000.00	$ 8,000	$ 8,000	$ 11,600
4	Power Systems	General	The building needs a new generator, dedicated to Life Safety loads in 'SM'. It is recommended that it be sized to also serve some optional standby loads. Cost includes a 350 kW natural gas generator, (2) automatic transfer switches and Life Safety and Optional Standby distribution equipment. COST DOES NOT INCLUDE NEW NATURAL GAS SERVICE.	1	LS					$289,700.00	$ 289,700	$ 289,700	$ 420,065
5	Power Systems	Classroom 107	This classroom, with (25) computers, is very hot.	1	LS					$ 2,000.00	$ 2,000	$ 2,000	$ 2,900
6	Power Systems	Mechanical Room 103	A panel is located below a duct in this room, which is not code compliant. The panel should be relocated. Replacement is included under Power Systems Item 1, above.	1	LS					$ 3,000.00	$ 3,000	$ 3,000	$ 4,350

Building SM

No.	Item/Description	Location	Notes	Qty.	Unit	Architectural		Mechanical		Electrical		Construction Cost	Project Cost
						Unit Cost	Subtotal	Unit Cost	Subtotal	Unit Cost	Subtotal		
7	Power Systems	Sheet Metal Lab 104	A disconnect switch and panel RP-4 in this room do not have sufficient electrical working clearance and should be relocated.	1	LS					$ 6,000.00	$ 6,000	$ 6,000	$ 8,700
Lighting System													
1	Lighting System	General	Existing lighting fixtures in most areas of the building utilize T12 fluorescent lamps. Downlights in corridors are HID and the emitted light color is quite green. The Automotive Service Lab is an exception, which does already have LED lighting (17,145 SF). Within the next renovation, new LED lighting and controls should be included to meet current ASHRAE standards. Lighting should be replaced throughout with LED.	65,580	SF					$ 12.00	$ 786,960	$ 786,960	$ 1,141,092
2	Lighting System	General	Provide new branch wiring and emergency lighting control devices for emergency lighting throughout the building (where requried by code).	82,725	SF					$ 2.00	$ 165,450	$ 165,450	$ 239,903
Code Systems and Barrier Free													
1	Code Systems and Barrier Free	Toilet Rooms	Toilet stalls should be replaced.	4		$ 3,000.00	$ 12,000					$ 12,000	$ 17,400
2	Code Systems and Barrier Free	Toilet Rooms	Protective pipe covering should be provided over exposed piping below the accessible lavatory.	4		$ 180.00	$ 720					$ 720	$ 1,044
							$ 1,120,720		**$ 3,970,118**		**$ 2,451,550**	**$ 7,542,388**	**$ 10,936,463**

BUILDING SN


MACOMB COMMUNITY COLLEGE
DENTAL CLINIC
27956
COLLEGE PARK DRIVE

GENERAL OVERVIEW

Use:	Offices
Year Built:	1986
Total Area:	14,547 SF
Floors:	1
5 Year DMB:	$106,575
CRV:	$6,109,740
FCI:	1.74%

COMMENTS

Roof System

- Single-ply Duro-Last roof installed in 2002.
- Roof warranty expired in 2017.

Enclosure System

- Upgraded in Summer 2021.

Finish System

- Upgraded in Summer 2021.

Fixed Equipment

- Upgraded in Summer 2021.

HVAC System

- Upgraded in Summer 2021.

Plumbing System

- Upgraded in Summer 2021.

Fire Protection

- There is no fire suppression system.

Temperature Controls

- Upgraded in Summer 2021.

Power Systems

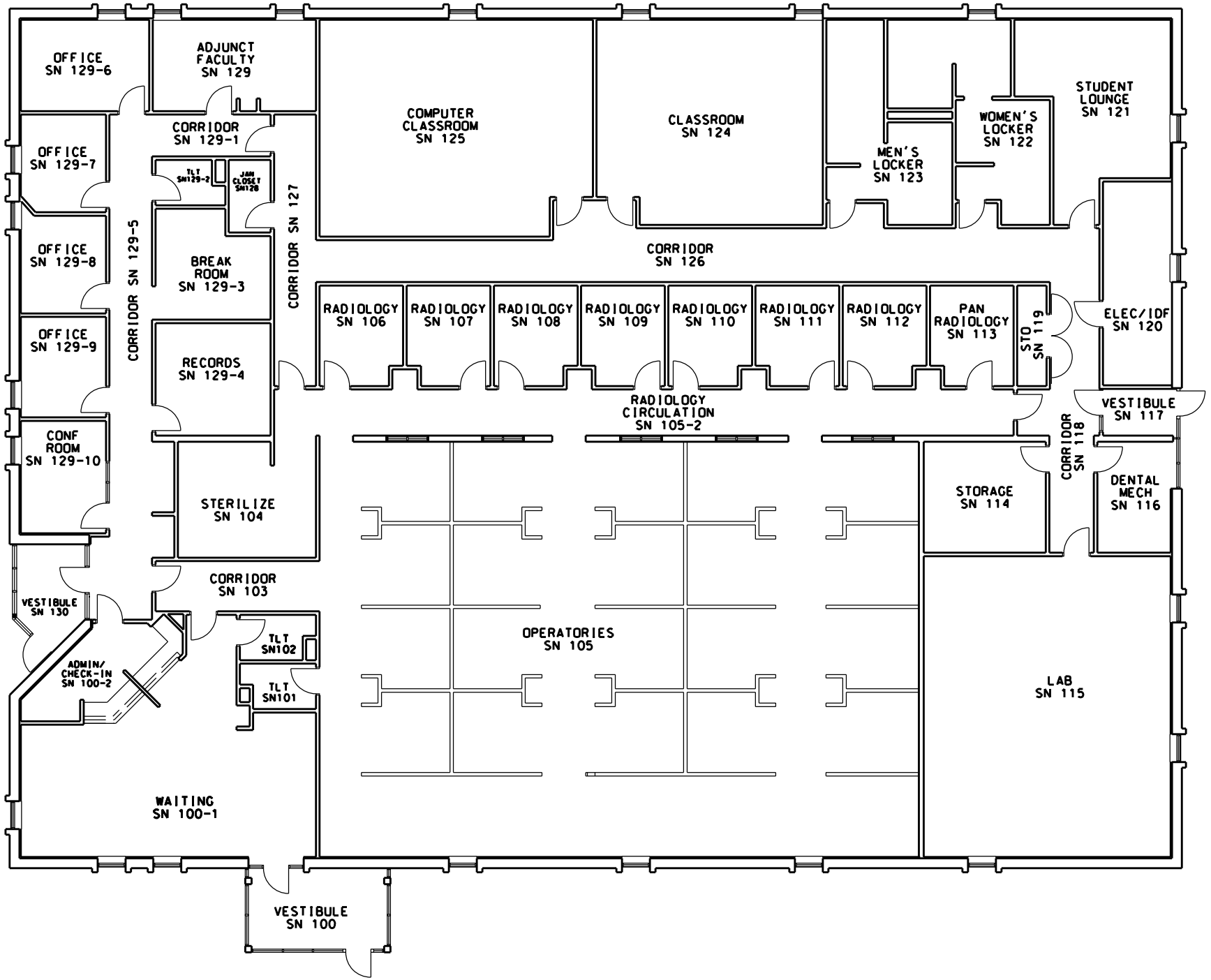
- Upgraded in Summer 2021.

Lighting System

- Upgraded in Summer 2021.

Code Systems and Barrier Free

- Upgraded in Summer 2021.



BUILDING "SN" ANNEX 100 LEVEL

NORTH

Building SN

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	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 SB.	1	LS					$ 8,000.00	$ 8,000	$ 8,000	$ 11,600
2	Power Systems	General	Testing / maintenance is recommended at regular intervals.	1	LS					$ 6,000.00	$ 6,000	$ 6,000	$ 8,700
Lighting System													
1	Lighting System	Site	There is only one light pole to illuminate the entire L-shaped parking lot. Additional light poles are recommended.	7	EA					$ 8,500.00	$ 59,500	$ 59,500	$ 86,275
							$ -		**$ -**		**$ 73,500**	**$ 73,500**	**$ 106,575**

BUILDING SP

GENERAL OVERVIEW

Use: Athletics and Physical Education

Year Built: 1975

Total Area: 103,238 SF

Floors: 1

5 Year DMB: $18,218,482

CRV: $56,677,662

FCI: 32.14%

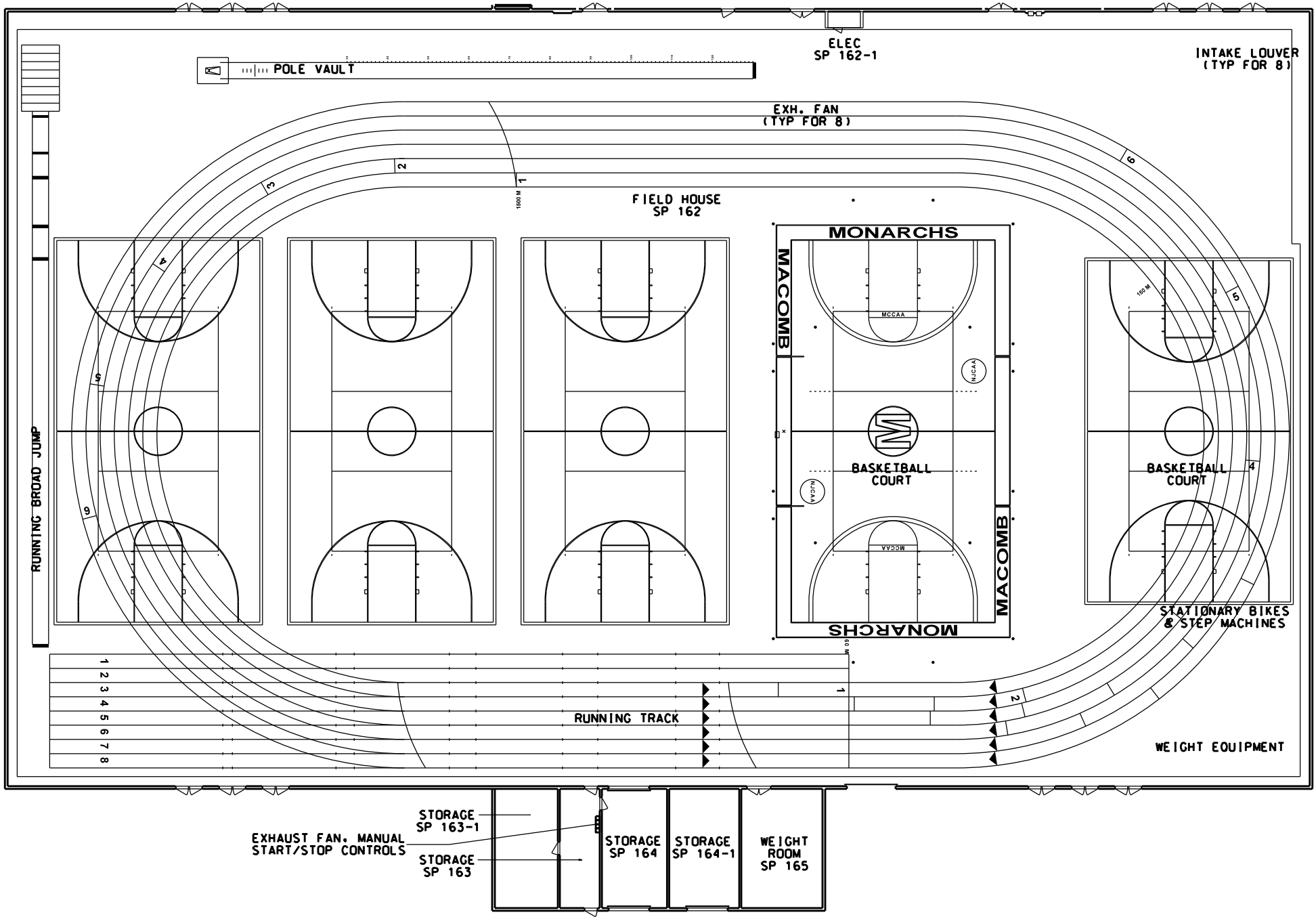
COMMENTS

Roof System

- Firestone EPDM roof installed in 2019.
- Roof warranty expires in 2034.
- The gymnasium/expo portion of the facility was retrofitted with new air turnover units, chiller and boilers in 2022. The balance of the building's HVAC system is original to the building, installed in 1997, and should be replaced.

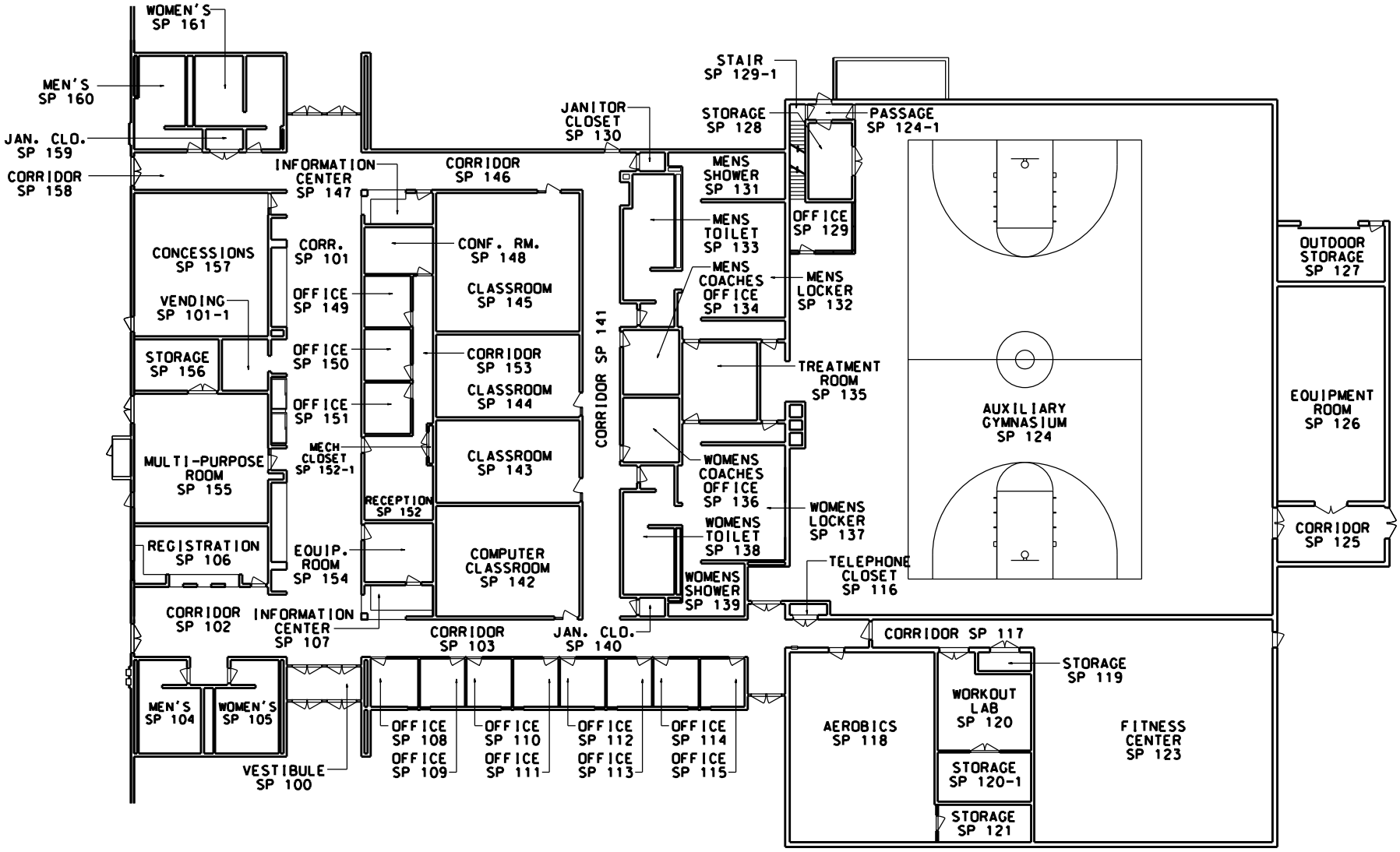
Temperature Controls

- Building has mixture of Tridium (Honeywell) and Desigo (Siemens) controls. Remove and replace the Desigo portion with new Tridium for consistency.

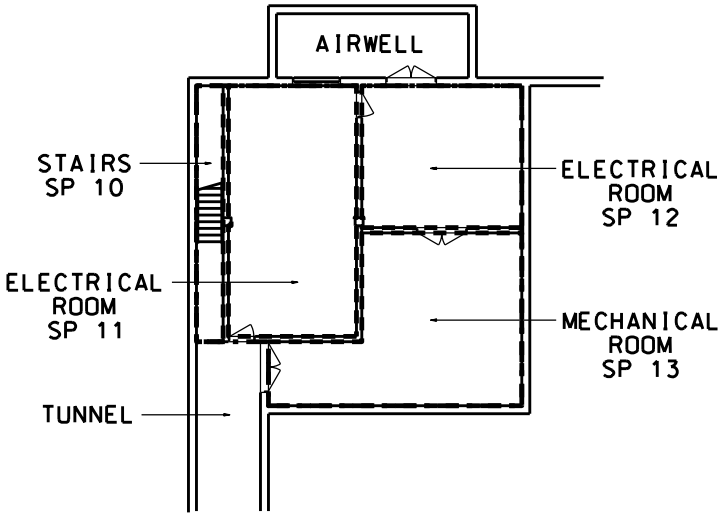


BUILDING "SP" 100 LEVEL - EAST

NORTH



BUILDING "SP" 100 LEVEL - WEST



BUILDING "SP" BASEMENT LEVEL

NORTH

Building SP

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	Throughout	Recaulk control joints in block.	1	LS	$ 15,000.00	$ 15,000					$ 15,000	$ 21,750
2	Enclosure System	Throughout	Re-tuckpoint block.	1	LS	$ 10,000.00	$ 10,000					$ 10,000	$ 14,500
3	Enclosure System	Throughout	Clean and paint metal siding.	1	LS	$ 40,000.00	$ 40,000					$ 40,000	$ 58,000
Finish System													
1	Finish System	Fieldhouse	Repaint.	1	LS	$ 40,000.00	$ 40,000					$ 40,000	$ 58,000
2	Finish System	Fieldhouse	Clean and reseal block.	1	LS	$ 15,000.00	$ 15,000					$ 15,000	$ 21,750
3	Finish System	Fieldhouse	Re-tuckpoint block.	1	LS	$ 10,000.00	$ 10,000					$ 10,000	$ 14,500
HVAC System													
1	HVAC System	Throughout	Replace galvanized piping	103238	SF			$ 24.14	$ 2,492,165			$ 2,492,165	$ 3,613,640
2	HVAC System	Throughout	Clean system.	1	LS			$ 25,000.00	$ 25,000			$ 25,000	$ 36,250
3	HVAC System	Throughout	All HVAC equipment with the exception of ARU's, chilled water system and boiler systems, are original to building and should be replaced.	1	LS			$2,500,000.00	$ 2,500,000			$ 2,500,000	$ 3,625,000
Plumbing System													
1	Plumbing System	Concessions	Provide backflow preventors.	7	EA			$ 500.00	$ 3,500			$ 3,500	$ 5,075
2	Plumbing System	Basement	Replace damaged pipe insulation.	50	EA			$ 75.00	$ 3,750			$ 3,750	$ 5,438
3	Plumbing System	Throughout	Provide pipe identification.	1	LS			$ 5,000.00	$ 5,000			$ 5,000	$ 7,250
4	Plumbing System	Women's Locker	Remove abandoned piping.	1	LS			$ 4,000.00	$ 4,000			$ 4,000	$ 5,800
5	Plumbing System	Throughout	Replace galvanized piping.	1	LS			$ 68,966.00	$ 68,966			$ 68,966	$ 100,001
Fire Protection													
1	Fire Protection	Throughout	Extend suppression throughout building.	103238	SF			$ 5.50	$ 567,809			$ 567,809	$ 823,323
Temperature Controls													
1	Temperature Controls	Throughout	Update/replace controls for new HVAC. Replace existing Desigo (Siemens) controls with new Tridium (Honeywell) controls.	103238	SF			$ 10.00	$ 1,032,380			$ 1,032,380	$ 1,496,951
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 incorporate latest data.	1	LS					$ 20,000.00	$ 20,000	$ 20,000	$ 29,000
2	Power Systems	Elec Room	Existing substation components (substations P-1 & P-2) are at, or nearing, end of expected useful life and should be replaced with next major renovation. Substation P-3 is brand new (project currently in construction).	1	LS					$550,000.00	$ 550,000	$ 550,000	$ 797,500
3	Power Systems	General	Existing secondary power distribution is nearing end of expected useful life and should be replaced with the next major renovation.	103238	SF					$ 32.00	$ 3,303,616	$ 3,303,616	$ 4,790,243
Lighting System													
1	Lighting System	General	Replace fluorescent lighting with LED and new controls. Replace exterior lighting with LED.	103238	SF					$ 18.00	$ 1,858,284	$ 1,858,284	$ 2,694,512
							$ 130,000		**$ 6,702,570**		**$ 5,731,900**	**$ 12,564,470**	**$ 18,218,482**