GEF 1, 2, and 3 Office Building Repairs and Renovation Study

DOA # 20H2B / HGA #1190-033-01

PREPARED BY:

HGA

UPDATED FINAL REPORT

JULY 27, 2022

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PREFACE INTRODUCTION AND ACKNOWLEDGMENTS

INTRODUCTION

In June 2022 the State of Wisconsin commissioned HGA Architects and Engineers to undertake a Study of deferred maintenance, required renovations and needed upgrades and replacements at their General Executive Facilities (GEF 1, 2 and 3) located along Webster Street in Madison, Wisconsin.

The GEF buildings were built in the late seventies, early eighties and are now approaching 50 years old with façade and systems issues along with significant functional and code issues.

The goal of the Study is to review the viability of the buildings and systems, the extent of deferred maintenance and repairs, and provide a high-level cost estimate for the needed work.

ACKNOWLEDGMENTS

HGA thanks each member of the Core Team and Stakeholders for their invaluable input and for the information, knowledge and helpful guidance that you provided throughout this Study.

DOA CORE TEAM

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Marcel Maul
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HGA TEAM

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Kevin Pope	Mechanical Engineer
Ray Schwalbe	Fire Protection & Plumbing Engineer
Joe Tarlizzo	Cost Estimator
Abraham Ramirez	Report Support

SECTION 0 | EXECUTIVE SUMMARY

0.1 EXISTING SITE AND CONDITIONS

EXISTING GEF SITE SUMMARY

The site slopes by 40 feet from a high point at the corner of E. Washington and S. Webster Streets to a low point at the edge of the property at E. Wilson Street. There are views of the State Capitol from the corner of E. Washington and coming up the hill along King Street. The following are important site parameters:

- The site lot dimensions are 264' x 1000' (at center)
- The site slopes down to the South/Southeast
- Building fills the site from sidewalk edge to sidewalk edge
- There is public plaza at the entry to GEF-3 (between GEF-2 + 3)
- Small green space at corner of King + Butler
- Small Surface Parking Lot at South end of GEF-3
- All of the buildings are in City of Madison Zoning Classification DC (Downtown Core)

Aerial View of GEF-1, 2 + 3 Site

EXISTING GEF 1-3 BUILDING SUMMARIES

The existing General Executive Facility buildings (GEF-1, 2 + 3) are located at 201 East Washington Avenue (GEF-1), 101 South Webster Street (GEF-2), and 125 South Webster Street (GEF-3) in Madison. The three buildings fill two entire city blocks between E. Washington and E. Wilson Street and between S. Butler / King Streets and S. Webster Street. The existing building details are noted below.

GEF-1	GEF-2	GEF-3
• Four-stories above grade in a concrete frame building constructed in 1972 • 283 Parking Stalls on the two non-connected levels • 271,500 GSF of office space • 175,500 GSF of parking area • Existing GEF-1 Building has a total of 447,000 GSF • Primary occupant: Department of Workforce Development	• Six-stories above grade in a concrete frame/brick clad building constructed in 1978 • 41 Parking Stalls • 223,270 GSF of office space • Existing GEF-2 Building has a total of 447,000 GSF • Primary occupant: Department of Natural Resources	• Six-stories above grade in a concrete frame/brick clad building constructed in 1978 • Parking Stalls (86,117 GSF) on the two partially below grade levels • 167,735 GSF of office space • Primary occupants: Department of Public Instruction and the Office of the Commissioner of Insurance

EXISTING GEF-1 + 2 + 3 TOTALS: 662,500 GSF Office Space / 477 Parking Stalls

GEF-1: View from Corner of S. Webster + East Main Streets

GEF-2: View from Corner of S. Butler & E. Main Street

View of GEF-3 from E. Wilson

Public Plaza between GEF-2 + 3

0.1 EXISTING SITE AND CONDITIONS

GEF 2 Exterior Entry

0.2 KEY PROJECT PARAMETERS

Project Parameters - Each of the buildings was reviewed for exterior and interior elements and components that require repairs, upgrades or replacement. The facilities team provided HGA with a spreadsheet of deferred maintenance items as well as several reports documenting proposed repair / replacement projects that have been planned but not yet scheduled to proceed. These projects have been incorporated into the cost estimate and the reports are included in the Appendix of this Report. Another significant portion of the recommended work is the noted 'Interiors Refresh / Renewal'.

This work is slated to include minor space reconfiguration (to improve functionality), the refurbishment of toilet rooms to include new finishes and toilet partitions, new ACT ceilings, new painted walls, and new window blinds. In addition, a small portion of this scope is to perform minor cubicle refurbishment and repair. After discussion with Core Team, it was agreed to apply a uniform $75/SF for each of the buildings for these interior renovations.

Interiors Parameters - It is important to note that many of the items identified in the assessment and listed in the cost estimate are linked together. For example, at the time that the branch wiring and ductwork upgrades are completed is also the best time to install the new or upgraded fire protection system as well as the new lighting and new ceiling systems. While some items could certainly be treated as a stand-alone renovation, many of the items would be most efficient if completed as part of the same project

SECTION 2 | GEF 2 BUILDING

Brick façade – Overall the brick exterior façade is in good condition, however, there are areas of mortar deterioration along with minimal areas where there are brick faces with surface pops and spalling. The flashing system at the base of the building is showing signs of major deterioration and failure and should be replaced.
The recommendation is to complete a tuckpointing project to repair the damaged areas and replace base flashing.

Parking Structure Concrete Frame – The cast concrete flat slab structural system appears to be sound and in over-all fair condition, however there are some limited areas where surface concrete has popped. HGA, as part of an additional study, will have a structural engineer evaluate the concrete structure in the parking structure and make additional recommendations on the direction of repairs, cost and timing. This additional study will be completed by end of July 2022.
Recommendation is for the areas of spalled concrete to be cleaned and repaired. Current condition has approximately 10 – 15 locations for waffle slab repair.

Interior Stair Tower Railings – The railings in the stair towers are painted hollow metal and while in good condition they do not comply with current code in terms of the height of the guard rail and the horizontal rails exceed the maximum spacing of 4" between rails.
Recommendation is to replace all of the stair tower railings as part of an interior renovation to be fully code compliant.

Restroom ADA Compliance – The restrooms should be updated to comply with current ADA code. This will require new grab bars and the plumbing installation of new fixtures (see plumbing assessment). The toilet partitions are original to the building and show deterioration/rust and should be reconfigured per current ADA code and replaced.

Exterior Window Systems – the windows feature an aluminum framing system with insulated glass. The windows are original (installed in 1978) and are past their life expectancy. The new glass coating and insulated glass systems would improve the building performance.
Recommendation is to remove and replace the exterior window systems.

Exterior Sealants – At the time of the window replacement the recommendation is to complete sealant repairs and replacement on the building façade.

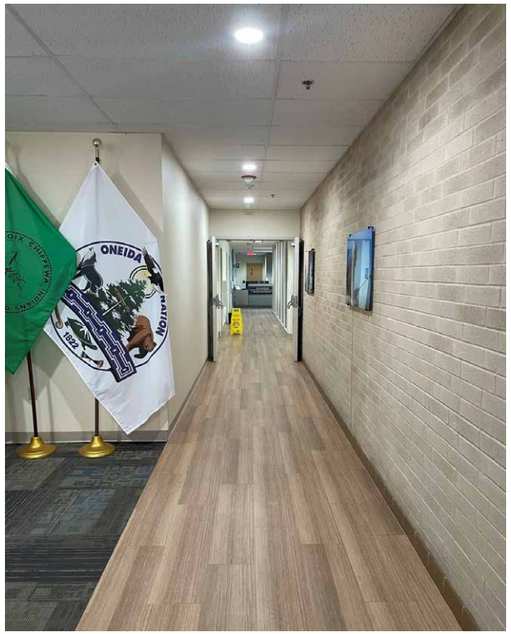
Elevators – the elevators in GEF-2 have undergone a major repair/renovation project and no immediate work is required on the elevators. Recommendation is to continue to perform require maintenance and monitor for issues.

Door Hardware – current hardware in the building is a blend of original knob (non-ADA compliant) and newer lever sets.
Recommendation is to upgrade all door hardware in the building to ADA compliant lever sets. Approximately 1/3 of the doors in the building will require new lever sets / hardware

Exterior Doors / Overhead Doors – there is currently a blend of painted hollow metal doors at service entries, in the parking structure levels and some stair egress locations and then aluminum storefront at major entries to the building. The hollow metal doors and frames are in poor condition showing major rust and deterioration. The aluminum storefront entry systems are in fair condition. Recommendation is to replace all hollow metal doors and frames. Aluminum frames should be reviewed for sealant replacements and general maintenance.

2.2 GEF 2 BUILDING | INTERIOR REVIEW

Lobby - The Lobby has been renovated in likely the last 5 years. The flooring consists of newer carpet tile and Luxury Vinyl Tile. The walls are existing brick and painted gypsum board walls.



Bathrooms - The bathrooms have ceramic tile floor and painted walls. Rooms should be verified they meet existing ADA codes.

Offices - Office floors are carpeted with Carpet Tile and have fabric-paneled workstations. Both look to be several decades old. The building has existing Acoustical Ceiling Tile and Painted walls. This is constructed of plastic laminate. The flooring is VCT.
Several drinking fountains have been upgraded to Bottle-Filler type with ceramic tile behind the fountains.

Horizontal mini-blinds are installed at exterior windows.
Concrete treads and risers are at the Exit Stairs.

Interiors Parameters - Another significant portion of the recommended work is the noted 'Interiors Refresh / Renewal. This work is slated to include minor space reconfiguration (to improve functionality), the refurbishment of toilet rooms to include new finishes and toilet partitions, new ACT ceilings, new painted walls, and new window blinds. In addition, a small portion of this scope is to perform minor cubicle refurbishment and repair. After discussion with Core Team, it was agreed to apply a uniform $75/SF for each of the buildings for these interior renovations.

Piping Distribution Insulation – Nearly all of the insulation on HVAC piping throughout the building is original to when building was first constructed and has deteriorated in many locations requiring replacement. This includes chilled water, hot water, steam, steam condensate return and cooling coil condensate drain piping.
Recommendation is to replace all insulation on all these piping systems.

Hot Water Heating Piping Distribution – Nearly all of the hot water heating supply and return piping distribution throughout the building is original to when the building was first constructed and eventually will be in need of replacement due to deterioration from corrosion and chemical deposit build up. Recommendation is to replace all hot water heating piping.

Chilled Water Piping Distribution - Nearly all of the chilled water supply and return piping distribution throughout the building is original to when the building was first constructed and is currently in need of replacement due to deterioration from erosion pitting, corrosion and chemical deposit build up.
A May 2022 report form Kontext Architects reports the existing chilled water piping distribution between all three GEF buildings is in need of replacement due to development of pin hole leaks. Concern is this

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A May 2022 report form Kontext Architects reports the existing chilled water piping distribution between all three GEF buildings is in need of replacement due to development of pin hole leaks. Concern is this could also be the case with all chilled water piping installed inside the GEF buildings. Recommendation is to replace all chilled water piping.

Steam Supply distribution Piping - Nearly all of the steam heating supply piping distribution throughout the building is original to when the building was first constructed and eventually will be in need of replacement due to deterioration from corrosion and chemical deposit build up. Recommendation is to replace all existing steam supply piping.

Steam Condensate Return Piping - Nearly all of the steam condensate return piping distribution throughout the building is original to when the building was first constructed and is in need of replacement due to deterioration from corrosion and chemical deposit build up. Recommendation is to replace all steam condensate return piping.

Hot Water Heating Distribution Pumps – All hot water heating distribution pumps will eventually be in need of replacement. Some are in immediate need of replacement now. Recommendation is to replace all pumps as needed over time

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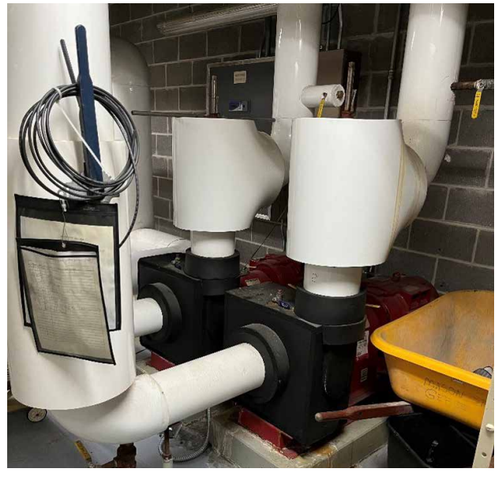

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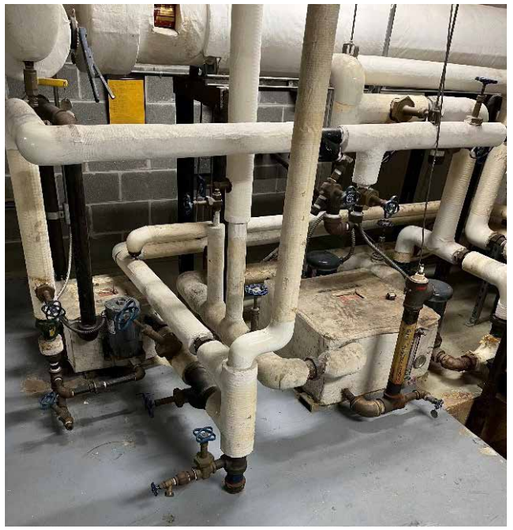
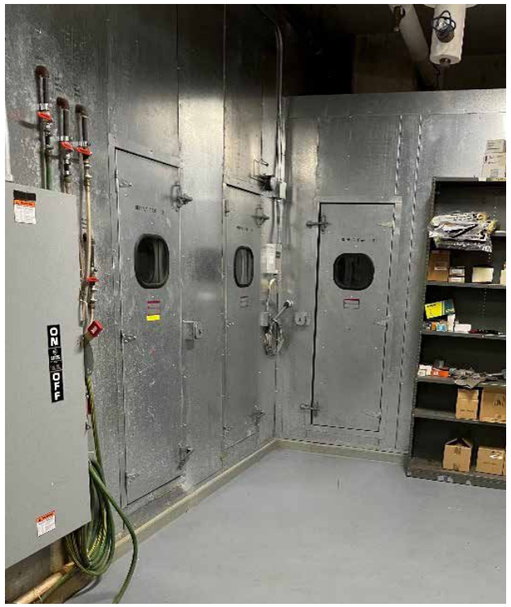


2.3 GEF 2 BUILDING | HVAC REVIEW

Building Air Handling Units – All three main air handling units providing heating, cooling and ventilation to the building are original to the building when the building was first constructed. Many components including fan, coils, filters and controls are inefficient, obsolete technology. The housings appear to be in satisfactory condition and could possibly remain. It would be possible to keep the housings and replace internal components including controls. Recommendation is to replace fan, coils, filters, humidifiers, and controls on all air handling units.



Supply, Return and Exhaust Ductwork Distribution – Nearly all ductwork distribution systems in the building are original to the building when the building was first constructed. All ductwork will eventually be in need of replacement due to corrosion, excessive leakage and build up of dirt. Recommendation is to replace all ductwork distribution in the building.

Pneumatic Controls System – All pneumatic control systems are an obsolete technology. There have been some upgrades to DDC with the addition of variable frequency drive controllers to most if not all pumps and fans. Recommendation is to replace all pneumatic controls with new state of the art Direct Digital Controls (DDC). Air compressors and dryers are no longer needed with DDC.

Building Exhaust Fans – Nearly all building exhaust fans are original to the building when the building was first constructed. These fans are inefficient and have exceeded their life expectancy. Recommendation is to replace all exhaust fans.

2.4 GEF 2 BUILDING | ELECTRICAL REVIEW

Electrical Services - The building is currently served with secondary electrical service from Madison Gas & Electric Company. Utility transformers are located in the transformer vault in this building.
Service One is a 2000 amp switch with 2000 amp fuses, 480Y/277 volt, GE fused switchgear. This switchgear is indicated as GEF2 SWGR-MN.
Service Tap ahead of the main switch for Service One is a 200 amp switch with 200 amp fuses, 480Y/277 volt, GE. This switch is indicated as B-DISC FIRE PUMP, 50HP.
MG&E Peak load reading for this building is 425KW, 512 amps.
Switchboards were all installed around 1978 are all reaching end of useful life. Degradation of some of the equipment dure to moisture was observed.
Code required clearances are also an issue.

Emergency System - The building emergency generator was installed in 1978 and is good condition, but it is approaching end of useful life.
The generator is a 125 kW, 480Y/277 Volt diesel, Kohler generator.
The generator fuel system is located with this room.
The generator main switch is fusible, as are down-stream distribution disconnects.
The building has (1) transfer switch, there is not any separation of the Essential Power System into NEC 700, 701, 702, the fire pump is not fed from the emergency generator.
One elevator can run on emergency power with a selector switch to select which cab can operate.

Lighting Controls - Existing light fixtures generally were fluorescent and converted to LED with the removal of the existing lamps and ballasts and replaced with LED type lamps, which have integral driver. LED appears to have been installed during the building shut down in 2021.
Exit lights appear to have been retrofitted to LED technology.
Lighting controls in general appear to be manual type controls with very few automatic lighting controls observed.

Fire Alarm System - The fire alarm system is a Simplex Addressable system.
System appears to be installed in the early 2000's.

Other Systems - Security: The existing system has been updated for card access in 2000's.
Voice & Data: Copper phone system has been mostly removed and cat 5 cable has been installed.
Clock, communication & other security systems appear to be original.

Proposed New Electrical Services - Provide new MG&E electrical service to replace the services that currently serve Switchboards, 480Y/277V.
Switchboards are to be fusible to account for high available fault current from the downtown utility loop.
Provide separate service for the fire pump.
Depending on final design of mechanical systems for the renovation a 480Y/277V serving the larger mechanical loads.
New switchboards are intended to be located in existing area near the existing Switchboard rooms where switchboards will be removed.
New feeders, distribution, branch circuit panels and branch circuit wiring.
New receptacles, branch circuit wiring from new branch circuit panels to serve all building spaces.
Branch circuit wiring to include new feeds to powered furniture systems.
Provide new diesel generator, essential switchboard, transfer switches and distribution panels. Provide new feeders and branch panels from the existing emergency distribution panels.
Provide new feeders to:

- EM DP = Emergency Distribution Panel (NEC 700)
- LRS = Legally Required Stand-By (NEC 701)
- OSB = Optional Stand-By (NEC 702)
- FP = Fire Pump (NEC 695)

Provide new electrical feeders and branch circuits to Mechanical Air Handling Units, hot water circulation pumps, cold water circulation pumps, exhaust fans, temperature and control panels and other new mechanical equipment.
Provide new electrical feeders and branch circuits to new plumbing equipment.
Provide new electrical branch circuits to support Technology equipment. Systems to include MDF and IDF rooms and infrastructure.
Provide new lightning protection system for the building.
Removal of all existing electrical panels, branch circuit wiring, feeders, abandoned cables unless specifically identified to remain and be reused.
Building is code HIGH RISE – Wiring for fire pump, elevators and NEC 700 will require some 2 hour listed cabling.

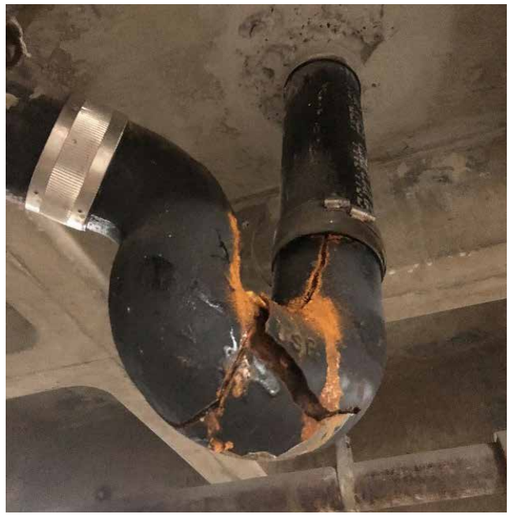
Proposed New Fire Alarm System – provide NEW as needed to existing system to facilitate remodeling of spaces.

2.5 GEF 2 BUILDING | PLUMBING REVIEW

Plumbing - The plumbing reviews across the three GEF buildings were very similar in need and scope, therefore, the plumbing narrative is identical in all three building assessments. The descriptions apply to all building plumbing systems and the photographs are typical examples of the scope.

Plumbing Fixtures - The majority of the plumbing fixtures appear to be original to the building construction. They are still intact and functioning. Some may have been repaired or replaced since installation.
Within the scope of a major renovation, the plumbing fixtures should be removed and replaced.

Sanitary Waste and Storm Piping - The sanitary waste/vent and storm piping within the building mostly consists of hub and spigot cast iron. In some areas, the cast iron piping is cracking, crumbling, and failing. In particular, the entire storm piping system and drains within the parking structure are failing. It does not function as it should because most or all the drains have clogged, and the piping is beyond repair. Underground piping was not inspected, but based on it's age, it is likely to be in less than ideal condition.
During a major renovation, the entire sanitary waste/vent and storm water system should be removed and replaced with new piping. This includes the underground piping. It may be functioning at this point, but it is past it's expected life cycle.

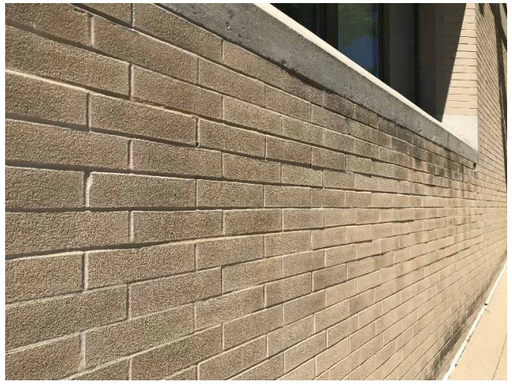


Domestic Water Piping - The copper domestic water piping system appears to be original to the building. Upon inspection, the piping is in reasonable condition. At the time of the site visit, there was no confirmation whether leaking was an issue in any portion of the building. The piping is functioning properly and serving it's purpose. However, it has reached it's expected life cycle. Depending on the scale of renovation, all or most of the domestic water piping should be removed and replaced. In order to ensure the longterm viability of the system into the future, it needs replacement.

Domestic Water Equipment - The steam-domestic hot water heat exchangers are original to the building and functioning properly. They appear to be in adequate condition. The water softener system appears to have been replaced since the original building construction but may be 15+ years old.
In order to achieve another several decades out of the equipment, both the heat exchangers and water softeners should be replaced with new high efficiency equipment.

SECTION 3 |
GEF 3 BUILDING

Brick façade – Overall the brick exterior façade is in fair condition, however, there are areas of mortar deterioration along with minimal areas where there are brick faces with surface pops and spalling. The flashing system at the base of the building is showing signs of major deterioration and failure and should be replaced.
The recommendation is to complete a tuck pointing project to repair the damaged areas and replace base flashing.



Parking Structure Concrete Frame – The cast concrete flat slab structural system appears to be sound and in over-all fair condition, however there are some limited areas where surface concrete has popped. HGA, as part of an additional study, will have a structural engineer evaluate the concrete structure in the parking structure and make additional recommendations on the direction of repairs, cost and timing. This additional structural study will be completed by end of July 2022.
Recommendation is for the areas of spalled concrete to be cleaned and repaired. Current condition has approximately 10 – 15 locations for waffle slab repair.

Exterior Window Systems – the windows feature an aluminum framing system with insulated glass. The windows are original (installed in 1978) and are past their life expectancy. The new glass solar coatings and insulated glass systems would improve the building performance.
Recommendation is to remove and replace the exterior window systems.

Exterior Sealants – At the time of the window replacement the recommendation is to complete sealant repairs and replacement on the building façade. The sealants between brick and concrete and at the base of the building are in poor condition and should also be replaced.

Door Hardware – current hardware in the building is a blend of original knob (non-ADA compliant) and newer lever sets.
Recommendation is to upgrade all door hardware in the building to ADA compliant lever sets. Approximately 1/3 of the doors in the building will require new lever sets / hardware.

Exterior Doors / Overhead Doors – there is currently a blend of painted hollow metal doors at service entries, in the parking structure levels and some stair egress locations and then aluminum storefront at major entries to the building. The hol.low metal doors and frames are in poor condition showing major rust and deterioration. The aluminum storefront entry systems are in fair condition.
Recommendation is to replace all hollow metal doors and frames. Aluminum frames should be reviewed for sealant replacements and general maintenance. The overhead doors should be replaced along with the operators and control systems

Elevators – The elevators in GEF-3 have not undergone the same major elevator repair/ renovation project that has occurred in recent years on the GEF 1 + 2 elevators.
The recommendation is to perform this upgrade and renovation to the cars, elevator system, controllers, call buttons and card reader systems on the elevators.

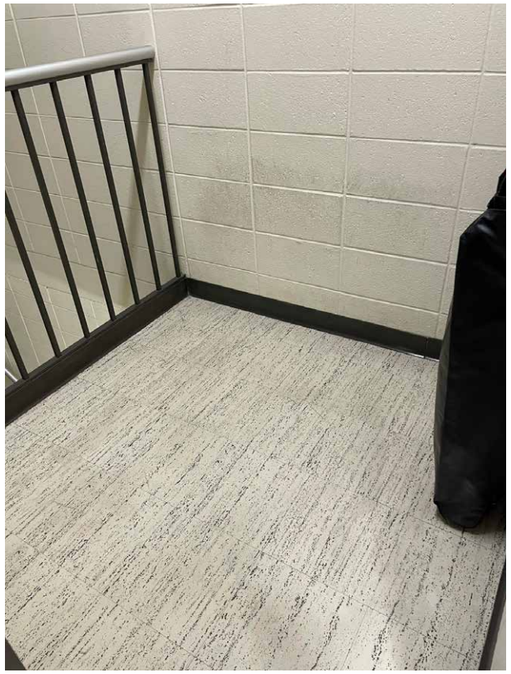
Interior Stair Tower Railings – The railings in the stair towers are painted hollow metal and while in good condition they do not comply with current code in terms of the height of the guard rail and the horizontal rails exceed the maximum spacing of 4" between rails.
Recommendation is to replace all of the stair tower railings as part of an interior renovation to be fully code compliant.

Restroom ADA Compliance – The building was constructed in1978 and for the most part the restrooms have received few updates. The restrooms should be updated to comply with current ADA code. This will require new grab bars and the plumbing installation of new fixtures (see plumbing assessment). The toilet partitions are original to the building and show deterioration/ rust and should be reconfigured per current ADA code and replaced.

Exterior walkways / Plaza Areas – between the GEF-1 and GEF-2 buildings there is a large outdoor plaza (over parking below) that steps and tiers along the dropping grade of Webster Street. There are signs of water damage, failing concrete walls and stairs and there is evidence of some water leaks and damage in the parking structure below. In 2020 the State had commissioned GRAEF to complete an assessment, recommendations for repair and a cost estimate for the work on the plaza. The GRAEF assessment is included in the Appendix of this Report.
Recommendation is to make the waterproofing, concrete and surface repairs and replacements per the GRAEF Report. The cost estimate from that Report have been escalated to today's dollars.

3.2 GEF 3 BUILDING | INTERIOR REVIEW

Lobby - The Lobby flooring is a terrazzo-aesthetic luxury vinyl tile that looks to be a recent installation. The walls are painted gypsum board and the ceilings are Acoustical Ceiling Tile. The stair ladings appear to be an old VCT floor (would need to verify this as asbestos).



Interiors Parameters - Another significant portion of the recommended work is the noted 'Interiors Refresh / Renewal. This work is slated to include minor space reconfiguration (to improve functionality), the refurbishment of toilet rooms to include new finishes and toilet partitions, new ACT ceilings, new painted walls, and new window blinds. In addition, a small portion of this scope is to perform minor cubicle refurbishment and repair. After discussion with Core Team, it was agreed to apply a uniform $75/SF for each of the buildings for these interior renovations.

Piping Distribution Insulation – Nearly all of the insulation on HVAC piping throughout the building is original to when building was first constructed and has deteriorated in many locations requiring replacement. This includes chilled water, hot water, steam, steam condensate return and cooling coil condensate drain piping. Recommendation is to replace all insulation on all these piping systems.

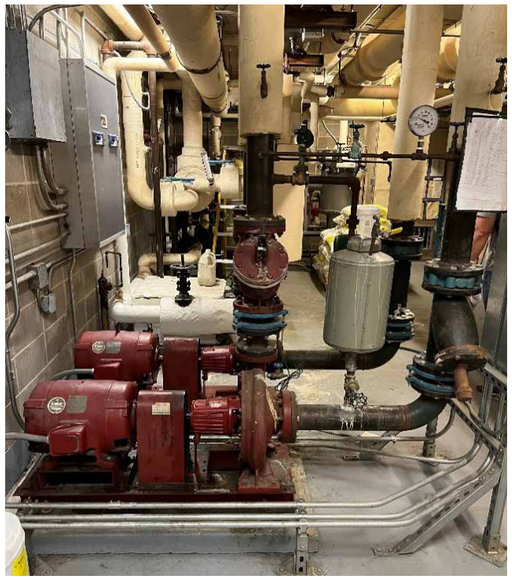
Hot Water Heating Piping Distribution – Nearly all of the hot water heating supply and return piping distribution throughout the building is original to when the building was first constructed and eventually will be in need of replacement due to deterioration from corrosion and chemical deposit build up. Recommendation is to replace all hot water heating piping.

Chilled Water Piping Distribution - Nearly all of the chilled water supply and return piping distribution throughout the building is original to when the building was first constructed and is currently in need of replacement due to deterioration from erosion pitting, corrosion and chemical deposit build up.
A May 2022 report form Kontext Architects reports the existing chilled water piping distribution between all three GEF buildings is in need of replacement due to development of pin hole leaks. Concern is this could also be the case with all chilled water piping installed inside the GEF buildings. Recommendation is to replace all chilled water piping.

Steam Supply distribution Piping - Nearly all of the steam heating supply piping distribution throughout the building is original to when the building was first constructed and eventually will be in need of replacement due to deterioration from corrosion and chemical deposit build up. Recommendation is to replace all existing steam supply piping.

Steam Condensate Return Piping - Nearly all of the steam condensate return piping distribution throughout the building is original to when the building was first constructed and is in need of replacement due to deterioration from corrosion and chemical deposit build up. Recommendation is to replace all steam condensate return piping.

Hot Water Heating Distribution Pumps – All hot water heating distribution pumps will eventually be in need of replacement. Some are in immediate need of replacement now. Recommendation is to replace all pumps as needed over time.



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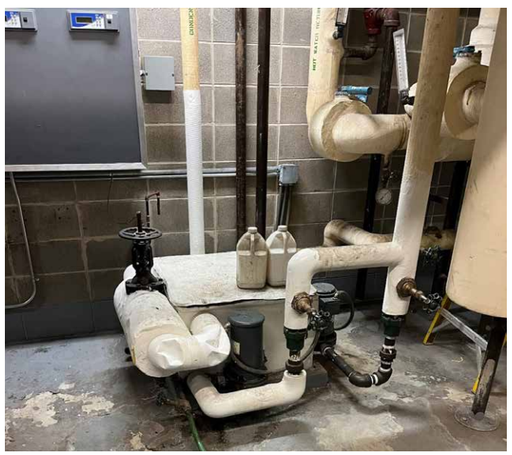
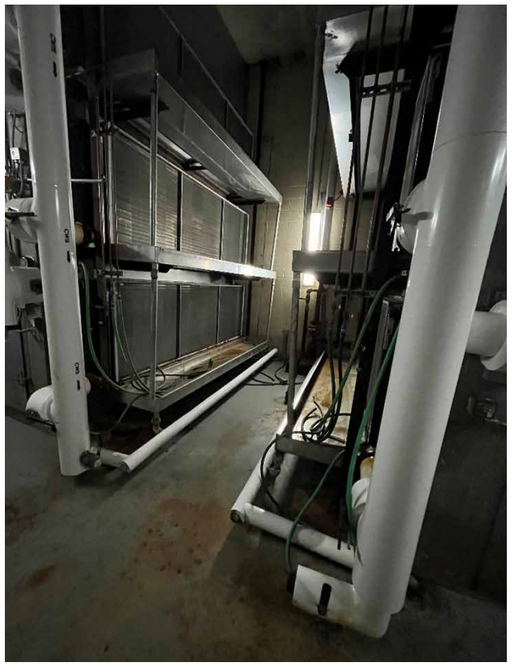


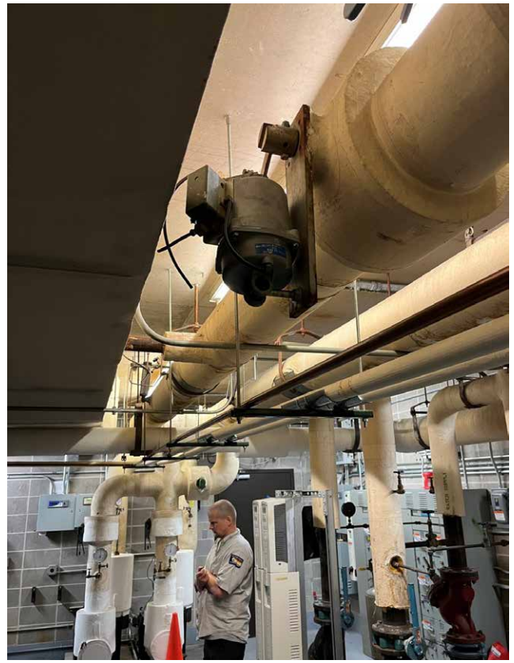
Building Air Handling Units – The main air handling unit serving this building is located in a penthouse. The design of this air handling unit is very unique in that the penthouse itself serves as the housing for the air handling unit. Most of the components in this air handling unit are original to the building when the building was first constructed. Many components including fans, filters and controls are inefficient, obsolete technology. It appears coils have been replaced some time ago and are in good condition. The use of the penthouse walls, roof and floors to serve as the air tunnel is not an efficient way to design an air handling unit. Too great a chance for excessive air leakage. Recommendation is to replace the air handling unit with a new factory fabricated unit installed in the penthouse, no longer using the penthouse as the housing.

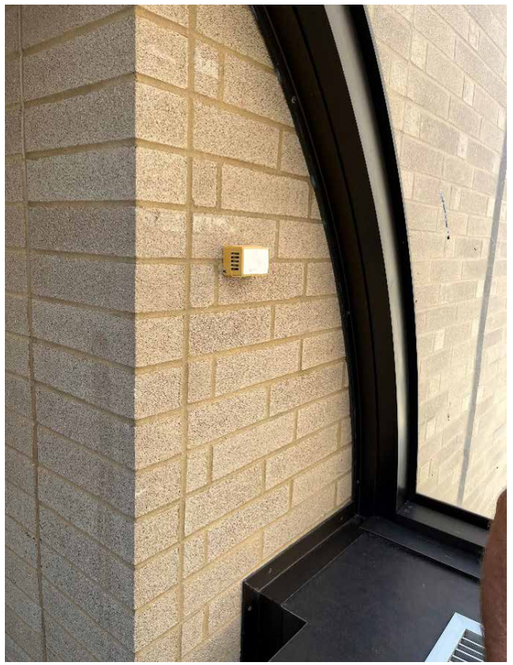


Supply, Return and Exhaust Ductwork Distribution – Nearly all ductwork distribution systems in the building are original to the building when the building was first constructed. All ductwork will eventually be in need of replacement due to corrosion, excessive leakage and build up of dirt. Recommendation is to replace all ductwork distribution in the building.

Building Exhaust Fans – Nearly all building exhaust fans are original to the building when the building was first constructed. These fans are inefficient and have exceeded their life expectancy. Recommendation is to replace all exhaust fans.

Pneumatic Controls System – All pneumatic control systems are an obsolete technology. There have been some upgrades to DDC with the addition of variable frequency drive controllers to most if not all pumps and fans. Recommendation is to replace all pneumatic controls with new state of the art Direct Digital Controls (DDC). Air compressors and dryers are no longer needed with DDC.

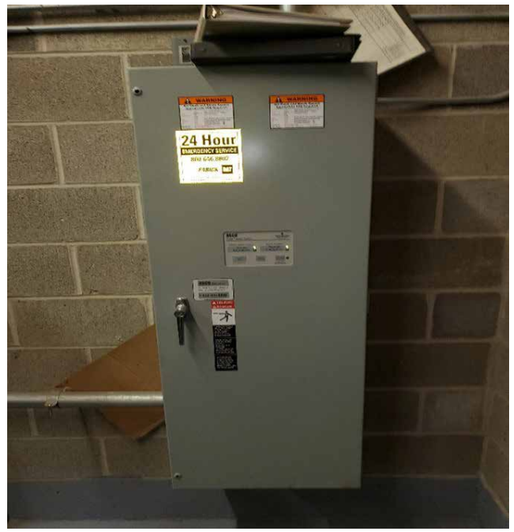




3.4 GEF 3 BUILDING | ELECTRICAL REVIEW

Electrical Services - The building is currently served with secondary electrical service from Madison Gas & Electric Company. Utility transformers are located in the transformer vault in this building.
Service One is a 3000 amp switch with 3000 amp fuses, 480Y/277 volt, ITE fused switchgear. This switchgear is indicated as GEF2 SWGR-MN.
Service Tap ahead of the main switch for Service One is a 400 amp switch with 400 amp fuses, 480Y/277 volt, ITE. This switch is indicated as B-DISC FIRE PUMP, 40HP.
MG&E Peak load reading for this building is 383KW, 461 amps.
Switchboards were all installed around 1978 are all reaching end of useful life.

Emergency System - The building emergency generator was installed in 1978 and is good condition, but it is approaching end of useful life.
The generator is a 175 kW, 480Y/277 Volt diesel, Onan generator.
Transfer switch appears to be newer and in good condition.
The generator fuel system is located with this room.
The generator main switch is fusible, as are down-stream distribution disconnects.
The building has (1) transfer switch, there is not any separation of the Essential Power System into NEC 700, 701, 702, the fire pump is not fed from the emergency generator.
One elevator can run on emergency power with a selector switch to select which cab can operate.



Lighting and Controls - Existing light fixtures generally were fluorescent and converted to LED with the removal of the existing lamps and ballasts and replaced with LED type lamps, which have integral driver. LED appears to have been installed during the building shut down in 2021.
Exit lights appear to have been retrofitted to LED technology.
Lighting controls in general appear to be manual type controls with very few automatic lighting controls observed.

Fire Alarm System - The fire alarm system is a Simplex Addressable system.
System appears to be installed in the early 2000's.

Other Systems - Security: The existing system has been updated for card access in 2000's.
Voice & Data: Copper phone system has been mostly removed and cat 5 cable has been installed.
Clock, communication & other security systems appear to be original.

Proposed New Electrical Services - Provide new MG&E electrical service to replace the services that currently serve Switchboards, 480Y/277V. Switchboards are to be fusible to account for high available fault current from the downtown utility loop.
Provide separate service for the fire pump.
Depending on final design of mechanical systems for the renovation a 480Y/277V serving the larger mechanical loads.
New switchboards are intended to be located in existing area near the existing Switchboard rooms where switchboards will be removed.
New feeders, distribution, branch circuit panels and branch circuit wiring.
New receptacles, branch circuit wiring from new branch circuit panels to serve all building spaces.
Branch circuit wiring to include new feeds to powered furniture systems.
Provide new diesel generator, essential switchboard, transfer switches and distribution panels. Provide new feeders and branch panels from the existing emergency distribution panels.
Provide new feeders to:

EM DP = Emergency Distribution Panel (NEC 700)
LRS = Legally Required Stand-By (NEC 701)
OSB = Optional Stand-By (NEC 702)
FP = Fire Pump (NEC 695)

Provide new electrical feeders and branch circuits to Mechanical Air Handling Units, hot water circulation pumps, cold water circulation pumps, exhaust fans, temperature and control panels and other new mechanical equipment.
Provide new electrical feeders and branch circuits to new plumbing equipment.
Provide new electrical branch circuits to support Technology equipment. Systems to include MDF and IDF rooms and infrastructure.
Provide new lightning protection system for the building.
Removal of all existing electrical panels, branch circuit wiring, feeders, abandoned cables unless specifically identified to remain and be reused.
Building is code HIGH RISE – Wiring for fire pump, elevators and NEC 700 will require some 2 hour listed cabling.

Proposed New Fire Alarm System – provide NEW as needed to existing system to facilitate remodeling of spaces.

3.5 GEF 3 BUILDING | PLUMBING REVIEW

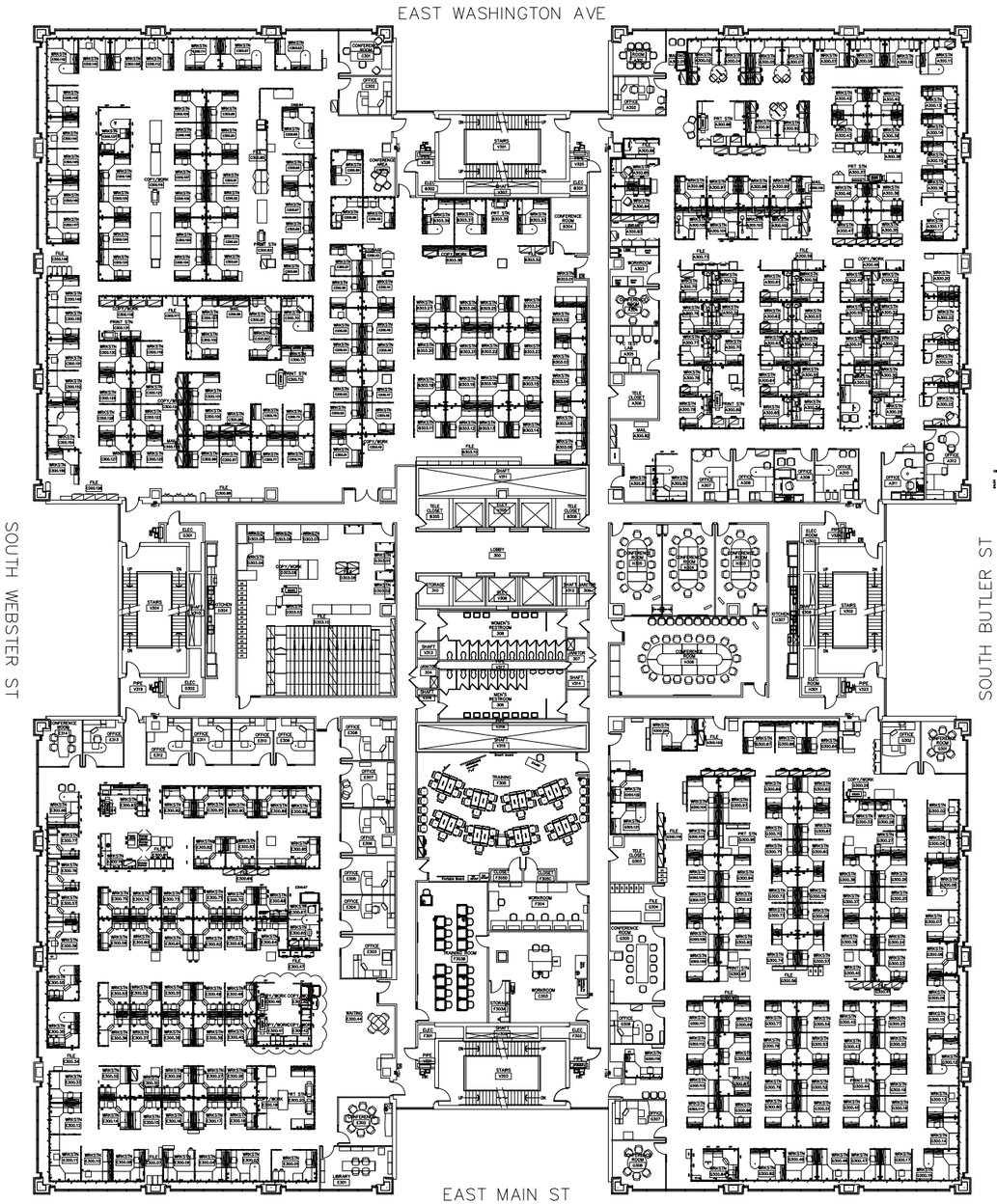
Plumbing - The plumbing reviews across the three GEF buildings were very similar in need and scope, therefore, the plumbing narrative is identical in all three building assessments. The descriptions apply to all building plumbing systems and the photographs are typical examples of the scope.

Plumbing Fixtures - The majority of the plumbing fixtures appear to be original to the building construction. They are still intact and functioning. Some may have been repaired or replaced since installation.
Within the scope of a major renovation, the plumbing fixtures should be removed and replaced.

Sanitary Waste and Storm Piping - The sanitary waste/vent and storm piping within the building mostly consists of hub and spigot cast iron. In some areas, the cast iron piping is cracking, crumbling, and failing. In particular, the entire storm piping system and drains within the parking structure are failing. It does not function as it should because most or all the drains have clogged, and the piping is beyond repair. Underground piping was not inspected, but based on it's age, it is likely to be in less than ideal condition.
During a major renovation, the entire sanitary waste/vent and storm water system should be removed and replaced with new piping. This includes the underground piping. It may be functioning at this point, but it is past it's expected life cycle.

Domestic Water Piping - The copper domestic water piping system appears to be original to the building. Upon inspection, the piping is in reasonable condition. At the time of the site visit, there was no confirmation whether leaking was an issue in any portion of the building. The piping is functioning properly and serving it's purpose. However, it has reached it's expected life cycle. Depending on the scale of renovation, all or most of the domestic water piping should be removed and replaced. In order to ensure the longterm viability of the system into the future, it needs replacement.

Domestic Water Equipment - The steam-domestic hot water heat exchangers are original to the building and functioning properly. They appear to be in adequate condition. The water softener system appears to have been replaced since the original building construction but may be 15+ years old.
In order to achieve another several decades out of the equipment, both the heat exchangers and water softeners should be replaced with new high efficiency equipment.

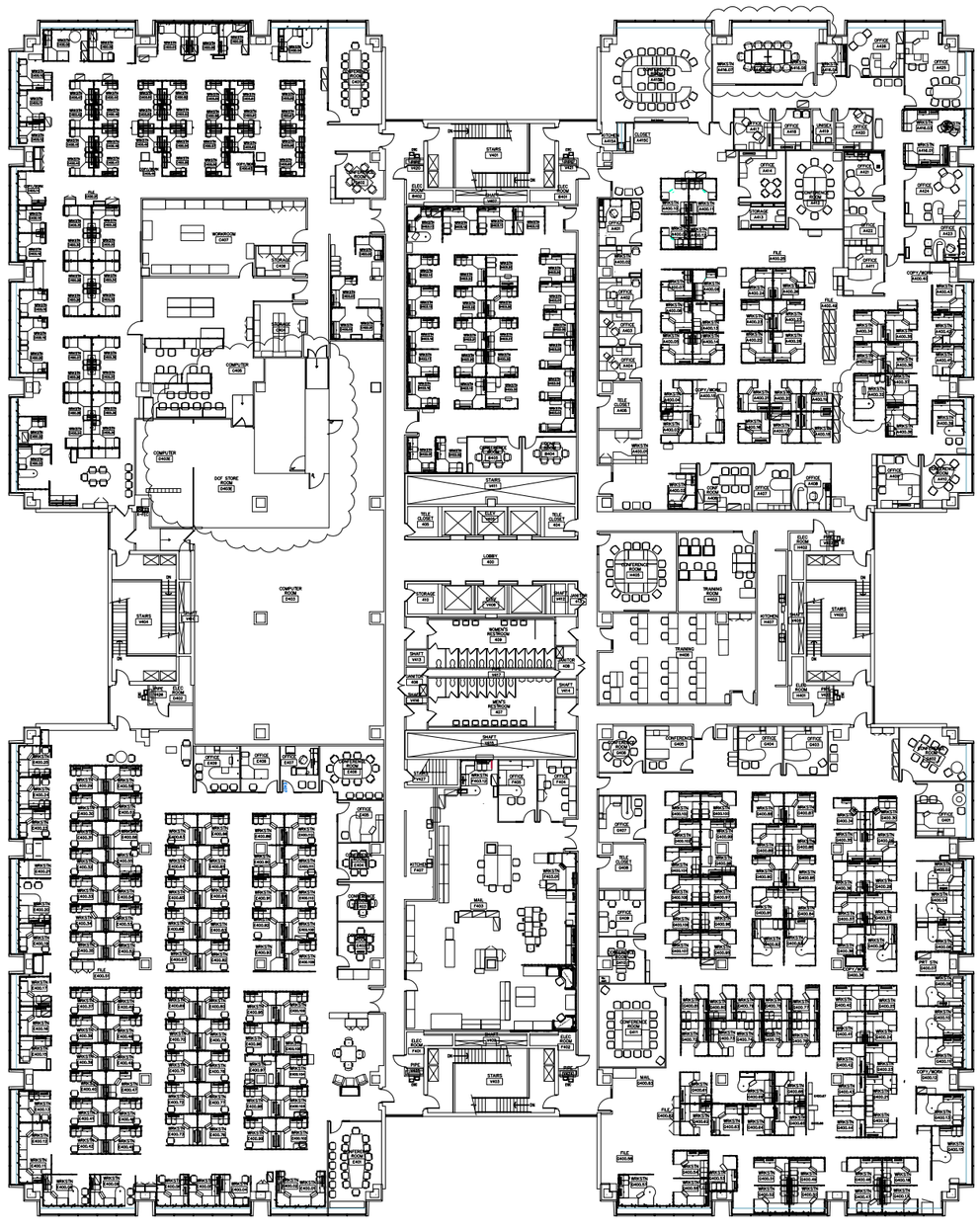


STATE LABOR BUILDING (GEF I)
201 E WASHINGTON AVENUE, MADISON, WI 53702

THIRD FLOOR PLAN (GEF I)
STATE INDUSTRY AND LABOR BUILDING

SCALE: 1/8" = 1'-0"

NORTH

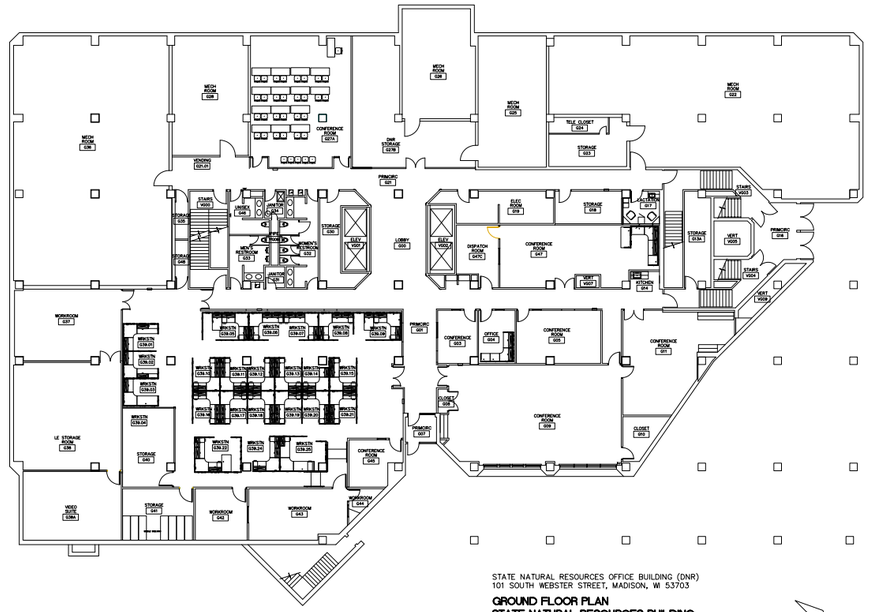


STATE LABOR BUILDING (GEF I)
201 E WASHINGTON AVENUE, MADISON, WI 53702

FOURTH FLOOR PLAN (GEF I)
STATE INDUSTRY AND LABOR BUILDING

SCALE: 1/8" = 1'-0"

NORTH

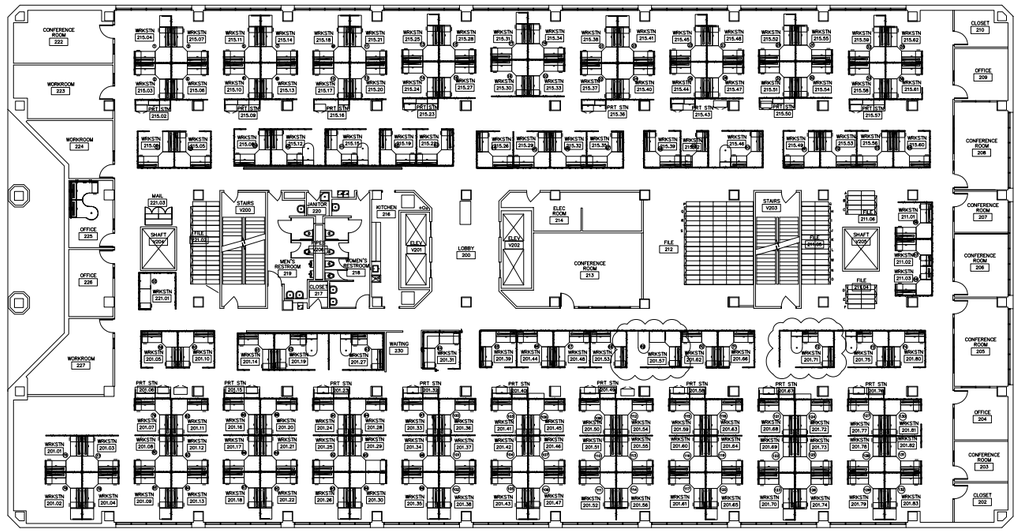


STATE NATURAL RESOURCES OFFICE BUILDING (DNR)
101 SOUTH WEBSTER STREET, MADISON, WI 53703

GROUND FLOOR PLAN
STATE NATURAL RESOURCES BUILDING

SCALE: 1/8" = 1'-0"

NORTH

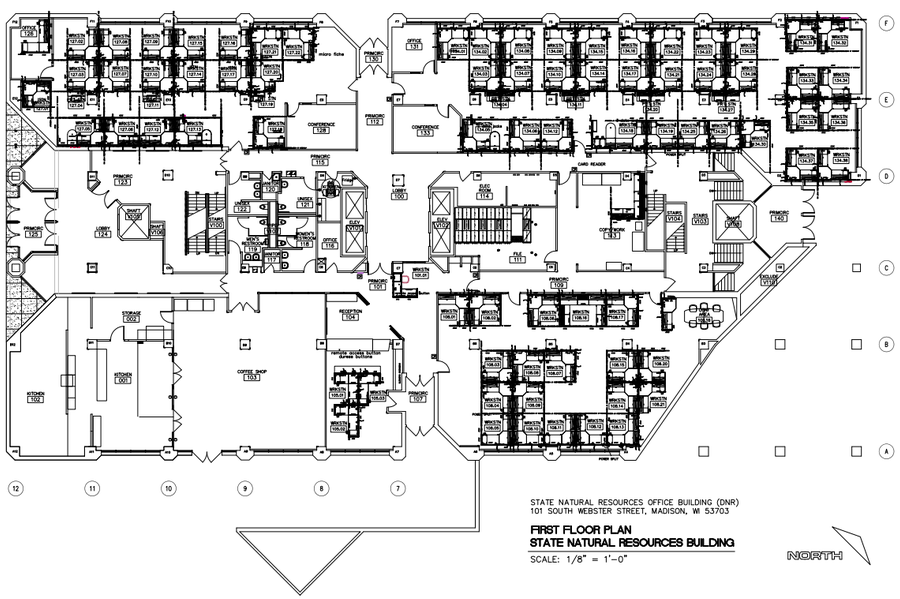


STATE NATURAL RESOURCES OFFICE BUILDING (DNR)
101 SOUTH WEBSTER STREET, MADISON, WI 53703

SECOND FLOOR PLAN
STATE NATURAL RESOURCES BUILDING

SCALE: 1/8" = 1'-0"

NORTH

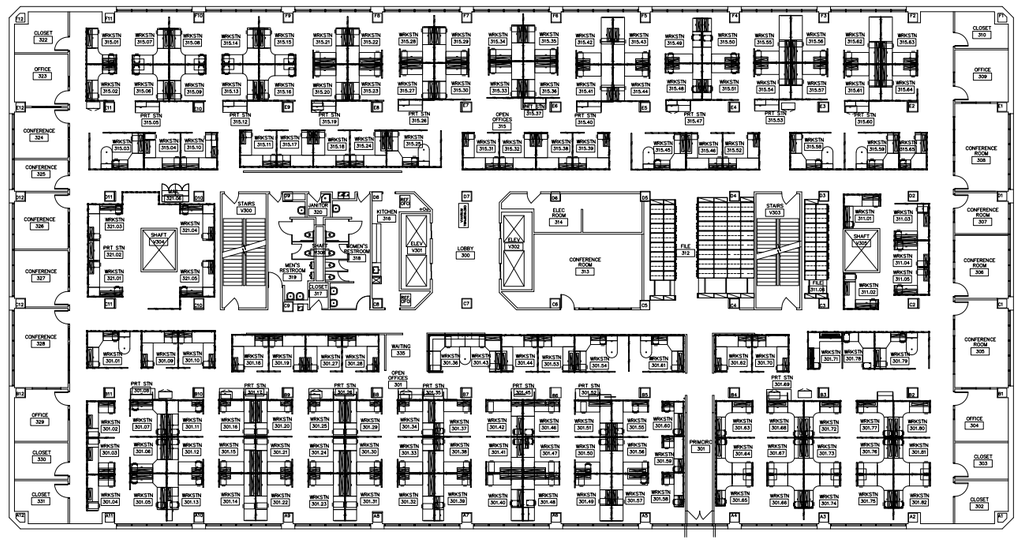


STATE NATURAL RESOURCES OFFICE BUILDING (DNR)
101 SOUTH WEBSTER STREET, MADISON, WI 53703

FIRST FLOOR PLAN
STATE NATURAL RESOURCES BUILDING

SCALE: 1/8" = 1'-0"

NORTH

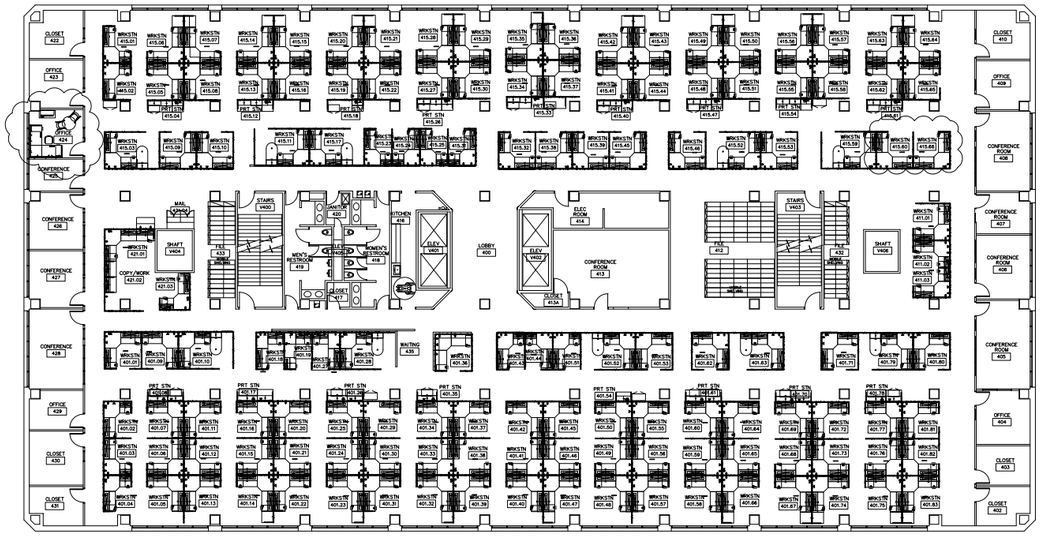


STATE NATURAL RESOURCES OFFICE BUILDING (DNR)
101 SOUTH WEBSTER STREET, MADISON, WI 53703

THIRD FLOOR PLAN
STATE NATURAL RESOURCES BUILDING

SCALE: 1/8" = 1'-0"

NORTH

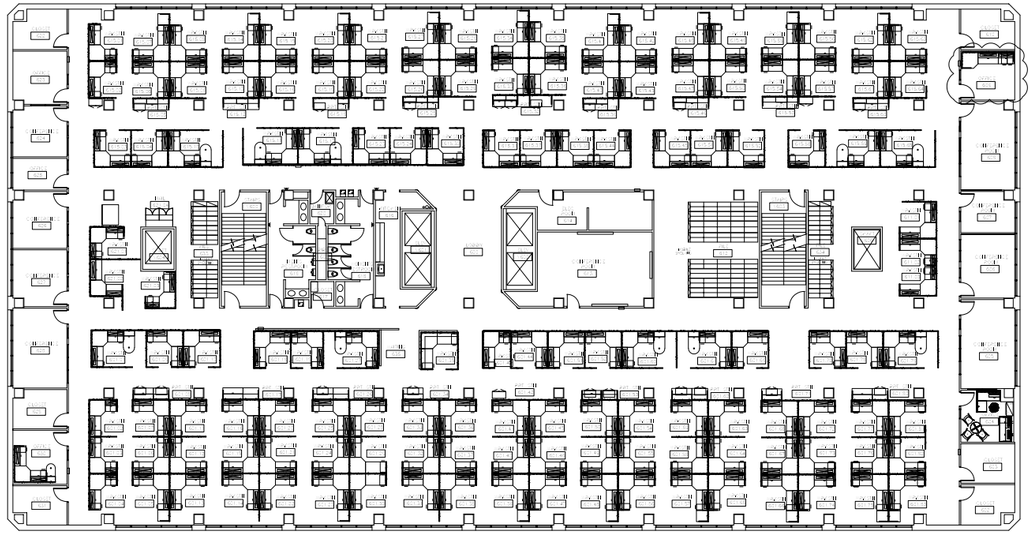


STATE NATURAL RESOURCES OFFICE BUILDING (DNR)
101 SOUTH WEBSTER STREET, MADISON, WI 53703

FOURTH FLOOR PLAN
STATE NATURAL RESOURCES BUILDING

SCALE: 1/8" = 1'-0"

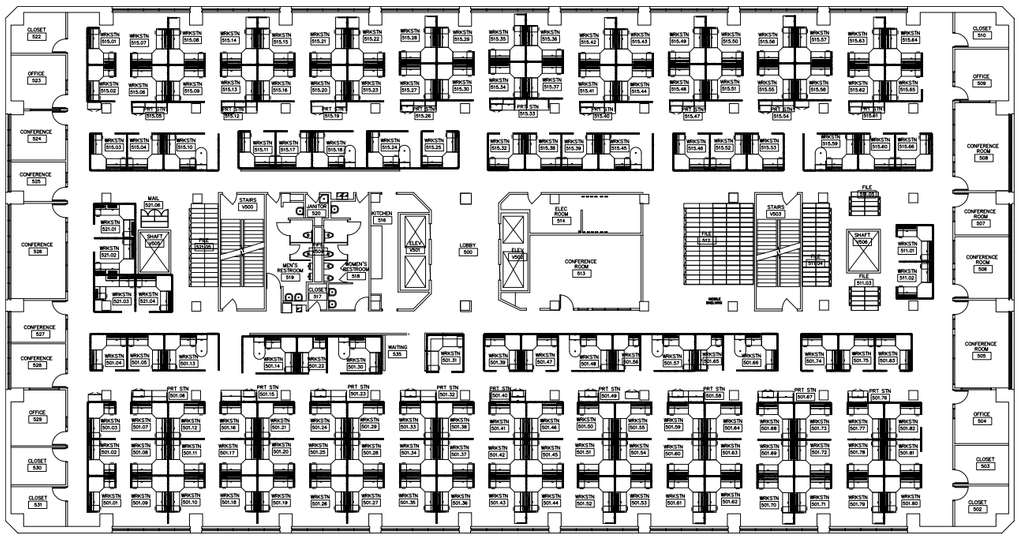
NORTH



STATE NATURAL RESOURCES OFFICE BUILDING (DNR)
101 SOUTH WEBSTER STREET, MADISON, WI 53703

SIXTH FLOOR PLAN
STATE NATURAL RESOURCES BUILDING

NORTH

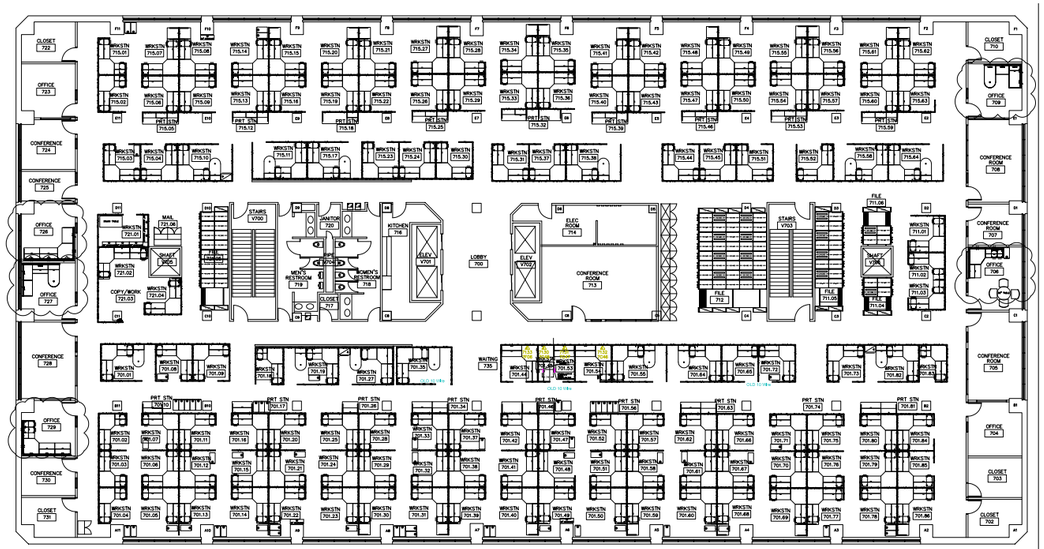


STATE NATURAL RESOURCES OFFICE BUILDING (DNR)
101 SOUTH WEBSTER STREET, MADISON, WI 53703

FIFTH FLOOR PLAN
STATE NATURAL RESOURCES BUILDING

SCALE: 1/8" = 1'-0"

NORTH

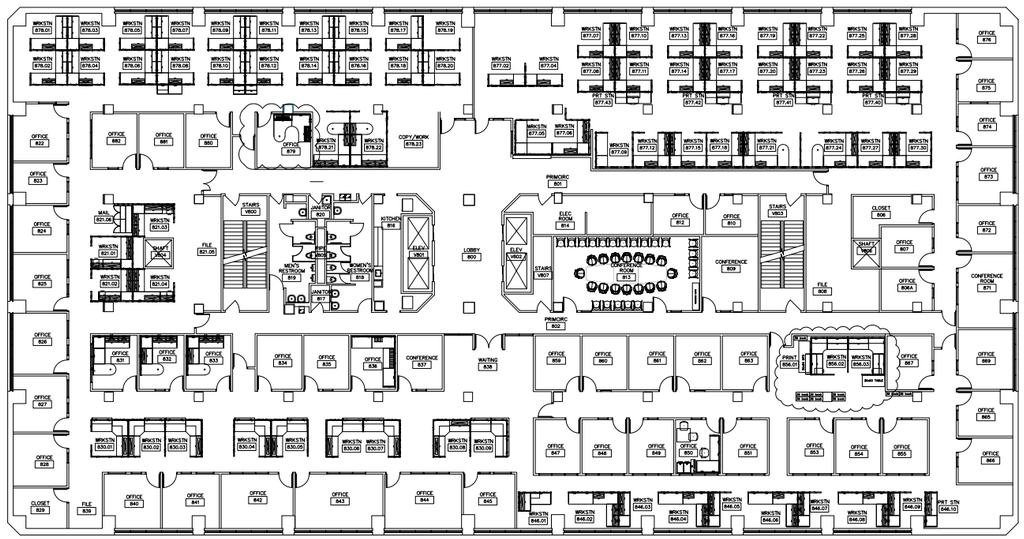


STATE NATURAL RESOURCES OFFICE BUILDING (DNR)
101 SOUTH WEBSTER STREET, MADISON, WI 53703

SEVENTH FLOOR PLAN
STATE NATURAL RESOURCES BUILDING

SCALE: 1/8" = 1'-0"

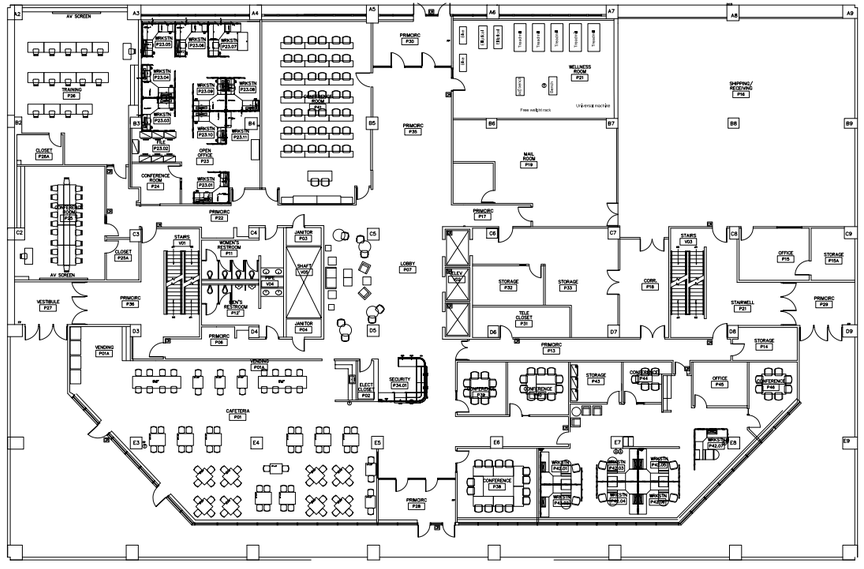
NORTH



STATE NATURAL RESOURCES OFFICE BUILDING (DNR)
101 SOUTH WEBSTER STREET, MADISON, WI 53703

EIGHTH FLOOR PLAN
STATE NATURAL RESOURCES BUILDING
SCALE: 1/8" = 1'-0"

NORTH



STATE EDUCATION BUILDING (GEF III)
125 SOUTH WEBSTER STREET, MADISON, WI 53703

PLAZA FLOOR PLAN (GEF III)
STATE EDUCATION BUILDING

SCALE: 1/8" = 1'-0"

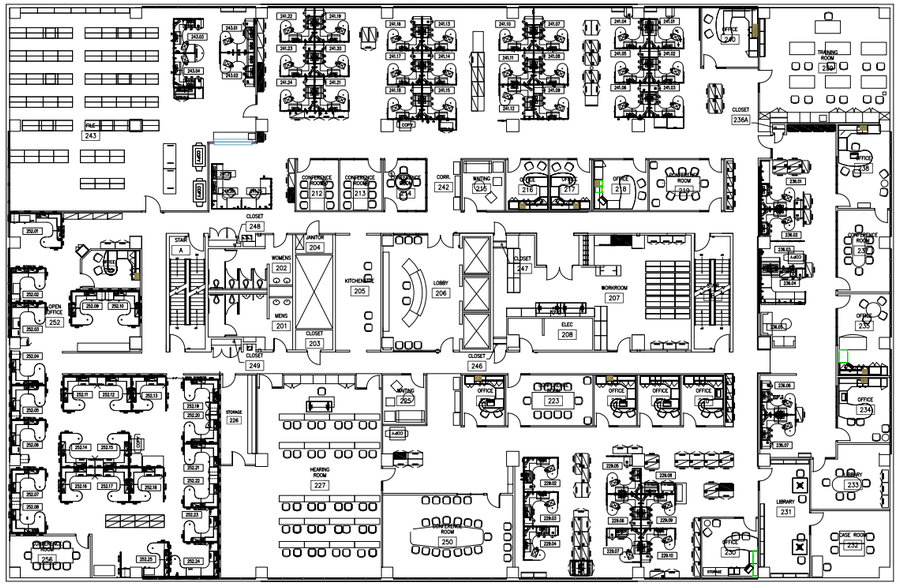
NORTH

STATE EDUCATION BUILDING (GEF III)
125 SOUTH WEBSTER STREET, MADISON, WI 53703

FIRST FLOOR PLAN (GEF III)
STATE EDUCATION BUILDING

SCALE: 1/8" = 1'-0"

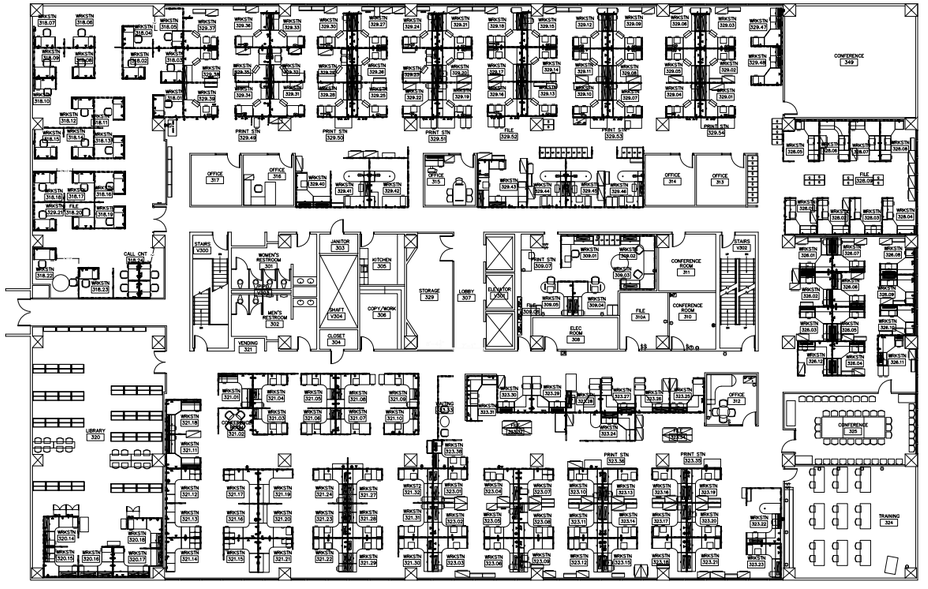
NORTH



STATE EDUCATION BUILDING (GEF III)
125 SOUTH WEBSTER STREET, MADISON, WI 53703

SECOND FLOOR PLAN (GEF III)
STATE EDUCATION BUILDING

NORTH

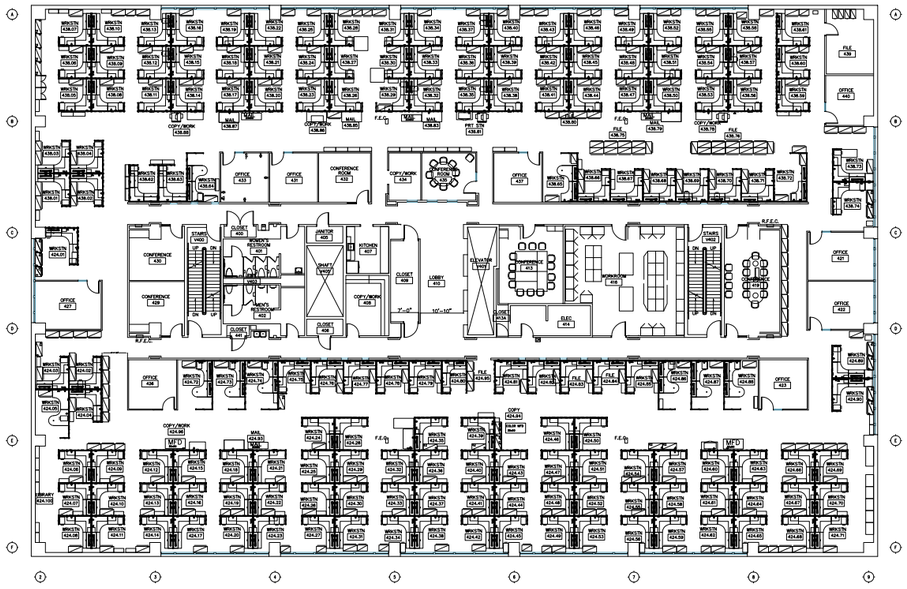


STATE EDUCATION BUILDING (GEF III)
125 SOUTH WEBSTER STREET, MADISON, WI 53703

THIRD FLOOR PLAN (GEF III)
STATE EDUCATION BUILDING

SCALE: 1/8" = 1'-0"

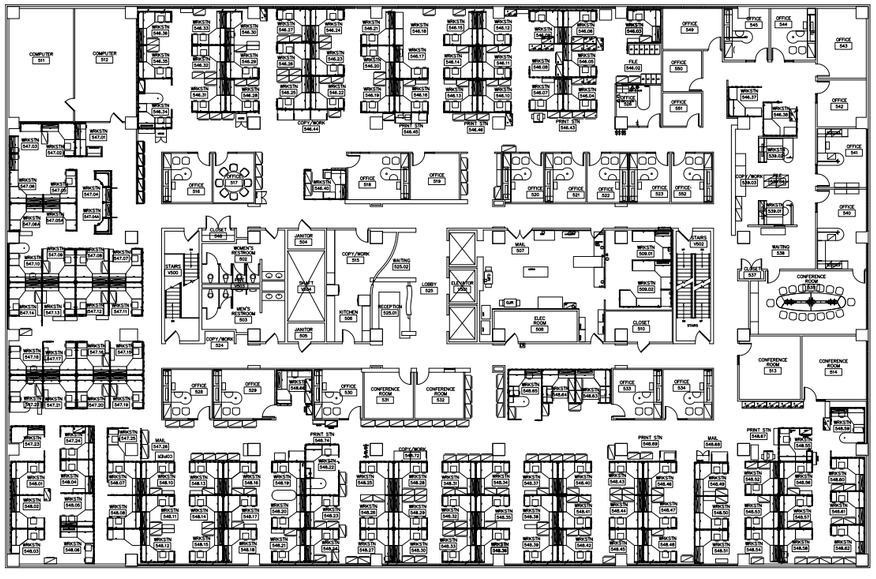
NORTH



STATE EDUCATION BUILDING (GEF III)
125 SOUTH WEBSTER STREET, MADISON, WI 53703

FOURTH FLOOR PLAN (GEF III)
STATE EDUCATION BUILDING
SCALE: 1/8" = 1'-0"

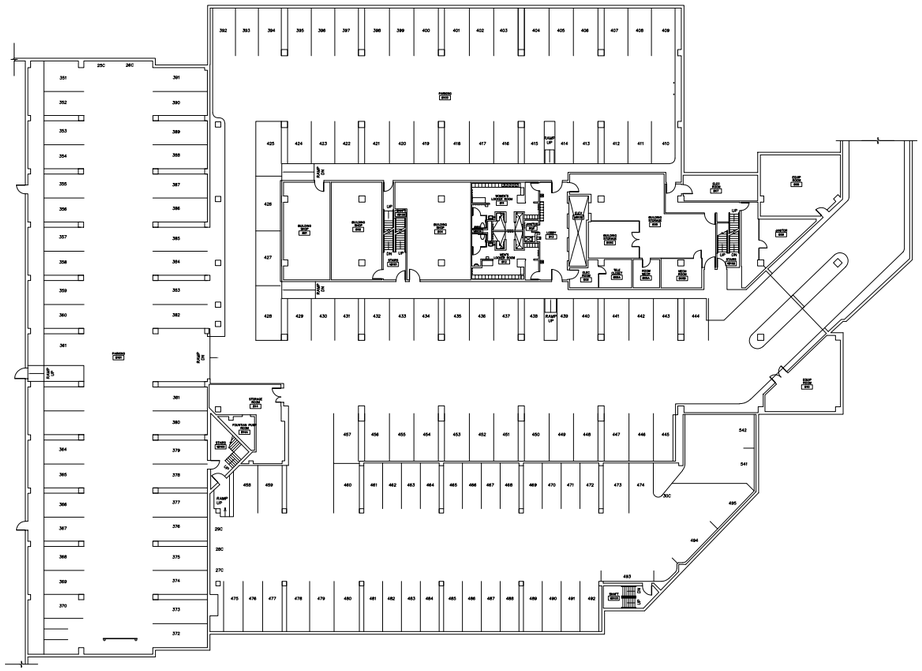
NORTH



STATE EDUCATION BUILDING (GEF III)
125 SOUTH WEBSTER STREET, MADISON, WI 53703

FIFTH FLOOR PLAN (GEF III)
STATE EDUCATION BUILDING
SCALE: 1/8" = 1'-0"

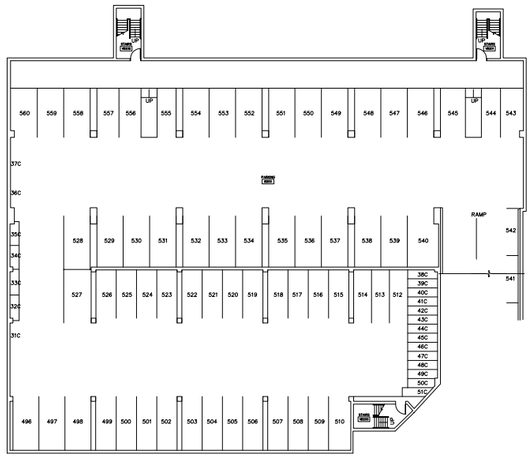
NORTH



STATE EDUCATION BUILDING (GEF III)
125 SOUTH WEBSTER STREET, MADISON, WI 53703

BASEMENT PARKING FLOOR PLAN (GEF III)
PARKING LEVEL 1
STATE EDUCATION BUILDING
SCALE: 1/8" = 1'-0"

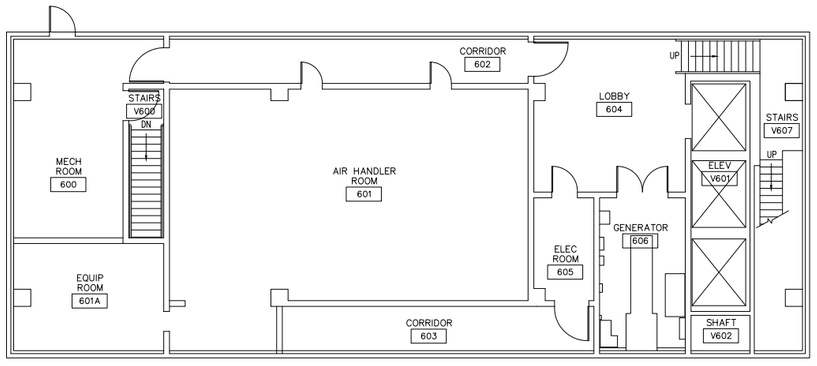
NORTH



STATE EDUCATION BUILDING (GEF III)
125 SOUTH WEBSTER STREET, MADISON, WI 53703

BASEMENT PARKING FLOOR PLAN (GEF III)
PARKING LEVEL 2
STATE EDUCATION BUILDING
SCALE: 1/8" = 1'-0"

NORTH



STATE EDUCATION BUILDING (GEF III)
125 SOUTH WEBSTER STREET, MADISON, WI 53703

PENT HOUSE PLAN (GEF III)
STATE EDUCATION BUILDING

SCALE: 1/8" = 1'-0"