

Schematic Design Report



Madison Central Public Library

Madison, Wisconsin

December 2, 2010

Project No. 2010.10.00

Prepared by:
Meyer, Scherer & Rockcastle + Potter Lawson, Inc.

Page Intentionally Left Blank

Table of Contents

Schematic Design

December 2, 2010

Schematic Design Documents:

1. Executive Summary.
2. Consultant Team Identification.
3. Introduction.
4. Architectural Form and Design.
5. Integrated Sustainable Design.
6. Building System Descriptions.
 - A. Site Development.
 - B. Exterior Systems.
 - C. Interior and FF&E Systems.
 - D. Structural Systems.
 - E. Plumbing and Fire Suppression Systems
 - F. Mechanical Systems.
 - G. Electrical.
 1. Lighting Systems
 2. Electrical Systems.
 - H. Special Systems
 - I. Public Art
7. Alternates.
8. Project Schedule Summary.
9. Schematic Design Drawings.

Appendix:

- I. LEED Checklist.
- II. Basis of Design (BOD).
- III. Project Schedule.
- IV. Schematic Design Drawings (see separate documents).
 - a. Pdf's of Drawings and Revit Model.
- V. Exterior Renderings (separate document to be provided after public presentation).

Page Intentionally Left Blank

The Madison Central Public Library located at 201 West Mifflin Street, Madison Wisconsin, was built in 1965. The building's primary structure consists of concrete steel reinforced, cast in place walls, columns and waffle slab. The existing exterior wall is composed of a two-tone brick veneer system (darker, quarter-turned at the base and smooth, lighter-toned above first floor level). The brick is affixed to a poured-in-place concrete wall or concrete block unit structure; finishes on the inside vary. The exterior wall is finished with limestone trim, underlined by a recessed stone detail. A stone clad colonnade frames the entry court. A narrow tinted-window curtain wall system within the brick wall provides limited daylight to the interior spaces as well as restricted views into and out of the building. The building's identity as an important civic structure is limited to the corner courtyard. In addition, the internally focused design has a dark, low ceiling interior and, we believe, does not promote well-being for its occupants.

The building's infrastructure is both outdated and worn, with severely deficient mechanical and electrical systems. The building's square footage is not efficiently used. In addition, the lower level metal storage mezzanine that is used for a significant part of the collection no longer meets code or universal design requirements.

The renovation/addition project seeks to remedy these deficiencies, as well as define a new identity in the community that reflects the significance the public place on the library services. We believe that this world-class service deserves a world-class building that will serve the citizens for decades to come. This identity is established through three guiding principles:

1. The services of the building should be visible from the outside. We believe that the vitality of the city is reinforced when the residents can see what is going on inside the building. In addition, this transparency will enliven the urban setting and enable the library to re-engage with the urban fabric. This increased transparency will also support a healthier atmosphere on the interior and a safer environment on the street.
2. The library deserves the right amount of space to house its collection and services. Much-needed square footage for spaces to meet, collaborate and study quietly and for computers and other technology will be added, and the building will be reorganized to serve the library now and well into the future.
3. The patrons and staff of the building deserve a highly flexible and welcoming interior architecture. The space, furnishings, equipment and engineering systems will be highly efficient, supportive of service and uplifting.

Architectural identity is more than the edifice of the building. It is achieved when the architecture enriches the patron experience. When that experience is healthy, productive and pleasant, then the architectural expression, both inside and out, becomes embedded in the memory of the patron. This, in turn, creates an identity.

Building

The new library building will accommodate approximately **118,500 gross square feet (GSF)** of floor area on five levels—a change from the existing four levels. The building will house youth and adult collections of about **349,000 items**, as well as approximately **100 public computer stations** located throughout the library.

Places to meet, collaborate, study and learn will be available to the community. The renovated library will house 18 group study rooms, two multi-purpose program rooms which can be used outside regular library hours, and a conference room which will double as quiet study when not used for meetings. Increased reader seating and lounge furniture will be present throughout the library, and a technology-centric production lab will enable business owners, teens and others looking to use the latest in technology to create digital content to suit their needs.

The staff will benefit from updated workspaces as well as from an automated materials handling system to efficiently process the books and get them returned to shelves more quickly, freeing staff for other tasks. The building will accommodate material returns at both entries for customer convenience

The existing building is a low-slung, internally focused structure. Many passers-by are unaware of the varied resources available within; few are enticed to enter and explore. The interior is dark and visually cut off from the surrounding neighborhood. In inclement weather the walk up the hill to the entry can be a difficult one. The re-imagined library will address these existing conditions. The building's new form and design are driven by a need for identity within the city of Madison, increased natural light to the interior, function for customers and staff alike, and an integrated sustainable approach. The building will open itself to the city by providing views both into and out of the building.

The re-imagined Madison Public Central Library will be located on its current site, 201 West Mifflin Street, Madison, Wisconsin. The site is bounded by Fairchild Street to the north, Mifflin Street to the west, Henry Street to the south, and a party wall on the east. While there is no public parking on the site, the library currently has about 8 spaces for staff within the building. These will be removed and the space will be repurposed. Many library users who arrive by car will access the site from the Overture parking ramp to the south; others will arrive from the Loop which travels around the state capitol building and brings people from areas northwest and northeast of the site. Others, including residents of the Capitol Hill District and local business people, will arrive by foot. To accommodate arrival from all directions, a new entry along Mifflin Street is being introduced. This new entrance will also mitigate the navigation difficulties imposed by the sloping grade: 11'-3" in the north-south direction and 5'-3" in the east-west direction. Minor modifications proposed for the site include widening the sidewalk at the corner of West Mifflin and Fairchild to match the condition across the street at the Overture Center; providing a drop-off space in front of the new Mifflin Street entrance; and possibly widening the sidewalk and replanting trees along Mifflin Street

1. Executive Summary

Schematic Design

December 2, 2010

Construction and Project Cost Estimates

The following is the project cost estimate from Mortenson Construction (MC), as of November 18, 2010. This estimate was based on a 121,170 GSF building. Our project is currently at 118,104 GSF. More detail of this estimate is provided in a separate document issued by MC.

Project Budget	Construction Budget	\$21,783,117
	Development & Soft Costs	\$2,979,249
	FFE	\$3,161,488
	Professional Services	\$3,130,500
<hr/>		
	Total Project Cost Estimate	\$31,054,354
	Total Project Budget	\$29,500,000
	Variance at mid-SD	\$1,554,354

Project Schedule Summary

The project is scheduled for substantial completion at end of November 2012, and for occupancy in mid January 2013. Refer to the detailed schedule included in Appendix V. Major milestones for completion of the project are summarized as follows:

<u>Milestone</u>	<u>Start</u>	<u>Finish</u>
Programming	June-2010	July-2010
Conceptual Design	Aug-2010	Aug-2010
Schematic Design	Sept-2010	Dec-2010
Design Development	Jan-2011	Mar-2011
Construction Documents	April-2011	July-2011
Bidding/Procurement	Aug-2011	Oct-2011
Construction	Nov 2011	Nov-2012
Grand Opening	January, 2013	

Page Intentionally Left Blank

2. Consultant Team Identification

Schematic Design

December 2, 2010

Meyer Scherer & Rockcastle

Jeffery Scherer	Principal in Charge of Design and Management
Traci Lesneski	Principal in Charge of Interiors and Furnishings
Dagmara Larson	Project Manager/Architect
Byoungjin Lee	Architect
Sean Wagner	Architect for Sustainability
Megan Eckhoff	Interior Designer
Carla Gallina	Lighting Designer

Potter Lawson

Doug Hursh	Project Manager for Design
Eugene Post	Project Manager – Process, Engineering Coordination and Construction
Ron Locast	Architect
Brian Reed	Architect
John Dreher	Engineer – Electrical
Gary McLean	Cost Estimator/Construction Contract Administrator
Chad Oistad	Construction Contract Administrator

Arnold & O'Sheridan

Paul Karow	Engineer - Structural
------------	-----------------------

Henneman Engineering

Dan Green	Project Manager – HVAC, Plumbing and Fire Suppression
Mike Schmidt	Principal
William Peden	Engineer - Plumbing & Fire Suppression

Library Planning Associates

Anders Dahlgren	Library Programmer
-----------------	--------------------

2. Consultant Team Identification

Schematic Design

December 2, 2010

Page Intentionally Left Blank

A building project requires multiple decisions on a daily basis, at a variety of scales. To guide these decisions and ensure that all project team members are operating under the same assumptions, the project team has created a series of principles.

The first set of principles is the Owner's Project Requirements (OPR), which contains the operational, energy-conservation and safety/security guidelines for the project. The second are the Guiding Principles discussed in the August 6, 2010 Visioning Meeting with representatives from the Building Committee and the Library Board and Foundation. This list sets the priorities for the project and the general "attitude" toward the building (i.e., that the building is first and foremost a public library; that the building will be used as a teaching tool).

In addition to these project guidelines, MS&R has added Project Design Principles to guide decision-making with regard to the design, materiality and detailing of the building.

- Respect** The design of the library will be an evolution based on a respect of the strongest design features of the existing building. This will result in a layered design that is richer and more authentic in its re-imagined form with vestiges of the existing building remaining legible within and juxtaposed against the new.
- Identity** The new building will create a landmark library that conveys its civic importance. It will reveal library services and activities through a more transparent facade creating a human-centric vibrancy. The identity of the library will be defined by an honest relationship between interior activities and the exterior form.
- Gradation** Progression is an important organizing tool. The building program is organized into zones representing levels of activity and privacy. This organization shall be evident on the exterior and interior through positioning of void, solid, transitional and definitive materials. Lighting, detailing and furnishings shall reinforce the progression and ensure activities are self-evident.
- Responsiveness** Buildings that age gracefully can easily adapt to new and previously un-thought-of uses just as they can adapt to current internal and external civic demands. We will develop the building to be responsive and flexible to: the macro- and micro-environment; the solar and urban orientation; the evolution of the library services and offerings; the ever-changing community needs; and library staffing.
- Light** Democratic access to day-light is a fundamental right. Daylight will shape the interior spaces and the places between. Materials will be selected mindful of how they respond to light: refraction, reflection, transmission, or inhibition. The building will be transformed from its current dark, internally-focused and visually disconnected state to a light-filled, externally oriented and visually connected building both inside and out.
- Discovery** The building shall include areas of delight that encourage discovery. While services and products will be displayed to maximize self-service, there will be moments in the building that encourage browsing and exploration. Where possible, building and library systems will provide didactic learning opportunities.

3. Introduction

Schematic Design

December 2, 2010

Planning Process

The Madison Public Central Library project was initiated on June 7, 2010 with a meeting of the full planning and design team, including representatives from the City of Madison, Madison Public Library, Potter Lawson, Library Planning Associates and MS&R (“Building Committee”).

The building programming process commenced on June 22, 2010. Library Planning Associates, Inc. and MS&R, Ltd. led the process with Barb Dimick, Library Director and the Madison Public Library’s Core Management Team. The program was refined through a series of meetings and discussions, until a final program document was submitted to the City of Madison on August 1, 2010. The program document was written, at the direction of the City of Madison, independent of the established budget and existing square footage of the building; the document was to define the “Gold Standard” central library for the size and demographics of Madison, Wisconsin. The ensuing document called for a library of 126,074 gross square feet (GSF) and included 326 readers seats, 100 public computers and shelving to accommodate nearly 387,000 items in the print and non-print collections. Also included were 343 seats in meeting, conference and program rooms, a Madison Room for an expanded local history collection and research and 18 study rooms.

Starting in August 2010 with the Conceptual Design phase and continuing through the Schematic Design phase in October and November 2010, the building program, project budget and exterior expression were tested first through program diagrams and then through conceptual designs. The emerging concepts were discussed and debated openly through several Building Committee meetings, three public input meetings and additional stakeholder meetings including Mayor Cieslewicz, Madison Public Library management and staff, Capitol Neighborhoods Inc., neighborhood business owners, and various homeless providers.

On September 10, 2010, the Design Team received a directive from the City of Madison to reduce the project to a size that would meet the established budget of \$29.5M project cost. Through benchmarking costing it was determined that this would result in a building of between 116,000-120,000 GSF. The early part of the Schematic Design phase was spent investigating this new size and how to accommodate the program elements within this smaller footprint, while investigating multiple options for the exterior expression.

Community Input

The Design Team held three public input meetings during the Concept and Schematic Design phases, with a fourth to be held on December 7, 2010. The input from these meetings helped the team narrow the early design concepts and exterior expressions, solidify program locations within the building and prioritize aspects of the project. In addition to the public meetings, various stakeholder meetings were also held. These stakeholder groups included the City of Madison, the Madison Public Library management team and staff, Mayor Cieslewicz, Capitol Neighborhoods Inc., neighborhood business owners and various homeless providers.

Building (by definition new) is always the act of changing what exists (by definition old), and, whether intended or not, relationships are formed between the two. The complex relationships of old and new can be orchestrated not only into functional architecture and a dynamic part of a city, but can also impart authentic meaning that embodies diversity, honesty, creative tension, cultural continuity, and sustainability. MS&R's old/new philosophy applies both ways to the Madison Central Public Library project: to old spaces being renewed and to new spaces creating a relationship with existing conditions. We believe, therefore, that architectural form for the library is one of enduring value:

1. The architectural design is a framework for relative meanings. On the most general level, the duality of old/new offers a time continuum on which potential meanings and associations of the library's history and its context become interrelated. This continuum offers us the potential for ordering, reordering, and creation of new meanings that neither the old nor the new possess separately. For this reason, the reuse of the existing library is perfect--its frame serves as a literal and metaphorical bridge between the past and the future.
2. Time and change are fundamental to architecture. Similar to gravity, natural systems, and urban systems, time is foundational to the shaping of architecture and therefore a worthy platform from which to explore meaning. Buildings interact with their preexisting natural, and in this case, urban settings, and each new building changes the part of the city from which it rises. Over time, weather and entropy change buildings, displaying the power and disorder of architecture's antithesis—chaos. Shifting library services, cultural values, and human needs prompt buildings and cities to change, leaving residue of what was. Such alterations can be viewed as vibrant inspiration for new ideas and the editing of places into dynamic and interactive collages that affirm living processes. This collaging of old-new is a perfect setting for a building that houses both virtual and physical artifacts of the information matrix. The new design begins by “erasing” the residue of the building that is past its prime (like mechanical and electrical systems) or no longer useful (like the colonnaded entry.) In their stead are new forms that signal a shift from the past. The corner entry is framed by the “literary living room.” This three-story glass form is pivoted at the intersection of the “old” brick exterior wall. This pivoting establishes a new identity and signals a shift from the past. The transparency is in stark contrast to the introverted, dark and dispiriting existing exterior enclosure.
3. The myth of the old. Meanings are imparted by time. In many cases, the public will choose traditional architectural styles for personal spaces, housing, offices, and institutions because of their familiarity. Although these traditional choices can be applied to new buildings, the authenticity of old places cannot be recreated through mimicry. By respecting the autonomy and authenticity of both the new and the old, any resultant combination of old and new will have its own authenticity. For this reason the new forms associated with this library project are of now and not over-simplified historical pastiche.

4. The myth of the new. The new is powerful. The allure of youth, progress, new things, and new ideas pervade our culture. In architecture, it drives innovation that can move the vocabulary of architecture in new directions and creates stunning buildings. It also drives the waste of physical and cultural resources through the abandonment of old neighborhoods and the destruction of serviceable buildings. We believe that this part of the myth of the new is unethical and unnecessary. At the root of this belief is a cultural and pragmatic realization that everything ultimately is a transformation of something else. The thoughtful reuse, repositioning, and reframing of matter and space can be as profound as the pretense of inventing it. For this reason, we embrace the merger of old-new in the “new” and re-imagined library. It is an ethical, sustainable and wise choice to renovate and reinvigorate the existing library. Where we can, we have improved the old with new daylighting strategies.
5. Reuse and sustainability. The heritage preservation and sustainability movements are converging. Saving existing buildings to strengthen the cultural fabric and reduce waste is mutually beneficial. Old/new is a comprehensive approach that integrates the ethical issues of environmentally conscious design and culturally conscious preservation with a commitment to high level solutions to our clients’ needs.
6. Overall, the final proposed architectural form is reflective of its specific place in Madison. It is our belief that place influences every aspect of our culture--including the emotional, perceptual and intellectual. As Jorge Luis Borges puts it, “The creator (i.e. the architect) walks a tightrope suspended between memory and oblivion.” We have learned that the best client (in this case the citizens of Madison) relationship is one that enables patience and discovery; is not motivated by pure economics; and where each party is willing to go to places neither can imagine at the beginning of the design journey. It is hoped that the architecture form that we are proposing will enable transportive journeys for young and old alike.

5. Integrated Sustainable Design Approach

Schematic Design

December 2, 2010

Project Goals

Sustainable design is most successful when all of the design team members, including the Owner, share similar values and attitudes toward the project; when a project's efficiency and cost, as well as the created environment and the impact the building will have on the environment at large, are considered with attention and care.

The City of Madison provided the following documents as guidelines for the design; Exhibit "B" Policy for Energy Efficiency and Sustainability of City Operations, Guidelines to Reduce Operating Expenses and Meet Sustainability Goals dated 9/24/2010, and Owner's Project Requirements dated 8/25/2010 ver. R4. These documents provide common guidelines for the design team, while defining a written assessment of sustainability needs and desires regarding the new Central Library.

- Design and construct a Library that will achieve at a minimum LEED Certification – Silver, following the U.S. Green Building Council's LEED for New Construction (LEED-NC) Rating System, V3.0.
- Achieve at least 40% energy savings compared to efficiency levels prescribed by ASHRAE Standard 90.1-2007.
- Achieve the lowest possible lifetime cost for construction within the project budget.
- Design the building to provide continual energy conservation throughout the life of the building that can be showcased and used for the educational purpose.
- Ensure good indoor air quality.
- Design spaces to maintain a healthy environment for patrons and staff.
- Design spaces efficiently to reduce material costs.

Design Process

These guidelines have not been considered in isolation by the design team, but rather are essential components of the project's Design Objectives and Principles described in this report. Team work during schematic design has been focused on meeting project objectives, creating a seamless approach to all project components, integrating all systems within the architectural expression, and making all parts of the building equally important parts of the design.

An integrated design approach is essential to the achievement of measurable outcomes of the project's sustainable goals. The required performance guidelines of the LEED-NC V 3.0 set the project framework and oversight for this process.

Design Strategies

Within each narrative section of this Report, the Design Team has provided an overview of the specific project strategies by discipline, which will be expanded upon and further tested during the Design Development phase. These specific project strategies address the required performance criteria in the following primary LEED-NC V 3.0 categories: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Material & Resources, Indoor Environmental Quality, Innovation in Design.

5. Integrated Sustainable Design Approach

Schematic Design

December 2, 2010

Next Phase

Data for the performance indicators of this project are being tracked by the project team and will be expanded upon throughout the design and construction phases. All performance goals and credits are grouped into the following categories:

- To be further examined in Design Development.
- Not obtainable by the project due to existing project circumstances (for example SS credit 3 – Brownfield Redevelopment).
- Credit opportunities to be determined in Design Development (for example SS credit 6.1 Storm Water Design - Quantity Control)
- Potential credits that need to be tested against the budget (for example EA credit 2 On-Site Renewable Energy)
- Credits attempted.

The LEED-NC V3.0 worksheet for the Schematic Design phase is provided in an Appendix of this Report.

6.A. Site Development Systems Description

Schematic Design

December 2, 2010

Summary

The new Library site development will be limited. The existing Library building is built up to the property line on N. Fairchild and Mifflin Street as well as an existing building and parking ramp along the southeast property line. The area of our site development or rework will occur on the 15-foot wide receiving area along Henry Street property line. The construction limits for this project will be the four property lines.

Demolition, Site Clearing, and Tree Protection

Confine clearing and grubbing operations to the minimum area reasonably necessary to undertake the work.

Protect existing street trees designated to remain. Install temporary vegetation protection zone chain link fencing as indicated on the Drawings to protect trees from construction damage. Maintain temporary vegetation protection fencing and remove when construction is complete.

Demolish and remove designated existing structures, paving, surfacing, and hardscape elements in their entirety.

Dispose of debris off-site.

Earthmoving and Soil Preparation

Sediment and Erosion Control: Install and maintain erosion control measures as required by the erosion control plan throughout phases of the project.

Paving and Surfacing

Construct paving/surfacing will be in compliance with State of Wisconsin and City of Madison specifications.

Paving Type: 4000 psi, air entrained Portland cement concrete with tooled joints and medium broom finish, 6X6 WWM fabric located mid-depth. Thickness: 5 inch. Base: 6 inch crushed limestone.

Site Improvements

New recessed exterior scissors lift to replace existing recessed scissors lift at receiving area.

Extend top of walls of existing electrical vault to new grade (exterior exit doors) and provide new-galvanized metal grate over existing vault opening.

New stainless steel metal handrails at exterior stairs.

Site Furnishings

Waste Receptacles: to be determined.

Landscaping

Landscape materials including trees, shrubs and ground cover.

Flowering/Intermediate Trees: 1.5 to 2 inch caliper.

Shrubs: container or balled and burlapped.

Groundcovers: container

Utilities

Any utility rework or design work required outside of our property lines along the N. Fairchild, Mifflin and Henry Streets will be by the City of Madison Engineering Department.

6.A. Site Development Systems Description

Schematic Design

December 2, 2010

Work by Others

All Civil, Landscape and Lighting design work, outside of our property line, along N. Fairchild, Mifflin and Henry Street will be by the City of Madison Engineering Department. The City's design documents and specifications will be included as part of the Madison Central Public Library project for bidding and construction purposes. This includes but is not limited to sidewalk, curbs/curb cuts, street trees, street lighting, bicycle racks and traffic signage as required.

6.B. Exterior Systems Systems Descriptions

Schematic Design

December 2, 2010

Summary

Exterior Building Materials

Approximately 50% of the existing exterior wall will remain in place. This will include large panels of the brick as well as the common wall between the Library and the Fiore Building.

Exterior Wall Systems

The primary exterior wall materials will include existing masonry and stone, new materials will include glass curtain wall and zinc metal panels. The existing dark brick at the base of the building will be removed and replaced or left in place and covered with a new exterior cladding. It is expected that the exterior systems will be revised and variations will occur during the Design Development phase.

1. Existing Brick wall assemblies
2. New metal panel wall assemblies
3. New Curtain wall assemblies
4. New Backlit Glass panel assemblies
5. New Stone masonry

The new exterior walls will typically be non-bearing, insulated cavity wall construction with 3" of rigid insulation and steel stud back up, the common firewall between the properties will have a concrete block backup for fire rating. The exterior assembly construction will be reviewed during Design Development by the exterior enclosure consultant.

Wall Assemblies

New Metal Panel Assembly

The majority of the 3rd floor will be clad with zinc metal panels. The cladding could consist of a similar system to the Rheinzink flat lock tile system or the Rheinzink horizontal reveal panel system. The zinc panels will have a preweathered blue gray finish.

The assembly consists of:

- Metal Wall Panels
- Vent Mat
- Weather Barrier
- 3/4" Plywood sheathing
- Z Furring with 3 inches of rigid insulation
- Air/vapor barrier
- 5/8" exterior sheathing
- 6" steel studs
- 5/8" GWB interior

Existing Brick Wall Assembly

Existing brick walls may require some exterior maintenance and patching. Existing insulation and plaster will be removed and new insulation and GWB will be added to the interior of the existing brick walls. This assembly will be reviewed by the exterior wall consultant. At this time the assembly consists of:

- Existing Brick Wall
- Existing air space
- Existing CMU back up
- 3" of closed cell foamed in place insulation
- 3 5/8" metal studs
- 5/8" GWB interior

6.B. Exterior Systems Systems Descriptions

Schematic Design

December 2, 2010

New Fire Rated Wall at the property line between the Library and Network 222

The new wall on the 3rd floor at the property line will require a fire rating that will be obtained by utilizing a CMU back up with an exterior cladding. For the purposes of pricing during this schematic phase the exterior cladding will be zinc metal panels. Assembly:

- Zinc Metal Panels
- Vent Mat
- Weather Barrier
- 3/4" Fire Retardant Plywood sheathing
- Z Furring with 3 inches of rigid insulation
- Spray on Air/vapor barrier
- CMU Wall (3 hour)
- Metal furring or framing
- 5/8" GWB interior

New Curtain Wall Assembly

Multi story curtain wall framing, structural glazing and captured glazing to incorporate a combination of insulated vision, composite metal panels, frit coated glass and insulated spandrel glass panels. Based on Efco or Kawneer curtainwall systems. Glazed aluminum curtainwall with 1" insulated glass units, will represent the primary exterior glazing. Aluminum supports will be thermally broken. Entry glazing shall be identical to curtain wall. Clerestory windows, office windows and glazing to be identical to curtain wall.

IGU Type: 1 inch insulated glass constructed of transparent, translucent and opaque lights. All IGU's to have Low E technology similar to Guardian Sunguard Super Neutral 54 on clear.

New Backlit Glazing Assembly

One option for replacing the dark brick at the base of the building is to use LED backlit laminated translucent glass panels. The assembly would consist of laminated structural glazing with no visual framing members, continuous LED lighting within an internal space with a white painted metal panel to cover the existing brick. This assembly would require a stone or concrete base to keep the glass off the sidewalk and would also require a zinc or stainless steel trim cap at the top of the backlit assembly.

Ultra High Performance Concrete, Cast Stone Panels, Glass Fiber Reinforced Concrete Panels or Stone Panels

Another option for replacing the base materials is to use a thin rain screen system utilizing thin concrete or stone panels. The panels would be attached directly over the existing brick with a metal rail system and would create a rain screen over the existing brick wall. This system may be used in conjunction with the backlit glazing system. One thin reinforced concrete system being researched is the Rieder FiberC product from Austria.

6.B. Exterior Systems Systems Descriptions

Schematic Design

December 2, 2010

Existing Stone panels at roof edge

There are 2 options for the existing stone panels on the top of the exterior walls. One option is to clean the stone and patch any holes and tuck point or caulk the panel joints. The second option is to replace the panels with either stone or precast concrete panels to match what will be used on the base of the building.

Roofing Systems

Low Slope Roof System (non-green roof area)

Sloped a minimum of 1/4" per foot with a 60 mil single ply fully adhered EPDM membrane system over tapered insulation in thickness required to provide positive drainage, over two layers of 2" flat insulation. The roofing system shall comply with Energy Star rating, LEED requirements and shall allow the ability to add green roof trays.

Green Roof

Option 1: Built up roof system similar to Hydrotech

Option 2: pre-planted tray system with an engineered planting medium similar to the LiveRoof system.

Depth to be determined. A full green roof is an alternate on the third floor.

Public Access Roof Decks

At the public access roof decks optional materials include:

Concrete pavers

Ipe wood decking

Composite deck products with recycled content

Skylights (Alternate)

See alternate section.

Roof Deck Railings

Glass and stainless steel guard railings will be used at public access roof decks.

Miscellaneous Exterior Elements

Signage

Large dimensional letters are planned for use at the main entry as shown in the elevation along Mifflin Street. The materials for the letters could be zinc coated metal or translucent resin 3M UV coated Chroma product that are edge lit with concealed LED lighting.

Louvers

New louvers will be required on the mechanical penthouse. The louvers should match the finish of the zinc metal wall panels.

Roof Sculpture

The large bronze sculpture located in the courtyard will be relocated to the roof.

Bohrod Mural

There is a potential scenario where the exterior of the wall that is being saved for the Bohrod Mural will need to be covered in order to provide insulation. In this case the preliminary budget allowance shall include zinc metal panel system over the existing brick.

6.B. Exterior Systems Systems Descriptions

Schematic Design

December 2, 2010

Canopy over new Mifflin Entry

The canopy over the new Mifflin Street entry could be constructed of:

Option 1: Back lit translucent glass

Option 2: Zinc metal clad canopy

Garage Door

New insulated garage doors with insulated glazing and metal finish to match the zinc metal panels.

Vertical and Horizontal Sunshading

The vertical and horizontal sunshading panels on the Mifflin and Henry Street facades will be clad in zinc-coated metal.

Exterior Doors

Building entrance doors and other doors in aluminum curtain wall will be aluminum and tempered glass, manually operated. One door leaf at all building public entrances will be power assisted.

Miscellaneous Equipment

Corner stone

Options

Options for stone building cap

Clean and Repair existing stone

Replace existing stone

Options for Mifflin canopy

Backlit glass canopy

Metal clad canopy

6.C. Interior and FF&E Systems Systems Description

Schematic Design

December 2, 2010

Overview

In keeping with the stated Project Design Principles (Respect, Identity, Gradation, Responsiveness, Light, Discovery), the building interior is designed to be intuitive to use and responsive for future use while also encouraging exploration in lifelong learning. Color and texture will be used to both guide users through the library and generate interest in surroundings to encourage exploration. The entire building maximizes the available natural light and views to the exterior. The principle of Gradation is expressed in the interior organization as well as in the play of materials and textures.

The interior is organized into three zones. The Mifflin side of the building is the active “Marketplace” area, filled with technology, library materials display, group study rooms and casual seating. This zone is where the main stair and elevator are located, contributing to the active nature of this area of the library. The mid zone of each public floor contains library stacks, technology for longer-term use and individual study. It is designed as a wide-open, flexible area to allow the evolution of library service to occur gracefully. The third zone of each floor, located along the party wall, contains the service block. The service block design is driven by efficiency. It contains the staff workrooms, toilets and janitor closets, storage and other building support functions.

Upon entering the library at the main entry point on Fairchild, customers will have clear view of public functions, book drop, main stair and elevator, and of the service desk. Upon entering at the secondary entry on Mifflin, customers will have easy access to the main stair and elevator, another book drop, a program room, and the children’s area. The Youth Services and Adult Services departments are peppered with retail-inspired fixtures containing books and media. Computers and other technology are distributed throughout the library.

Program

The building is comprised of five levels: Basement Floor (below grade, at elevation 81’8”), Ground Floor (at Henry Street grade, at elevation 89’8”), First Floor (at Fairchild Street grade, at elevation 100’0”), Second Floor (at elevation 114’8”) and a new Third Floor (at elevation 129’2”). Iterations in the Conceptual Design and Schematic Design phases have produced the following program distribution among the five levels:

Basement Floor: Children’s Room, Maintenance Offices, Mechanical and Electrical rooms, Library Stacks Storage.

Ground Floor: New Mifflin Street entry with book drop, 75-person Program Room and associated support spaces, Staff spaces including Technical Services, Maintenance Shop, Automated Materials Handling and Mailroom.

First Floor: New Materials, Fiction, Large Print, Teen, Audio-Visual, group study spaces, a 15-person Conference Room, Production Lab and staff spaces including Circulation Services, part of Technical Services and the Print Shop.

6.C. Interior and FF&E Systems Systems Description

Schematic Design

December 2, 2010

Second Floor: Non-Fiction and Reference, group study spaces and staff spaces including User Services and Library Stacks Storage.

Third Floor: Large Meeting room (divisible) and Administrative staff.

Interior Systems

Library Material Conveying System

All library materials returned to the building at the Fairchild entry on Level One will be transported under the slab by the material conveying system from the book drop to AMH Room at the Ground Level. The conveyer needs to be compatible with the Automatic Material Handling System, which is not in the project scope and will be installed by the Owner in the AMH Room.

Conveying Systems

Public Elevator will have cork plank flooring. Walls will be a medium finish wood tone with a custom laser etched pattern back-lit by LED lighting with additional light for cab through back-lit custom translucent ceiling. Exterior walls of the elevator shaft will be polished Venetian plaster over drywall.

Elevator Model: Seville 35.

- a. Rated Capacity: 3500 lbs..
- b. Rated Speed: 150 ft./min.
- c. Operation System: TAC32.
- d. Travel: 47'-8".
- e. Landings: 5 total.
- f. Openings: Front: 5; Rear: 0.
- g. Cab Inside: 6' - 8" wide x 5' - 5" deep clear.
- h. Cab Height: 8'0" nominal.
- i. Hoistway Entrance Size: 3' - 6" wide x 7'-0" high.
- j. Door Type: Single Speed.
- k. Power Characteristics: 460 volts, 3 Phase, 60 Hz.
- l. Seismic Requirements: Zone 1.
- m. Fixture & Button Style: Traditional Signal Fixtures with Microban® antimicrobial protection.
- n. Special Operations: None.

Staff Elevator will have rubber flooring. Walls will be an impact-resistant finish.

Elevator Model: Seville 30.

- a. Rated Capacity: 3000 lbs.
- b. Rated Speed: 150 ft./min.
- c. Operation System: TAC32.
- d. Travel: 47'-8".
- e. Landings: 5 total.
- f. Openings: Front: 5; Rear: 0.
- g. Clear Car Inside: 6' - 8" wide x 4' - 3" deep.
- h. Cab Height: 8'0" cab height nominal.
- i. Hoistway Entrance Size: 3' - 6" wide x 7'-0" high.

6.C. Interior and FF&E Systems Systems Description

Schematic Design

December 2, 2010

- j. Door Type: Single Speed.
- k. Power Characteristics: 460 volts, 3 Phase, 60 Hz.
- l. Seismic Requirements: Zone 1.
- m. Fixture & Button Style: Signa4 Signal Fixtures.
- n. Special Operations: None.

Operable Partitions

The Large Meeting Room on the Third Floor will be divisible into two independent rooms with a large-scale operable partition stored in the ceiling, similar to Skyfold products. This operable partition will be electrically operated and integrated with the meeting room control system, tying together control of the lighting, sound and AV systems.

The Children's Program Room on Basement Floor and the Conference Room on First Floor will each have custom laser-cut wood panels that roll on a ceiling-mounted track. This will allow both rooms to be integrated into the adjacent public spaces when not in use.

Doors and Door Frames

All door frames, except fire rated partitions and existing doors to remain, shall be 8'-0" high clear anodized aluminum, with grade AA wood doors in veneer to match wood accents used throughout the interior.

Stair Systems

Public Stairs to be constructed of polished white cast concrete with ornamental glass guardrails and satin metal handrail. For slip resistance and visual clarity steel bars will be imbedded into the cast steps.

All existing exit stairs will be replaced with a code compliant steel pan stair system with exposed polished concrete treads.

Interior Finishes

The interior finishes shall be chosen both for their sustainable nature and their warmth in character. All materials are highly durable, easily maintained and intended for contract use in a publicly-used building. The building will use as minimal of resources as possible. Where possible, materials and finishes will be native to the region.

Stone. Natural stone, quarried in Wisconsin, will be used on the exterior of the building. Where appropriate, this material may be used selectively on the interior of the building for warmth, texture and stature.

Wood. Wood will be used strategically to provide warmth on the interior. For example, screens to lock the library from after-hours spaces may be fabricated from wood laser-cut into a pattern that allows some visibility into the library when closed, and acts as integral art when open. Wood species will be a medium to deep tone to provide contrast with other materials on the interior.

6.C. Interior and FF&E Systems Systems Description

Schematic Design

December 2, 2010

Cork. Cork tiles, which are a rapidly-renewable resource, will be used for their warm and textured appearance, contribution to a healthy building and ease of maintenance. The cork will be a plank module (roughly 4"x36-48").

Color. The library will be infused with vibrant color. Study room interiors will use colored fabric acoustical walls for warmth, texture and improved acoustics.

Concrete. The existing building structure is concrete, as is the existing waffle slab. We propose to expose those materials and express them out of respect for the existing building's best qualities. These existing portions of the building will be painted white to both reflect light in the building and to act as the existing canvas on which the new library is "painted." The marketplace – a busy, active space – will use concrete for the floor material to visually mark this area as different from the quieter library spaces.

Basement Floor

The Children's Room will have durable and vibrantly colored flooring composed of various colors of rubber sheet flooring laid out in a custom pattern. A vapor barrier will be required over the existing slab prior to finish flooring installation. Exposed structural columns and underside of cast-in place slab will be cleaned, patched and painted. All lighting and mechanical systems will be carefully coordinated for a neat appearance, and suspended exposed within the space.

Program Room acoustics will be addressed by full height fabric-covered acoustic panels applied to walls of the room. Fabric will be high grade COM. Additional interest will be brought to the room through a custom ceiling installation.

Study Room partitions will be made up of a variety of butt-jointed transparent, translucent and colored glasses to aid with staff supervision of these rooms. Like the Program Room, pairs of interior walls within each room will host full height, high-grade COM fabric-covered acoustic panels.

Ground Floor

For ease of maintenance, the building entry will contain a steel walk-off mat system, transitioning into a level 2 quality, polished concrete slab with a 1500 sheen finish within the Lobby. The glazed entrance systems lead into the building proper, allowing for visual continuity from exterior to interior. The translucent, back lit wall, expressed on the outside of the Mifflin Street entry will continue into the Vestibule.

The Program Room will have cork plank flooring and full height fabric covered acoustic panels. Panels will be high-grade COM fabric. Program Room ceiling will be composed of a concealed grid with 2x6 acoustic ceiling panels.

6.C. Interior and FF&E Systems Systems Description

Schematic Design

December 2, 2010

The lobby, Program Room and associated support areas, stair and elevator are to be open for operation after the library proper has closed. Separation between the Basement Floor and this after hours zone is provided by an operable fire rated glass partition.

First and Second Floors

For ease of maintenance, the Main Entry will contain a steel walk-off mat system, transitioning into a walk-off carpet tile system at the entry ramp. In the new addition of the building a ceiling systems of 2x6 acoustic tiles in a concealed grid will be installed.

The lobby, stair and elevator are to be open for operation after the library proper has closed, to allow access to the Large Meeting Room on the Third Floor. Separation between the library and this after hours zone will be achieved with operable custom laser-cut wood sliding panels.

The Commons and Marketplace areas on both floors will have level 2 quality, polished concrete slab with a 1500 sheen finish. Contract grade dense low-pile carpet tile “area rugs” will be provided at seating areas.

The Study Rooms and Conference Room on these two levels will be primarily glazed with a variety of butt-jointed transparent, translucent, and colored glass panels. Any solid walls facing library collection areas will be covered in textile wall covering. Interior walls will receive full height, high-grade COM fabric-covered acoustic panels. Floors in these rooms will receive a cork plank floating floor system.

Collection areas will receive the cork plank floor system. The back wall of stack area (“service zone wall”) will have pattern of full height, custom framed, glazed punched openings, residing within a painted wall surface.

Ceiling finish will be determined during the Design Development phase, once the Owner has reviewed on site mock-ups and the mechanical system is selected. Painted exposed structure to be used as a basis of design, with an add alternate of 80% of ceiling area to be finished with a ceiling system of 2x6 acoustic panels within a concealed grid, with free, expressed edges.

Third Floor

The Large Meeting Room will be divisible into two smaller rooms, by an acoustically rated operable partition. Each half of the room shall have independent lighting, audio-visual, shading and sound controls. To further address acoustic comfort and separation both parts of the meeting room will contain a ceiling system of 2x6 acoustic panels within a concealed grid, as well as cork plank flooring and full height high-grade COM fabric covered acoustic panels applied to three walls. To provide flexibility with audio-visual components, power operated black-out shading will be installed at all perimeter and interior glazed openings within the room and will be tied to the lighting control system.

6.C. Interior and FF&E Systems

Systems Description

Schematic Design

December 2, 2010

The Lobby, Madison Room and Corridor outside of the Meeting Room will all contain the ceiling system of 2x6 acoustic panels within a concealed grid. Floor finish will be level 2 quality polished white concrete slab with a 1500 sheen finish. A contract grade dense, low-pile carpet tile “area rug” will be provided in the Madison Room.

Corridor walls abutting the meeting room will be covered in a textile wall covering to address durability and esthetic needed for public gathering areas. Corridor walls opposite will have full height plywood backing for gallery component.

Penthouse Level

The penthouse houses mechanical equipment. It will have sealed concrete floors, painted gypsum board walls and exposed painted ceiling structure, fire rated where required.

Building Overall

All public and staff restrooms and staff showers will have 18x24 through-body porcelain tile with minimal grout joints on the floor and 2x8 wall tiles in various colors installed in a custom pattern. Tile will be provided on all walls in public restrooms and wet walls only in the staff restrooms. All restroom partitions will be stainless steel and ceiling hung.

All staff offices and workrooms will receive rubber sheet flooring and 4x4 concealed grid acoustical ceiling tile system. Visual connection and daylight will be provided via full height glass openings with clear and transparent glazing, based on privacy needs.

Interior Furnishings and Custom Millwork

The library shelving height is capped at 66” to reduce visual and physical barriers and provide a comfortable, accessible feel to the interior. The shelving will be new, finishes with white paint and be trimmed with solid surface end panels and canopy tops. The end panels and canopy tops shall be provided as part of the millwork package.

In order to accomplish providing lower-height shelving for public collection areas, a staff-access-only storage collection will be provided on the basement floor. This storage collection will use compact shelving storage to maximize the number of materials that can be stored in the available space.

Compact storage shelving will consist of all new frames and carriages with reused existing shelves. Existing Shelving will be reused as is within all enclosed storage areas on First and Second floors. Compact shelving rails will be embedded in the floor slab.

Library material display fixtures are to be included in the millwork package. These mobile, four-sided units will contain adjustable laminate shelving in a solid surface shell with concealed heavy-duty casters.

6.C. Interior and FF&E Systems Systems Description

Schematic Design

December 2, 2010

Custom millwork counters in public areas will be constructed of solid surface supported by a steel “L” bracket tied to structure within the partitions, for a seamless look and no visible support brackets. Worksurfaces will be held away from the wall 1” to all cables and power cords to fall over the back edge. Cables and power cords will be managed below the surface with a basket and clamps. No cords shall be visible.

Custom millwork components in staff areas will be constructed of laminate, with laminate shelves and interiors. Hardware shall be Doug Mockett or similar.

Public area furniture will be designed and/or selected for its ability to adapt easily as use patterns changes. Technology will be incorporated seamlessly into the furnishings to eliminate unsightly cords and cables. Study tables will have metal frames and solid surface tops for longevity. Study chairs will have metal frames and leather seats. Lounge furniture will be upholstered in leather or fabric treated with nanotechnology for soil-hiding and stain-resisting features.

Staff work areas are designed with efficient and reconfigurable contract office furnishings (Herman Miller, Haworth or similar). Worksurfaces will be supported with metal frames and have laminate tops. Low and mid-height fabric panels will be used for separation and privacy. Task seating will be new, ergonomic contract quality seating for safety and health of staff.

Most of the building’s existing furniture is past its useful life. Where possible, however, existing furniture will be redeployed within the building, mainly in staff areas. Examples include side chairs and some tables. All the book trucks that are in working order will be reused. The majority of the existing shelves are used as is either on the compact storage or in the other two storage collection rooms. Existing children’s chairs in the public area will be refurbished and reused (see separate Furniture Inventory Document for more information).

All new furnishings throughout will be as flexible as practical for reconfiguration and contract grade.

Interior Signage

Major public areas will be signed with individual metal lettering hung from the ceiling with metal rods. Through-color acrylic accents will be used.

Each solid surface shelving end panel will hold an integrated collection location sign which allows library staff to change the message as needed with a paper insert. All children’s book bins will have acrylic framed placards.

Rooms will contain an acrylic colored sign with Braille. Signs mounted on glass will include a matching acrylic backer. Where possible, universal pictograms will be used to aid in communication with the diverse population.

Page Intentionally Left Blank

6.D. Structural Systems

Systems Description

Schematic Design

December 2, 2010

Summary

Structural design will be in conformance with the International Building Code (w/ Wisconsin amendments) and with appropriate design requirements of the American Concrete Institute and American Institute of Steel Construction and other respective structural materials governing organizations.

Structural aspects of the project involve adapting the existing concrete “waffle slab” floor structure for new stair/elevator openings, light-well opening and other potential minor penetrations and incorporating a number of openings in the exterior façade at both upper walls and foundation walls. New additions will include a 3rd floor over a portion of the original footprint, as well as a 3 level addition in the former exterior plaza, to include meeting rooms, reading space and entry lobby.

Foundation System

All new foundations for the infill of the existing plaza will consist of conventional spread and strip footings, supporting new concrete perimeter frost walls, concrete stair walls and columns. The new three story entry addition does not contemplate excavation of additional basement space. Perimeter walls would be doweled to the existing foundation system and would typically be reinforced with continuous horizontal top and bottom steel. Spread footings will be reinforced with rebar in each direction and strip footings will have continuous horizontal steel. Slab-on-grade will be minimum 4” in thickness and conventionally placed on 15 mil vapor barrier, on compacted granular sub-grade. A new geotechnical investigation has not yet been performed for this site, however; based on review of the original soils noted, as well as area knowledge, allowable soil bearing conditions will be in excess of that necessary for new construction or added loads to existing.

Entry Addition Superstructure

The entry addition superstructure will be steel-framed. Floors will be concrete slabs on composite steel deck, supported in-turn by steel wide-flange purlins and steel wide-flange girders. Including slab, the structural system will be approximately 24” in depth. Column supports will be round shelled Fire-trol elements (integrally fire-proofed), 10.75” diam. first to second floor and 8.625” diam. second floor to roof. The steel roof structure will be similarly framed with steel wide-flange purlins and girders, supporting steel roof deck. The second/third floors will overhang the first floor footprint on north and west. The new stair tower will use concrete walls to support new floor/roof structure and provide for an east support to the considerable north cantilever. This support will be achieved by extension of the west stair wall north along the addition cantilever and will extend vertically from second floor to roof. Steel structure will require fire-proofing (with exception of columns as previously noted). All steel floor and roof deck will be galvanized.

Third floor Structure

Original documents stated the existing roof was designed as a future floor, which has been confirmed by subsequent analysis. The live load capacity for this existing “waffle slab” concrete structure is in excess of 100 PSF, allowing for the proposed office and large meeting room occupancy. Additional floor structure is not required over this existing slab. New third floor roof structure will be steel-framed and fire-proofed as required. The roof is characterized by high and low roofs. The roof framing over the large group meeting room will utilize deep wide-flange steel beams spanning east-west across the space to provide for a column-free space. These beams will support open-web steel

6.D. Structural Systems

Systems Description

Schematic Design

December 2, 2010

joists (or wide-flange steel purlins) with top-chord extensions to the north to provide roof support beyond grid 2. The horizontal-fold partition will be supported by an independent beam and column. The new entry addition roof will be at similar elevation to the meeting room and will frame into the meeting area roof framing. The balance of low roof framing will be steel wide-flange purlins or open-web joists, supported on wide-flange girders. A high/low roof condition will be framed at the south side of the corridor outside the meeting room to provide clerestory light to this space. All roof structure will support steel, wide-rib decking. As required, roof structure will be designed to support PV panels. The area between grids A-C and 6-10 will have a mechanical penthouse. The penthouse floor will be concrete slab on composite steel deck, supported by wide-flange purlins and beams. The roof over the penthouse will be wide-flange purlins and beams supporting steel roof deck. All floor and roof decking will be galvanized. It is intended that new columns align with existing column centerlines as closely as possible. To achieve a column free space in the meeting room, some columns are being moved off grid, but these columns will remain over the existing concrete drop panels to allow vertical load shear support. Analysis has shown that the additional bending caused in the existing roof slab can be resisted by the existing reinforcing.

Existing Building

The original building is a concrete structure, using "waffle slab" floor construction and concrete columns. This is a form of long-span, two-way slab, which does not generally incorporate beams into the support scheme, except at opening and building perimeters. Original documents indicate the floors (and roof/future floor) were designed for an allowable live load of 100 PSF. Subsequent analysis shows that live load capacity of up to 110 PSF can be achieved. Applicable codes require that un-posted, general stack areas in current construction be designed for 150 PSF. In this application, stack areas will be limited to shelf heights and aisles that will maintain loading at or below the 110 PSF threshold. Based on reduced footprints and control of space program in surrounding areas, a limited amount of compact material storage can be achieved on elevated floors. The general areas of condensed storage will occur on slab-on-grade at the basement level.

The adaptation of the existing building to new, exciting spaces generally involves careful layout of new stair and elevator openings and at first floor, introduction of a light well. The existing structure at these openings has been re-analyzed to verify that adequate capacity for public space is available following opening placement. Analysis shows that the openings indicated can be achieved without additional expensive or unwieldy reinforcing. Other subsequent analysis has indicated that columns and footings have excess capacity to allow the third floor (and penthouse) extensions, without additional reinforcement. Placement of the new stair and elevator elements also allow for installation of new footings/foundations without interference with existing foundations. In general, a new slab-on-grade will be placed at the basement level, as the existing has various settlement and crack issues and new utility routing would otherwise require a high degree of cutting and patching.

6.D. Structural Systems Systems Description

Schematic Design

December 2, 2010

Providing increased window area in the exterior will be provided by removal of portions of the existing non-bearing concrete and brick masonry walls. Small floor extensions may be made at some of these openings by adding short steel or concrete additions. Some additional openings will be provided in the foundations walls along Mifflin Street as well, leaving column locations alone and allowing enough remaining wall to resist unbalanced earth pressure from the grade change from Fairchild Street to Henry Street.

Lateral Resistance

It is assumed, based on experience with building sites in this area, a seismic site classification of "C" will be appropriate for design. This will result in a corresponding Seismic Design Category A, which renders much smaller lateral loads due to seismic forces and likely result in wind forces controlling design. Analysis has shown that the existing building frame in the north-south direction, has enough frame stiffness to resist lateral forces in this direction. During final design, it will be determined whether existing stair shafts/remaining exterior masonry infill walls will provide enough stiffness in the east-west direction. Additional lateral resistance in the east-west direction may be gained by the new concrete stair structure in the entry addition. New third floor extension will require some lateral bracing; likely a combination of the new stair/elevator shafts, extensions of the existing stairs and possibly some new diagonal steel bracing.

Basis of Design & Materials Stresses

New entry floors:	100 PSF
New stairs:	100 PSF
New roofs: (in accord with ASCE 7-05 for $p_g=30$ psf)	
Existing floors (limited to:)	110 PSF
Localized Compact Storage (per supplier)	
New mechanical penthouse	100 PSF
Wind: (in accord with ASCE 7-05 for 90 mph)	

The above loads would be considered "live loads," in addition to the self-weights and superimposed dead loads applied to respective areas.

New foundations at the entry addition will bear upon compacted engineered fill and proportioned for 4000 PSF allowable bearing. This will be field verified by a qualified Geotechnical Engineer during construction. New interior stair and elevator shaft footings can be designed for 8000 PSF allowable bearing

Steel materials contemplated will comply with ASTM A992 for wide-flange beam members and ASTM A500 for hollow structural steel members. Other steel plates, etc will be ASTM A36. Steel roof deck will comply with Steel Deck Institute requirements and conform to ASTM A611 material. All steel work will be in accordance with the American Institute of Steel Construction.

All concrete work will comply with the requirements of ACI 301 and 318. Concrete contemplated for use will require a design strength between 3000 psi and 4500 psi, depending on specific use. All concrete used/exposed to the exterior, will be air-entrained. All reinforcing steel used in the concrete will conform to ASTM A615.

6.D. Structural Systems

Systems Description

Schematic Design

December 2, 2010

Concrete masonry work will comply with ACI 530, with strengths of 1500 psi minimum F'm. Steel joint reinforcing will be provided in all cases, with vertical steel reinforcing as required by design.

6.E.1 Plumbing Systems Systems Descriptions

Schematic Design

December 2, 2010

Summary

The existing Plumbing system will be demolished completely and a new system will be installed. The new Plumbing Systems will be designed in accordance with the Wisconsin Plumbing Code, COMM chapters 81 – 84. The Plumbing Systems will use the following documents as guidelines for the design; Exhibit “B” Policy for Energy Efficiency And Sustainability Of City Operations, Guidelines to Reduce Operating Expenses and Meet Sustainability Goals dated 9/24/2010, and Owner’s Project Requirements dated 8/25/2010.

Exterior Piped Building Systems

Replace the existing 4" domestic water service with a new 6" combined domestic/fire protection water service from Fairchild Street to building.

Furnish a new 6" sanitary building sewer from building to municipal sewer in either Henry or Mifflin Street.

Connect new storm building drain to existing 12" storm building sewer running from building to municipal sewer in Mifflin Street.

Interior Piped Building Systems

Water service piping and water distribution piping 4" and larger shall be ductile iron with mechanical joints. Water distribution piping 3" and smaller will be Type L copper with soldered joints and fittings.

Pipe material for sanitary waste, storm water, clear-water waste, and vent piping above floor will be no-hub cast iron hub pipe for noise control purposes.

Schedule 40 PVC pipe will be allowed for exterior underground piping, interior under floor sanitary, storm, and clear-water waste and vent piping.

Fiberglass insulation of 1" thickness will be installed on domestic hot water piping. Fiberglass insulation of ½" thickness with a vapor barrier will be installed on domestic cold water piping.

Fiberglass insulation of ½" thickness with a vapor barrier will be installed on horizontal storm piping installed above floor and initial 4' of vertical storm conductors.

Plumbing Fixtures

Water Efficiency

Water efficiency within the building will be maximized to reduce the burden on municipal water supply and wastewater systems. The goal is to achieve a 40% reduction in water use over the water use standards required by the Energy Policy Act (EPA Act) of 1992. At minimum there will be a 20% reduction in water use over EPA Act.

To achieve the water use reduction goals outlined above the design will incorporate high efficiency water closets, high efficiency urinals, and low-flow lavatory and sink faucets.

Fixtures will comply with ADA Accessibility Guidelines where required.

6.E.1 Plumbing Systems Systems Descriptions

Schematic Design

December 2, 2010

Fixture Types

Water Closets: Wall mounted 1.28 gallon per flush (gpf) high efficiency (HET) fixture with elongated bowl, top spud, open front seat, and manually operated 1.28 gpf flush valve (option-sensor operated 1.28 gpf flush valve).

Juvenile Water Closets: Floor outlet 1.6 gpf fixture with elongated bowl, top spud, rim height of 10³/₄" , open front seat, and manually operated 1.6 gpf flush valve. **Note:** Juvenile fixtures that operate on less than 1.6 gallons are not available.

Urinals: Wall mounted wash down 0.125 gpf (one pint per flush) high efficiency (HEU) fixture with top spud and battery-powered sensor operated 0.125 gpf flush valve.

Lavatories: Solid surface counters with integral bowls or wall hung vitreous china lavatories, depending upon location. All lavatories shall have battery-powered sensor operated faucets flow controlled to 0.5 gpm.

Water Coolers: Wall mounted electric, two-basin design, GreenSpec listed

Sinks: Single and double compartment 18 gauge, Type 304 self-rimming stainless steel sinks, with manually operated faucets flow controlled to maximum 1.6 gpm.

Mop Basins: 36" x 24" x 10" molded stone basin and mixing faucet with hose connection vacuum breaker, and stainless steel wall guards.

Indoor hose bib/wall faucet and exterior wall hydrants: ³/₄" size, with hose connection vacuum breaker

Hot water connection for dishwasher in Staff Lounge, and cold water connections for ice maker and coffee maker.

Cold water connections for additional coffee makers as needed.

Drains and Cleanouts

Floor drains in finished areas will have cast iron bodies with nickel-bronze strainers. Floor drains in mechanical areas will have cast iron bodies with a cast iron grate.

Roof drains will have cast iron bodies with an aluminum or cast iron dome strainer. Drains in green roofs will have cast iron bodies with a bronze dome strainer covered by a stainless steel mesh screen.

Floor cleanouts will have cast iron bodies with nickel-bronze covers. Wall cleanouts will have a stainless steel wall plate.

Plumbing Equipment

Water Softeners

An automatic ion exchange water softener with meter initiated regeneration and integral brine recovery system will be provided. The unit will soften water supplied to the domestic water heaters and building humidifiers.

6.E.1 Plumbing Systems Systems Descriptions

Schematic Design

December 2, 2010

Domestic Water Heaters

High efficiency 60 gallon gas-fired direct vent storage type water heater will be provided to furnish adequate hot water for the library's needs for lavatories, sinks, showers, and mop basins. Probable size is 60 gallons storage capacity with a recovery of 143 gph at 100° rise.

Hot Water Temperature Maintenance

Hot water return piping with a circulation pump will be furnished to maintain hot water temperature within the distribution system.

Sump Pumps

One sump basin with pump will be furnished at the bottom of each elevator hoistway. Sump pump will be cast iron, size estimated to be 50 gpm at 20' head. Sump basin will be 18" diameter x 22" deep.

It currently appears that additional sump pump installations are not required to remove sanitary waste, storm water, or clear water waste from the lowest level of the building.

Optional Plumbing Systems

Storm Water Reclaim

Provide two or three 500 gallon storage tanks to hold rain water, along with treatment equipment and pressurization pumps for re-use of rain water for HVAC cooling tower and/or flushing water closets and urinals in the main public toilet rooms. All reclaimed storm water shall be treated to COMM 82.70 water quality standards.

Page Intentionally Left Blank

6.E.2. Fire Suppression Systems

Systems Descriptions

Schematic Design

December 2, 2010

Summary

The existing Fire Suppression System will be demolished completely and a new system will be installed. The new Fire Suppression System will be designed in accordance with the Wisconsin Building Code and applicable NFPA standards. The Fire Suppression System will use the following documents as guidelines for the design; Exhibit "B" Policy for Energy Efficiency and Sustainability of City Operations, Guidelines to Reduce Operating Expenses and Meet Sustainability Goals dated 9/24/2010, and Owner's Project Requirements dated 8/25/2010.

Automatic Sprinkler System

The entire building will be provided with an automatic fire sprinkler system per NFPA 13. This assumes a new 6" combined domestic/fire protection water service, double check valve assembly, sprinklers throughout the building, inspectors' tests, and wall mounted fire department inlet connection per Madison Fire Department requirements.

Sprinklers in areas with finished ceilings will be UL listed semi-recessed quick response pendant type. Finish for sprinkler and escutcheon shall be white. Sprinklers in unfinished areas or rooms without ceilings will be UL listed quick response upright type. Finish to be determined based upon area.

Any areas of building subject to freezing temperatures, such as the garage, will be protected by dry pipe sprinkler system suitable for use in an unconditioned space. All other areas of the building will be protected by a wet pipe sprinkler system.

Wet Standpipe System

A wet standpipe system per NFPA 14 with a 2½" hose valves for use by the Fire Department will be installed to serve each floor level in all required exit stair towers. All standpipes will be interconnected at the lowest floor level.

Fire Pump

A fire pump installation, with electric drive fire pump, jockey pump, and controller will be furnished. A fire pump test connection to the building exterior shall be furnished.

Page Intentionally Left Blank

6.F. Mechanical Systems Systems Descriptions

Schematic Design

December 2, 2010

Summary

The existing Mechanical System will be demolished completely and a new system will be installed. The new Mechanical Systems will use the following documents as guidelines for the design; Exhibit "B" Policy for Energy Efficiency and Sustainability of City Operations, Guidelines to Reduce Operating Expenses and Meet Sustainability Goals dated 9/24/2010, and Owner's Project Requirements dated 8/25/2010.

Design Criteria

The facility will be designed with an emphasis on occupant comfort, systems reliability, systems serviceability, easily maintained, building energy efficiency, flexible, and remaining within the Owner's budget.

The key focus on determining Mechanical Systems will be: Cost, Maintenance and Feel that are related to the Owner's project requirements and associated "Core values" of the project.

- Cost is associated with Initial, Operating, and Maintenance costs relative to enhanced efficiencies
- Maintenance is associated with maintainability, ease of operation, flexibility and life expectancy.
- Feel is associated with comfort, indoor air quality (IAQ), acoustics, and aesthetics Impacts

Codes and Standards

Mechanical Systems will be designed in accordance with industry recognized codes and standards.

Design Conditions

The facility will be designed utilizing the following design values

Indoor Design Conditions

Summer = 75°F ± 3°F

Winter = 70°F ± 3°F

Outdoor Design Conditions

Summer: 91°F DB/74°F WB

Winter: -15°F

Building Load Data

The building envelope characteristics will consist of modeling assemblies of walls, glazing, roof and related building elements. Refer to architectural programming for established U-values for envelope elements.

Ventilation

Mechanical Systems will be designed in accordance with industry recognized codes and standards. Outdoor air will be provided to the building during occupied hours in accordance with ASHRAE Standard 62.1, as required by the 2006 IMC.

Acoustics

The mechanical systems will allow for an acoustical environment that does not negatively impact the occupant productivity, communication and privacy of the staff. Sound levels will be designed to meet the following criteria:

Library Areas:	Room Criteria 30 to 35
Meeting Rooms:	Room Criteria 25 to 30

6.F. Mechanical Systems Systems Descriptions

Schematic Design

December 2, 2010

Mechanical Systems

Heat Generation and Distribution

Heating will be provided by two natural gas-fired, seal combustion condensing hot water boilers. Each boiler will be sized for approximately 2/3 of the load to provide for redundancy. Each boiler will have an approximate input of 2,610 MBH. For future expansion of the third floor will include space allocation for third boiler.

Hot water for the heating system will be distributed throughout the building with two base mounted secondary pumps, each sized for 100% of the building load, piped in parallel to allow for redundancy. The secondary pumps will be provided with variable frequency drives to control the pump speed based on system load requirements. The secondary pumps will be arranged in a lead-standby control mode. The heating hot water system will distribute water at 140 °F with the supply temperature reset based on the outside air temperature.

The hot water system will supply water to fin-tube radiation, infloor radiant system, convectors, unit heaters, cabinet unit heaters and VAV box reheat coils. Infloor radiant system will be provided at 1st and 2nd areas, except 3rd floor. Fin-tube radiation will be provided on 3rd floor with external glazing. Convectors will be provided in toilet rooms and similar spaces as necessary. Unit heaters will be provided in mechanical, service garage and electrical rooms as necessary. Cabinet unit heaters will be provided at all entries into the building and stairwells. All terminal devices will be provided with 2-way modulating control valves with electric actuators.

Geothermal and Distribution

Geothermal system is to serve the Infloor Radiant system to provide either cooling or heating in basement areas. Geothermal system will be served by 15-20 vertical wells (150' deep) at the exterior building perimeter along Henry and Mifflin Street to provide 50 tons of cooling/heat rejection. Heat pump chiller will have an approximately (2) 25 Ton, modular units. Each heat pump chiller will be sized for approximately 2/3 of the load to provide for redundancy. Supplemental cooling will be from the dedicated ventilation air system (DOAS) serving this space.

Glycol water will be distributed from well field to basement utilizing two inline primary pumps, each sized for 100% of the building load, that are piped in parallel to allow for redundancy. A third recirculating pump load will be provided with variable frequency drive to control the pump speed based on system load requirements. The primary pumps will be arranged in a lead-standby control mode. The geothermal system will distribute water at 50-100°F. A central geothermal manifold in mechanical room will allow for circuiting and balancing the wells to the design water flow rates. There will be approximately 3-4 circuits.

Process water will be distributed in basement level with two inline secondary pumps, each sized for 100% of the building load, piped in parallel to allow for redundancy. The secondary pumps will be provided with variable frequency drives to control the pump speed based on system load requirements. The secondary pumps will be arranged in a lead-standby control mode. The process water will distribute water at 50-100°F.

6.F. Mechanical Systems Systems Descriptions

Schematic Design

December 2, 2010

The geothermal water system will supply basement Infloor Radiant system serving as either cooling or heating system. In-floor radiant system will serve five to six manifold systems located in partition wall. Each manifold is approximately 2500 sq.ft. The radiant floor system will be provided with an inline circulating pump and a 2-way mixing valve to mix water with the radiant system return water to maintain the desired supply temperature.

Refrigeration

Chilled water for the facility will be generated by two 175 ton water-cooled chillers with remote cooling tower for heat rejection. Each chiller will be sized for approximately 2/3 of the load to provide for redundancy. The chilled water system will be arranged in a variable primary flow arrangement. Chilled water will be pumped to the dedicated outside air unit (DOAS) and air handling units.

Alternate; Chiller: To evaluate the water-cooled, oil-free chiller with magnetic bearing compressors for lowering operating and maintenance costs.

Chilled water will be distributed throughout the building with two base mounted primary pumps, each sized for 100% of the building load, piped in parallel to allow for redundancy. The primary pumps will be provided with variable frequency drives to control the pump speed based on system load requirements. The primary pumps will be arranged in a lead-standby control mode. The chilled water system will distribute water at 44°F.

Alternate; Ice Storage: To evaluate Ice storage system for lower operating and initial system cost. Ice storage system will consist of two smaller chillers at 100 ton in a glycol system and approximately 5-7 ice storage tanks. Chillers will be used in ice making mode during times of no cooling load. Chillers will be used to satisfy cooling load during conventional cooling mode. During on-peak cooling loads, the chillers will operate at a reduced capacity, with melting ice satisfying the remaining cooling load. Air distribution system will be low temperature system of 47-48°F.

Heat Rejection

Heat Rejection water for the facility will be served by forced draft, vertical counterflow cooling tower. Cooling tower capacity is sized for 350 Ton. Cooling tower will be located penthouse, indoors. Provide basin heater for cooling tower. Condenser water will be distributed from chiller room located in basement to penthouse with two base mounted condenser pumps, each sized for 100% of the building load, piped in parallel to allow for redundancy. The condenser pumps will be arranged in a lead-standby control mode.

For waterside economizer, a condenser plate & frame heat exchanger on condenser water will be utilized to provide “free cooling” to Infloor Radiant system. Plate & frame exchanger is in parallel of the two chillers. Cooling tower operation will supplement cooling during spring/fall seasonal conditions bypassing the chiller(s) operation.

Alternate; Tower Reclaim: To evaluate if heat recovery to the cooling tower utilizing plate & frame heat exchanger to provide supplemental heating.

6.F. Mechanical Systems Systems Descriptions

Schematic Design

December 2, 2010

Dedicated Outside Air System (DOAS)

The building will be served by an air handling system located in a penthouse. The distribution system will be a variable air volume (VAV) system with air terminals. DOAS will provide ventilation directly to the space serving all floors within the building. Heat recovery wheels will capture heat transfer from the exhaust airflow to reduce outside air energy consumption. The system will have an approximate airflow capacity of 45,000 CFM with recirculation capabilities for minimum air change within the space for dehumidification purposes. The outside air airflow will be approximately 25,000 cfm.

The DOAS air handling unit will be a custom air handling unit with 2" thick, double wall panels. The unit's components will consist of filters, total enthalpy wheel, heating coil, chilled water coil, passive wheel – dehumidification, and associated supply/exhaust fans.

1st and 2nd Floor Distribution System – Hydronic System

The 1st and 2nd floors will be served by "Radiant Ceiling Panel" system. The ceiling Radiant Panel system will consist of 65-75% ceiling coverage in suspend ceiling system, modules of 24"x18". Radiant panels will be insulated with 1" thick rigid fiberglass insulation with scrim foil jacketing.

Process water will be distributed from the basement level with two inline secondary pumps, each sized for 100% of the building load, piped in parallel to allow for redundancy. The secondary pumps will be provided with variable frequency drives to control the pump speed based on system load requirements. The secondary pumps will be arranged in a lead-standby control mode. The process water will distribute water at 58-100°F.

The process water system will supply radiant ceiling panel system serving as either cooling or heating system. Radiant ceiling panel system will serve twelve-sixteen zones per floor. Each manifold is approximately 2000-2500 sq.ft. The radiant floor system will be provided with 2-way mixing valve with electric actuators.

Alternate; Raised Floor: To evaluate a "Raised Floor" system on 1st and 2nd floor to enhance comfort, indoor air quality and lighting design. The Raised Floor system will consist of an air handling system to supply air to underfloor plenum on 1st and 2nd floor. Air handling system will be located in a basement mechanical room. The system will be a variable air volume (VAV) system with underfloor air terminals/hot water reheat. The system will have an approximate airflow capacity of 65,000 CFM to serve 1st and 2nd floors.

The Raised Floor air handling unit will be a custom air handling unit with 2" thick, double wall panels. The unit's components will consist of filters, total enthalpy wheel, heating coil, chilled water coil, passive wheel – dehumidification, and associated fans.

6.F. Mechanical Systems Systems Descriptions

Schematic Design

December 2, 2010

3rd Floor Distribution System – Air System

The 3rd floor will be served by two independent air handling systems located in a penthouse. Each system will be a variable air volume (VAV) system with supply air terminals/reheat coils. Each system will have an approximate airflow capacity of 15,100 - 18,000 CFM.

Each 3rd floor air handling unit will be a factory packaged unit with 2" thick, double wall panels. The unit's components will consist of filters, heating coil, chilled water coil, and associated supply/return fans.

Humidification Systems

Humidification is not program requirement for this project to maintain any minimum level. Dedicated outside air system will reclaim humidity that is generated from the space to supplement outside air.

Exhaust Systems

Exhaust from the toilet rooms, housekeeping spaces, storage, and other similar spaces will be exhausted through the energy recovery unit. Mechanical room, Electrical room, Penthouse, Generator, Garage areas and similar spaces which require exhaust will be exhausted through roof mounted exhaust fan(s).

Building Automation Control System

Thermal comfort is a priority of the City of Madison, Library and the LEED goals.

The Design Team will incorporate appropriate thermal zoning throughout the building and provide thermostats in each private office, meeting room and thermal zone. The mechanical system will have the ability to monitor the CO₂ levels throughout the building to meet LEED IEQ Credit 1. CO₂ sensors will also be provided for all densely occupied areas (25 people or more per 1000 sq. ft. of floor area) of the building.

The building will be equipped with a building-wide BACnet Direct Digital Control (DDC) system with graphics. The DDC system will control all HVAC equipment, including the air handling units, DOAS, chillers, tower, boilers, heat pump chillers, pumps and all terminal units. The DDC system will provide control of all HVAC functions such as temperature set points, CO₂ sensors, occupancy scheduling, system monitoring, system alarms, optimization and system trend functions.

DDC controls will monitor building utilities meters: gas, electric, photovoltaic system and water for annual consumption. DDC controls shall incorporate "Green Screen" capabilities and local display for public viewing.

All terminal devices will be controlled using electric actuation on all automatic dampers and valves.

Testing, Adjusting, and Balancing

The HVAC systems will be balanced in accordance with the latest AABC or NEBB procedures.

Page Intentionally Left Blank

6.G.1 Lighting Systems Systems Descriptions

Schematic Design

December 2, 2010

Summary

The existing lighting system will be demolished completely and a new system will be installed. Architectural lighting systems shall be designed in accordance with ASHRAE 90.1 2007, IESNA RP-4. The City of Madison Owner's Project Requirements will be used as a guideline. The lighting system will reduce the number of overhead lights to provide an ambient light level of 20 fc in public spaces and 30fc of ambient light in staff work areas. Task lighting will be included on book stacks, in all reading zones, and at work surfaces where light levels of 40-50 footcandles are required. Overhead lights will provide all of the required light in study rooms, restrooms, and building support rooms where task lights are not appropriate.

Interior Lighting Systems

Suspended Luminaires

Suspended direct/indirect extruded aluminum linear luminaires will provide the ambient lighting in all public spaces, offices and workrooms. T5 fluorescent luminaires will be in continuous row configurations and suspended with aircraft cable.

Recessed Luminaires

Recessed 1x4 T8 fluorescent luminaires with acrylic lens will be installed in kitchens and storage rooms with acoustical ceiling tiles.

Recessed 1x4 T8 fluorescent luminaires with volumetric diffusers will be installed in staff spaces where ceiling heights are at or below 8'-6" AFF.

Surface Mounted Luminaires

Four foot T8 fluorescent strips will be surface mounted or chain hung, as required, to light mechanical, electrical, elevator equipment, communication equipment, janitor, utility and storage rooms.

Task Lights

Local task lights will be installed at all open area work tables, in reading/lounge zones, and at office work stations. Task lights will be a combination of linear T5 fluorescent lamps with addressable dimming ballasts and Solid State LED as appropriate for each application. Each task light will have an integral occupant sensor to dim the luminaire, reduce energy demand, and extend lamp life.

Accent Lights

Suspended linear T5 fluorescent wall wash luminaires will light library displays, public art and information walls. Surface ceiling mounted adjustable lamp holders with halogen lamps will spotlight presenter locations and highlight performance zones in public meeting rooms.

6.G.1 Lighting Systems Systems Descriptions

Schematic Design

December 2, 2010

Stack Lights

Continuous linear fluorescent luminaires will extend in two directions from the top of every other book range that is taller than 60" to provide one continuous row of light to each aisle. This system will consist of T5 fluorescent lamps and addressable dimming ballasts. Book ranges that are 60" or less will contain linear Solid State LED luminaires integrated into each side of the range. Each stack mounted luminaire will have integral occupant sensors to dim the lights along each aisle. Luminous end panel signage will utilize solid state LED technology.

Lamps

All T5 and T8 lamps will be 4ft long and standard full wattage. Solid state LED light sources will have integral low voltage drivers. LED transformers will be fully dimmable. All lamps will be a minimum 80 CRI and 4100K.

Ballasts - Non-Dimming

T5 and T8 ballasts will be program start and will operate at 120V. Low ballast factor T5 and T8 program start ballasts will be used to reduce energy demand and light levels where appropriate in non-public storage rooms, utility rooms and equipment rooms.

Ballasts - Dimming Addressable dimming ballasts will control lighting in daylight zones, study rooms, public meeting rooms, stacks, egress stairs and restrooms.

Exterior Lighting Systems

Exterior Wall Mounted Lighting

Wall mounted luminaires will be located at points of egress, at the loading dock, and at locations as required for building security. Luminaires will be fully shielded above 90 degrees to comply with LEED Sustainable Sites Credit 8. Exterior luminaires will include Solid State LED technology where practical.

Exterior Soffit Lighting

Soffit lighting will be provided at entrance canopies.

Building Signage

Building signage will include luminous panels utilizing Solid State LED technology.

Lighting Controls

Building Automation

Ambient lighting in all public spaces will be controlled On and Off via the automated building control system. Exterior lighting will switch On at dusk and Off at dawn via the building control system.

Occupant Sensors

Dual technology occupant sensors will switch lights On and Off in storage rooms, kitchens, non-public corridors, compact storage and egress stairs. Occupant sensors as required to dim addressable fluorescent ballasts will be located in study rooms.

6.G.1 Lighting Systems Systems Descriptions

Schematic Design

December 2, 2010

Vacancy Sensors

Vacancy Sensors will switch locally controlled lights off in offices, program rooms and meeting rooms.

Preset Scene Control

Wall mounted four scene pre-set controls will operate dimming and non-dimming lights in public meeting rooms.

Page Intentionally Left Blank

6.G.2. Electrical Systems Systems Description

Schematic Design

December 2, 2010

Summary	The existing Electrical system will be demolished completely and a new system will be installed.
Codes	<p>The electrical power and fire alarm designs will be in accordance with the following codes:</p> <ol style="list-style-type: none">1. Wisconsin Comm. 16 Electrical2. National Electrical Code NFPA 703. National Fire Alarm Code NFPA 724. Americans with Disabilities Act
Primary Electric	<p>Existing</p> <p>The existing library electrical service is furnished by MG&E. The building service transformer is located in an underground vault on the south corner of the building. The transformer is powered by MG & E's downtown 13.8kV medium voltage loop.</p> <p>The highest recent peak demand on the electrical service was 360kW, which occurred in the summer of 2007.</p> <p>The existing electrical service is 120/208V, 3-phase, with one 3000 amp lighting service and one 3000 amp power service, according to the original drawings. The 120/208V electrical service conductors are located in a concrete encased duct bank routed from the MG&E vault below the basement floor to a cable pit that is under the existing switchboards. The duct bank contains six 4" conduits and eight 3" conduits per the original drawings.</p> <p>Proposed</p> <p>The existing MG&E transformer vault and transformers will remain without change for this project. The existing 120/208V service conductors and switchboard will be removed. Two new 3000 amp switchboards will be installed. Refer to the architectural drawings for the proposed location of the new switchboards.</p> <p>The existing 120/208V electrical service concrete encased duct bank under the basement floor will be intercepted and extended to under the new switchboards.</p> <p>If a fire pump is required, it will be powered by a separate 208V 3-phase service directly from the MG&E service transformers or from a tap ahead of the main electrical switch per NEC requirements. The fire pump feeder would be routed to the fire pump controller under the basement floor so it will be outside of the building per code requirements.</p>
Electrical Power Distribution	<p>Two 120/208V, 3-phase, 3000 amp switchboards will be installed. One of the switchboards will power mechanical loads, the other switchboard will power all other building loads.</p> <p>Branch panelboards will be located in south-east third of the building (library staff areas), with the panelboards stacked vertically as allowed by the floor plan. Interior branch power distribution will be EMT conduit and conductors.</p>

6.G.2. Electrical Systems Systems Description

Schematic Design

December 2, 2010

An increased quantity of general purpose receptacles will be included to provide flexibility and access for laptop use.

Basement

Power distribution in the basement utility areas will be surface mounted EMT conduit. Power distribution in the Youth Services area will be along the perimeter walls and at the column bases. Conduit serving the receptacles adjacent to the column bases will be installed under the basement floor. Some flush floor boxes will be required, but the Owner wishes to minimize the number.

First and Second Floor

Power distribution in the public areas will be accomplished by one of two methods. The HVAC system design needs to be confirmed before the electrical power distribution approach can be finalized.

1. Power cables located in the air distribution raised floor, or
2. Power cables located in the in-floor Walker Duct (or equal) power distribution system.

Third floor

Power distribution on the third floor will be conventional, with conduit routed above the ceiling and drops down the walls. Four floor boxes will be located in the large meeting room.

Emergency Power

Emergency power is required for the following electrical systems:

1. Egress lights
2. Fire alarm

A centralized battery powered lighting inverter will power the egress lights, and a self contained battery system will be specified with the fire alarm system.

If a fire pump is installed, Safety and Buildings and the Madison Fire Department said the fire pump is not required to be on an emergency generator.

The elevators are not architecturally designated an “accessible means of egress”, and will not be connected to an emergency power source. Battery lowering will be provided to lower an elevator cab and park the cab doors open in the event of a power outage.

Fire Alarm

The fire alarm system will be an addressable and intelligent voice system, capable of identifying the specific device in alarm, and automatic adjustment of smoke detector sensitivity. The fire alarm system will be monitored by a licensed monitoring company.

The fire alarm system will have integral battery backup. Manual pull stations will be provided at all egress doors. Speaker/strobes and strobe only devices will be located throughout the building per code.

Duct detectors will be provided in return air ducts of HVAC systems over 2000 cfm and also adjacent to fire/smoke dampers.

6.G.2. Electrical Systems Systems Description

Schematic Design

December 2, 2010

Smoke detectors will be installed in storage rooms, mechanical rooms, elevator machine rooms, egress corridors, elevator stops, NAC power boosters and at fire alarm control panels. Heat detectors will be located in the elevator machine room. The fire alarm system will interface with the elevators for cab recall and automatic disconnection of power in the event of sprinkler water flow associated with the elevator. Sprinkler system flow and tamper switches will be monitored. Fire alarm cable will be installed in conduit, ½" minimum trade size.

The fire alarm speaker system is available for both emergency and general paging use. The remote annunciator panel will be located in the main entry vestibule.

Telecommunications

The City of Madison standard telecommunications and contractor telecommunications system commissioning specification sections will be used as a basis for this project, with project specific revisions. It is presently the intent that the phone system in the library will be VoIP. The phones and the VoIP switches will be provided by the Owner.

Telecommunications Rooms

Telecommunications rooms will be located in the basement and on the third floor as shown on the architectural floor plans. The basement telecom room will also be the demarcation point for the telephone, cable TV and fiber optic cable services. Telecommunications racks, cable runway and Category 6 patch panels will be specified. The Owner will provide the switching equipment, wireless transceivers, UPS, PDU and patch cords. Two normal power dedicated 120V receptacles will be provided at the base of each telecom rack.

The basement telecom room will be designated the MDF, and serve the basement and first floor. The third floor telecom room will be designated TR#1, and will serve the second floor, third floor and the penthouse. Cable length diagrams show that the locations of the two telecom rooms will most likely allow all horizontal station cables to be within Cat. 6 distance requirements. As the design progresses, if it appears some horizontal station cables would be out of spec, a wall mounted rack with patch panels will be specified to terminate the farthest SIOs.

If during construction it is found that due to unforeseen conditions the contractor has to route the cable such that it is out of spec, the A/E may allow the contractor to shorten the service loop or run the cable at a diagonal relative to building structure to allow the cable to be within spec.

The City of Madison has standard telecom room drawings that have requirements that will be incorporated into design. Half-inch thick 4'x8' plywood sheets will be installed on the walls of the telecom rooms. The plywood will be painted on all sides with fire retardant paint.

Telecommunications Backbone

A single 12 pair multi-mode fiber optic cable will interconnect the MDF and TR#1.

6.G.2. Electrical Systems Systems Description

Schematic Design

December 2, 2010

Telecommunications Distribution

Horizontal station cabling (telephone and data) will be Category 6. Standard information outlet pinning will be 568B. Wire basket type cable tray will be located down main corridors for support of horizontal station cabling where appropriate. Horizontal station cabling will be supported by J-hooks beyond the cable tray. Cable in mechanical areas will be installed in conduit for mechanical protection. The cable jacket will be plenum or non-plenum rated as required per the HVAC design.

All horizontal station cables will be specified with a service loop at the patch panel and at the SIO.

On the first and second floors the horizontal station cable will be routed in either the raised air distribution floor or floor Walkerduct depending on the HVAC system chosen.

The typical SIO will have two Cat. 6 outlets per faceplate. No distinction will be made for telephone or data as the installation and requirements are the same for both. Two telephone lines will be specified to the main fire alarm panel. One telephone line will be specified to each elevator.

As-builts

The contractor will be required to submit as-built telecom drawings at the completion of the project. The as-built drawings will be required to show cable routing along with SIO identification.

Video Distribution

Video outlets will be provided in the main meeting rooms. The trunk and tap method will be used to distribute the signal. The connection to the cable TV provider will be in the MDF.

The Owner may have video projectors installed in the meeting rooms under a separate project.

Security/Controlled Access System

A combined security/controlled access system will be specified for the project. The controlled access features will include proximity sensors, door position sensors and electric strikes/locks. The security system features will include glass break sensors and motion sensors. Controlled access points will be at all exterior doors and primary doors that separate public and library staff use. Security system points will be at rooms adjacent to exterior grade levels. The central controller will interface these devices and be monitored by a monitoring company.

6.G.2. Electrical Systems Systems Description

Schematic Design

December 2, 2010

Closed Circuit TV System

The electrical contractor will install Cat. 6 cabling for a CCTV system. The Owner will provide the cameras, video controllers and recorders for the CCTV system. Camera locations will be confirmed as the design progresses, but it is anticipated that at a minimum cameras will be located as follows:

1. Exterior front entry.
2. Front entry vestibule
3. Exterior West Mifflin Street lower level entry
4. West Mifflin Street lower level vestibule
5. Exterior loading dock door

A Cat. 6 data cable will be installed from the MDF to the designated security office location. The system will have a one-way video and two-way voice connection to the loading dock. A call button will be located adjacent to the loading dock overhead door for the driver to initiate communications.

Page Intentionally Left Blank

6.H. Special Systems Systems Description

Schematic Design

December 2, 2010

Automated Materials Handling System (By Owner)

The AMH System shall be a high IQ (Tech Logic) system combining shelf and bin sort. Provide two workstations.

The AMH System shall be located in the Non-Public Staff Work Area, as follows:

- Far away from quiet work areas to control noise levels.
- Adjacent to sorting and delivery for efficient workflow.

Material to the AMH shall come from three possible locations:

- Library delivery (requires ground gravity conveyor and hydraulic lift).
- Exterior customer book return (with security camera).
- Interior customer book return.

Allotted floor space for the AMH equipment shall be adequate for design and layout of the sorting system. Space requirements shall include the following:

- Allow for future expansion to the sort system.
- Square footage to depend on the size of sort system (16 feet wide).
- Provide seven feet, six inches open space on each side of the sorting system for operators to maneuver the sorting trucks and bins.
- Provide adequate space for book trucks.
- Provide a full height wall sound barrier between AMH and sorting area.
- Space shall include a cordless phone, storage for AMH bins and a surface mounted electrical raceway to recharge them.
- Provide small/medium size white board by AMH/Delivery Area for updates/instructions.

Provide resilient flooring (no carpet tiles) under the machine with sufficient padding in areas where staff will be standing for extended periods of time.

It is anticipated that the AMH will be an electrical system.

Library technology (By Owner)

Library materials will be equipped with Radio Frequency Identification (RFID), a technology that uses communication through electromagnetic waves to track and identify each item in the system. Each new and existing item in the collection will be outfitted with an RFID tag. This comprehensive tracking system will include customer self check-out stations on Basement, First and Second floors, as well as staff check in and check out stations in the Circulation Workroom and at the main service desk on First Floor.

Library Materials Security System

The library will be equipped with RFID material detection gates to deter customers from leaving the building with material that has not been properly checked out. The gates will be located at both the main entry and the Mifflin Street entry.

6.H. Special Systems Systems Description

Schematic Design

December 2, 2010

Building Security System (By Owner)

At minimum, cameras will be provided at standard points in libraries: front entry, children's area, teen area, restroom hallway, delivery/staff door, exterior book drop and parking areas. The cameras would not be monitored. The value of the cameras is that information is recorded on a security appliance for review if an incident did take place.

Additional technology consistent with the City's requirements will be determined during Design Development.

Computers, Phones, Networking Equipment (By Owner)

AV Systems (By Owner)

6.I. Public Art Systems Description

Schematic Design

December 2, 2010

Overview

Madison is a community that appreciates the positive impact of public art. The library currently displays local artists' work in an informal gallery space; an amenity which is embraced and a source of pride. A desire to continue this tradition and build upon it has been clearly expressed. The renovated building will contain a gallery space that affords quiet contemplation of art.

The Madison Public Central Library also owns several pieces of art which will be placed for public enjoyment in the renovated building. A brief description of each piece follows:

Hieroglyph

Currently located in the library's entry courtyard, Hieroglyph by O.V. Shaffer is a granite sculpture measuring approximately 7'-0" x 7'-0".

This piece will be relocated to the roof terrace, in view from users of the large Meeting Room, Madison Room and the Administrative suite.

Overcoming Bias

Currently located just inside the entry, Overcoming Bias by Antonio Testolin is a marble sculpture on a pedestal base, measuring approximately 4'-0" x 4'-0".

This piece will be relocated to the 3rd floor near the large meeting room.

Bohrod Mural

Currently on the north wall of the Children's Room, the Aaron Bohrod mural has been a source of community pride.

The majority of this mural will be preserved in place. A small portion that is currently within a staff workroom will be moved to the new Children's Room on the lower level. The family of Mr. Bohrod has approved the strategy to preserve and display the mural.

Madison Library Wall

Currently in storage, this maple wood piece by James Spitzer will be refurbished and assembled on either level one or level two. Assembled, it measures approximately 4'-11"h x 10'-10"w (height includes the 5" base).

Wildflower

Currently located at the top of the main stair on level two, Wildflower by Edward Berge is a bronze sculpture measuring approximately 39" in height. It is currently part of a larger piece that includes a fountain and greenery. Only the sculpture Wildflower will be reused in the building.

This piece will be relocated to the new Children's Room.

St. George and the Dragon

Currently located on a column in the Children's Room, this medallion style piece measuring approximately 3'-0" in diameter will be relocated to the new Children's Room.

Page Intentionally Left Blank

Building Exterior

1. Extensive green roof system over entire roof over second level – see drawing A105 for location.
2. Precast panel system on the existing building base in place of LED backlit glass panels, as indicated on drawing A201.
3. Kynar finish metal panel system at Penthouse level – see drawing A201.
4. 4'x4' Premanufactured Skylights with insulated glass for second floor roof as shown on roof plan.

Mechanical Systems – see Mechanical System Descriptions

5. Chiller: To evaluate the water-cooled Oil-free chiller with magnetic bearing compressors, McQuay Model WMC.
6. Ice Storage: To evaluate the ice storage system will consist of two smaller chillers at 100 Tons in a glycol system and approximately 5-7 ice storage tanks.
7. Tower Reclaim: To evaluate if heat recovery to the cooling tower utilizing plate & frame heat exchanger to provide supplemental heating.
8. Raised Floor System: To evaluate the “Raised Floor” system in lieu of “Radiant Ceiling Panel” system serving 1st and 2nd floors. Please, note that this option includes architectural implications.

Building Interior

9. First and Second floor stack area only - 80% of ceiling area to be finished with a ceiling system of 2x6 acoustic panels within a concealed grid, with free, expressed edges.
10. Flooring: rubber tile in lieu of cork plank throughout the building.
11. Second new staff elevator to be installed in portion of existing mechanical shaft, adjacent to staff elevator shown in the drawings – see drawing A101. Mechanical shaft needs to be modified.

Page Intentionally Left Blank

8. Project Schedule

Schematic Design

December 2, 2010

Project Schedule

The overall Project Phase Layout Schedule was developed by Mortenson Construction with input from the design team. A copy of that schedule (dated 10.28.10) is included in the Appendix.

8. Project Schedule

Schematic Design

December 2, 2010

Page Intentionally Left Blank

9. Schematic Design Drawings

Schematic Design

December 2, 2010

Schematic Design Drawings

A copy of the Schematic Design Drawings are included in this Schematic Design Report. The drawings will be provided in both pdf and Revit format as separate documents from this report. A listing of those drawings is noted in the Appendix.

9. Schematic Design Drawings

Schematic Design

December 2, 2010

Page Intentionally Left Blank

Appendix

Page Intentionally Left Blank



LEED 2009 for New Construction and Major Renovation Project Scorecard

Project Name: Madison Central Public Library
Project Address: 201 West Mifflin Street Madison, WI 53703

Yes	?	No			
15	1	10	SUSTAINABLE SITES		26 Points

Y			Prereq 1	Construction Activity Pollution Prevention	Required
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
		1	Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation - Public Transportation Access	6
1			Credit 4.2	Alternative Transportation - Bicycle Storage and Changing Rooms	1
		3	Credit 4.3	Alternative Transportation - Low-Emitting and Fuel-Efficient Vehicles	3
		2	Credit 4.4	Alternative Transportation - Parking Capacity	2
		1	Credit 5.1	Site Development - Protect or Restore Habitat	1
		1	Credit 5.2	Site Development - Maximize Open Space	1
	1		Credit 6.1	Stormwater Design - Quantity Control	1
		1	Credit 6.2	Stormwater Design - Quality Control	1
		1	Credit 7.1	Heat Island Effect - Nonroof	1
1			Credit 7.2	Heat Island Effect - Roof	1
1			Credit 8	Light Pollution Reduction	1

Yes	?	No			
4	2	4	WATER EFFICIENCY		10 Points

Y			Prereq 1	Water Use Reduction	Required
		4	Credit 1	Water Efficient Landscaping	2 to 4
				Reduce by 50%	2
				No Potable Water Use or Irrigation	4
	2		Credit 2	Innovative Wastewater Technologies	2
4			Credit 3	Water Use Reduction	2 to 4
				Reduce by 30%	2
				Reduce by 35%	3
		4		Reduce by 40%	4

9	11		ENERGY & ATMOSPHERE		35 Points
---	----	--	--------------------------------	--	------------------

Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	Required
Y			Prereq 2	Minimum Energy Performance	Required
Y			Prereq 3	Fundamental Refrigerant Management	Required
5	5		Credit 1	Optimize Energy Performance	1 to 19
				Improve by 12% for New Buildings or 8% for Existing Building Renovations	1
				Improve by 14% for New Buildings or 10% for Existing Building Renovations	2
				Improve by 16% for New Buildings or 12% for Existing Building Renovations	3
				Improve by 18% for New Buildings or 14% for Existing Building Renovations	4
				Improve by 20% for New Buildings or 16% for Existing Building Renovations	5
				Improve by 22% for New Buildings or 18% for Existing Building Renovations	6
				Improve by 24% for New Buildings or 20% for Existing Building Renovations	7
				Improve by 26% for New Buildings or 22% for Existing Building Renovations	8
				Improve by 28% for New Buildings or 24% for Existing Building Renovations	9
		10		Improve by 30% for New Buildings or 26% for Existing Building Renovations	10
				Improve by 32% for New Buildings or 28% for Existing Building Renovations	11
				Improve by 34% for New Buildings or 30% for Existing Building Renovations	12
				Improve by 36% for New Buildings or 32% for Existing Building Renovations	13
				Improve by 38% for New Buildings or 34% for Existing Building Renovations	14
				Improve by 40% for New Buildings or 36% for Existing Building Renovations	15
				Improve by 42% for New Buildings or 38% for Existing Building Renovations	16
				Improve by 44% for New Buildings or 40% for Existing Building Renovations	17
				Improve by 46% for New Buildings or 42% for Existing Building Renovations	18
				Improve by 48%+ for New Buildings or 44%+ for Existing Building Renovations	19
	1		Credit 2	On-Site Renewable Energy	1 to 7
		1		1% Renewable Energy	1
				3% Renewable Energy	2
				5% Renewable Energy	3
				7% Renewable Energy	4
				9% Renewable Energy	5
				11% Renewable Energy	6
				13% Renewable Energy	7
2			Credit 3	Enhanced Commissioning	2
2			Credit 4	Enhanced Refrigerant Management	2
	3		Credit 5	Measurement and Verification	3
	2		Credit 6	Green Power	2



LEED 2009 for New Construction and Major Renovation Project Scorecard

Project Name: Madison Central Public Library
Project Address: 201 West Mifflin Street Madison, WI 53703

Yes ? No
 Yes ? No

9 4 1 MATERIALS & RESOURCES 14 Points

Y	?	No	Prereq	Requirement	Points
			Prereq 1	Storage and Collection of Recyclables	Required
2	1		Credit 1.1	Building Reuse - Maintain Existing Walls, Floors and Roof	1 to 3
				Reuse 55%	1
				Reuse 75%	2
				Reuse 95%	3
		1	Credit 1.2	Building Reuse - Maintain Interior Nonstructural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
				50% Recycled or Salvaged	1
				75% Recycled or Salvaged	2
	2		Credit 3	Materials Reuse	1 to 2
				Reuse 5%	1
				Reuse 10%	2
2			Credit 4	Recycled Content	1 to 2
				10% of Content	1
				20% of Content	2
1	1		Credit 5	Regional Materials	1 to 2
				10% of Materials	1
				20% of Materials	2
1			Credit 6	Rapidly Renewable Materials	1
1			Credit 7	Certified Wood	1

Yes ? No
 12 1 2

12 1 2 INDOOR ENVIRONMENTAL QUALITY 15 Points

Y	?	No	Prereq	Requirement	Points
			Prereq 1	Minimum Indoor Air Quality Performance	Required
			Prereq 2	Environmental Tobacco Smoke (ETS) Control	Required
1			Credit 1	Outdoor Air Delivery Monitoring	1
	1		Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction Indoor Air Quality Management Plan - During Construction	1
1			Credit 3.2	Construction Indoor Air Quality Management Plan - Before Occupancy	1
1			Credit 4.1	Low-Emitting Materials - Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials - Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials - Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials - Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems - Lighting	1
1			Credit 6.2	Controllability of Systems - Thermal Comfort	1
1			Credit 7.1	Thermal Comfort - Design	1
1			Credit 7.2	Thermal Comfort - Verification	1
		1	Credit 8.1	Daylight and Views - Daylight	1
		1	Credit 8.2	Daylight and Views - Views	1

Yes ? No
 1 4

1 4 INNOVATION IN DESIGN 6 Points

Y	?	No	Prereq	Requirement	Points
	4		Credit 1	Innovation in Design	1 to 5
				1 Innovation or Exemplary Performance	1
				1 Innovation or Exemplary Performance	1
				1 Innovation or Exemplary Performance	1
				1 Innovation	1
				1 Innovation	1
1			Credit 2	LEED® Accredited Professional	1

Yes ? No
 2 2

2 2 REGIONAL PRIORITY 4 Points

Y	?	No	Prereq	Requirement	Points
	2	2	Credit 1	Regional Priority	1 to 4
				1 Regionally Defined Credit Achieved	1
				1 Regionally Defined Credit Achieved	1
				1 Regionally Defined Credit Achieved	1
				1 Regionally Defined Credit Achieved	1

Yes ? No
 52 25 17

52 25 17 PROJECT TOTALS (Certification Estimates) 110 Points

Certified: 40-49 points Silver: 50-59 points Gold: 60-79 points Platinum: 80+ points

II. Schematic Basis of Design (BOD)

Schematic Design

December 2, 2010

This Schematic BOD consists of:

- Fire Protection Systems
- Plumbing Systems
- Mechanical Systems
- Lighting Systems
- Electrical Systems

Summary

These systems will be designed using the following documents as guidelines; Exhibit “B” Policy for Energy Efficiency And Sustainability Of City Operations, Guidelines to Reduce Operating Expenses and Meet Sustainability Goals dated 9/24/2010, and Owner’s Project Requirements dated 8/25/2010.

Fire Protection Systems

The building will be provided with an automatic fire sprinkler system per NFPA 13 and a manual wet Class I standpipe system. This assumes a minimum 6” combined domestic/fire protection water service, double check valve assembly, sprinklers throughout the building, inspectors’ tests, Class I standpipes in each exit stair tower and wall mounted fire department inlet connections per Madison Fire Department requirements.

Any areas of building subject to freezing temperatures will be protected by dry pipe sprinkler system suitable for use in an unconditioned space. All other areas of the building will be protected by a wet pipe sprinkler system.

A manual wet standpipe with a 2½” hose valves for use by the Fire Department will be installed to serve each floor level in all required exit stair towers.

One main fire alarm panel will serve the entire building. At minimum, each floor of the building will be separated into zones for sprinkler system and fire alarm purposes.

Automatic sprinkler system design for the Library will be based upon Ordinary Hazard (Group 1) Occupancy with a sprinkler discharge density of 0.15 gpm/square foot over the most hydraulically remote 1500 square feet for the library collection shelf and stack areas, mechanical rooms, and storage rooms. Sprinkler system design will include a 250 gpm hose allowance.

Sprinklers in areas with finished ceilings will be UL listed semi-recessed quick response pendant type. Finish for sprinkler and escutcheon shall be white.

Sprinklers in unfinished areas or rooms without ceilings will be UL listed brass quick response upright type.

Electric fire pump, with controller and automatic transfer switch, designed and installed per NFPA 20.

Plumbing Systems

Plumbing systems for the Library will be designed in compliance with the Wisconsin Plumbing Code, COMM chapters 81 – 84.

Piped Utilities

Remove the existing 4” domestic water service and replace with a minimum 6” combined domestic/fire protection water service from Fairchild Street to building.

II. Schematic Basis of Design (BOD)

Schematic Design

December 2, 2010

Furnish a new 6" sanitary building sewer from building to municipal sewer in either Henry or Mifflin Street.

Connect new storm building drain to existing 12" storm building sewer running from building to municipal sewer in Mifflin Street.

Water Efficiency

Water efficiency within the building will be maximized to reduce the burden on municipal water supply and wastewater systems. The goal is to achieve a 40% reduction in water use over the water use standards required by the Energy Policy Act (EPAct) of 1992. At minimum there will be a 20% reduction in water use over EPAct.

Plumbing Fixtures

To achieve the water use reduction goals outlined above the design will incorporate high efficiency water closets, high efficiency urinals, and low-flow lavatory and sink faucets.

Fixtures will comply with ADA Accessibility Guidelines where required.

- Water Closets: Elongated wall mounted 1.28 gpf high efficiency (HET) fixture with top spud, open front seat, and manually operated 1.28 gpf flush valve.
- Juvenile Water Closets (if required by building program): Elongated floor outlet 1.6 gpf fixture with top spud, rim height of 10³/₄", open front seat, and manually operated 1.6 gpf flush valve. **Note:** Juvenile fixtures that operate on less than 1.6 gallons are not available.
- Urinal: Wall mounted wash down 0.125 gpf (one pint per flush) high efficiency (HEU) fixture with top spud and battery-powered sensor operated 0.125 gpf flush valve.
- Lavatories: Solid surface counters with integral bowls and wall hung vitreous china lavatories. All lavatories shall have battery-powered sensor operated faucets flow controlled to 0.5 gpm.
- Sinks: Single and double compartment 18 gauge, Type 304 self-rimming stainless steel sinks, with manually operated faucets flow controlled to maximum 1.6 gpm.
- Hot water connection for undercounter dishwasher and cold water connections for ice maker and coffee maker in Staff Lounge.
- Cold water connection for coffee maker in Kitchen adjacent to 3rd floor Meeting Room.
- Mop Basin: 36" x 24" x 10" molded stone basin and mixing faucet with hose connection vacuum breaker, and stainless steel wall guards.
- Indoor hose bib/wall faucet and exterior wall hydrants: ¾" size, with hose connection vacuum breaker
- Water Coolers: Wall mounted electric, two-basin design, GreenSpec listed

II. Schematic Basis of Design (BOD)

Plumbing Specialties

- Floor drains in finished areas will have cast iron bodies with nickel-bronze strainers.
- Floor drains in mechanical areas will have cast iron bodies with a cast iron grate.
- Roof drains will have cast iron bodies with an aluminum or cast iron dome strainer.
- Green Roof Drains will have cast iron bodies with a bronze dome strainer covered by a stainless steel mesh screen.
- Floor cleanouts will have cast iron bodies with nickel-bronze covers.
- Wall cleanouts will have a stainless steel wall plate.
- Trap primers will be provided for floor drains subject to trap seal evaporation.
- ASSE 1013 reduced pressure principle backflow preventers will be furnished in the water supply to mechanical equipment for make-up.

Pipe Material

Pipe material for sanitary waste, storm water, clear-water waste, and vent piping above floor will be no-hub cast iron hub pipe. Schedule 40 PVC pipe will be allowed for exterior underground piping, interior under floor sanitary, storm, and clear-water waste and vent piping.

Water service piping and water distribution piping 4" and larger shall be ductile iron with mechanical joints. Water distribution piping 3" and smaller will be Type L copper with soldered joints and fittings.

Pipe Insulation

Fiberglass insulation of 1" thickness will be installed on domestic hot water piping. Fiberglass insulation of ½" thickness with a vapor barrier will be installed on domestic cold water piping. Fiberglass pipe insulation will be jacketed with a kraft-foil covering.

Fiberglass insulation of ½" thickness with a vapor barrier will be installed on horizontal storm piping installed above floor and initial 4' of vertical storm conductors. Fiberglass pipe insulation will be jacketed with a kraft-foil covering.

Water Softeners

An automatic ion exchange water softener with meter initiated regeneration and integral brine recovery system will be provided. The unit will soften water supplied to the domestic water heaters and building humidifiers.

Domestic Water Heating

60 gallon gas-fired direct vent storage type water heater with a recovery of 143 gph at 100° rise will be provided to furnish adequate hot water for the library's needs for lavatories, sinks, showers, and mop basins.

Sump Pumps

One clearwater sump basin pump will be furnished at the bottom of each elevator hoistway. Sump pump will be cast iron, estimated 50 gpm at 20' head. Sump basin will be 18" diameter x 22" deep.

II. Schematic Basis of Design (BOD)

Schematic Design

December 2, 2010

One duplex sanitary sump installation will be furnished in the basement mechanical room to discharge water from basement plumbing fixtures. Sump pump will be cast iron, estimated 20 gpm at 20' head. Fiberglass sump basin will be 36" diameter x 48" deep.

Stormwater Reclaim Option

Provide two or three 500 gallon storage tanks to hold rain water, along with treatment equipment and pumps for re-use of rain water for HVAC cooling tower and/or flushing water closets and urinals in the main public toilet rooms. All reclaimed water shall be treated to COMM 82.70 water quality standards.

Mechanical Systems

Design Criteria

The facility will be designed with an emphasis on occupant comfort, systems reliability, systems serviceability, easily maintained, building energy efficiency, flexible, and remaining within the Owner's budget. The key focus on determining Mechanical Systems will be: Cost, Maintenance and Feel that are related to the Owner's project requirements and associated "Core values" of the project.

- Cost is associated with Initial, Operating, and Maintenance costs relative to enhanced efficiencies
- Maintenance is associated with maintainability, ease of operation, flexibility and life expectancy.
- Feel is associated with comfort, indoor air quality (IAQ), acoustics, and aesthetics Impacts

Codes and Standards

All mechanical systems will be designed in accordance with industry recognized codes and standards.

- Wisconsin Administrative Code
- IBC - 2006 International Building Code
- IECC – 2006 International Energy Conservation Code
- IFGC – 2006 International Fuel Gas Code
- IMC – 2006 International Mechanical Code
- ASHRAE 55-2004: Thermal Environmental Conditions for Human Occupancy
- ASHRAE 62-2007: Ventilation for Acceptable Indoor Air Quality
- ASHRAE 90.1-2007: Energy Standard for Buildings Except Low-Rise Residential Buildings
- ASHRAE 129-1997: Measuring Air Change Effectiveness
- NEBB Procedural Standards for Testing, Adjusting and Balancing of Environmental Systems - 2005
- SMACNA HVAC Duct Construction Standards – Metal and Flexible - 2005

II. Schematic Basis of Design (BOD)

Design Conditions

Computer modeling of the Library will be utilized to establish the building heating and cooling requirements. The computer model will also be utilized in establishing the estimated energy usage and for LEED documentation for the estimated energy usage. The facility will be designed utilizing the following design values:

Indoor Design Conditions

Dry-Bulb Temperature

Summer = 75°F ± 3°F

Winter = 70°F ± 3°F

Relative Humidity

Summer = 50% maximum ± 5%

Winter = 10- 25% minimum ± 5%

Outdoor Design Conditions

Summer:

Dry-Bulb Temperature = 91°F

Wet-Bulb Temperature = 74°F

Winter:

Dry-Bulb Temperature = -15°F

Building Load Data

Envelope Information

The building envelope characteristics will consist of modeling assemblies of walls, glazing, roof and related building elements. Refer to architectural programming for established U-values for envelope elements.

Infiltration

The building heat loss calculations will include an infiltration load based on 1.5 cfm of infiltration air per linear foot of exterior wall with windows, per floor level, and 1.0 cfm of infiltration air per linear foot of exterior wall without windows, per floor level. Infiltration rates of 200 cfm per door will be used for main entrance. Infiltration rates of 100 cfm will be used for secondary entrances and exits. As for garage service door, 1000 cfm will be used. ASHRAE 2009-edition suggests infiltration amounts ranging from 0.1 to 0.6 ACH for newly constructed buildings.

Occupancy Information

Refer to Architectural section for occupancy load information. The number of occupants in each space will be based on the actual occupant density listed in the facility program for building heating and cooling load calculations. The occupancy heat rejection will be as follows:

Sensible = 250 Btuh/person

Latent = 250 Btuh/person

Occupancy Schedule

The mechanical systems will be designed to operate 24 hours per day, 365 days per year. Diversity = 90% occupancy.

II. Schematic Basis of Design (BOD)

Ventilation Rates

Outdoor air will be provided to the building during occupied hours in accordance with ASHRAE Standard 62.1, as required by the 2006 IMC and as recommended by good engineering practices.

The minimum ventilation (outdoor air) rates will be as follows. Actual ventilation rates may exceed these values if Ventilation Rate Procedure 62MZ calculations so dictate.

- Offices and Administrative Support Area: 17 cfm per occupant using default value with noted occupancy density to meet the requirements of ASHRAE 62 Standard.
- Libraries Area: 17 cfm per occupant using default value with noted occupancy density to meet the requirements of ASHRAE 62 Standard.
- Meeting and Conference Areas: 6 cfm per occupant using default value with noted occupancy density to meet the requirements of ASHRAE 62 Standard.

Minimum supply and/or exhaust ventilation rates will be as follows. Actual ventilation rates may exceed these values if calculations so dictate.

- Toilet Rooms = 10 AC/HR
- Janitor Closet = 10 AC/HR
- Kitchenette = 6 AC/HR

Internal Loads

Internal load will include lighting, equipment and miscellaneous plug loads. Lighting loads used in the heating and cooling calculations will be designed loads from lighting design. Miscellaneous loads of equipment include heat rejections or power consumptions of known devices. Other plug loads assumptions, such as computers, office equipment, copiers, etc... will be model based on architectural program.

The following guidelines will be used for internal gains from electrical equipment (plug loads):

- Offices = 1.0 w/sf
- Conference Room = 0.5w/sf
- Meeting Room = 0.5 w/sf
- IT Closet = 20 w/sf
- Corridors, lobbies = 0 w/sf

Acoustics

The mechanical systems will allow for an acoustical environment that does not negatively impact the occupant productivity, communication and privacy of the staff. Sound levels will be designed to meet the following criteria:

- Public Areas of the Library: Room Criteria 35 to 40
- Private Office: Room Criteria 30 to 35
- Meeting Rooms: Room Criteria 25 to 30
- Corridors and Lobbies: Room Criteria 35 to 45

II. Schematic Basis of Design (BOD)

Heat Generation and Distribution

Heating will be provided by two natural gas-fired seal combustion condensing hot water boilers equal to Aerco BMK 3.0. Each boiler will be sized for approximately 2/3 of the load to provide for redundancy. Each boiler will have an approximate input of 2,610 MBH. Each boiler will be provided with a primary pump 175 gpm @ 20 feet of head, equal to Bell & Gossett Series 80 - 3x3x7B inline pump with 2 hp motor. For future expansion of third floor will include space allocation for third boiler.

Heating hot water will be distributed throughout the building with two base mounted secondary pumps, each sized for 100% of the building load, piped in parallel to allow for redundancy. Each secondary pump will be approximately 350 gpm @ 75 feet of head, equal to Bell & Gossett Series 1510 -3BC based mounted pump with 15 hp motor. The secondary pumps will be provided with variable frequency drives to control the pump speed based on system load requirements. The secondary pumps will be arranged in a lead-standby control mode. The heating hot water system will distribute water at 140 °F with the supply temperature reset based on the outside air temperature.

Hot water piping 2" and smaller will be Type "L" copper with wrought copper fittings. Hot water piping 2-1/2" and larger will be standard weight black steel piping with Class 150 seamless butt weld fittings. Hot water piping 1-1/2" and smaller will be insulated with 1" thick rigid fiberglass insulation with scrim foil jacketing. Hot water piping 2" and larger will be insulated with 2" thick rigid fiberglass insulation with scrim foil jacketing.

Shut-off valves for the hot water system will be bronze body two-piece ball valves. Shut-off valves for the chilled water system for piping 2-1/2" larger will be lug style, iron body butterfly valves with lever actuators. Balancing valves for the chilled water system for piping 2" and smaller will be bronze body calibrated balance valves. Balancing valves for the chilled water system for piping 2-1/2" and larger will be lug style, iron body butterfly valves with memory stop lever actuators and insertion type flow meters. Balancing valves for the hot water system will be bronze body calibrated balance valves. Hot water piping will be sized for a maximum pressure drop of 3.5 feet per 100 feet of piping.

The hot water system will supply finned tube radiation, infloor radiant system, convectors, unit heaters, cabinet unit heaters and VAV box reheat coils. Infloor radiant system will be provided at 1st and 2nd areas except 3rd floor. Fin-tube radiation will be provided on 3rd floor with external glazing. Convectors will be provided in toilet rooms and similar spaces as necessary. Unit heaters will be provided in mechanical, service garage and electrical rooms as necessary. Cabinet unit heaters will be provided at all entries into the building and stairwells. All terminal devices will be provided with 2-way modulating control valves with electric actuators.

Low pressure natural gas will be provided for the boilers. Natural gas piping 2" and smaller will be standard weight black steel pipe with Class 150 malleable iron threaded pipe fittings. Natural gas piping 2-1/2" and larger will be standard weight black steel pipe with Class 150 seamless butt weld fittings. Shut-off valves for the natural gas system will be bronze body two-piece ball valves. Natural gas piping will be sized in accordance with the 2006 IFGC.

II. Schematic Basis of Design (BOD)

Geothermal and Distribution

Geothermal system is to serve the Infloor Radiant system to provide either cooling or heating in basement areas. Geothermal system will be served by 15-20 vertical wells (150' deep) at the exterior building perimeter along Henry and Mifflin Street to provide 50 tons of cooling heat rejection. Heat pump chiller will have an approximately (2) 25 Ton, modular units. Heat pump chiller will be equal to McQuay or Clima-Cool. Each heat pump chiller will be sized for approximately 2/3 of the load to provide for redundancy. Supplemental cooling will be from the dedicated ventilation system serving this space.

Glycol water will be distributed from well field to basement two inline primary pumps, each sized for 100% of the building load, piped in parallel to allow for redundancy. Each primary pump will be approximately 150 gpm @ 55 feet of head, equal to Bell & Gossett Series 80 – 2-1/2x2-1/2x9-1/2B line pump with 5 hp motor. A third recirculating pump load will be provided with variable frequency drive to control the pump speed based on system load requirements. The primary pumps will be arranged in a lead-standby control mode. The geothermal system will distribute water at 50-100°F. A central geothermal manifold in mechanical room will allow for circuiting and balancing the wells to the design water flow rates. There will be approximately 3-4 circuits.

Process water will be distributed in basement level with two inline secondary pumps, each sized for 100% of the building load, piped in parallel to allow for redundancy. Each secondary pump will be approximately 150 gpm @ 70 feet of head, equal to Bell & Gossett Series 80 – 2-1/2x2-1/2x9-1/2B line pump with 7-1/2 hp motor. The secondary pumps will be provided with variable frequency drives to control the pump speed based on system load requirements. The secondary pumps will be arranged in a lead-standby control mode. The process water will distribute water at 50-100°F.

Geothermal water piping 2" and smaller will be Type "L" copper with wrought copper fittings. Geothermal water piping 2-1/2" and larger will be standard weight black steel piping with Class 150 seamless butt weld fittings. Geothermal water piping 1-1/2" and smaller will be insulated with 1" thick rigid fiberglass insulation with scrim foil jacketing. Geothermal water piping 2" and larger will be insulated with 2" thick rigid fiberglass insulation with scrim foil jacketing. Shut-off valves for the geothermal water system will be bronze body two-piece ball valves. Balancing valves for the hot water system will be bronze body calibrated balance valves. Geothermal water piping will be sized for a maximum pressure drop of 3.5 feet per 100 feet of piping.

The geothermal water system will supply basement Infloor Radiant system serving as either cooling or heating system. Infloor radiant piping system will be PEX(cross linked polyethylene) tubing, Class A. In-floor radiant system will serve five to six manifold systems located in partition wall. Each manifold is approximately 2500 sq.ft. The radiant floor system will be provided with an inline circulating pump (capacity to be determined) and a 2-way mixing valve to mix water with the radiant system return water to maintain the desired supply temperature. All 2-way modulating control valves will be with electric actuators.

II. Schematic Basis of Design (BOD)

Refrigeration

Chilled water for the facility will be generated by two 175 ton water-cooled chillers with remote cooling tower for rejection. Water-cooled chiller shall be equal to McQuay WGZ. Each chiller will be sized for approximately 2/3 of the load to provide for redundancy. The chilled water system will be arranged in a variable primary flow arrangement. Chilled water will be pumped to the dedicated outside air unit (DOAS) and air handling units.

Alternate No.1: To evaluate the water-cooled Oil-free chiller with magnetic bearing compressors, McQuay Model WMC.

Chilled water will be distributed throughout the building with two base mounted primary pumps, each sized for 100% of the building load, piped in parallel to allow for redundancy. Each primary pump will be approximately 700 gpm @ 75 feet of head, equal to Bell & Gossett Series Series 1510 –4BC based mounted pump with 20 hp motor. The primary pumps will be provided with variable frequency drives to control the pump speed based on system load requirements. The primary pumps will be arranged in a lead-standby control mode. A two-way bypass valve will be provided in the system to maintain the minimum chiller flow rate. The chilled water system will distribute water at 42°F.

Chilled water piping 2” and smaller will be Type “L” copper with wrought copper fittings. Chilled water piping 2-1/2” and larger will be standard weight black steel pipe with Class 150 seamless butt weld fittings. Chilled water piping water piping 1-1/2” and smaller will be insulated with 1” thick rigid fiberglass insulation with scrim foil jacketing. Chilled water piping 2” and larger will be insulated with 1-1/2” thick rigid fiberglass insulation with scrim foil jacketing.

Shut-off valves for the chilled water system for piping 2” and smaller will be bronze body two-piece ball valves. Shut-off valves for the chilled water system for piping 2-1/2” larger will be lug style, iron body butterfly valves with lever actuators. Balancing valves for the chilled water system for piping 2” and smaller will be bronze body calibrated balance valves. Balancing valves for the chilled water system for piping 2-1/2” and larger will be lug style, iron body butterfly valves with memory stop lever actuators and insertion type flow meters. Chilled water piping will be sized for a maximum pressure drop of 3.5 feet per 100 feet of piping.

Alternate No.2: To evaluate the ice storage system will consist of two smaller chillers at 100 Tons in a glycol system and approximately 5-7 ice storage tanks. Chillers will be used in ice making mode during times of no cooling load. Chillers will be used to satisfy cooling load during conventional cooling mode. During on-peak cooling loads, the chillers will operate at a reduced capacity, with melting ice satisfying the remaining cooling load. Air distribution system will be low temperature system of 47-48°F.

II. Schematic Basis of Design (BOD)

Heat Rejection

Heat Rejection water for the facility will be served by forced draft, vertical counterflow cooling tower equal to Evapco LSTB-10112. Cooling tower capacity is sized for 350 Ton. Cooling tower will be located penthouse, indoors. Louvers with isolation dampers will be placed at cooling tower room intake. Cooling tower will discharge with nozzle hood through penthouse roof. Provide basin heater for cooling tower. Condenser water will be distributed from chiller room located in basement to penthouse with two base mounted condenser pumps, each sized for 100% of the building load, piped in parallel to allow for redundancy. Each condenser pump will be approximately 860 gpm @ 90 feet of head, equal to Bell & Gossett Series 1510 – 5E based mounted pump with 30 hp motor. The condenser pumps will be arranged in a lead-standby control mode. A three-way bypass valve will be provided in the system to maintain the minimum condenser temperature. The condenser water system will distribute water at 97-85°F.

For waterside economizer, a condenser plate & frame heat exchanger on condenser water will be utilized to provide “free cooling” to Infloor Radiant system. Plate & frame exchanger is in parallel of the two chillers. Cooling tower operation will supplement cooling during spring/fall seasonal conditions bypassing the chiller(s) operation.

Condenser water piping 2-1/2” and larger will be standard weight black steel pipe with Class 150 seamless butt weld fittings. Shut-off valves for the condenser water system for piping 2-1/2” larger will be lug style, iron body butterfly valves with lever actuators. Balancing valves for the condenser water system for piping 2-1/2” and larger will be lug style, iron body butterfly valves with memory stop lever actuators and insertion type flow meters. Condenser water piping will be sized for a maximum pressure drop of 3.5 feet per 100 feet of piping.

Dedicated Outside Air System (DOAS)

The building will be served by an air handling system located in a penthouse room. The system will be a variable air volume (VAV) system with air terminals. DOAS will provide ventilation directly to the space serving all floors within the building. The system will have an approximate capacity of 45,000 CFM with recirculation capabilities for minimum air change within the space for dehumidification purposes. The outside air criterion will be approximately 25,000 cfm. The system supply ductwork pressure will be controlled and reset based on the critical zone to minimize fan energy. The supply air temperature will be reset based on the critical zone. The air handling unit will be selected so the face velocity through the filters and cooling coil do not exceed 450 fpm.

The building will be pressurized through to help minimize infiltration into the building. The outside air from the energy recovery unit will be ducted to the air handling unit intake.

The DOAS air handling unit will be a custom air handling unit with 2” thick, double wall panels. The unit will have the following components:

- Outdoor air damper/Exhaust air damper plenums
- Exhaust air fan with variable frequency drive (VFD)
- Filter section with 2” pleated pre-filters (MERV-8) and 12” cartridge filters (MERV-13).

II. Schematic Basis of Design (BOD)

Schematic Design

December 2, 2010

- Total Enthalpy Wheel – Heat Recovery
- Recirculation return air damper.
- Supply fan with VFD.
- Pumped hot water heating coil.
- Chilled water cooling coil.
- Passive Wheel - Dehumidification

3rd Floor Distribution System – Air System

The 3rd floor will be served by two independent air handling systems located in a penthouse. Each system will be a variable air volume (VAV) system with supply air terminals/reheat coils. The system will have an approximate capacity of 15,100 - 18,000 CFM. The system supply ductwork pressure will be controlled and reset based on the critical zone to minimize fan energy. The supply air temperature will be reset based on the critical zone. The air handling unit will be selected so the face velocity through the filters and cooling coil do not exceed 450 fpm.

The outside air from the dedicated outside air system, DOAS, will be ducted to each air handling unit mixing chambers. The building will be pressurized through to help minimize infiltration into the building.

Each 3rd floor air handling unit will be a factory packaged unit with 2” thick, double wall panels. The unit will have the following components:

- Outdoor air damper/Return/Relief air damper plenums
- Return air fan with variable frequency drive (VFD)
- Filter section with 2” pleated pre-filters (MERV-8) and 12” cartridge filters (MERV-13).
- Pumped hot water heating coil.
- Chilled water cooling coil.
- Supply fan with VFD.

1st and 2nd Floor Distribution System – Hydronic System

The 1st and 2nd floors will be served by building will be served by “Radiant Ceiling Panel” system, equal to Rittling Carboline with graphite backer. The ceiling Radiant Panel system will consist of 65-75% ceiling coverage in suspend ceiling system, modules of 24”x118”. Ceiling panel will be baked enamel finish with custom color by Architect. Radiant panels will be insulated with 1” thick rigid fiberglass insulation with scrim foil jacketing.

Process water will be distributed from the basement level with two inline secondary pumps, each sized for 100% of the building load, piped in parallel to allow for redundancy. Each secondary pump will be approximately 200 gpm @ 50 feet of head, equal to Bell & Gossett Series 80 – 2-1/2x2-1/2x9-1/2B line pump with 7-1/2 hp motor. The secondary pumps will be provided with variable frequency drives to control the pump speed based on system load requirements. The secondary pumps will be arranged in a lead-standby control mode. The process water will distribute water at 58-100°F.

II. Schematic Basis of Design (BOD)

The process water system will supply radiant ceiling panel system serving as either cooling or heating system. Radiant ceiling panel system will serve twelve-sixteen zones per floor. Each manifold is approximately 2000-2500 sq.ft. The radiant floor system will be provided with 2-way mixing valve with electric actuators.

Process water piping 2" and smaller will be Type "L" copper with wrought copper fittings. Process water piping 2-1/2" and larger will be standard weight black steel piping with Class 150 seamless butt weld fittings. Process water piping 1-1/2" and smaller will be insulated with 1" thick rigid fiberglass insulation with scrim foil jacketing. Process water piping 2" and larger will be insulated with 2" thick rigid fiberglass insulation with scrim foil jacketing. Shut-off valves for the process water system will be bronze body two-piece ball valves. Balancing valves for the hot water system will be bronze body calibrated balance valves. Process water piping will be sized for a maximum pressure drop of 3.5 feet per 100 feet of piping.

Alternate No.3: To evaluate the "Raised Floor" system in lieu of "Radiant Ceiling Panel" system serving 1st and 2nd floors.

Raised Floor System

The building will be served by an air handling system located in a basement mechanical room. The system will be a variable air volume underfloor (VAV) system with air terminals/hot water reheat. The system will have an approximate capacity of 65,000 CFM. The system supply ductwork pressure will be controlled and reset based on the critical zone to minimize fan energy. The supply air temperature will be reset based on the critical zone. The air handling unit will be selected so the face velocity through the filters and cooling coil do not exceed 450 fpm.

The air handling unit will be a custom air handling unit with 2" thick, double wall panels. The unit will have the following components:

- Outdoor air damper/Exhaust air damper plenums
- Exhaust air fan with variable frequency drive (VFD)
- Filter section with 2" pleated pre-filters (MERV-8) and 12" cartridge filters (MERV-13).
- Total Enthalpy Wheel – Heat Recovery
- Recirculation return air damper.
- Supply fan with VFD.
- Pumped hot water heating coil.
- Chilled water cooling coil.
- Passive Wheel - Dehumidification

Humidification Systems

Humidification is not program requirement for this project to maintain any minimum level. Dedicated outside air system will reclaim humidity generated from the space to supplement outside air.

II. Schematic Basis of Design (BOD)

Exhaust Systems

Exhaust from the toilet rooms, housekeeping spaces, storage, and other similar spaces will be exhausted through the energy recovery unit. Mechanical room, Electrical room, Penthouse, Generator, Garage areas and similar spaces which require exhaust will be exhausted through roof mounted exhaust fan(s).

Sheet Metal Work

All ductwork on the project will follow SMACNA standards for ductwork construction. Ductwork materials will be galvanized sheet metal with thicknesses per the SMACNA Standards. All ductwork will be sealed in accordance with SMACNA Class "A" standards. Long radius elbows will be utilized where possible. When it is necessary to use mitered elbows, turning vanes will be provided in each supply elbow. Turning vanes will not be utilized on return or exhaust systems.

All outside air, mixed air and supply air will be externally insulated. The mixed air and outside air systems will be insulated with 2" thick, 3 pcf rigid fiberglass insulation with factory foil jacketing. The supply air system will be insulated with 1-1/2" thick, 1-2 pcf flexible fiberglass insulation with factory foil jacketing.

Ductwork will not be lined. Sound attenuating flexible duct up to 6 ft in total length will be provided at the supply diffusers to control noise. Sound attenuators at the discharge of air terminal devices will not be provided unless required to meet noise criteria. Each branch take-off will be provided with a manual volume damper for balancing purposes.

Supply ductwork upstream of VAV boxes will be constructed to 4" pressure class in accordance with SMACNA Standards and will be sized for a maximum pressure drop of 0.15" w.g. per 100 feet of ductwork. Supply ductwork downstream of VAV boxes will be constructed to 2" pressure class in accordance with SMACNA Standards and will be sized for a maximum pressure drop of 0.10" w.g. per 100 feet of ductwork.

Exhaust, return, relief and outside air ductwork will be constructed to 2" pressure class in accordance with SMACNA Standards and will be sized for a maximum pressure drop of 0.08" w.g. per 100 feet of ductwork.

Automatic Control System

Thermal comfort is a priority of the building owner and the LEED goals.

The Design Team will incorporate appropriate thermal zoning throughout the building and provide thermostats in each private office, meeting room and thermal zone. The mechanical system will have the ability to monitor the CO² levels throughout the building to meet LEED IEQ Credit 1. CO₂ sensors will also be provided for all densely occupied areas (25 people or more per 1000 sq. ft. of floor area) of the building.

II. Schematic Basis of Design (BOD)

Schematic Design

December 2, 2010

The building will be equipped with a building-wide BACnet Direct Digital Control (DDC) system with graphics. The DDC system will control all HVAC equipment, including the air handling units, DOAS, chillers, tower, boilers, heat pump chillers, pumps and all terminal units. The DDC system will provide control of all HVAC functions such as temperature set points, CO₂ sensors, occupancy scheduling, system monitoring, system alarms, optimization and system trend functions.

Controls for the building shall consist of a Honeywell system intermixed with DDC controls. The control system shall be similar in nature to the existing City of Madison's building control network. Personal computer operator workstation: Located in mechanical room shall have control, graphics, and monitoring capabilities.

DDC controls will monitor building utilities meters: gas, electric, photovoltaic system and water for annual consumption. DDC controls shall incorporate "Green Screen" capabilities and local display for public viewing.

The control system will utilize electronic room sensors with set point adjustability and LED temperature display. The adjustment will be limited to 5 °F range from the set point. All terminal devices will be controlled using electric actuation on all automatic dampers and valves.

Testing, Adjusting, and Balancing

The HVAC systems will be balanced in accordance with the latest AABC or NEBB procedures.

Lighting Systems

Interior Lighting

- a) Fluorescent lighting fixtures in the all public and staff areas will utilize T5 and T8 lighting technology that provides a blend of brightness, control and energy efficiency. All lighting in study rooms, staff offices, lounge and workrooms will be provided with dual-level switching.
- b) Fluorescent strips with white industrial reflectors and T8 lamps will be used Material handling rooms. Fluorescent strips and T8 lamps without reflectors will be used in all unfinished building operations rooms.
- c) Task lights will be installed at all open work area tables in reading/lounge zones and office work stations. Task lights will be a combination of linear T5 fluorescent and solid state LED technology as appropriate for each application. All task lights will have integral vacancy sensors.
- d) Fluorescent fixtures with acrylic lens will be provided in kitchens and kitchen storage rooms.
- e) Standard output T8 and T5 lamps will be used throughout the building. All fluorescent lamps will have a correlated color temperature of 4100K and a minimum color rendering index of 80. Ballasts will be programmed start < 10% THD, electronic ballasts.
- f) Ambient lighting in the library collections, reading areas, open study, technology center, lobbies and vestibules will be controlled On and Off via the automated building control system.
- g) Occupancy sensors shall be provided in restrooms, staff workrooms, storage rooms, non-public corridors, egress stairs, and library collections areas as to meet ASHRAE/IESNA Standard 90.1 mandatory lighting control provisions.

II. Schematic Basis of Design (BOD)

- h) Vacancy sensors shall be provided in meeting rooms, program rooms, study rooms, staff offices, staff lounge and material handling as to meet ASHRAE/IESNA Standard 90.1 mandatory lighting control provisions.
- i) Daylight sensors in combination with addressable dimming ballasts shall be installed in all rooms and zones with access to direct or indirect daylight.
- j) Illuminated LED exit signs with directional arrows will be provided at all exit doors and along the egress paths.

Illumination and Lighting Control Criteria and Selection

Lighting will be designed per Illuminating Engineering Society (IES) recommended practice RP-4 and a reduced energy demand relative to ASHRAE 90.1. All light levels shown are horizontal (Average Ambient/Task) at task level 2'-6" AFF. The power density range includes a high value which will be the maximum connected load and a low value achieved via lighting controls.

Space	Illumination Range Footcandles	Power Density W/SF	Lighting Control
Library Collections	30 / 20 vertical	1.7 / 1.2	AB, OS
Study Rooms	30 / 50	1.0 / 0.7	DL, VS
Open Reading	30 / 50	1.1 / 0.8	AB, VS
Technology Center	30 / 45	1.0 / 0.8	AB, DD
Program Rooms	30 / 50	1.1 / 0.7	DL, VS
Meeting Rooms	30 / 75	1.3 / 0.8	DL, VS
Lobby/Pre-function	20 / 45	1.0 / 0.6	AB, DD
Coffee Shop	30 / 45	1.1 / 1.1	LB, AB
Friends Store	20 / 50	1.5 / 1.5	LB, AB
Offices	30 / 50	1.0 / 0.8	DL, VS, DD
Staff Workrooms	30 / 50	1.0 / 0.6	OS
Staff Lounge	30 / 50	1.0 / 0.6	DL, VS
Kitchen	30 / 60	1.2 / 0.5	DL, VS
Material Handling	20 / 50	0.8 / 0.4	DL, VS
Corridors	10 / 20	0.5 / 0.5	AB, OS
Building Operations	30 / 50	1.3 / 0.8	DL
Storage/Utility	15 / 30	0.8 / 0.3	OS
Restrooms	10 / 20	0.9 / 0.5	OS

- AB - Automated Building control
- DL - Dual Level lighting control
- OS - Occupancy Sensor
- VS - Vacancy Sensor
- LB- Local Switch ON + AB OFF
- DD- Daylight Dimming

Exterior Lighting

Exterior Lighting design shall be meet the requirements of LEED SS-8 Reduce Light Pollution.

- a) The exterior lighting system shall be controlled by the automated building control system with a time clock input and photocell input with manual override. The exterior lighting shall be programmed for photocell ON. Time clock Off will be controlled in four zones for independent scheduling of main and secondary entries, the loading dock, egress doors and the book drop(s).

II. Schematic Basis of Design (BOD)

Schematic Design

December 2, 2010

- b) Average maintained horizontal light levels at the task plane will meet ANSI/IES RP-4 and will be as follows:

Entries	5.0 fc
Loading Dock	10.0 fc
Egress Doors	1.0 fc
Book Drop	5.0 fc

Electrical Systems

Summary

The existing Electrical systems will be demolished completely and new systems will be installed.

Codes

The electrical power and fire alarm designs will be in accordance with the following codes:

1. Wisconsin Comm. 16 Electrical
2. National Electrical Code NFPA 70
3. National Fire Alarm Code NFPA 72
4. Americans with Disabilities Act

Guidelines

The following documents contain goals that are desired to be achieved in the electrical power and fire alarm designs:

1. Central Library – Energy and Maintenance Requirements; Guidelines to Reduce Operating Expenses and meet Sustainability Goals
2. Policy for Energy Efficiency and Sustainability of City Operations
3. Owner’s Project Requirements; Madison Central Public Library Renovation

Primary Electric

Existing

The existing library electrical service is furnished by MG&E. The building service transformer is located in an underground vault on the south corner of the building. The transformer is powered by MG & E’s downtown 13.8kV medium voltage loop.

The highest recent peak demand on the electrical service was 360kW, which occurred in the summer of 2007.

A 277/480V, three phase service was investigated, but MG&E policy for customers on the downtown 13.8kV loop with the transformers in a below grade vault is that they need to have an actual load near 750kVA. MG&E only stocks 750kVA and larger submersible transformers at 277/480V, three phase. The added first costs of larger feeders at 120/208V, three phase will be partially offset by not having to install step-down transformers. Over time there will be energy savings by not having the parasitic losses of the transformers.

II. Schematic Basis of Design (BOD)

The existing electrical service is 120/208V, 3-phase, with one 3,000 amp lighting service and one 3,000 amp power service, according to the original drawings. The 120/208V electrical service conductors are located in a concrete encased duct bank routed from the MG&E vault below the basement floor to a cable pit that is under the existing switchboards. The duct bank contains six 4" conduits and eight 3" conduits per the original drawings.

Proposed

The existing MG&E transformer vault and transformers will remain without change for this project. The existing 120/208V service conductors and switchboard will be removed. Two new 3,000 amp switchboards will be installed. Refer to the architectural drawings for the proposed location of the new switchboards.

The current building square footage is approximately 120,000sf. The average new construction NEC adjusted load for a building of this type is 13 VA/sf. $120,000 \times 13 = 1,560 \text{ kVA}$, or 4,330 amps at 120/208V, three phase.

The existing 120/208V electrical service concrete encased duct bank under the basement floor will be intercepted and extended to under the new switchboards.

If a fire pump is required, it will be powered by a separate 208V 3-phase service directly from the MG&E service transformers or from a tap ahead of the main electrical switch per NEC requirements. The fire pump feeder would be routed to the fire pump controller under the basement floor so it will be outside of the building per code requirements.

Electrical Power Distribution

Two 120/208V, 3-phase, 3000 amp switchboards will be installed. One of the switchboards will power mechanical loads, the other switchboard will power all other building loads.

Branch panelboards will be located in south-east third of the building (library staff areas), with the panelboards stacked vertically as allowed by the floor plan. Interior branch power distribution will be EMT conduit and conductors.

An increased quantity of general purpose receptacles will be included to provide flexibility and access for laptop use.

Basement

Power distribution in the basement utility areas will be surface mounted EMT conduit. Power distribution in the Youth Services area will be along the perimeter walls and at the column bases. Conduit serving the receptacles adjacent to the column bases will be installed under the basement floor.

First and Second Floor

Power distribution in the public areas will be accomplished by one of two methods. The HVAC system design needs to be confirmed before the electrical power distribution approach can be finalized.

1. Power cables located in the air distribution raised floor, or
2. Power cables located in the in-floor Walker Duct (or equal) power distribution system.

II. Schematic Basis of Design (BOD)

Third floor

Power distribution on the third floor will be conventional, with conduit routed above the ceiling and drops down the walls. Four floor boxes will be located in the large meeting room.

Emergency Power

Emergency power is required for the following electrical systems:

1. Egress lights
2. Fire alarm

An emergency generator was considered for the project. If an emergency generator was installed, the Madison Fire Department requires that a minimum of 2 hours of generator fuel be located on site. This would mean the generator would have been diesel powered rather than utility furnished natural gas. The mechanical engineer was concerned that diesel exhaust fumes would be smelled inside the building during monthly testing of the generator. The Madison Fire Department said that if a fire pump is installed, it did not require emergency power since the library is not currently designated as a City emergency response site. Joe Hertel with the Wisconsin Department of Commerce also said that the fire pump does not have to be on emergency power. The city and library decided to not install an emergency generator.

A centralized battery powered lighting inverter will power the egress lights, and a self contained battery system will be specified with the fire alarm system. The building approximate square footage is 120,000. The emergency egress lighting load is estimated to be 0.2W/sf. $120,000 \times 0.2 = 24\text{kW}$. The lighting inverter capacity is estimated to be 25kVA.

The elevators are not architecturally designated an “accessible means of egress”, and will not be connected to an emergency power source. Battery lowering will be provided to lower an elevator cab and park the cab doors open in the event of a power outage.

Fire Alarm

The fire alarm system will be an addressable and intelligent voice system, capable of identifying the specific device in alarm, and automatic adjustment of smoke detector sensitivity. The fire alarm system will be monitored by a licensed monitoring company.

The building occupancy type is A3, with an occupancy capacity greater than 1000. The fire alarm voice annunciation is required by the IBC. The Madison Fire Department requires a manual handset for voice pages be located at the remote fire alarm annunciator located at the main vestibule.

The fire alarm system will have integral battery backup. Manual pull stations will be provided at all egress doors. Speaker/strobes and strobe only devices will be located throughout the building per code.

Duct detectors will be provided in return air ducts of HVAC systems over 2000 cfm and also adjacent to fire/smoke dampers.

II. Schematic Basis of Design (BOD)

Smoke detectors will be installed in storage rooms, mechanical rooms, elevator machine rooms, egress corridors, elevator stops, NAC power boosters and at fire alarm control panels. Heat detectors will be located in the elevator machine room. The fire alarm system will interface with the elevators for cab recall and automatic disconnection of power in the event of sprinkler water flow associated with the elevator. Sprinkler system flow and tamper switches will be monitored. Fire alarm cable will be installed in conduit, ½" minimum trade size. The fire alarm speaker system is available for both emergency and general paging use. The remote annunciator panel will be located in the main entry vestibule.

Telecommunications

The City of Madison standard telecommunications and contractor telecommunications system commissioning specification sections will be used as a basis for this project, with project specific revisions. It is presently the intent that the phone system in the library will be VoIP. The phones and the VoIP switches will be provided by the Owner.

Telecommunications Rooms

Telecommunications rooms will be located in the basement and on the third floor as shown on the architectural floor plans. The basement telecom room will also be the demarcation point for the telephone, cable TV and fiber optic cable services. Telecommunications racks, cable runway and Category 6 patch panels will be specified. The Owner will provide the switching equipment, wireless transceivers, UPS, PDU and patch cords. Two normal power dedicated 120V receptacles will be provided at the base of each telecom rack.

The basement telecom room will be designated the MDF, and serve the basement and first floor. The third floor telecom room will be designated TR#1, and will serve the second floor, third floor and the penthouse. Cable length diagrams show that the locations of the two telecom rooms will most likely allow all horizontal station cables to be within Cat. 6 distance requirements. As the design progresses, if it appears some horizontal station cables would be out of spec, a wall mounted rack with patch panels will be specified to terminate the farthest SIOs.

If during construction it is found that due to unforeseen conditions the contractor has to route the cable such that it is out of spec, the A/E may allow the contractor to shorten the service loop or run the cable at a diagonal relative to building structure to allow the cable to be within spec.

The City of Madison has standard telecom room drawings that have requirements that will be incorporated into design. Half-inch thick 4'x8' plywood sheets will be installed on the walls of the telecom rooms. The plywood will be painted on all sides with fire retardant paint.

Telecommunications Backbone

A single 12 pair multi-mode fiber optic cable will interconnect the MDF and TR#1.

II. Schematic Basis of Design (BOD)

Telecommunications Distribution

Horizontal station cabling (telephone and data) will be Category 6. Standard information outlet pinning will be 568B. Wire basket type cable tray will be located down main corridors for support of horizontal station cabling where appropriate. Horizontal station cabling will be supported by J-hooks beyond the cable tray. Cable in mechanical areas will be installed in conduit for mechanical protection. The cable jacket will be plenum or non-plenum rated as required per the HVAC design.

All horizontal station cables will be specified with a service loop at the patch panel and at the SIO.

On the first and second floors the horizontal station cable will be routed in either the raised air distribution floor or floor Walkerduct depending on the HVAC system chosen.

The typical SIO will have two Cat. 6 outlets per faceplate. No distinction will be made for telephone or data as the installation and requirements are the same for both. Two telephone lines will be specified to the main fire alarm panel. One telephone line will be specified to each elevator.

As-builts

The contractor will be required to submit as-built telecom drawings at the completion of the project. The as-built drawings will be required to show cable routing along with SIO identification.

Video Distribution

Video outlets will be provided in the main meeting rooms. The trunk and tap method will be used to distribute the signal. The connection to the cable TV provider will be in the MDF.

The Owner may have video projectors installed in the meeting rooms under a separate project.

Security/Controlled Access System

A combined security/controlled access system will be specified for the project. The controlled access features will include proximity sensors, door position sensors and electric strikes/locks. The security system features will include glass break sensors and motion sensors. Controlled access points will be at all exterior doors and primary doors that separate public and library staff use. Security system points will be at rooms adjacent to exterior grade levels. The central controller will interface these devices and be monitored by a monitoring company.

II. Schematic Basis of Design (BOD)

Schematic Design

December 2, 2010

Closed Circuit TV System

The electrical contractor will install Cat. 6 cabling for a CCTV system. The Owner will provide the cameras, video controllers and recorders for the CCTV system. Camera locations will be confirmed as the design progresses, but it is anticipated that at a minimum cameras will be located as follows:

1. Exterior front entry.
2. Front entry vestibule
3. Exterior West Mifflin Street lower level entry
4. West Mifflin Street lower level vestibule
5. Exterior loading dock door

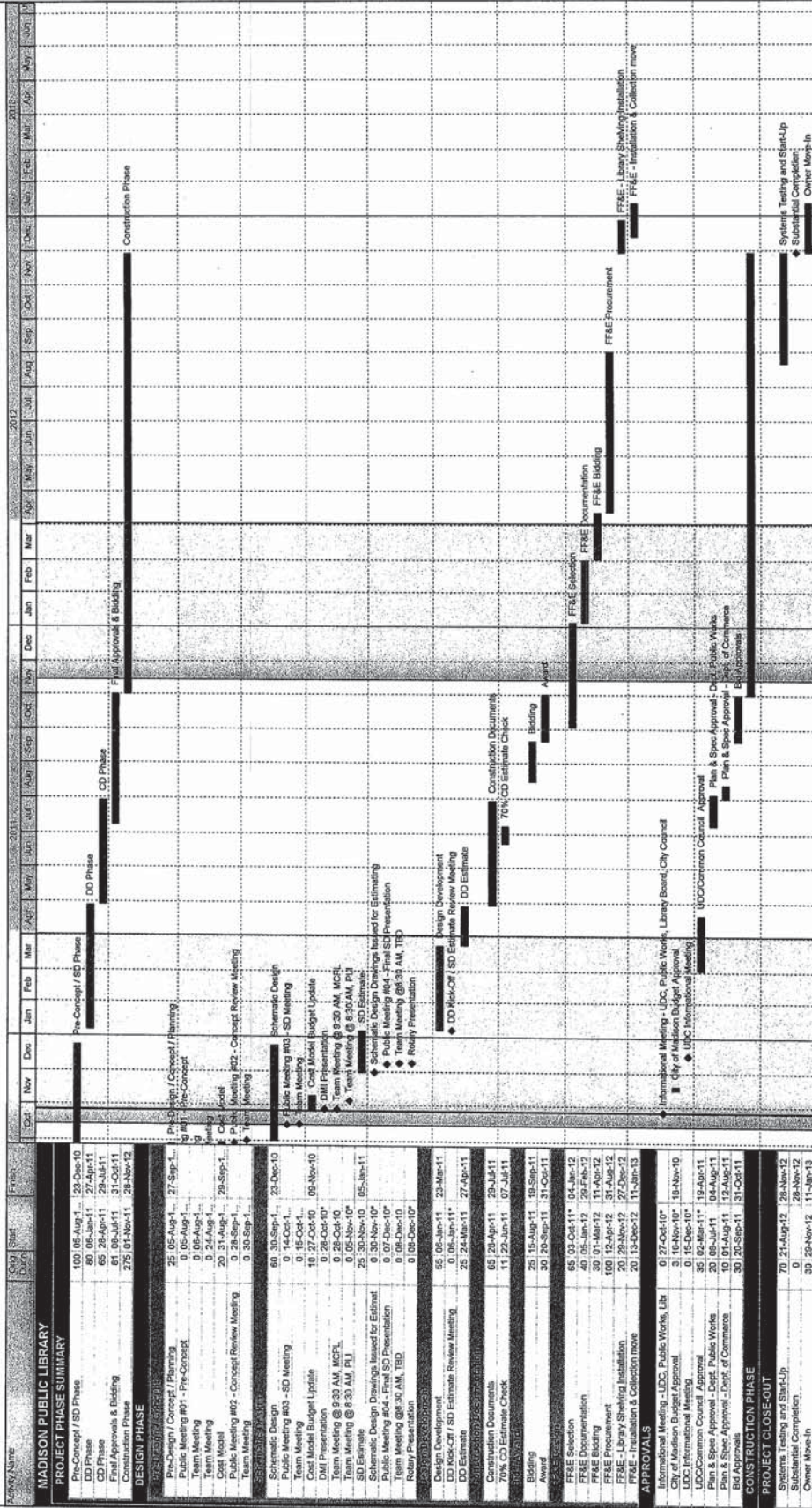
A Cat. 6 data cable will be installed from the MDF to the designated security office location. The system will have a one-way video and two-way voice connection to the loading dock. A call button will be located adjacent to the loading dock overhead door for the driver to initiate communications.

II. Schematic Basis of Design (BOD)

Schematic Design

December 2, 2010

Page Intentionally Left Blank



Project ID: 10060026-002
Layout: MPL Phase Layout
Start Date: 02-Aug-10
Finish Date: 11-Jan-13
Data Date: 27-Oct-10

Preliminary Summary Schedule
Madison Public Library



Legend:
- Construction
◆ Milestone

October 28, 2010

Page Intentionally Left Blank

IV. List of Schematic Design Drawings

Schematic Design

December 2, 2010

General

G000	Sheet Index and Symbols
G051	Code Plan
G052	Code Plan

Architectural Demolition

AD100.1	Basement Floor Demolition Plan
AD100.2	Ground Floor Demolition Plan
AD101	1 st Floor Demolition Plan
AD102	2 nd Floor Demolition Plan
AD103	Roof Demolition Plan
AD201	Exterior Demolition Elevation

Architectural

A100	Site Plan
A100.1	Basement Floor Plan
A100.2	Ground Floor Plan
A101	1 st Floor Plan
A102	2 nd Floor Plan
A103	3 rd Floor Plan
A104	Penthouse Floor Plan
A105	Roof Plan
A201	Building Elevations
A202	Building Elevations
A251	Building Sections
A900.1	Basement Floor Furniture Plan
A900.2	Ground Floor Furniture Plan
A901	1 st Floor Furniture Plan
A902	2 nd Floor Furniture Plan
A903	3 rd Floor Furniture Plan

IV. List of Schematic Design Drawings

Schematic Design

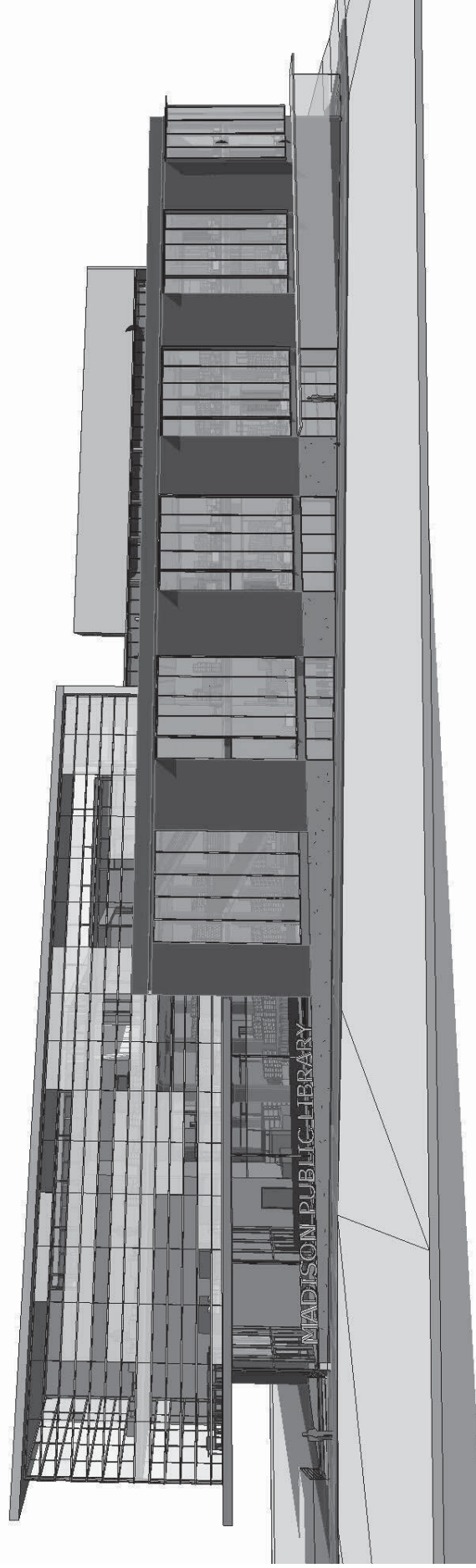
December 2, 2010

Page Intentionally Left Blank

NOT FOR CONSTRUCTION
SCHEMATIC DESIGN
DECEMBER 2, 2010

MADISON CENTRAL PUBLIC LIBRARY

210 WEST MIFFLIN STREET
MADISON, WI 53703



M&R
Merrill Scherer & Rockcastle, LTD
1000 North Dearborn Street
Minneapolis, MN 55414 612-338-2434
612-377-9389 • 612-344-2418 F
www.merrill.com
Minnesota & Maryland
Architects & Interior Design

POTTER LAWSON
15 HELLSPOTTER COURT
MADISON, WI 53701
708.274.2741
LOCAL ARCHITECT +
ELECTRICAL

ARNOLD & O'SHERIDAN
1111 DORNINGWAY, SUITE 200
MADISON, WI 53717
708.824.8300
STRUCTURAL

**HENNEMAN
ENGINEERING INC**
123 FOURBURNER, SUITE 101
MADISON, WI 53717
708.837.0000
MECHANICAL

MS R
 Mechanical & Electrical
 1000 W. Park Street
 Madison, WI 53703
 (608) 783-1111

Fotter Lawson
 Mechanical/Electrical
 1400 W. Johnson Street
 Madison, WI 53704
 (608) 261-1111

ARNOLD AND SHERIDAN INC
 Mechanical/Electrical
 1000 W. Park Street
 Madison, WI 53703
 (608) 783-1111

Hemenan Engineering Inc.
 Mechanical/Electrical
 1000 W. Park Street
 Madison, WI 53703
 (608) 783-1111

PHONE

PHONE

MADISON CENTRAL
 PUBLIC LIBRARY
 210 WEST MIFLIN STREET
 MADISON, WI 53703

PROJECT NO: 201041.00
 PROJECT NAME: SCHEMATIC DESIGN
 CLIENT: Madison Central Public Library
 ARCHITECT: [Name]
 DATE: 12.2.2010 10:20:00 AM

CODE PLAN
G051

NOT FOR CONSTRUCTION

2006 IBC BUILDING CODE ANALYSIS (W/ Commercial Building Code)

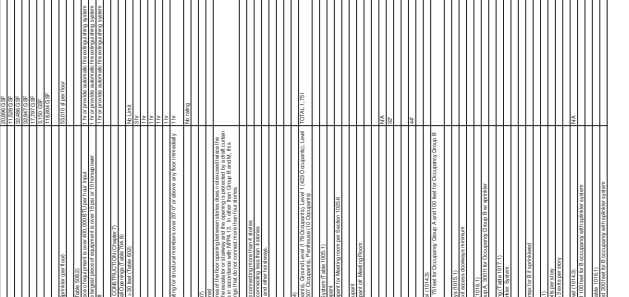
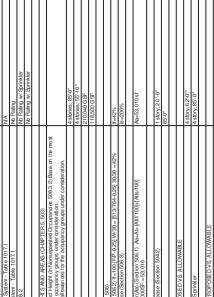
SECTION	REQUIREMENT	STATUS
1.01	GENERAL	
1.02	PERMITS	
1.03	EXEMPTIONS	
1.04	PLANNING	
1.05	CONSTRUCTION	
1.06	MAINTENANCE	
1.07	ALTERATIONS	
1.08	ADDITIONAL CODES	
1.09	APPLICABLE CODES	
1.10	ADDITIONAL CODES	
1.11	ADDITIONAL CODES	
1.12	ADDITIONAL CODES	
1.13	ADDITIONAL CODES	
1.14	ADDITIONAL CODES	
1.15	ADDITIONAL CODES	
1.16	ADDITIONAL CODES	
1.17	ADDITIONAL CODES	
1.18	ADDITIONAL CODES	
1.19	ADDITIONAL CODES	
1.20	ADDITIONAL CODES	
1.21	ADDITIONAL CODES	
1.22	ADDITIONAL CODES	
1.23	ADDITIONAL CODES	
1.24	ADDITIONAL CODES	
1.25	ADDITIONAL CODES	
1.26	ADDITIONAL CODES	
1.27	ADDITIONAL CODES	
1.28	ADDITIONAL CODES	
1.29	ADDITIONAL CODES	
1.30	ADDITIONAL CODES	
1.31	ADDITIONAL CODES	
1.32	ADDITIONAL CODES	
1.33	ADDITIONAL CODES	
1.34	ADDITIONAL CODES	
1.35	ADDITIONAL CODES	
1.36	ADDITIONAL CODES	
1.37	ADDITIONAL CODES	
1.38	ADDITIONAL CODES	
1.39	ADDITIONAL CODES	
1.40	ADDITIONAL CODES	
1.41	ADDITIONAL CODES	
1.42	ADDITIONAL CODES	
1.43	ADDITIONAL CODES	
1.44	ADDITIONAL CODES	
1.45	ADDITIONAL CODES	
1.46	ADDITIONAL CODES	
1.47	ADDITIONAL CODES	
1.48	ADDITIONAL CODES	
1.49	ADDITIONAL CODES	
1.50	ADDITIONAL CODES	

CODE REVIEW SYMBOLS

- SECTION CHANGE
- CODE CHANGE
- NOTE
- REFERENCE

PLUMBING FIXTURE REQUIREMENT (CHAPTER 29)

FIXTURE	REQUIREMENT	STATUS
1.01	GENERAL	
1.02	PERMITS	
1.03	EXEMPTIONS	
1.04	PLANNING	
1.05	CONSTRUCTION	
1.06	MAINTENANCE	
1.07	ALTERATIONS	
1.08	ADDITIONAL CODES	
1.09	ADDITIONAL CODES	
1.10	ADDITIONAL CODES	
1.11	ADDITIONAL CODES	
1.12	ADDITIONAL CODES	
1.13	ADDITIONAL CODES	
1.14	ADDITIONAL CODES	
1.15	ADDITIONAL CODES	
1.16	ADDITIONAL CODES	
1.17	ADDITIONAL CODES	
1.18	ADDITIONAL CODES	
1.19	ADDITIONAL CODES	
1.20	ADDITIONAL CODES	
1.21	ADDITIONAL CODES	
1.22	ADDITIONAL CODES	
1.23	ADDITIONAL CODES	
1.24	ADDITIONAL CODES	
1.25	ADDITIONAL CODES	
1.26	ADDITIONAL CODES	
1.27	ADDITIONAL CODES	
1.28	ADDITIONAL CODES	
1.29	ADDITIONAL CODES	
1.30	ADDITIONAL CODES	
1.31	ADDITIONAL CODES	
1.32	ADDITIONAL CODES	
1.33	ADDITIONAL CODES	
1.34	ADDITIONAL CODES	
1.35	ADDITIONAL CODES	
1.36	ADDITIONAL CODES	
1.37	ADDITIONAL CODES	
1.38	ADDITIONAL CODES	
1.39	ADDITIONAL CODES	
1.40	ADDITIONAL CODES	
1.41	ADDITIONAL CODES	
1.42	ADDITIONAL CODES	
1.43	ADDITIONAL CODES	
1.44	ADDITIONAL CODES	
1.45	ADDITIONAL CODES	
1.46	ADDITIONAL CODES	
1.47	ADDITIONAL CODES	
1.48	ADDITIONAL CODES	
1.49	ADDITIONAL CODES	
1.50	ADDITIONAL CODES	



1 BASEMENT FLOOR CODE PLAN
 G051 - 11P - 11P

2 GROUND FLOOR CODE PLAN
 G051 - 11P - 11P

NOT FOR CONSTRUCTION

MS R
MECHANICAL, STRUCTURAL, ROOFING
1000 W. WISCONSIN STREET, SUITE 200
MADISON, WI 53703
TEL: 608-261-1111 FAX: 608-261-1112

Potter Lawson
ELECTRICAL
1000 W. WISCONSIN STREET, SUITE 200
MADISON, WI 53703
TEL: 608-261-1111 FAX: 608-261-1112

ARNOLD AND O'SHERIDAN INC.
STRUCTURAL ENGINEERING
1000 W. WISCONSIN STREET, SUITE 200
MADISON, WI 53703
TEL: 608-261-1111 FAX: 608-261-1112

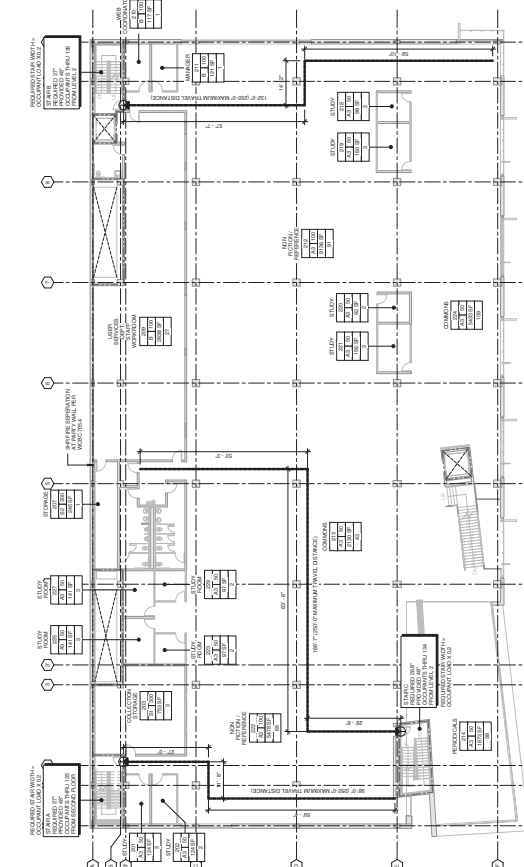
Heineman Engineering Inc.
MECHANICAL ENGINEERING
1000 W. WISCONSIN STREET, SUITE 200
MADISON, WI 53703
TEL: 608-261-1111 FAX: 608-261-1112

MADISON CENTRAL
 PUBLIC LIBRARY
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

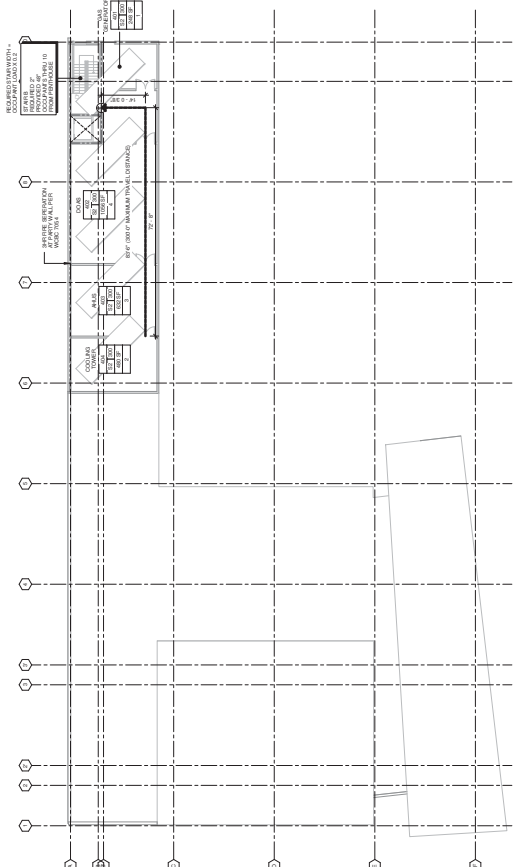
PREPARED BY: HEINEMAN ENGINEERING INC.
 CHECKED BY: P. J. HEINEMAN
 DATE: 11/23/2011
 PROJECT: MADISON CENTRAL PUBLIC LIBRARY
 SHEET: 01 OF 04

PROJECT NAME	MADISON CENTRAL PUBLIC LIBRARY
PROJECT NO.	2010041.00
DATE	11/23/2011
SCALE	AS SHOWN
DESIGNER	HEINEMAN ENGINEERING INC.
CHECKER	P. J. HEINEMAN
DATE	11/23/2011
PROJECT	MADISON CENTRAL PUBLIC LIBRARY
SHEET	01 OF 04

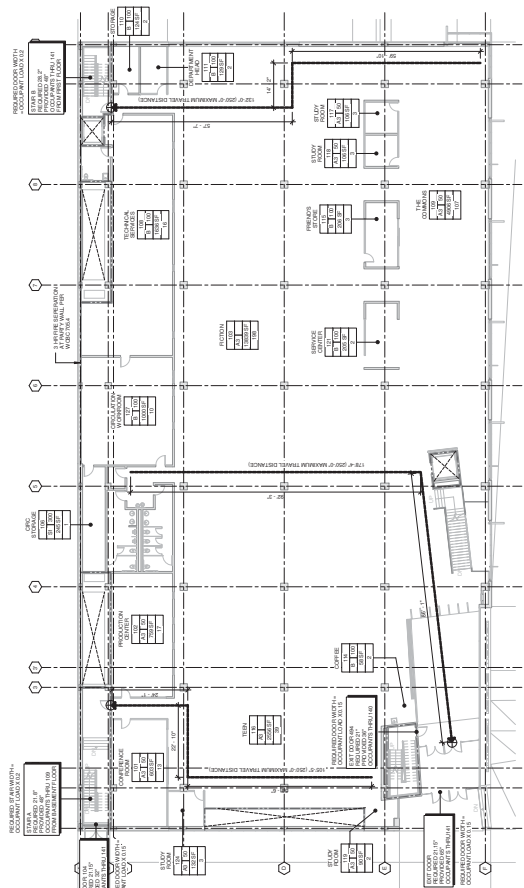
CODE PLAN
 G052



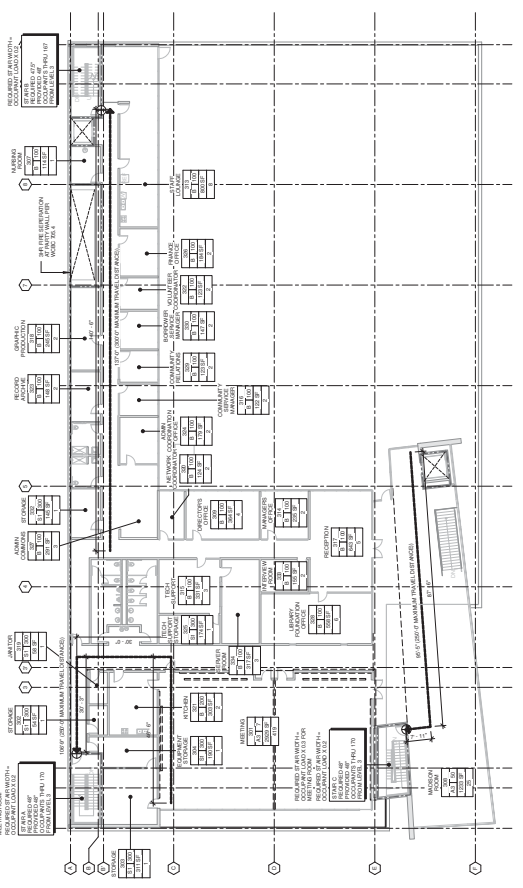
2. 2ND FLOOR CODE PLAN
SCALE: 1/8" = 1'-0"



4. PENTHOUSE CODE PLAN
SCALE: 1/8" = 1'-0"



1. 1ST FLOOR CODE PLAN
SCALE: 1/8" = 1'-0"



3. 3RD FLOOR CODE PLAN
SCALE: 1/8" = 1'-0"

NOT FOR CONSTRUCTION



FOSTER LAWSON
CORPORATE & COMMERCIAL
ARCHITECTURE & INTERIOR DESIGN
1100 WEST MILWAUKEE AVENUE, SUITE 400
MADISON, WI 53704
TEL: (608) 257-1234
WWW.FOSTERLAWSON.COM



Arnold and O'Sheridan Inc.
ENGINEERS AND SURVEYORS
1001 EAST WISCONSIN AVENUE
MADISON, WI 53704
TEL: (608) 257-1234
WWW.ARNOLOANDOSHERIDAN.COM

Henneman Engineering Inc.
ARCHITECTS
1001 EAST WISCONSIN AVENUE
MADISON, WI 53704
TEL: (608) 257-1234
WWW.HENNEMANENGINEERING.COM

PHONE: _____
PHONE: _____

**MADISON CENTRAL
PUBLIC LIBRARY
210 WEST MIFFLIN STREET
MADISON, WI 53703**

THIS DOCUMENT IS THE PROPERTY OF THE ARCHITECT. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR DISTRIBUTED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT.

OWNER: _____
ARCHITECT: _____
DATE: _____

PROJECT NAME	210 WEST MIFFLIN STREET
PROJECT NO.	AD100.1
DATE	01/11/2011
DESIGNER	FOSTER LAWSON
DRAWN BY	_____
CHECKED BY	_____
SCALE	AS SHOWN

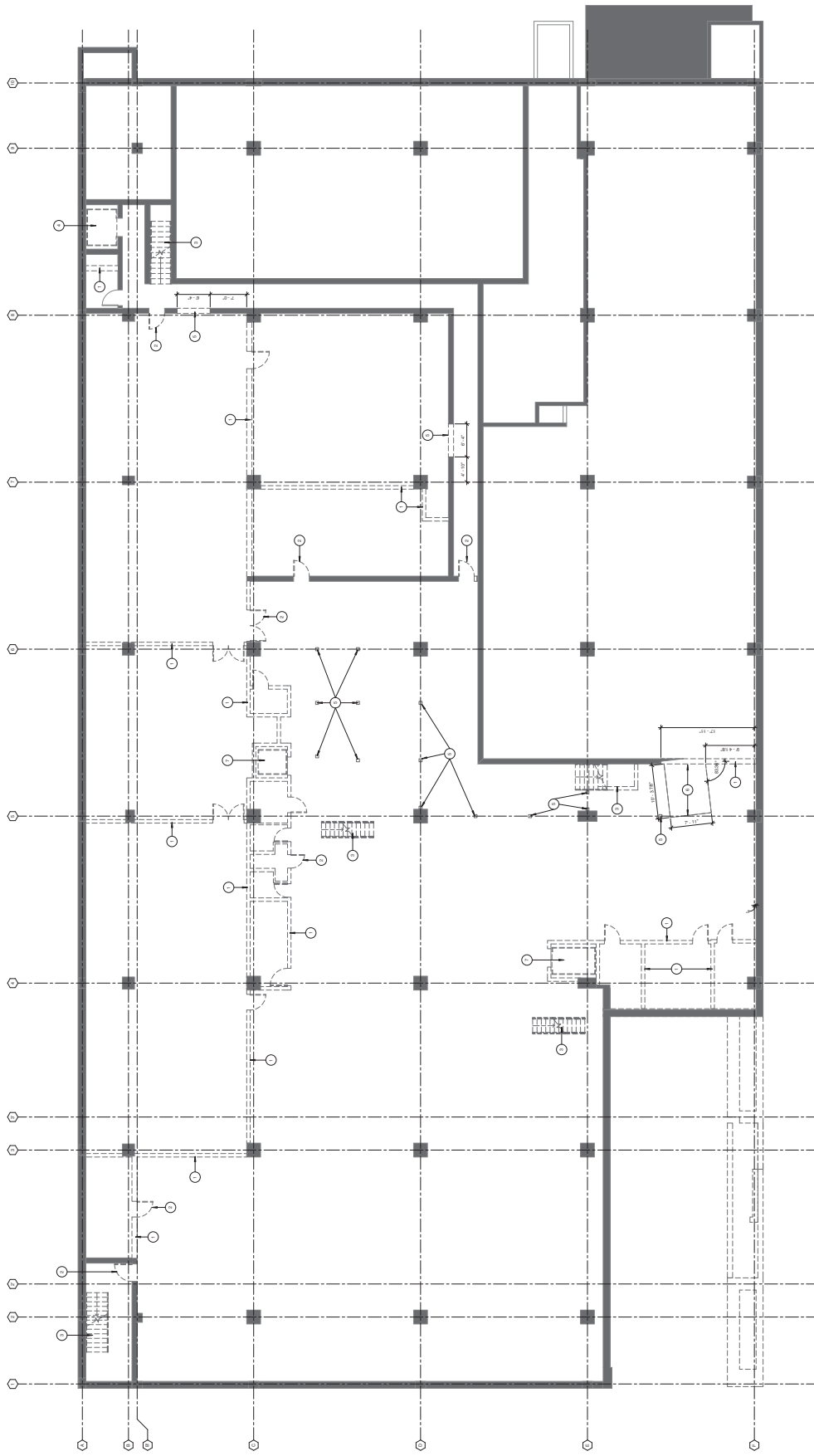
**BASEMENT FLOOR
DEMOLITION PLAN**

AD100.1

WALL AND PARTITION DEMOLITION KEY

- 1. PARTIAL DEMOLITION
- 2. FULL DEMOLITION
- 3. FULL DEMOLITION WITH RECONSTRUCTION
- 4. FULL DEMOLITION WITH RECONSTRUCTION AND FINISHES
- 5. FULL DEMOLITION WITH RECONSTRUCTION AND FINISHES AND MASONRY
- 6. FULL DEMOLITION WITH RECONSTRUCTION AND FINISHES AND MASONRY AND MECHANICAL
- 7. FULL DEMOLITION WITH RECONSTRUCTION AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL
- 8. FULL DEMOLITION WITH RECONSTRUCTION AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING
- 9. FULL DEMOLITION WITH RECONSTRUCTION AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC
- 10. FULL DEMOLITION WITH RECONSTRUCTION AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT
- 11. FULL DEMOLITION WITH RECONSTRUCTION AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK

NO.	DESCRIPTION
1	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS
2	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES
3	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY
4	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL
5	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL
6	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING
7	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC
8	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT
9	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK
10	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES
11	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE
12	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES
13	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS
14	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES
15	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES AND SOIL REMEDIATION
16	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES AND SOIL REMEDIATION AND DEMOLITION DEBRIS
17	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES AND SOIL REMEDIATION AND DEMOLITION DEBRIS AND RECYCLING
18	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES AND SOIL REMEDIATION AND DEMOLITION DEBRIS AND RECYCLING AND ENERGY EFFICIENCY
19	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES AND SOIL REMEDIATION AND DEMOLITION DEBRIS AND RECYCLING AND ENERGY EFFICIENCY AND SUSTAINABILITY
20	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES AND SOIL REMEDIATION AND DEMOLITION DEBRIS AND RECYCLING AND ENERGY EFFICIENCY AND SUSTAINABILITY AND WELL-BEING
21	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES AND SOIL REMEDIATION AND DEMOLITION DEBRIS AND RECYCLING AND ENERGY EFFICIENCY AND SUSTAINABILITY AND WELL-BEING AND COMMUNITY ENGAGEMENT
22	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES AND SOIL REMEDIATION AND DEMOLITION DEBRIS AND RECYCLING AND ENERGY EFFICIENCY AND SUSTAINABILITY AND WELL-BEING AND COMMUNITY ENGAGEMENT AND LEADERSHIP
23	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES AND SOIL REMEDIATION AND DEMOLITION DEBRIS AND RECYCLING AND ENERGY EFFICIENCY AND SUSTAINABILITY AND WELL-BEING AND COMMUNITY ENGAGEMENT AND LEADERSHIP AND INNOVATION
24	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES AND SOIL REMEDIATION AND DEMOLITION DEBRIS AND RECYCLING AND ENERGY EFFICIENCY AND SUSTAINABILITY AND WELL-BEING AND COMMUNITY ENGAGEMENT AND LEADERSHIP AND INNOVATION AND COLLABORATION
25	REMOVE EXISTING WALL AND RECONSTRUCT WITH CONCRETE AND Gypsum BOARD ON STUDS AND FINISHES AND MASONRY AND MECHANICAL AND ELECTRICAL AND PLUMBING AND HVAC AND PAVEMENT AND SITEWORK AND EXTERIOR FINISHES AND LANDSCAPE AND UTILITIES AND GRASS AND TREES AND SOIL REMEDIATION AND DEMOLITION DEBRIS AND RECYCLING AND ENERGY EFFICIENCY AND SUSTAINABILITY AND WELL-BEING AND COMMUNITY ENGAGEMENT AND LEADERSHIP AND INNOVATION AND COLLABORATION AND PARTNERSHIP



1 BASEMENT FLOOR DEMOLITION PLAN
AD100.1, 1/11/2011

NOT FOR CONSTRUCTION

MS R
Mechanical, Structural & Electrical
1101 North Lincoln Street, Suite 100
Madison, WI 53703
608.278.8888

Fotter Lawson
1101 North Lincoln Street, Suite 100
Madison, WI 53703
608.278.8888

ARNOLD AND O'SHERIDAN INC.
210 WEST WISCONSIN STREET
MADISON, WI 53703
608.278.8888

PHON: _____
PHON: _____

**MADISON CENTRAL
PUBLIC LIBRARY**
210 WEST WISCONSIN STREET
MADISON, WI 53703

Project Name: _____
Owner: _____
Date: _____
Scale: _____
Sheet No: _____
Total Sheets: _____

DESIGNED BY: _____
CHECKED BY: _____
DATE: _____

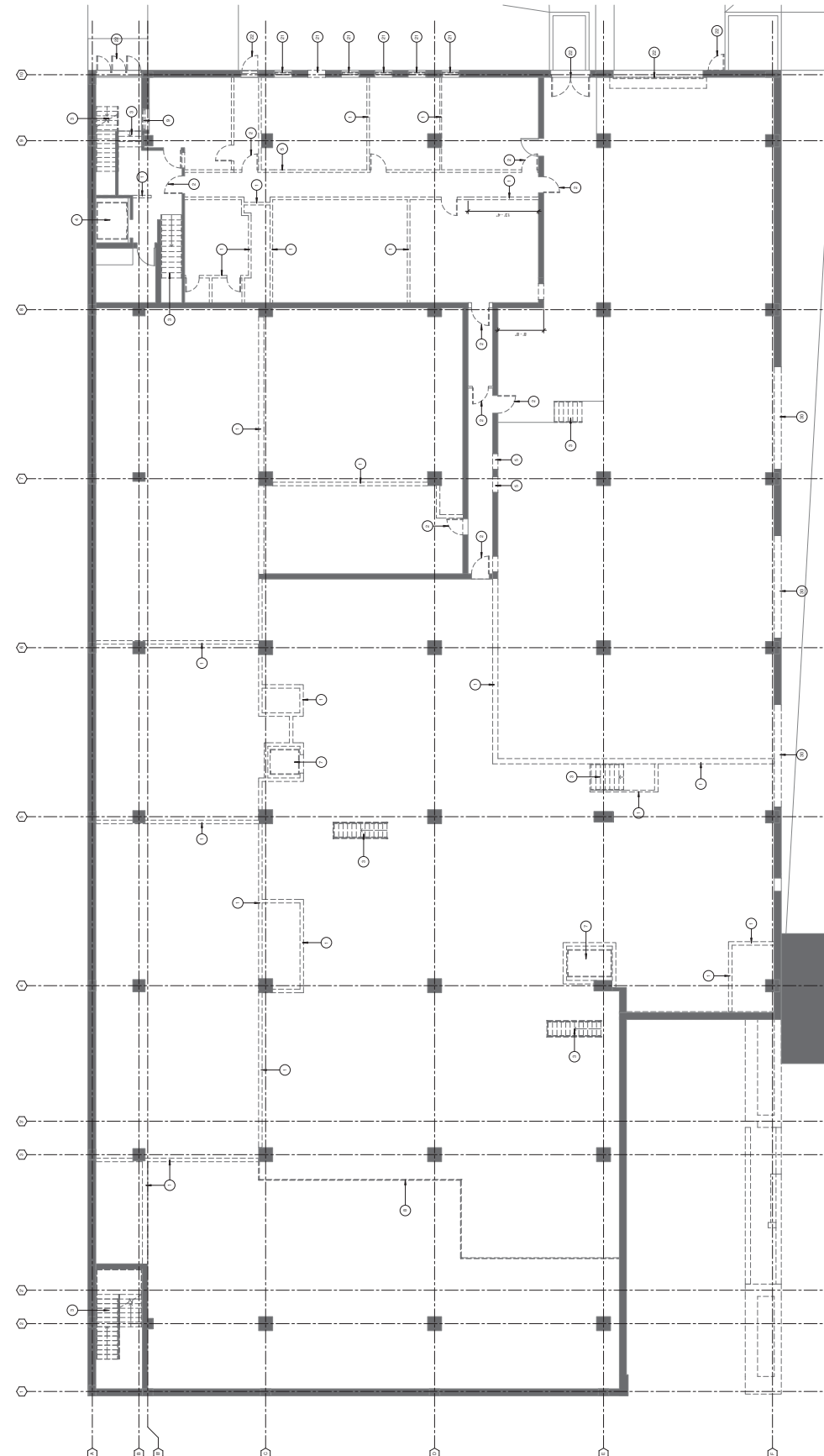
PROJECT NO.: 201041.00
PROJECT NAME: SCHEMATIC DESIGN
ARCHITECT: AJL/lor
OWNER: Madison Central Public Library

**GROUND FLOOR
DEMOLITION PLAN**

AD100.2

- WALL AND PARTITION DEMOLITION KEY**
- EXISTING WALLS AND PARTITIONS
 - WALLS TO BE REMOVED TO BE RELOCATED
- DEMOLITION GENERAL NOTES**
1. ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 2. ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 3. NOTIFY ALL AFFECTED AGENCIES AT LEAST 10 BUSINESS DAYS PRIOR TO THE START OF DEMOLITION.
 4. REMOVE EXISTING FLOOR FINISHES AND SHALL REMOVE ALL EXISTING PARTITIONS AND WALLS TO BE DEMOLISHED TO BE RELOCATED AT THE DEMOLITION CONTRACTOR'S DISCRETION.
 5. ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 6. ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 7. ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 8. ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 9. ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 10. ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 11. ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.

NO.	DESCRIPTION
1	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
2	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
3	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
4	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
5	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
6	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
7	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
8	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
9	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
10	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
11	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
12	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
13	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
14	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
15	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
16	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
17	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
18	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
19	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
20	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
21	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
22	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
23	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
24	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
25	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
26	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
27	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
28	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
29	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED
30	REMOVE EXISTING WALLS AND PARTITIONS TO BE RELOCATED TO BE RELOCATED



1 GROUND FLOOR DEMOLITION PLAN
AD100.2 1/8" = 1'-0"

NOT FOR CONSTRUCTION

MS R
 Mechanical, Electrical & Plumbing
 1000 W. KENNEDY BLVD. SUITE 100
 MILWAUKEE, WI 53234
 (414) 353-1111 FAX (414) 353-1112
 www.ms-r.com

FORSTER LAWSON
 ARCHITECTS & INTERIORS
 1000 W. KENNEDY BLVD. SUITE 100
 MILWAUKEE, WI 53234
 (414) 353-1111 FAX (414) 353-1112
 www.forsterlawson.com

ARNOLD AND SHERIDAN INC.
 ENGINEERS, ARCHITECTS & INTERIORS
 1000 W. KENNEDY BLVD. SUITE 100
 MILWAUKEE, WI 53234
 (414) 353-1111 FAX (414) 353-1112
 www.arnoldandsheridan.com

Hammett Engineering Inc.
 ENGINEERS
 1000 W. KENNEDY BLVD. SUITE 100
 MILWAUKEE, WI 53234
 (414) 353-1111 FAX (414) 353-1112
 www.hammetteng.com

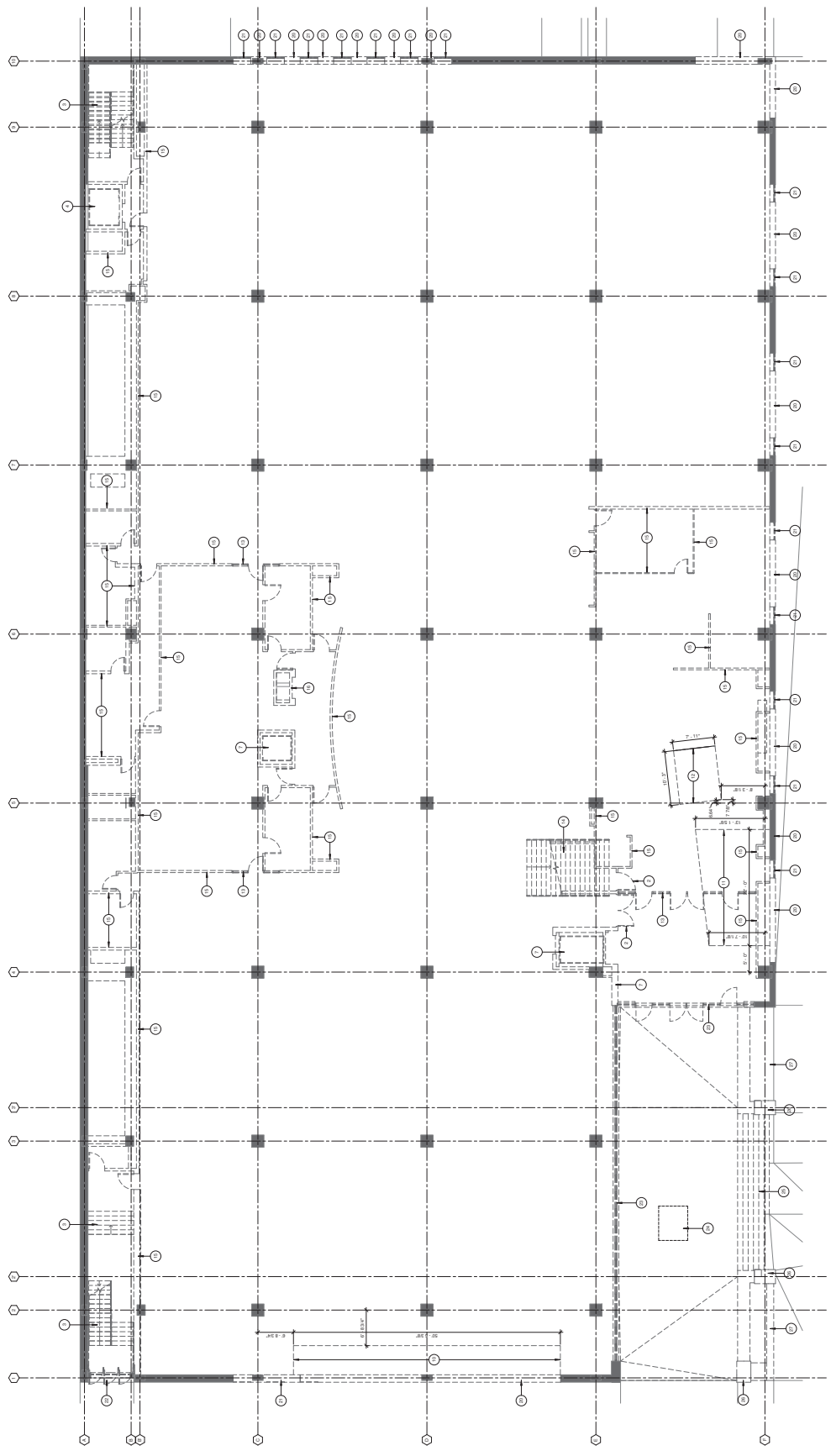
**MADISON CENTRAL
 PUBLIC LIBRARY**
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

PROJECT NO. 2010041.00
 PROJECT NAME: SCHEMATIC DESIGN
 DATE: 11/22/2011 10:00 AM
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 PROJECT LOCATION: [Address]
 CLIENT: [Name]
 PROJECT NO. 2010041.00
 PROJECT NAME: SCHEMATIC DESIGN
 DATE: 11/22/2011 10:00 AM
 DRAWN BY: [Name]
 CHECKED BY: [Name]
 PROJECT LOCATION: [Address]
 CLIENT: [Name]

1ST FLOOR DEMOLITION PLAN

AD101

- WALL AND PARTITION DEMOLITION KEY:**
- WALL AND PARTITION TO BE DEMOLISHED
 - WALL AND PARTITION TO BE REMOVED
- DEMOLITION GENERAL NOTES:**
1. REFER TO ALL OTHER DRAWINGS FOR ALL DEMOLITION INFORMATION.
 2. EXISTING PERMITS SUBJECT TO BE REMOVED BY THE OWNER PRIOR TO DEMOLITION.
 3. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 4. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 5. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 6. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 7. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 8. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 9. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 10. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 11. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 12. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 13. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 14. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 15. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 16. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 17. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 18. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 19. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.
 20. ALL DEMOLITION SHALL BE IN ACCORDANCE WITH THE CITY OF MADISON DEMOLITION ORDINANCE.



1 1ST FLOOR DEMOLITION PLAN
 AD101 1/8" = 1'-0"

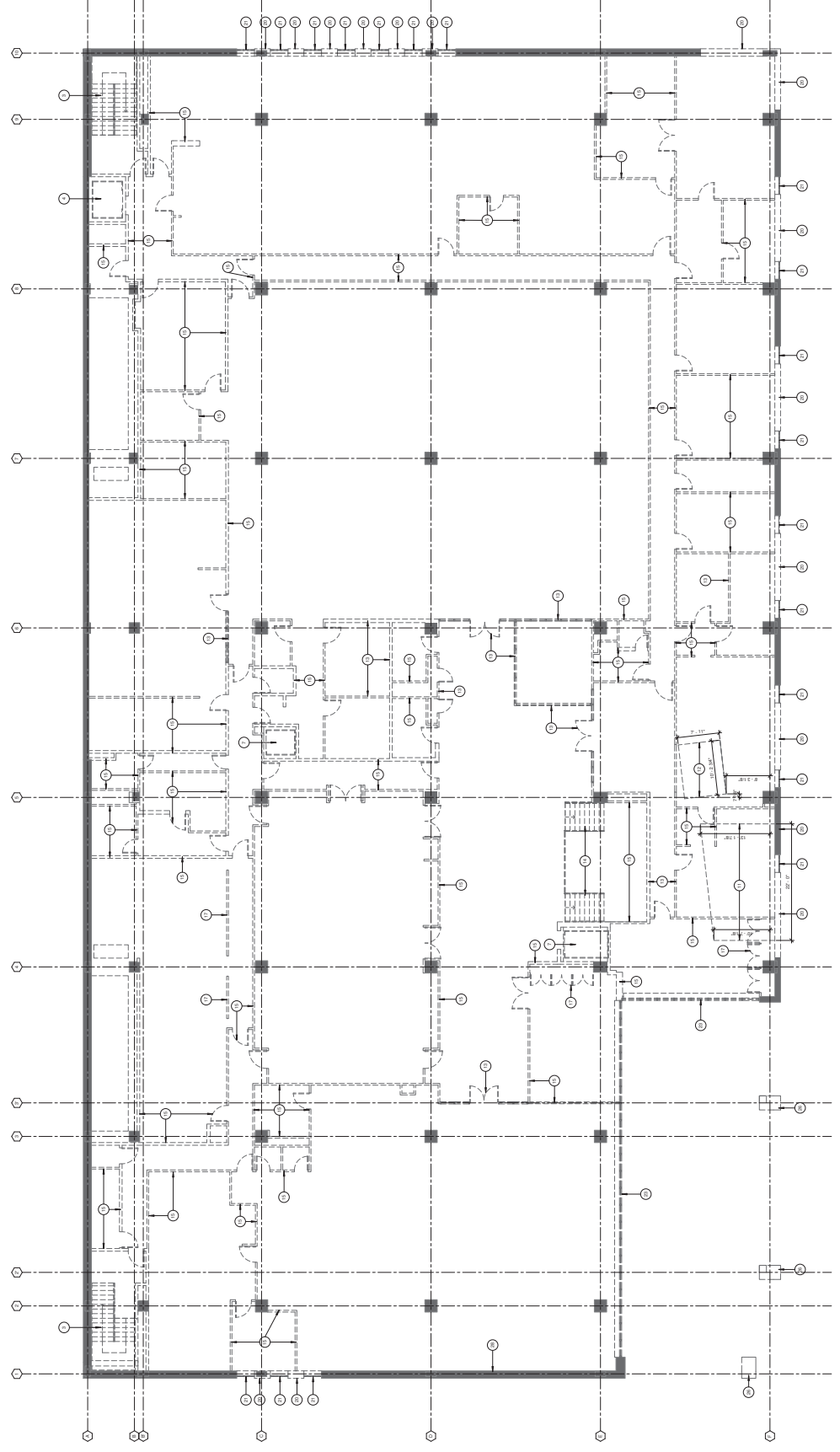
NOT FOR CONSTRUCTION

WALL AND PARTITION DEMOLITION KEY

- 1. EXISTING WALLS TO REMAIN (DASHED LINE)
- 2. NEW WALLS TO BE CONSTRUCTED (SOLID LINE)
- 3. WALLS TO BE DEMOLISHED (DOTTED LINE)
- 4. WALLS TO BE REMOVED AND REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES)
- 5. PARTITION WALLS TO REMAIN (DASHED LINE WITH CIRCLES)
- 6. PARTITION WALLS TO BE DEMOLISHED (DOTTED LINE WITH CIRCLES)
- 7. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND DASHED LINE)
- 8. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND DOTTED LINE)
- 9. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 10. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 11. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 12. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 13. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 14. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 15. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 16. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 17. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 18. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 19. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 20. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 21. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 22. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 23. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 24. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 25. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 26. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 27. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 28. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 29. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)
- 30. PARTITION WALLS TO BE REPLACED WITH GLASS CURTAIN WALL (DOTTED LINE WITH CIRCLES AND SOLID LINE)

DEMOLITION GENERAL NOTES

1. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
2. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
3. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
4. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
5. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
6. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
7. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
8. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
9. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
10. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
11. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
12. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
13. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
14. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
15. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
16. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
17. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
18. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
19. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
20. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
21. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
22. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
23. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
24. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
25. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
26. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
27. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
28. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
29. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.
30. VERIFY ALL FIELD CONDITIONS OF EXISTING WORK AT THE TIME OF DEMOLITION.



1 2ND FLOOR DEMOLITION PLAN
AD102 1/8" = 1'-0"

NOT FOR CONSTRUCTION

MS R
Mechanical & Electrical Consulting Engineers Ltd.
1200 WEST 1ST STREET, 3RD FLOOR
WATERLOO, ONTARIO N2L 2K6
TEL: (519) 243-7373
FAX: (519) 243-7374
WWW.MSRCONSULTING.COM

FORTE JAWSON
200 WORTLEY STREET
WATERLOO, ONTARIO
N2L 2K9
TEL: (519) 243-7373
FAX: (519) 243-7374
WWW.FORTEJAWSON.COM

ARNOLD AND SHERIDAN INC.
210 WEST MIFFLIN STREET
MADISON, WISCONSIN 53703
TEL: (608) 241-2121
FAX: (608) 241-2122
WWW.ASINC.COM

Hammett Engineering Inc.
1100 W. UNIVERSITY AVENUE
WATERLOO, ONTARIO N2L 2K5
TEL: (519) 243-7373
FAX: (519) 243-7374
WWW.HAMMETTENGINEERING.COM

MADISON CENTRAL PUBLIC LIBRARY
210 WEST MIFFLIN STREET
MADISON, WI 53703

PROJECT NO. _____
DATE: _____
SCALE: _____
SHEET NO. _____ OF _____
PROJECT TITLE: 2ND FLOOR DEMOLITION PLAN
PROJECT LOCATION: 210 WEST MIFFLIN STREET, MADISON, WI 53703
PROJECT OWNER: MADISON CENTRAL PUBLIC LIBRARY
DESIGNED BY: ARCHITECT
CHECKED BY: ARCHITECT
DATE: _____

2ND FLOOR DEMOLITION PLAN
AD102

M.S. R.
Mechanical & Structural
Engineering & Construction
1100 North Lincoln Street
Milwaukee, WI 53204
414.962.1111

FOSTER LAWSON
DUAL PROJECTS ELECTROCA
11400 WISCONSIN DRIVE
MILWAUKEE, WI 53226
414.232.4400

ARNOLD AND O'SHEER
ARCHITECTS
1110 WISCONSIN DRIVE
MILWAUKEE, WI 53226
414.232.4400

Hazenandz Engineering Inc.
1110 WISCONSIN DRIVE
MILWAUKEE, WI 53226
414.232.4400

PROJECT NO. 201004.10

DATE: 11.22.2010

PROJECT: SCHEMATIC DESIGN

AUTHOR: J. [unclear]

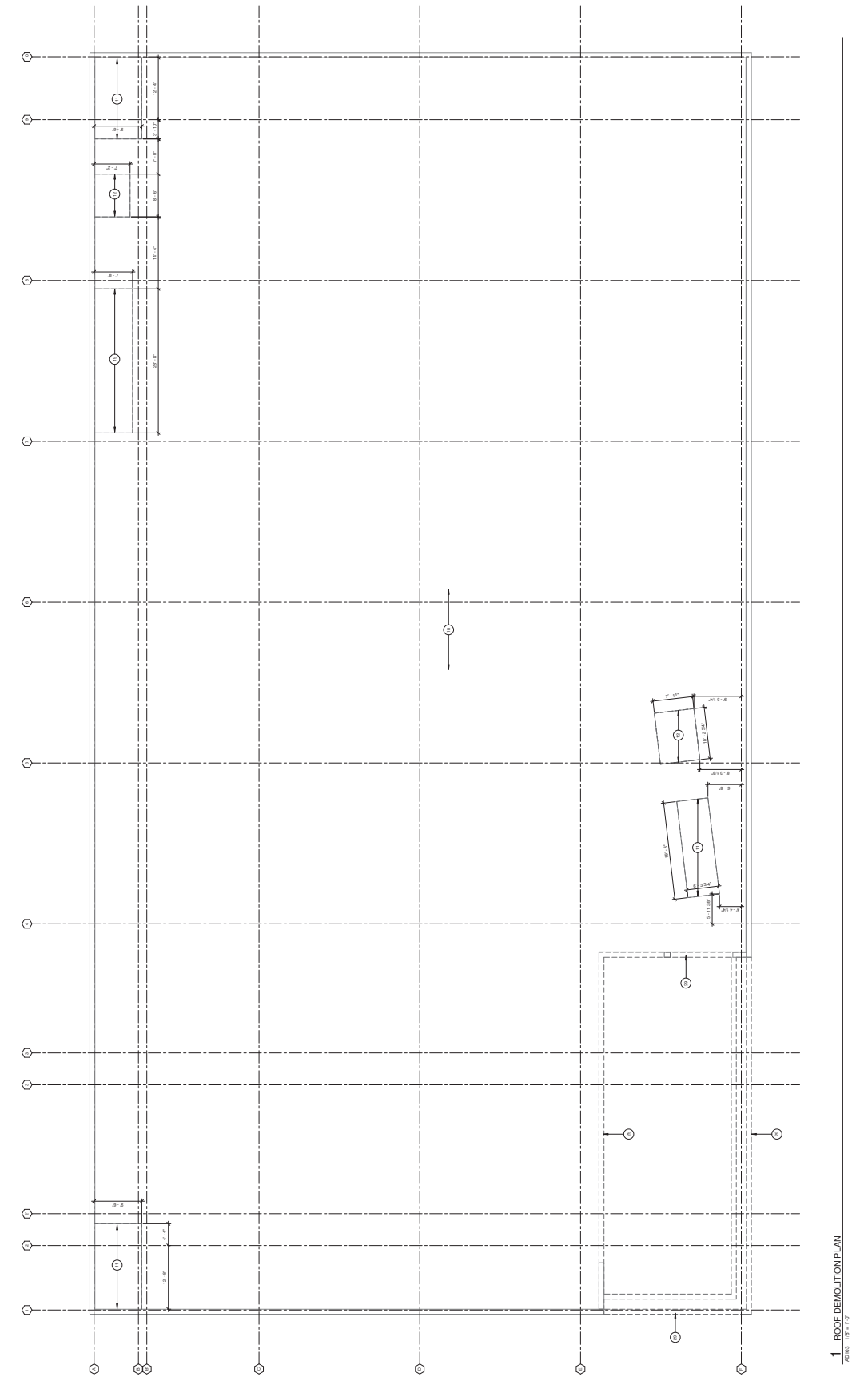
CHECKER: [unclear]

100% ROOF DEMOLITION PLAN

AD103

DEMOLITION GENERAL NOTES

- REFER DRAWING SET FOR THE SCOPE OF EXISTING WALL DEMOLITION
- DEMOLITION SUBJECT TO BE DEMOLISHED BY THE CONTRACTOR SHALL BE INDICATED BY THE SHOWN HATCHING.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- ALL EXISTING DEMOLITION SHALL BE DEMOLISHED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.
- DEMOLITION SHALL BE COMPLETED AND ALL DEBRIS TO BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR.

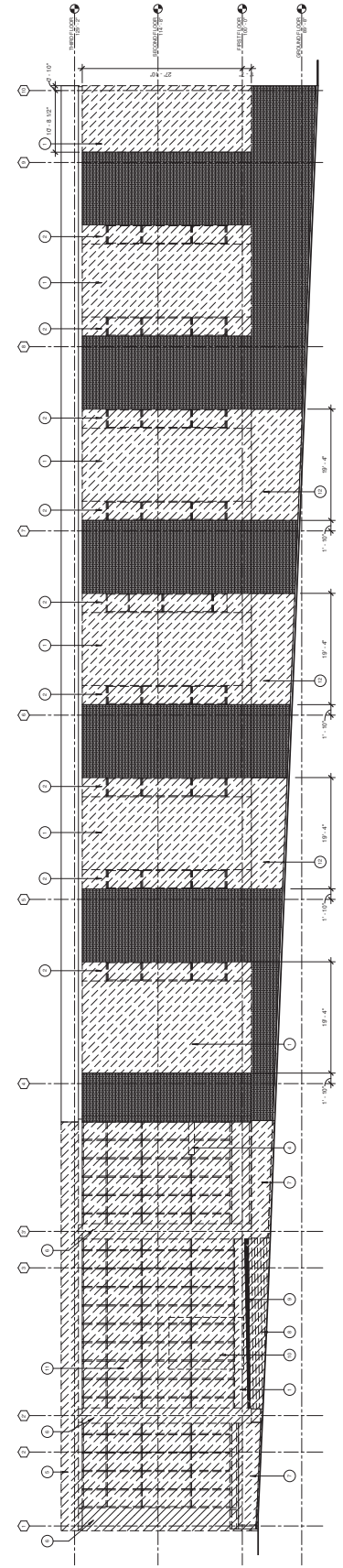
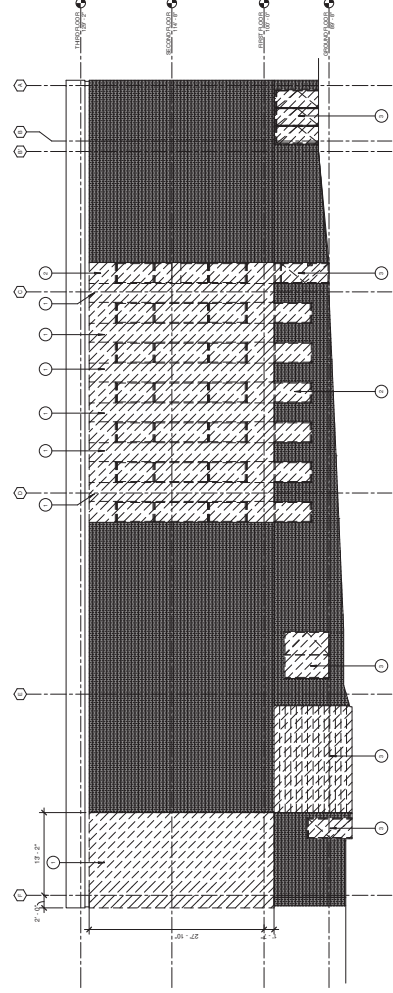
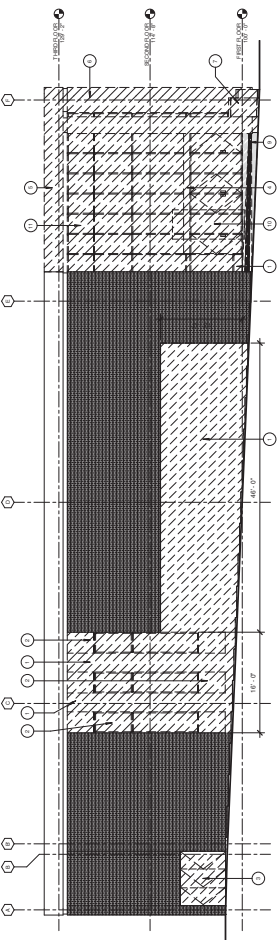


1 ROOF DEMOLITION PLAN
AD103 1/8" = 1'-0"

NOT FOR CONSTRUCTION

MADISON CENTRAL PUBLIC LIBRARY
210 WEST MIFFLIN STREET
MADISON, WI 53703

- WALL AND PARTITION DEMOLITION KEY**
- EXISTING WALLS AND PARTITIONS
WALLS AND PARTITIONS TO BE DEMOLISHED
- DEMOLITION GENERAL NOTES**
- REFER TO ARCHITECT'S NOTES FOR THE SCOPE OF EXTERIOR DEMOLITION.
 - EXISTING ITEM SUBJECT TO BE DEMOLISHED SHOWN DIFFERENT THAN SHOWN ON PLAN IF FIELD CONDITIONS ARE DIFFERENT THAN SHOWN ON PLAN.
 - ALL ITEMS INDICATED TO BE DEMOLISHED AND REMOVED TO BE PROTECTED LOCATION FOR REUSE.
 - ALL ITEMS INDICATED TO REMAIN ON BALCONY PLATFORM TO BE DEMOLISHED SHALL BE DEMOLISHED PER ARCHITECT'S INTENT.
 - REMOVE EXISTING PARTITION WALLS.
 - REMOVE EXISTING PARTITION WALLS TO EXPOSE REBAR.
 - REMOVE EXISTING PARTITION WALLS TO EXPOSE REBAR.
 - REMOVE EXISTING PARTITION WALLS TO EXPOSE REBAR.
 - REMOVE EXISTING PARTITION WALLS TO EXPOSE REBAR.
 - REMOVE EXISTING PARTITION WALLS TO EXPOSE REBAR.
 - REMOVE EXISTING PARTITION WALLS TO EXPOSE REBAR.
 - REMOVE EXISTING PARTITION WALLS TO EXPOSE REBAR.
 - REMOVE EXISTING PARTITION WALLS TO EXPOSE REBAR.
 - REMOVE EXISTING PARTITION WALLS TO EXPOSE REBAR.
 - REMOVE EXISTING PARTITION WALLS TO EXPOSE REBAR.



3 NORTH DEMOLITION ELEVATION
ASBORN 1/8" = 1'-0"

MS R
MECHANICAL, ELECTRICAL & PLUMBING CONTRACTORS
1000 W. WISCONSIN STREET, SUITE 100
MADISON, WI 53703
TEL: 608.261.1111 FAX: 608.261.1112
WWW.MSRCONSULTANTS.COM

FOSTER LAWSON
ARCHITECTS & INTERIORS
1000 W. WISCONSIN STREET, SUITE 100
MADISON, WI 53703
TEL: 608.261.1111 FAX: 608.261.1112
WWW.FOSTERLAWSON.COM

ARNOLD AND OSHERIDAN INC.
GENERAL CONTRACTORS
1000 W. WISCONSIN STREET, SUITE 100
MADISON, WI 53703
TEL: 608.261.1111 FAX: 608.261.1112
WWW.AOSCONTRACTORS.COM

Heinen Engineering Inc.
1000 W. WISCONSIN STREET, SUITE 100
MADISON, WI 53703
TEL: 608.261.1111 FAX: 608.261.1112
WWW.HEINENENGINEERING.COM

PHONE

PHONE

MADISON CENTRAL PUBLIC LIBRARY
210 WEST WIFFIN STREET
MADISON, WI 53703

PROJECT NO. 2010.10.03
PROJECT NAME SCHEMATIC DESIGN
OWNER Madison Public Library
ARCHITECT Foster Lawson
DATE 10/20/10

DESIGNED BY
CHECKED BY
DATE

PROJECT NO. 2010.10.03
PROJECT NAME SCHEMATIC DESIGN
OWNER Madison Public Library
ARCHITECT Foster Lawson
DATE 10/20/10

AD201

EXTERIOR DEMOLITION ELEVATIONS

NOT FOR CONSTRUCTION



1001 WORTHINGTON BLVD
Potter Lawson
 1001 WORTHINGTON BLVD
 WASHINGTON, DC 20007-1001
 (202) 462-1000
 FAX (202) 462-1001
 www.potterlawson.com



ARNOLD AND
 SHERIDAN INC
 ARCHITECTS
 1001 WORTHINGTON BLVD
 WASHINGTON, DC 20007-1001
 (202) 462-1000
 FAX (202) 462-1001
 www.arnoldsheridan.com



MECHANICAL
Henneman Engineering Inc.
 1001 WORTHINGTON BLVD
 WASHINGTON, DC 20007-1001
 (202) 462-1000
 FAX (202) 462-1001
 www.hennemaneng.com

PHONE

PHONE

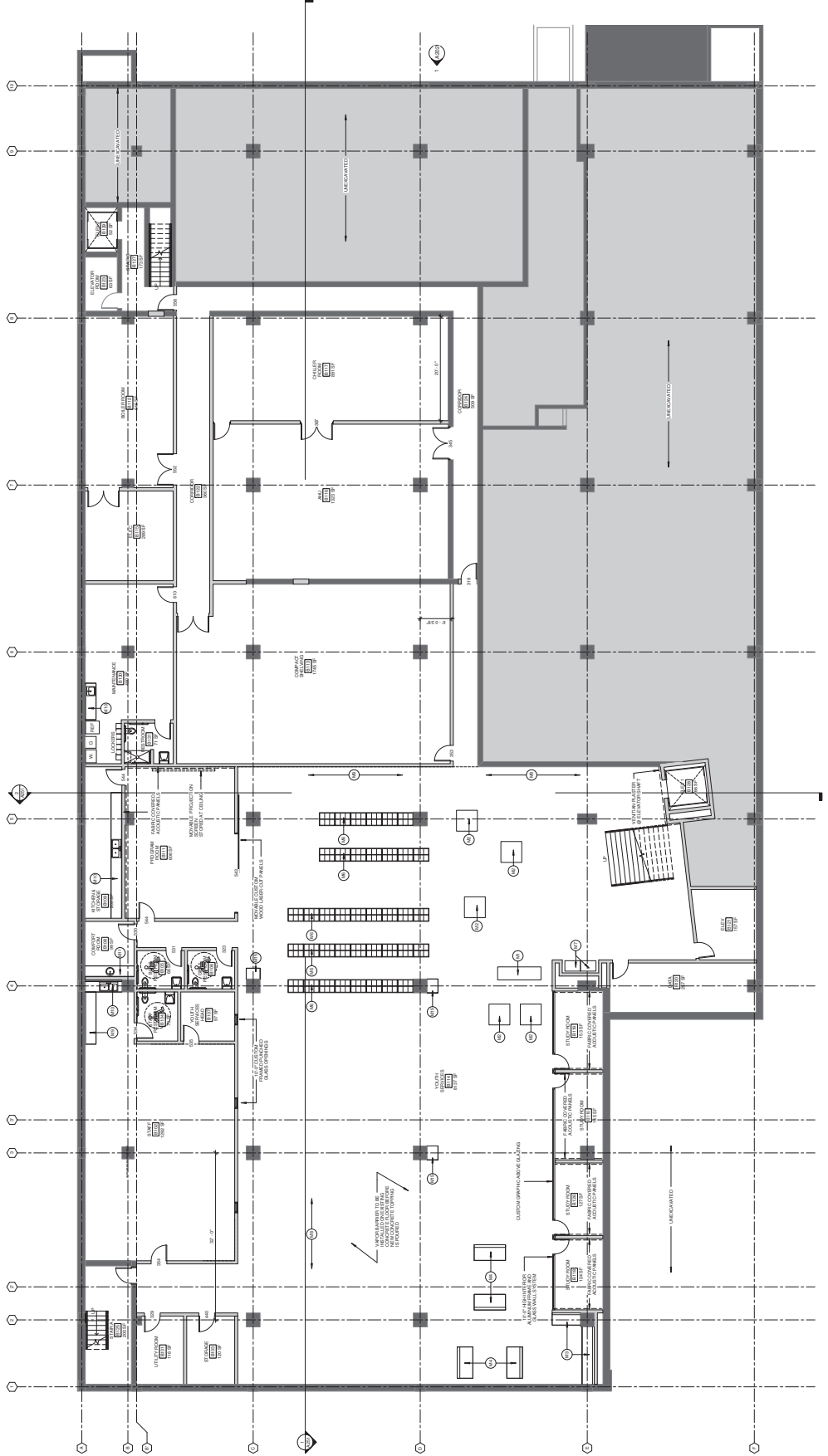
**MADISON CENTRAL
 PUBLIC LIBRARY**
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

THIS DOCUMENT IS THE PROPERTY OF POTTER LAWSON ARCHITECTS AND ENGINEERS. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF POTTER LAWSON ARCHITECTS AND ENGINEERS.

DATE	11.22.2011	BY	PROJ
PROJECT	MADISON CENTRAL PUBLIC LIBRARY		
PROJECT NO.	20110411.00		
DESIGNER	SCHEMATIC DESIGN		
DRAWN BY	AJL/for		
CHECKED BY	C/for		
DATE	11.22.2011		

**BASEMENT FLOOR
 PLAN**

A100.1



1 BASEMENT FLOOR PLAN
 A100.1, 11/22/11

1	REVISION	DATE
2	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
3	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
4	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
5	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
6	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
7	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
8	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
9	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
10	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
11	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
12	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
13	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
14	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
15	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
16	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
17	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
18	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
19	ADD STAIRS TO EXISTING STAIRWELL	11/22/11
20	ADD STAIRS TO EXISTING STAIRWELL	11/22/11

NOT FOR CONSTRUCTION



DAVID POTTER & ASSOCIATES
Potter Lawson
 ARCHITECTS
 100 W. WISCONSIN ST. 10TH FLOOR
 MILWAUKEE, WI 53233



Arnold and O'Sheridan Inc.
 MECHANICAL ENGINEERS
 100 W. WISCONSIN ST. 10TH FLOOR
 MILWAUKEE, WI 53233



Momentum Engineering Inc.
 MECHANICAL ENGINEERS
 100 W. WISCONSIN ST. 10TH FLOOR
 MILWAUKEE, WI 53233

MADISON CENTRAL
 PUBLIC LIBRARY
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

THIS DOCUMENT IS THE PROPERTY OF THE ARCHITECT AND IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

PROJECT	MADISON CENTRAL PUBLIC LIBRARY
DATE	10/10/10
DRAWN BY	MSR
CHECKED BY	MSR
DATE	10/10/10
SCALE	AS SHOWN

PROJECT NO. 2010041.00
 PROJECT NAME SCHEMATIC DESIGN
 DRAWING NO. 100-01
 DATE 10/10/10

PROJECT LOCATION
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

PROJECT OWNER
 MADISON CENTRAL PUBLIC LIBRARY

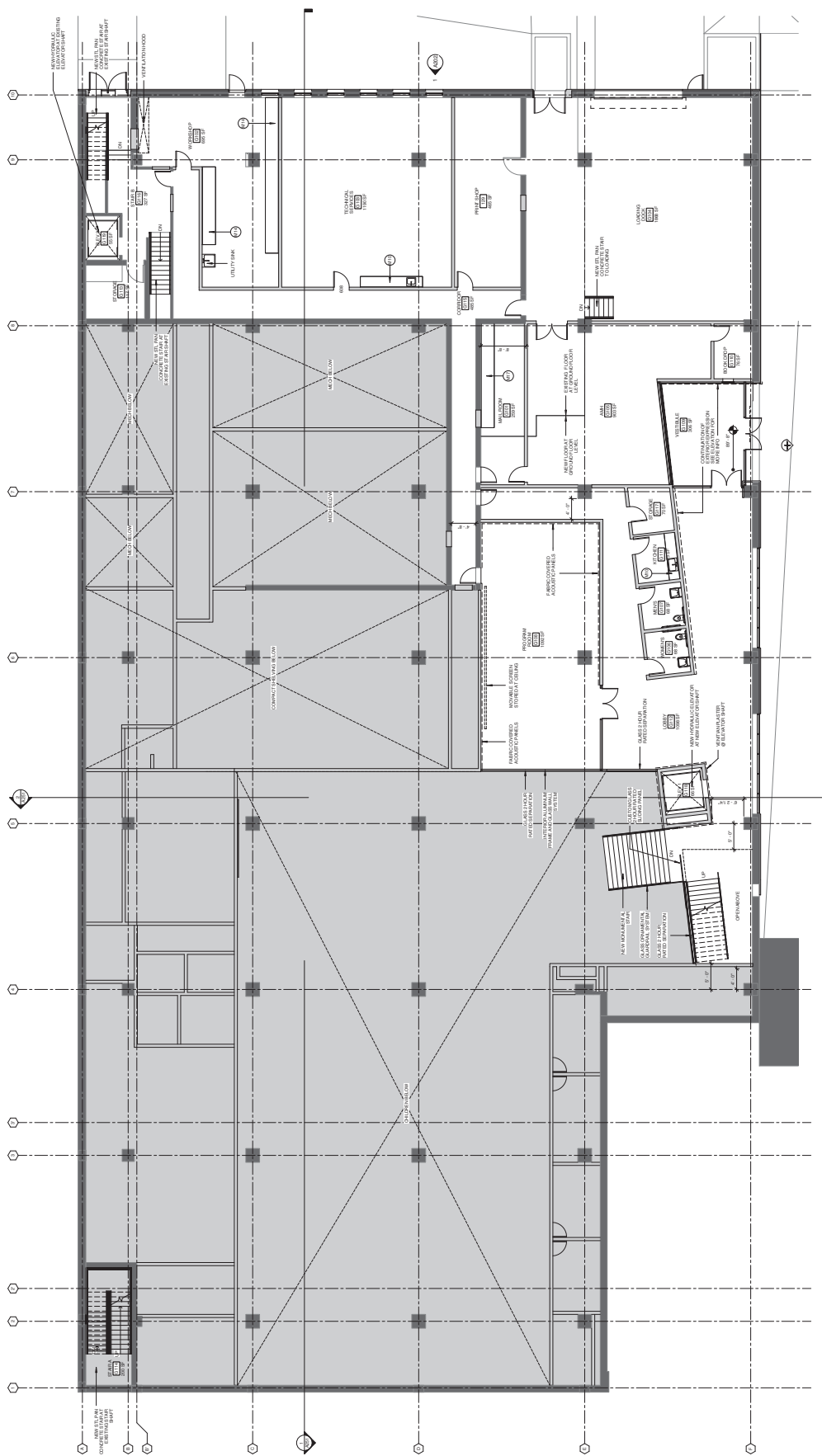
PROJECT ARCHITECT
 POTTER LAWSON

PROJECT MECHANICAL ENGINEER
 MOMENTUM ENGINEERING INC.

PROJECT ELECTRICAL ENGINEER
 ARNOLD AND OSHERIDAN INC.

GROUND FLOOR PLAN

A100.2



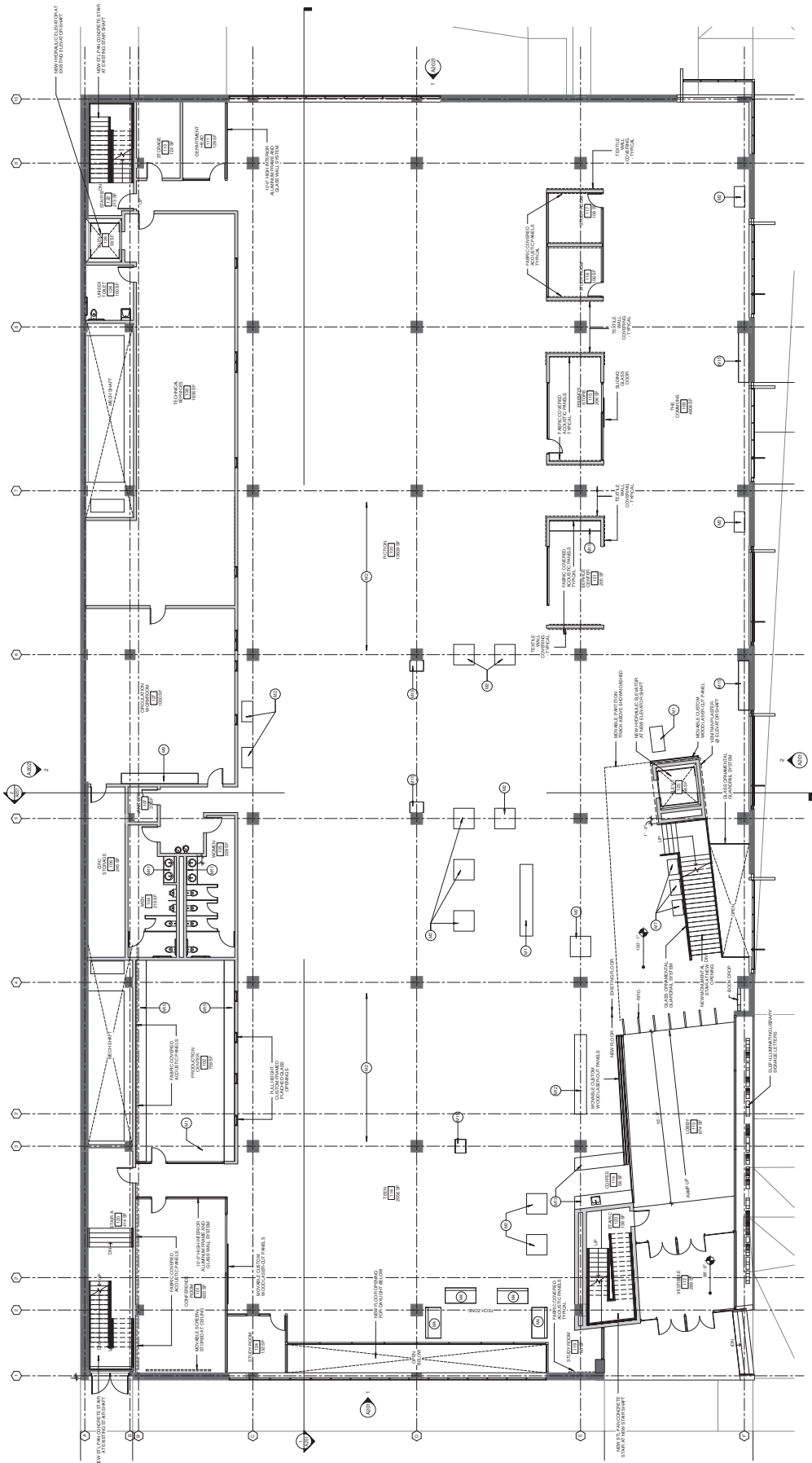
1. GROUND FLOOR PLAN
 A100.2 1/8" = 1'-0"

NO.	REVISION	DATE
1	ISSUE FOR PERMITS	10/10/10
2	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
3	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
4	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
5	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
6	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
7	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
8	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
9	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
10	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
11	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
12	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
13	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
14	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
15	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
16	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
17	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
18	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
19	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10
20	REVISED PER COMMENTS FROM THE CITY OF MADISON	10/10/10

NOT FOR CONSTRUCTION

NO.	DESCRIPTION
1	1ST FLOOR PLAN

NOT FOR CONSTRUCTION



1 1ST FLOOR PLAN
 A101 - 1/8" = 1'-0"

1	1ST FLOOR PLAN
2	2ND FLOOR PLAN
3	3RD FLOOR PLAN
4	4TH FLOOR PLAN
5	MECHANICAL PLAN
6	ELECTRICAL PLAN
7	PLUMBING PLAN
8	EXTERIOR ELEVATIONS
9	INTERIOR ELEVATIONS
10	SECTION CUTS
11	DETAILS
12	GENERAL NOTES
13	CONTRACT DOCUMENTS
14	PERMITS
15	AS-BUILT DRAWINGS
16	CONSTRUCTION LOG
17	MEETING MINUTES
18	CHANGE ORDERS
19	PROJECT CLOSEOUT
20	WARRANTY





1001 WORTH ST. SUITE 200
Potter Lawson
 1001 WORTH ST. SUITE 200
 MADISON, WI 53703
 (608) 261-1111
 FAX (608) 261-1112
 www.potterlawson.com



Arnold and O'Sheridan Inc.
 1001 WORTH ST. SUITE 200
 MADISON, WI 53703
 (608) 261-1111
 FAX (608) 261-1112
 www.arnoldosheridan.com



Henneman Engineering Inc.
 1001 WORTH ST. SUITE 200
 MADISON, WI 53703
 (608) 261-1111
 FAX (608) 261-1112
 www.hennemaneng.com

PHONE

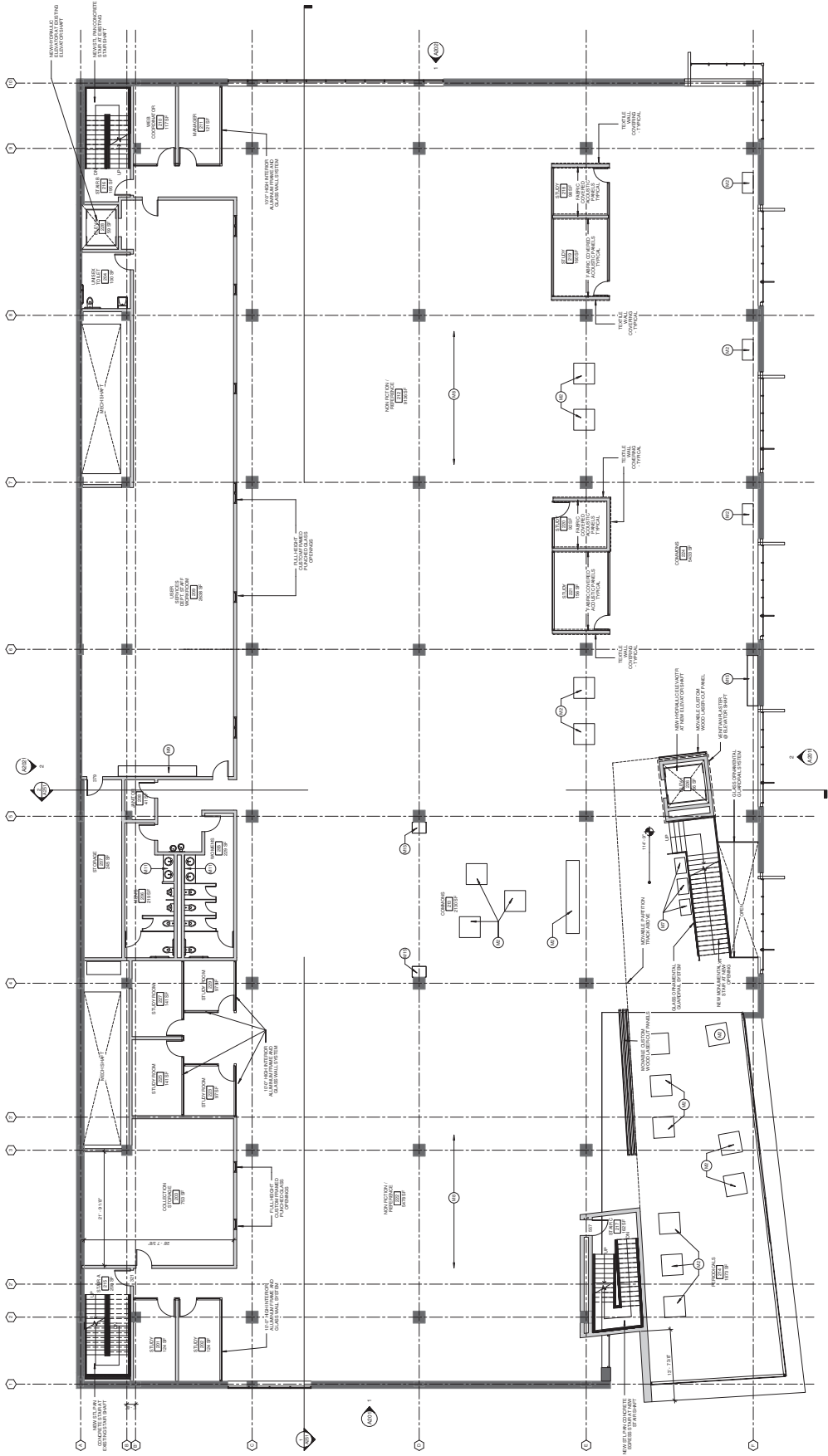
PHONE

**MADISON CENTRAL
 PUBLIC LIBRARY**
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

THIS DOCUMENT IS THE PROPERTY OF POTTER LAWSON AND ASSOCIATES, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF POTTER LAWSON AND ASSOCIATES, INC.

DATE	11.22.2011	BY	PROJ/ISSUE
PROJECT	20110411.03	DESIGNED BY	
PROJECT/DATE	SCHEMATIC DESIGN	CHECKED BY	
DRAWN BY	ALJ/DF	DATE	

2ND FLOOR PLAN
A102



1 2ND FLOOR PLAN
 A102 1/8" = 1'-0"

NO.	REVISION
01	ISSUE FOR PERMIT
02	REVISED TO SHOW NEW STAIRS AND ELEVATOR
03	REVISED TO SHOW NEW STAIRS AND ELEVATOR
04	REVISED TO SHOW NEW STAIRS AND ELEVATOR
05	REVISED TO SHOW NEW STAIRS AND ELEVATOR
06	REVISED TO SHOW NEW STAIRS AND ELEVATOR
07	REVISED TO SHOW NEW STAIRS AND ELEVATOR
08	REVISED TO SHOW NEW STAIRS AND ELEVATOR
09	REVISED TO SHOW NEW STAIRS AND ELEVATOR
10	REVISED TO SHOW NEW STAIRS AND ELEVATOR
11	REVISED TO SHOW NEW STAIRS AND ELEVATOR
12	REVISED TO SHOW NEW STAIRS AND ELEVATOR
13	REVISED TO SHOW NEW STAIRS AND ELEVATOR
14	REVISED TO SHOW NEW STAIRS AND ELEVATOR
15	REVISED TO SHOW NEW STAIRS AND ELEVATOR
16	REVISED TO SHOW NEW STAIRS AND ELEVATOR
17	REVISED TO SHOW NEW STAIRS AND ELEVATOR
18	REVISED TO SHOW NEW STAIRS AND ELEVATOR
19	REVISED TO SHOW NEW STAIRS AND ELEVATOR
20	REVISED TO SHOW NEW STAIRS AND ELEVATOR
21	REVISED TO SHOW NEW STAIRS AND ELEVATOR
22	REVISED TO SHOW NEW STAIRS AND ELEVATOR
23	REVISED TO SHOW NEW STAIRS AND ELEVATOR
24	REVISED TO SHOW NEW STAIRS AND ELEVATOR
25	REVISED TO SHOW NEW STAIRS AND ELEVATOR
26	REVISED TO SHOW NEW STAIRS AND ELEVATOR
27	REVISED TO SHOW NEW STAIRS AND ELEVATOR
28	REVISED TO SHOW NEW STAIRS AND ELEVATOR
29	REVISED TO SHOW NEW STAIRS AND ELEVATOR
30	REVISED TO SHOW NEW STAIRS AND ELEVATOR
31	REVISED TO SHOW NEW STAIRS AND ELEVATOR
32	REVISED TO SHOW NEW STAIRS AND ELEVATOR
33	REVISED TO SHOW NEW STAIRS AND ELEVATOR
34	REVISED TO SHOW NEW STAIRS AND ELEVATOR
35	REVISED TO SHOW NEW STAIRS AND ELEVATOR
36	REVISED TO SHOW NEW STAIRS AND ELEVATOR
37	REVISED TO SHOW NEW STAIRS AND ELEVATOR
38	REVISED TO SHOW NEW STAIRS AND ELEVATOR
39	REVISED TO SHOW NEW STAIRS AND ELEVATOR
40	REVISED TO SHOW NEW STAIRS AND ELEVATOR
41	REVISED TO SHOW NEW STAIRS AND ELEVATOR
42	REVISED TO SHOW NEW STAIRS AND ELEVATOR
43	REVISED TO SHOW NEW STAIRS AND ELEVATOR
44	REVISED TO SHOW NEW STAIRS AND ELEVATOR
45	REVISED TO SHOW NEW STAIRS AND ELEVATOR
46	REVISED TO SHOW NEW STAIRS AND ELEVATOR
47	REVISED TO SHOW NEW STAIRS AND ELEVATOR
48	REVISED TO SHOW NEW STAIRS AND ELEVATOR
49	REVISED TO SHOW NEW STAIRS AND ELEVATOR
50	REVISED TO SHOW NEW STAIRS AND ELEVATOR

NOT FOR CONSTRUCTION

MS R
 Mechanical, Electrical & Plumbing
 11100 W. Higgins Road, Suite 100
 Chicago, IL 60642
 (773) 424-4444
 www.msra.com

Potter Lawson
 ARCHITECTS
 11100 W. Higgins Road, Suite 100
 Chicago, IL 60642
 (773) 424-4444
 www.potterlawson.com

ARNOLD AND SHERIDAN INC.
 CONSULTING ENGINEERS
 11100 W. Higgins Road, Suite 100
 Chicago, IL 60642
 (773) 424-4444
 www.arnoldsheridan.com

Heinen Engineering Inc.
 11100 W. Higgins Road, Suite 100
 Chicago, IL 60642
 (773) 424-4444
 www.heinen.com

PHASE

PHASE

MADISON CENTRAL PUBLIC LIBRARY
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

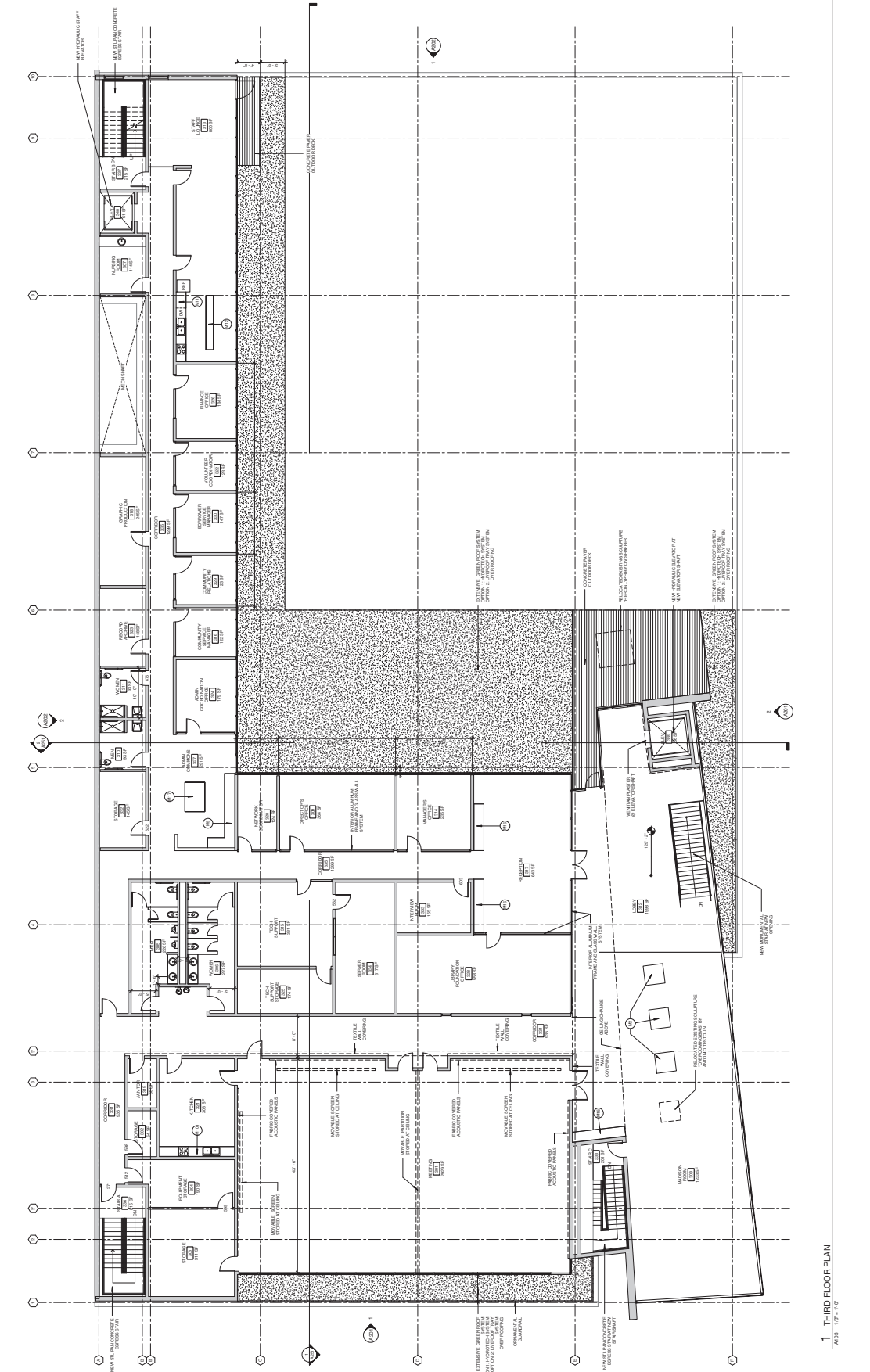
THIS DOCUMENT IS THE PROPERTY OF POTTER LAWSON ARCHITECTS AND ENGINEERS. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF POTTER LAWSON ARCHITECTS AND ENGINEERS.

DATE	12.2.2011	BY	ST/PROJ/STW
REVISION			
NO.		DESCRIPTION	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
60			
61			
62			
63			
64			
65			
66			
67			
68			
69			
70			
71			
72			
73			
74			
75			
76			
77			
78			
79			
80			
81			
82			
83			
84			
85			
86			
87			
88			
89			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			

3RD FLOOR PLAN

A103

NOT FOR CONSTRUCTION



1 THIRD FLOOR PLAN
 A103 10/21/11

NO.	REVISION
1	ISSUE FOR PERMIT
2	REVISIONS TO PERMIT
3	REVISIONS TO PERMIT
4	REVISIONS TO PERMIT
5	REVISIONS TO PERMIT
6	REVISIONS TO PERMIT
7	REVISIONS TO PERMIT
8	REVISIONS TO PERMIT
9	REVISIONS TO PERMIT
10	REVISIONS TO PERMIT
11	REVISIONS TO PERMIT
12	REVISIONS TO PERMIT
13	REVISIONS TO PERMIT
14	REVISIONS TO PERMIT
15	REVISIONS TO PERMIT
16	REVISIONS TO PERMIT
17	REVISIONS TO PERMIT
18	REVISIONS TO PERMIT
19	REVISIONS TO PERMIT
20	REVISIONS TO PERMIT
21	REVISIONS TO PERMIT
22	REVISIONS TO PERMIT
23	REVISIONS TO PERMIT
24	REVISIONS TO PERMIT
25	REVISIONS TO PERMIT
26	REVISIONS TO PERMIT
27	REVISIONS TO PERMIT
28	REVISIONS TO PERMIT
29	REVISIONS TO PERMIT
30	REVISIONS TO PERMIT
31	REVISIONS TO PERMIT
32	REVISIONS TO PERMIT
33	REVISIONS TO PERMIT
34	REVISIONS TO PERMIT
35	REVISIONS TO PERMIT
36	REVISIONS TO PERMIT
37	REVISIONS TO PERMIT
38	REVISIONS TO PERMIT
39	REVISIONS TO PERMIT
40	REVISIONS TO PERMIT
41	REVISIONS TO PERMIT
42	REVISIONS TO PERMIT
43	REVISIONS TO PERMIT
44	REVISIONS TO PERMIT
45	REVISIONS TO PERMIT
46	REVISIONS TO PERMIT
47	REVISIONS TO PERMIT
48	REVISIONS TO PERMIT
49	REVISIONS TO PERMIT
50	REVISIONS TO PERMIT
51	REVISIONS TO PERMIT
52	REVISIONS TO PERMIT
53	REVISIONS TO PERMIT
54	REVISIONS TO PERMIT
55	REVISIONS TO PERMIT
56	REVISIONS TO PERMIT
57	REVISIONS TO PERMIT
58	REVISIONS TO PERMIT
59	REVISIONS TO PERMIT
60	REVISIONS TO PERMIT
61	REVISIONS TO PERMIT
62	REVISIONS TO PERMIT
63	REVISIONS TO PERMIT
64	REVISIONS TO PERMIT
65	REVISIONS TO PERMIT
66	REVISIONS TO PERMIT
67	REVISIONS TO PERMIT
68	REVISIONS TO PERMIT
69	REVISIONS TO PERMIT
70	REVISIONS TO PERMIT
71	REVISIONS TO PERMIT
72	REVISIONS TO PERMIT
73	REVISIONS TO PERMIT
74	REVISIONS TO PERMIT
75	REVISIONS TO PERMIT
76	REVISIONS TO PERMIT
77	REVISIONS TO PERMIT
78	REVISIONS TO PERMIT
79	REVISIONS TO PERMIT
80	REVISIONS TO PERMIT
81	REVISIONS TO PERMIT
82	REVISIONS TO PERMIT
83	REVISIONS TO PERMIT
84	REVISIONS TO PERMIT
85	REVISIONS TO PERMIT
86	REVISIONS TO PERMIT
87	REVISIONS TO PERMIT
88	REVISIONS TO PERMIT
89	REVISIONS TO PERMIT
90	REVISIONS TO PERMIT
91	REVISIONS TO PERMIT
92	REVISIONS TO PERMIT
93	REVISIONS TO PERMIT
94	REVISIONS TO PERMIT
95	REVISIONS TO PERMIT
96	REVISIONS TO PERMIT
97	REVISIONS TO PERMIT
98	REVISIONS TO PERMIT
99	REVISIONS TO PERMIT
100	REVISIONS TO PERMIT

MS R
 Mechanical, Electrical & Plumbing
 1000 West North Avenue
 Milwaukee, WI 53233
 Tel: 414.224.1100
 Fax: 414.224.1101
 www.ms-r.com

FOR PROJECT: **PENTHOUSE**
Potter Lawson
 1000 West North Avenue
 Milwaukee, WI 53233
 Tel: 414.224.1100
 Fax: 414.224.1101
 www.potter-lawson.com

ARNOLD AND O'SHERIDAN INC.
 ARCHITECTS
 1000 West North Avenue
 Milwaukee, WI 53233
 Tel: 414.224.1100
 Fax: 414.224.1101
 www.aosinc.com

Henneman Engineering Inc.
 MECHANICAL ENGINEERS
 1000 West North Avenue
 Milwaukee, WI 53233
 Tel: 414.224.1100
 Fax: 414.224.1101
 www.henneman-engineering.com

PHONE: _____
 PHONE: _____

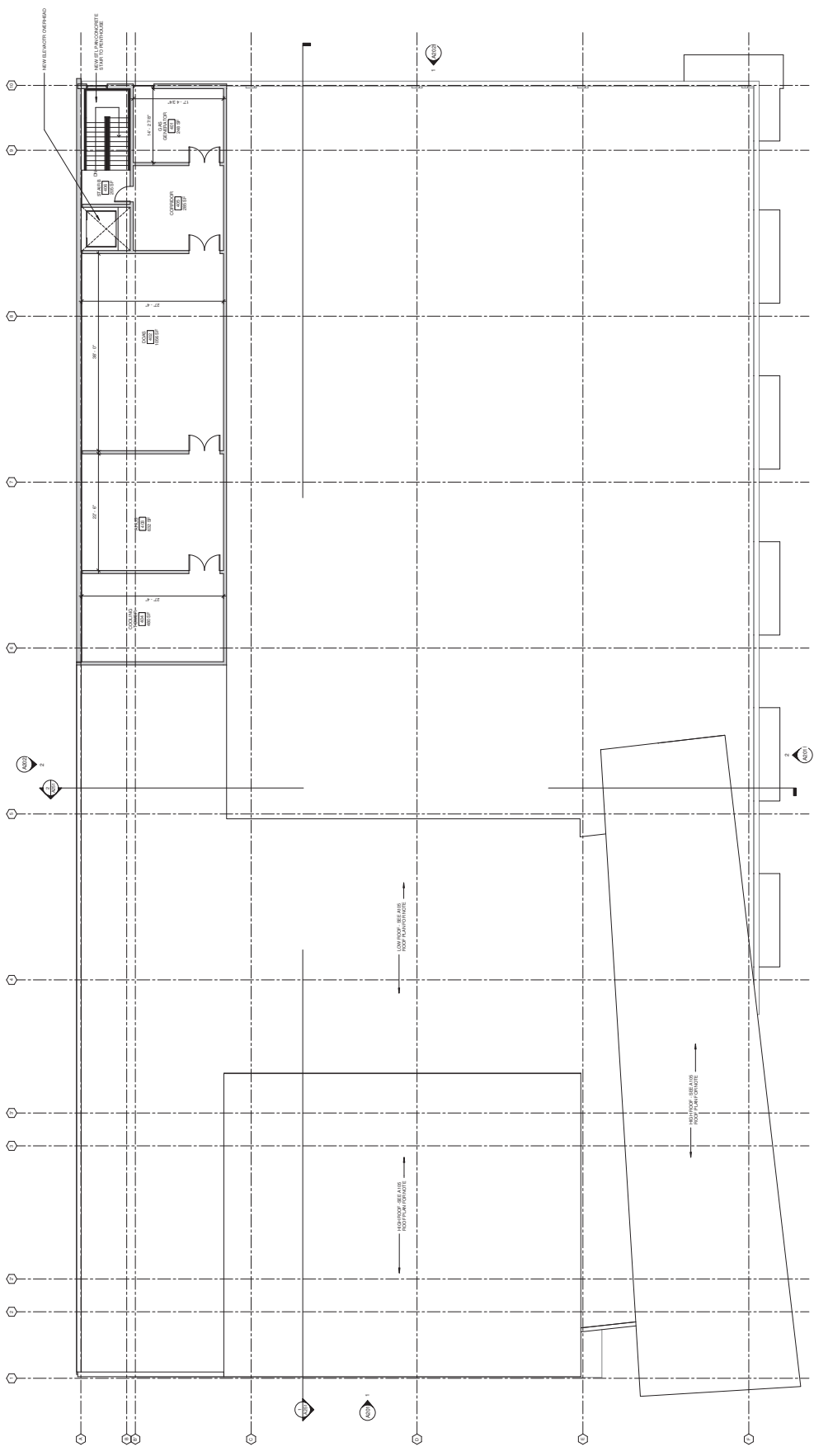
**MADISON CENTRAL
 PUBLIC LIBRARY**
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

THIS DOCUMENT IS THE PROPERTY OF POTTER LAWSON AND O'SHERIDAN INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF POTTER LAWSON AND O'SHERIDAN INC.

DATE:	11.22.2011	BY:	PROJECT:
SCALE:	AS SHOWN	DESIGNER:	
PROJECT NO.:	20110411.00	CHECKER:	
PROJECT NAME:	SCHEMATIC DESIGN	DATE:	
PROJECT LOCATION:	MADISON, WI	PROJECT:	
PROJECT OWNER:	ALJ/for	PROJECT NO.:	
PROJECT ARCHITECT:	O'SHERIDAN	PROJECT NAME:	
PROJECT ENGINEER:	HENNEMAN	PROJECT LOCATION:	
PROJECT MECHANICAL ENGINEER:	HENNEMAN	PROJECT OWNER:	

**PENTHOUSE FLOOR
 PLAN**

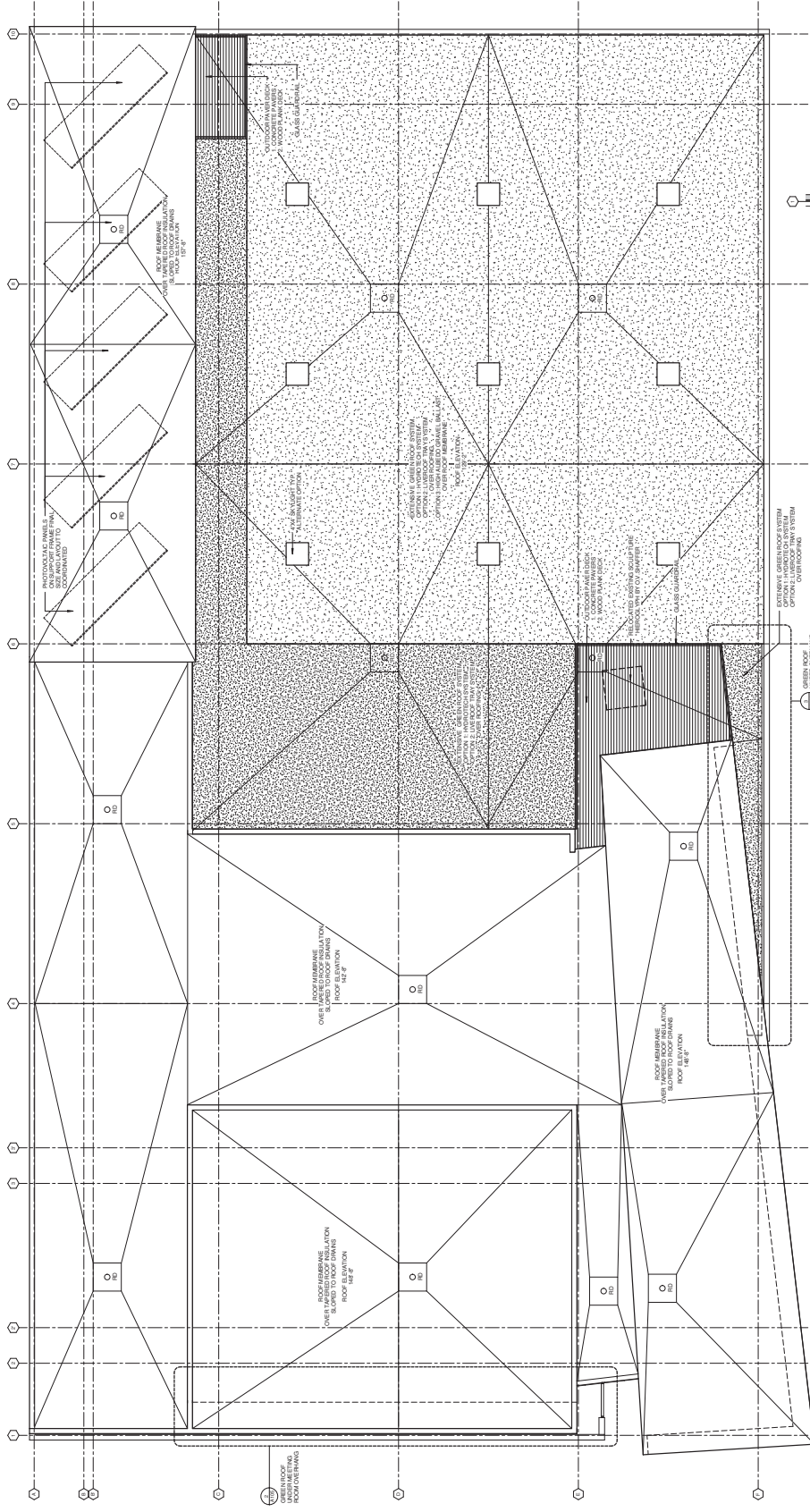
A104



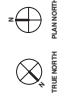
1 PENTHOUSE
 A104 1/8" = 1'-0"



NOT FOR CONSTRUCTION



1 ROOF PLAN
 A105 1/8" = 1'-0"



THE NORTH PLAN NORTH

2 PARTIAL ROOF PLAN
 A105 1/8" = 1'-0"



THE NORTH PLAN NORTH

PROJECT NUMBER	2010.10.00
PROJECT NAME	SCHEMATIC DESIGN
DATE	PJ
DESIGNER	Chelsea
ARCHITECT	
DATE	
DRAWN BY	
CHECKED BY	
SCALE	

ROOF PLAN	
A105	

3 PARTIAL ROOF PLAN
 A105 1/8" = 1'-0"



THE NORTH PLAN NORTH

EXTENSIVE GREEN ROOF SYSTEM
 OPTIONAL LIQUIDAPPLY TRANSPARENT WATERPROOFING OVERLAPPING
 CLASS GRANULAR
 CLASS GRANULAR



THE NORTH PLAN NORTH

MS R
 Mechanical & Electrical
 4000 Westport | Westport, WI
 920 South Loop West | Westport, WI
 414.775.1177 | www.ms-r.com

Arnold and Sheridan Inc.
 ARCHITECTS
 1000 Westport | Westport, WI
 414.775.1177 | www.arnoldandsheridan.com

Henneman Engineering Inc.
 MECHANICAL
 1000 Westport | Westport, WI
 414.775.1177 | www.henneman-engineering.com

MADISON CENTRAL PUBLIC LIBRARY
 210 WEST MIFFIN STREET
 MADISON, WI 53703

THIS DRAWING IS THE PROPERTY OF MS R. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. NO PART OF THIS DRAWING IS TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF MS R.



DOA, POTTER & LAWSON
Potter Lawson
 ARCHITECTS
 1000 WEST WISCONSIN
 MILWAUKEE, WI 53233
 PHONE: 414.224.1100
 FAX: 414.224.1101
 www.potterlawson.com



ARNOLD AND O'SHERIDAN INC.
 ARCHITECTS
 1000 WEST WISCONSIN
 MILWAUKEE, WI 53233
 PHONE: 414.224.1100
 FAX: 414.224.1101
 www.arnoldosheridan.com



Henneman Engineering Inc.
 ENGINEERS
 1000 WEST WISCONSIN
 MILWAUKEE, WI 53233
 PHONE: 414.224.1100
 FAX: 414.224.1101
 www.hennemaneng.com

PHONE: _____

PHONE: _____

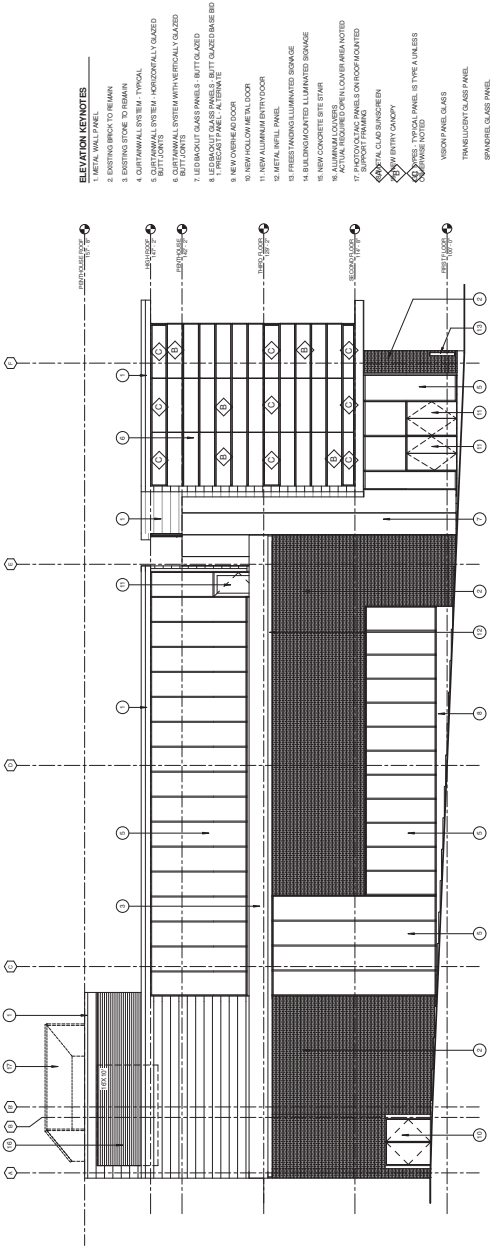
MADISON CENTRAL
 PUBLIC LIBRARY
 210 WEST MIFLIN STREET
 MADISON, WI 53703

THIS DOCUMENT IS THE PROPERTY OF POTTER & LAWSON ARCHITECTS. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF POTTER & LAWSON ARCHITECTS.

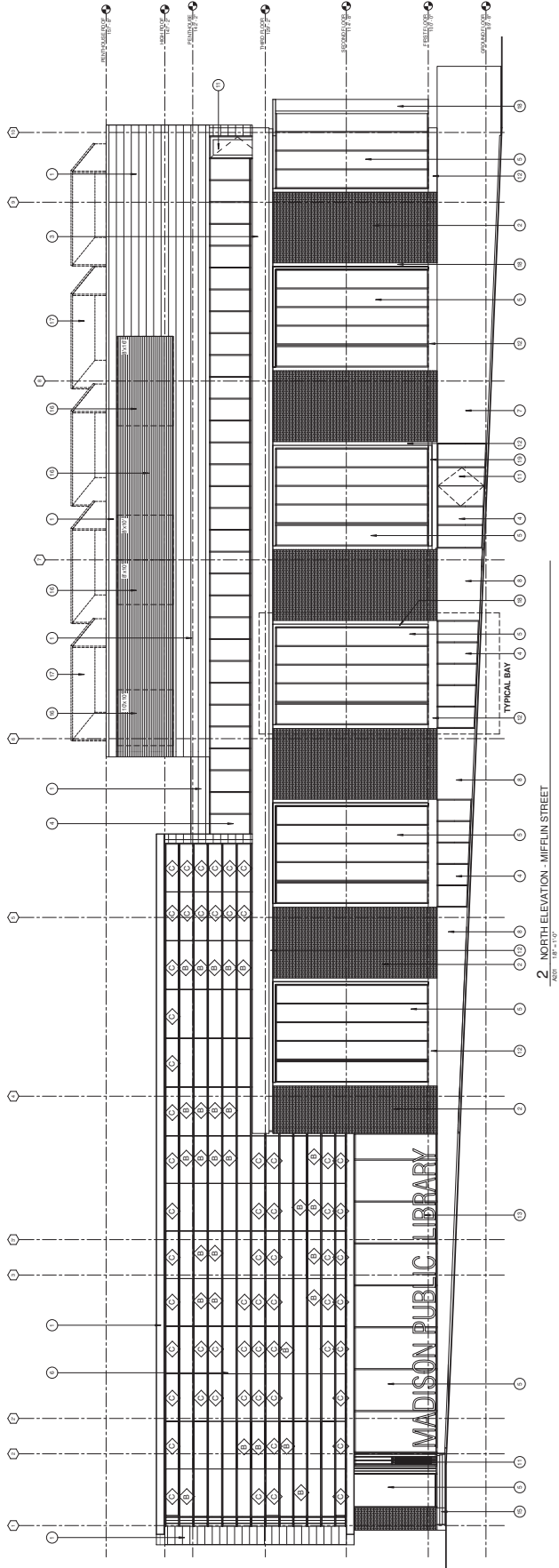
DATE:	10/10/10	BY:	ML
PROJECT:	MADISON CENTRAL PUBLIC LIBRARY	DESIGNER:	ML
PROJECT NUMBER:	2010.10.00	ARCHITECT:	POTTER & LAWSON
PROJECT NAME:	MADISON CENTRAL PUBLIC LIBRARY	SCHEMATIC DESIGN	
PROJECT LOCATION:	210 WEST MIFLIN STREET, MADISON, WI 53703	OWNER:	PU
PROJECT ARCHITECT:	POTTER & LAWSON	OWNER REPRESENTATIVE:	CHICKLER

EXTERIOR
 ELEVATIONS
 A201

NOT FOR CONSTRUCTION



1 EAST ELEVATION - FAIRCHILD STREET
 10/10/10 10:21:07



2 NORTH ELEVATION - MIFLIN STREET
 10/10/10 10:21:07

MADISON PUBLIC LIBRARY

MS R
 CONSULTING ENGINEERS
 1000 W. KENNEDY BLVD., SUITE 100
 MILWAUKEE, WI 53234
 TEL: (414) 763-1100
 FAX: (414) 763-1101
 WWW.MSRCONSULTING.COM

FORTE JAWSON
 ARCHITECTS
 1000 W. KENNEDY BLVD., SUITE 100
 MILWAUKEE, WI 53234
 TEL: (414) 763-1100
 FAX: (414) 763-1101
 WWW.FORTEJAWSON.COM

ARNOLD AND SHERIDAN INC.
 ARCHITECTS
 1000 W. KENNEDY BLVD., SUITE 100
 MILWAUKEE, WI 53234
 TEL: (414) 763-1100
 FAX: (414) 763-1101
 WWW.ARNOLDSHERIDAN.COM

Henneman Engineering Inc.
 ENGINEERS
 1000 W. KENNEDY BLVD., SUITE 100
 MILWAUKEE, WI 53234
 TEL: (414) 763-1100
 FAX: (414) 763-1101
 WWW.HENNEMANENGINEERING.COM

**MADISON CENTRAL
 PUBLIC LIBRARY**
 210 WEST MIFFIN STREET
 MADISON, WI 53703

PROJECT NO. 2010.10.030
 PROJECT NAME: MADISON CENTRAL PUBLIC LIBRARY
 PROJECT LOCATION: 210 WEST MIFFIN STREET, MADISON, WI 53703
 ARCHITECT: FORTE JAWSON ARCHITECTS
 ENGINEER: HENNEMAN ENGINEERING, INC.
 DATE: 10/11/11

REVISIONS:

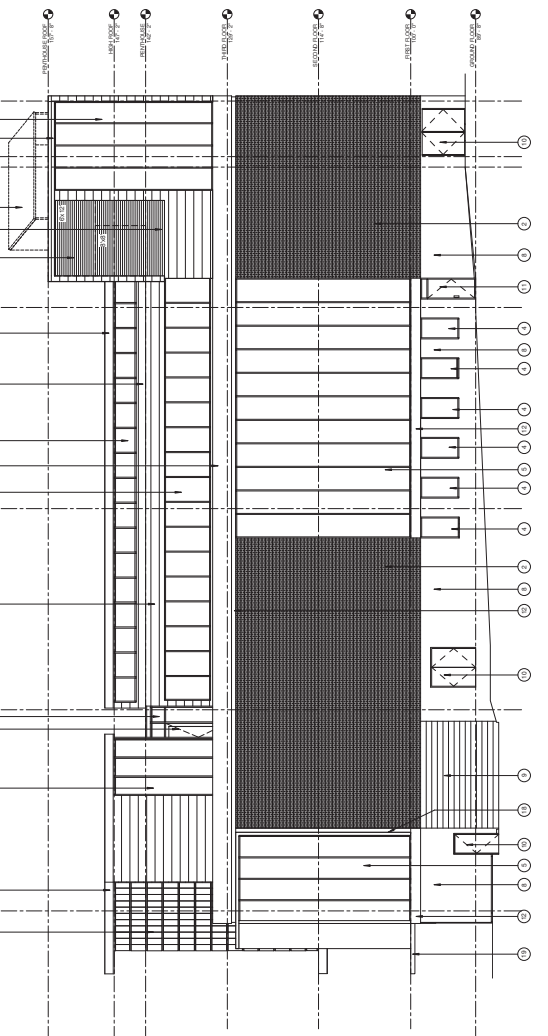
NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	10/11/11
2	ISSUED FOR CONSTRUCTION	10/11/11

SCALE: 1/8" = 1'-0"
 DRAWN BY: J. WILSON
 CHECKED BY: J. WILSON
 DATE: 10/11/11

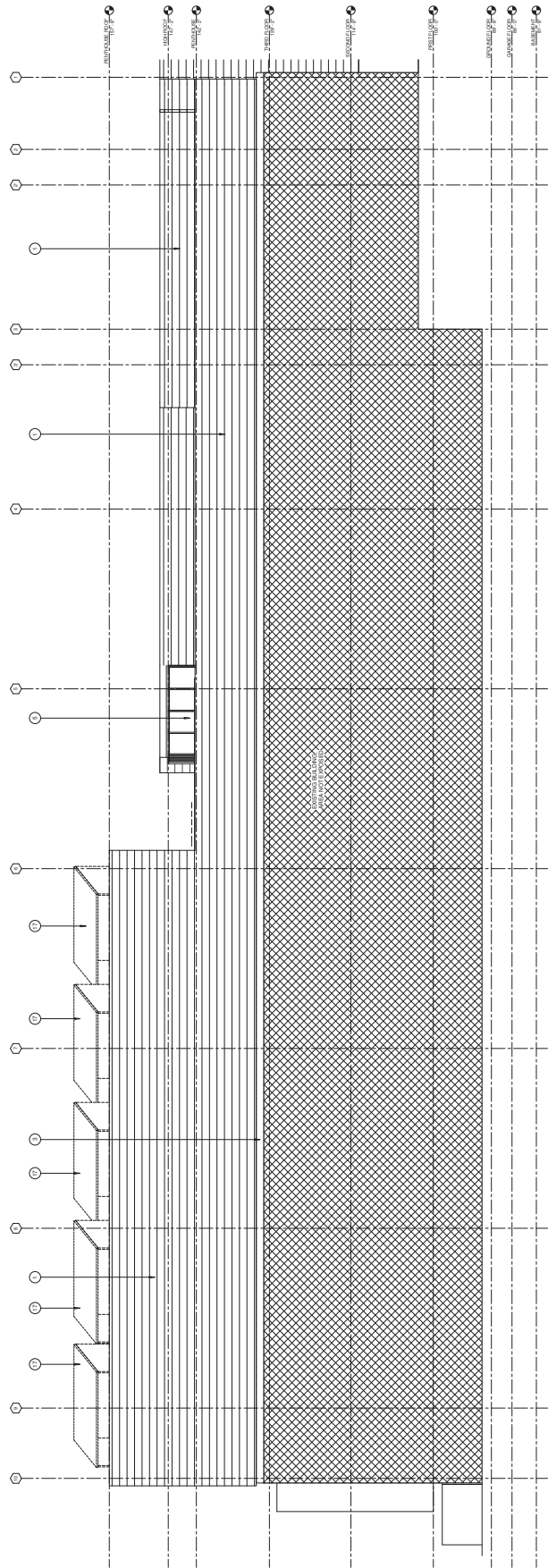
**EXTERIOR
 ELEVATIONS**

A202

- ELEVATION KEYNOTES**
1. METAL WALL PANEL
 2. EXISTING BRICK TO REMAIN
 3. EXISTING STONE TO REMAIN
 4. NEW STONE TO REMAIN
 5. CORNER WALL TO STAY - HORIZONTAL GLAZED
 6. METAL WALL TO STAY - HORIZONTAL GLAZED
 7. METAL WALL TO STAY - VERTICAL GLAZED
 8. LED BACKLIT GLASS PANELS - RIFT GLAZED
 9. LED BACKLIT GLASS PANELS - RIFT GLAZED BASE BID
 10. NEW CORNER GLAZED WINDOW
 11. NEW ALUMINUM ENTRY DOOR
 12. METAL PANEL DOOR
 13. STREET FACING ILLUMINATED SIGNAGE
 14. BUILDING MOUNTED ILLUMINATED SIGNAGE
 15. NEW CONCRETE SITE PAVEMENT
 16. NEW CONCRETE DRIVEWAY
 17. ALL WORK BELOW DRIVEWAY COVER AREA NOTED
 18. PROPOSED GLASS PANELS ON ROOF MOUNTED
 19. NEW ENTRY CANOPY
 20. NEW ENTRY CANOPY
 21. NEW ENTRY CANOPY
 22. NEW ENTRY CANOPY
 23. NEW ENTRY CANOPY
 24. NEW ENTRY CANOPY
 25. NEW ENTRY CANOPY
 26. NEW ENTRY CANOPY
 27. NEW ENTRY CANOPY
 28. NEW ENTRY CANOPY
 29. NEW ENTRY CANOPY
 30. NEW ENTRY CANOPY
 31. NEW ENTRY CANOPY
 32. NEW ENTRY CANOPY
 33. NEW ENTRY CANOPY
 34. NEW ENTRY CANOPY
 35. NEW ENTRY CANOPY
 36. NEW ENTRY CANOPY
 37. NEW ENTRY CANOPY
 38. NEW ENTRY CANOPY
 39. NEW ENTRY CANOPY
 40. NEW ENTRY CANOPY
 41. NEW ENTRY CANOPY
 42. NEW ENTRY CANOPY
 43. NEW ENTRY CANOPY
 44. NEW ENTRY CANOPY
 45. NEW ENTRY CANOPY
 46. NEW ENTRY CANOPY
 47. NEW ENTRY CANOPY
 48. NEW ENTRY CANOPY
 49. NEW ENTRY CANOPY
 50. NEW ENTRY CANOPY
 51. NEW ENTRY CANOPY
 52. NEW ENTRY CANOPY
 53. NEW ENTRY CANOPY
 54. NEW ENTRY CANOPY
 55. NEW ENTRY CANOPY
 56. NEW ENTRY CANOPY
 57. NEW ENTRY CANOPY
 58. NEW ENTRY CANOPY
 59. NEW ENTRY CANOPY
 60. NEW ENTRY CANOPY
 61. NEW ENTRY CANOPY
 62. NEW ENTRY CANOPY
 63. NEW ENTRY CANOPY
 64. NEW ENTRY CANOPY
 65. NEW ENTRY CANOPY
 66. NEW ENTRY CANOPY
 67. NEW ENTRY CANOPY
 68. NEW ENTRY CANOPY
 69. NEW ENTRY CANOPY
 70. NEW ENTRY CANOPY
 71. NEW ENTRY CANOPY
 72. NEW ENTRY CANOPY
 73. NEW ENTRY CANOPY
 74. NEW ENTRY CANOPY
 75. NEW ENTRY CANOPY
 76. NEW ENTRY CANOPY
 77. NEW ENTRY CANOPY
 78. NEW ENTRY CANOPY
 79. NEW ENTRY CANOPY
 80. NEW ENTRY CANOPY
 81. NEW ENTRY CANOPY
 82. NEW ENTRY CANOPY
 83. NEW ENTRY CANOPY
 84. NEW ENTRY CANOPY
 85. NEW ENTRY CANOPY
 86. NEW ENTRY CANOPY
 87. NEW ENTRY CANOPY
 88. NEW ENTRY CANOPY
 89. NEW ENTRY CANOPY
 90. NEW ENTRY CANOPY
 91. NEW ENTRY CANOPY
 92. NEW ENTRY CANOPY
 93. NEW ENTRY CANOPY
 94. NEW ENTRY CANOPY
 95. NEW ENTRY CANOPY
 96. NEW ENTRY CANOPY
 97. NEW ENTRY CANOPY
 98. NEW ENTRY CANOPY
 99. NEW ENTRY CANOPY
 100. NEW ENTRY CANOPY



1 WEST ELEVATION - HENRY STREET
 1/8" = 1'-0"



2 SOUTH ELEVATION
 1/8" = 1'-0"

NOT FOR CONSTRUCTION



FOR PROJECT REFERENCE
Potter Lawson
 ARCHITECTS
 1000 W. WISCONSIN AVENUE
 MILWAUKEE, WI 53233
 PHONE: 414.224.1100
 FAX: 414.224.1101
 www.potterlawson.com



MECHANICAL
Henneman Engineering Inc.
 1000 W. WISCONSIN AVENUE
 MILWAUKEE, WI 53233
 PHONE: 414.224.1100
 FAX: 414.224.1101
 www.hennemaneng.com

PHONE

PHONE

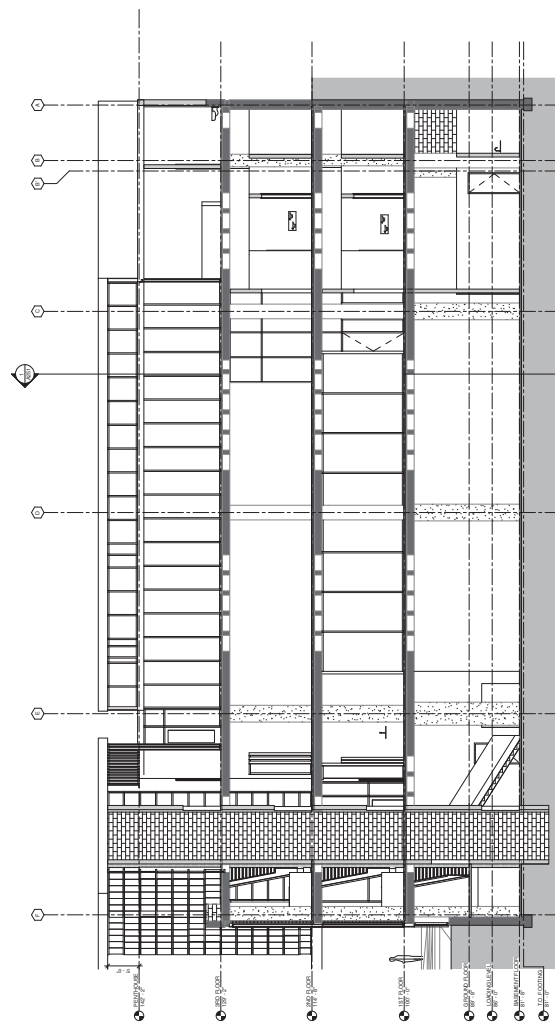
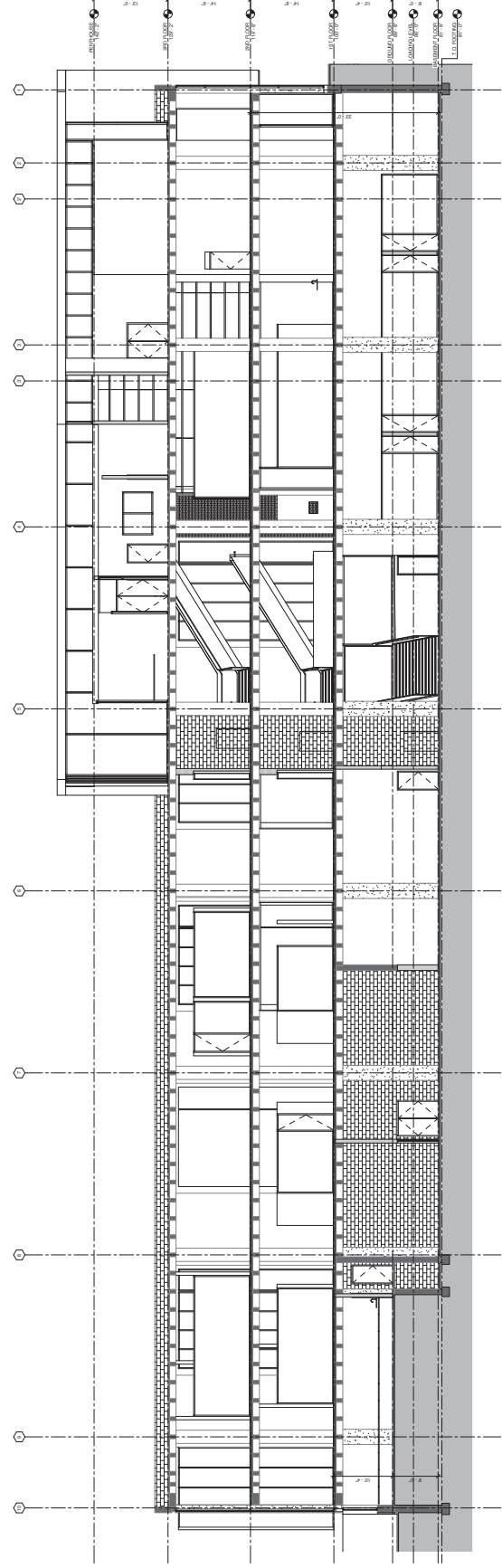
**MADISON CENTRAL
 PUBLIC LIBRARY**
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

THIS DOCUMENT IS THE PROPERTY OF HENNEMAN ENGINEERING INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF HENNEMAN ENGINEERING INC.

DATE	11.22.2011	BY	PROJ
PROJECT	MADISON CENTRAL PUBLIC LIBRARY		
PROJECT NO.	2010041.00	DATE	11.22.2011
PROJECT NAME	MADISON CENTRAL PUBLIC LIBRARY		
PROJECT LOCATION	210 WEST MIFFLIN STREET, MADISON, WI 53703		
PROJECT OWNER	MADISON CENTRAL PUBLIC LIBRARY		
PROJECT ARCHITECT	POTTER LAWSON ARCHITECTS		
PROJECT ENGINEER	HENNEMAN ENGINEERING INC.		
PROJECT MECHANICAL ENGINEER	HENNEMAN ENGINEERING INC.		
PROJECT ELECTRICAL ENGINEER	HENNEMAN ENGINEERING INC.		
PROJECT PLUMBING ENGINEER	HENNEMAN ENGINEERING INC.		
PROJECT HVAC ENGINEER	HENNEMAN ENGINEERING INC.		
PROJECT SCHEDULING ENGINEER	HENNEMAN ENGINEERING INC.		
PROJECT ENERGY ENGINEER	HENNEMAN ENGINEERING INC.		
PROJECT LEAD ENGINEER	HENNEMAN ENGINEERING INC.		
PROJECT CHECKER	HENNEMAN ENGINEERING INC.		
PROJECT APPROVER	HENNEMAN ENGINEERING INC.		

**BUILDING
 SECTIONS**

A251



NOT FOR CONSTRUCTION

MS R
 Mechanical, Electrical, Plumbing & Refrigeration
 1001 Pottery Terrace
 Madison, WI 53703
 (608) 261-1111
 www.ms-r.com

Potter Lawson
 ARCHITECTS
 1001 Pottery Terrace
 Madison, WI 53703
 (608) 261-1111
 www.potterlawson.com

ARNOLD AND SHERIDAN INC.
 ENGINEERS
 1001 Pottery Terrace
 Madison, WI 53703
 (608) 261-1111
 www.arnoldsheridan.com

Henneman Engineering Inc.
 1001 Pottery Terrace
 Madison, WI 53703
 (608) 261-1111
 www.hennemaneng.com

PHONE _____

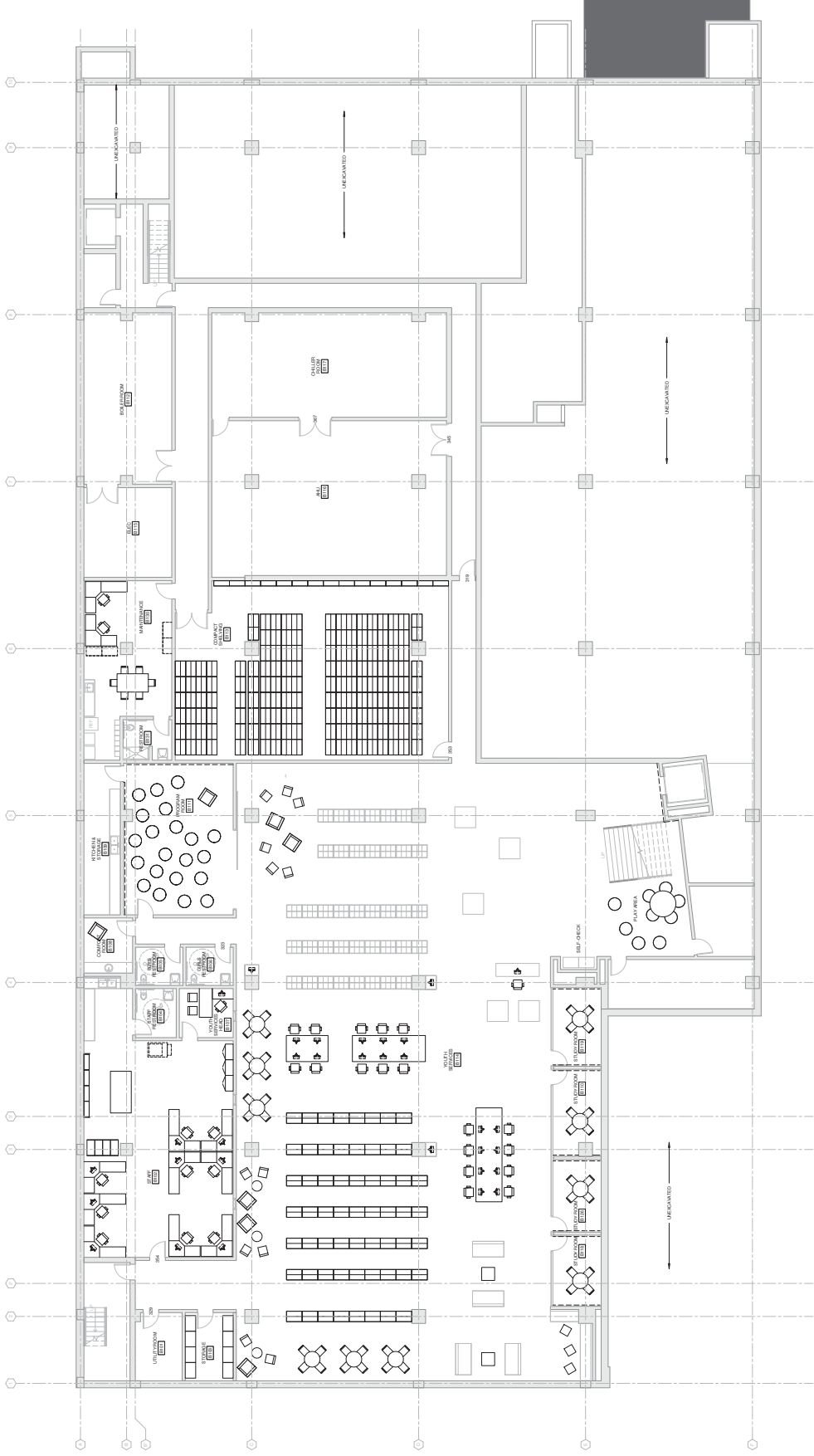
PHONE _____

MADISON CENTRAL
 PUBLIC LIBRARY
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

THIS DOCUMENT IS THE PROPERTY OF HENNEMAN ENGINEERING INC. AND IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. ANY REUSE OR REPRODUCTION OF THIS DOCUMENT WITHOUT THE WRITTEN PERMISSION OF HENNEMAN ENGINEERING INC. IS STRICTLY PROHIBITED.

DATE:	12/20/11	BY:	PROJ/001
PROJECT:	MADISON CENTRAL PUBLIC LIBRARY	DATE:	12/20/11
PROJECT NO.:	20110411.03	PROJECT NAME:	MADISON CENTRAL PUBLIC LIBRARY
DESIGNER:	ARNOLD AND SHERIDAN INC.	CLIENT:	MADISON CENTRAL PUBLIC LIBRARY
CHECKER:	POTTER LAWSON	PROJECT NO.:	20110411.03
DATE:	12/20/11	BY:	PROJ/001

BASEMENT FLOOR
 FURNITURE PLAN
 A900.1



1 BASEMENT FLOOR FURNITURE PLAN
 A900.1 - 1P - 11/11

NOT FOR CONSTRUCTION

MS R
 Mechanical, Electrical, Plumbing & Refrigeration
 1000 W. North Street, Suite 200
 Madison, WI 53703
 Tel: 608.261.1111 Fax: 608.261.1112
 www.ms-r.com

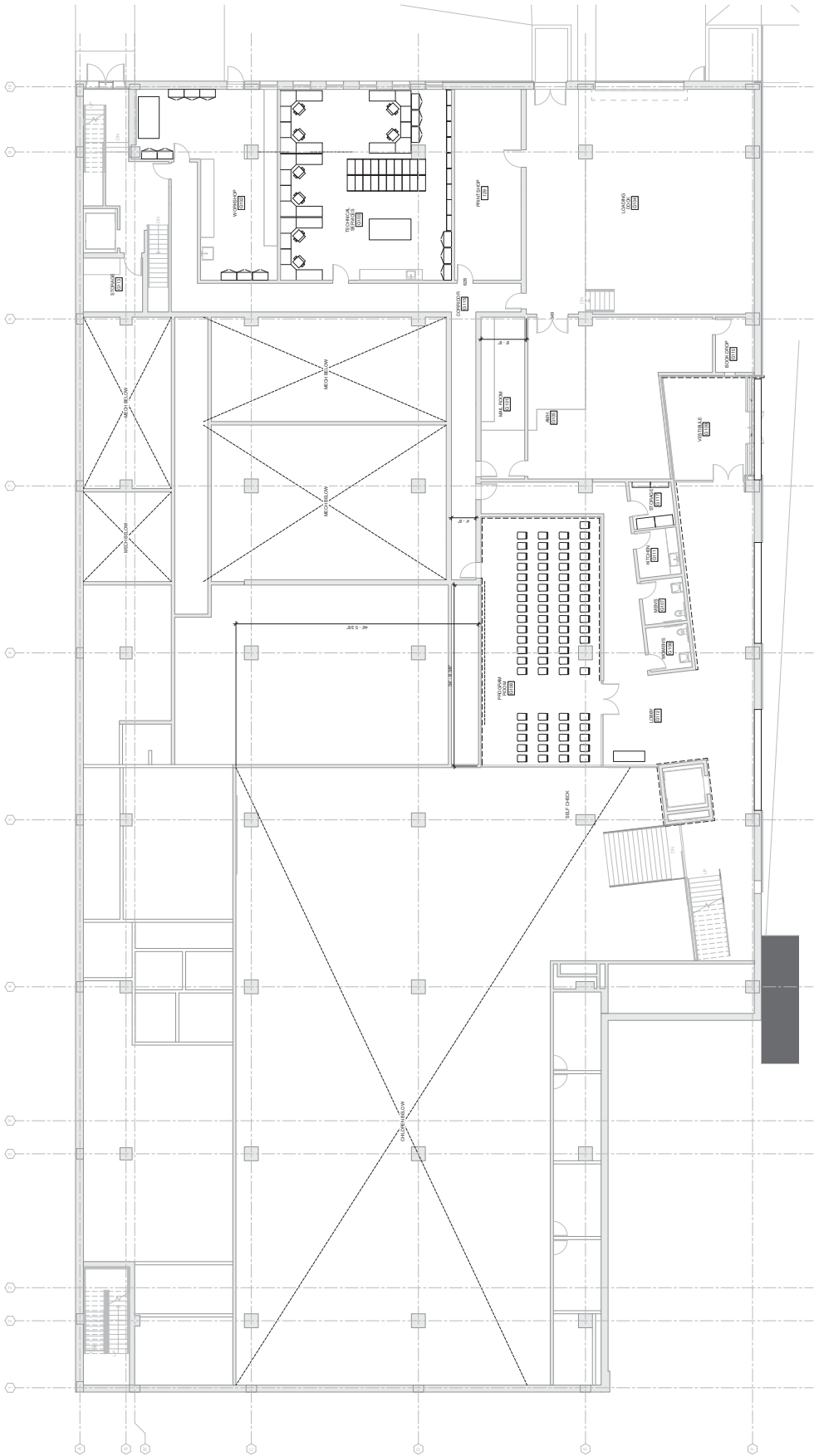
Potter Lawson
 ARCHITECTS
 1000 W. North Street, Suite 200
 Madison, WI 53703
 Tel: 608.261.1111 Fax: 608.261.1112
 www.potterlawson.com

ARNOLD AND SHERIDAN INC.
 ARCHITECTS
 1000 W. North Street, Suite 200
 Madison, WI 53703
 Tel: 608.261.1111 Fax: 608.261.1112
 www.arnoldsheridan.com

Hammett Engineering Inc.
 MECHANICAL
 1000 W. North Street, Suite 200
 Madison, WI 53703
 Tel: 608.261.1111 Fax: 608.261.1112
 www.hammetteng.com

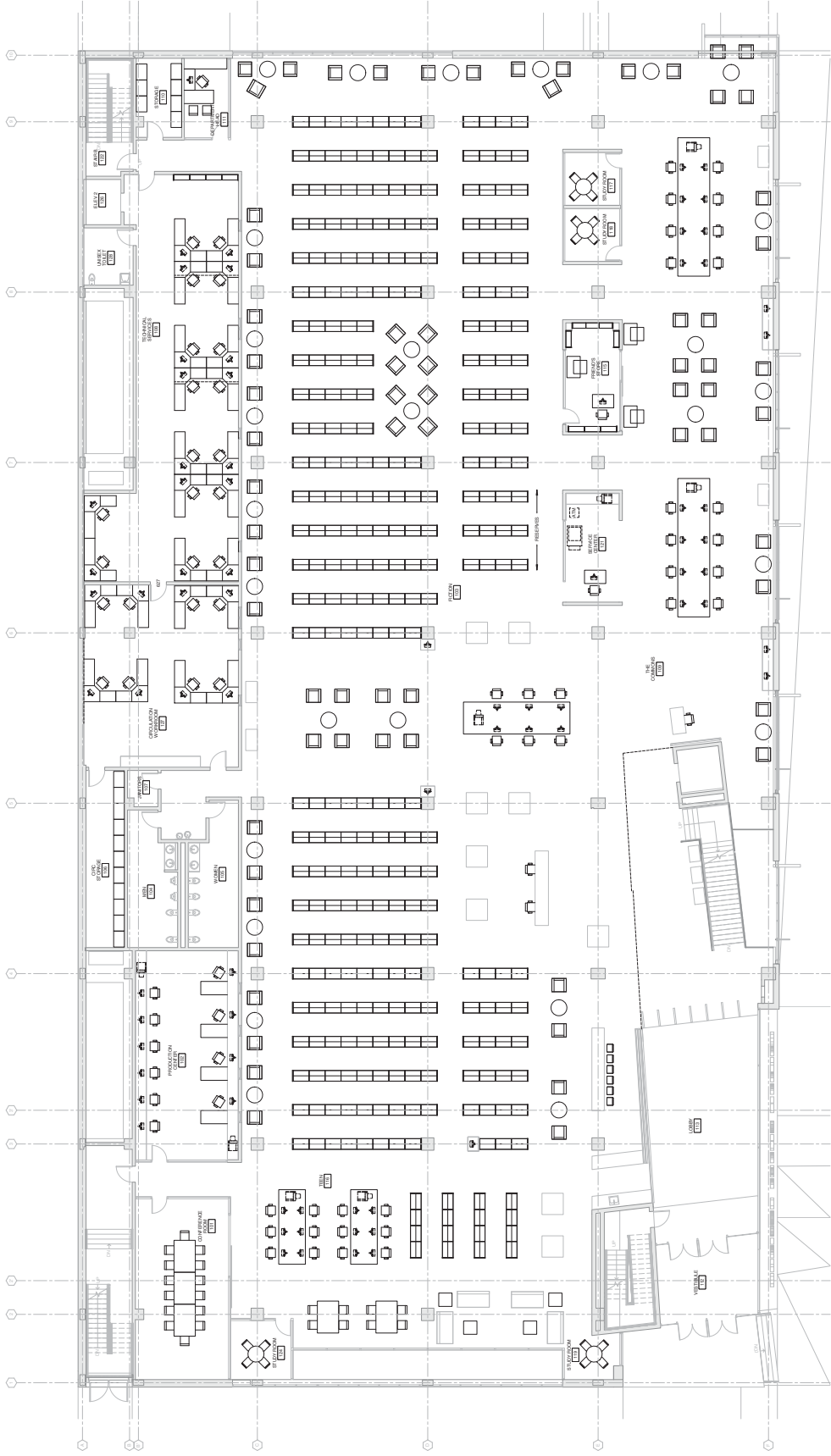
**MADISON CENTRAL
 PUBLIC LIBRARY**
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

PROJECT NO.: 2011041.02 PROJECT NAME: SCHEMATIC DESIGN DATE: 11/11/11 DRAWN BY: AJL CHECKED BY: CJS PROJECT LOCATION: 210 WEST MIFFLIN STREET, MADISON, WI 53703	GROUND FLOOR FURNITURE PLAN A900.2
---	--



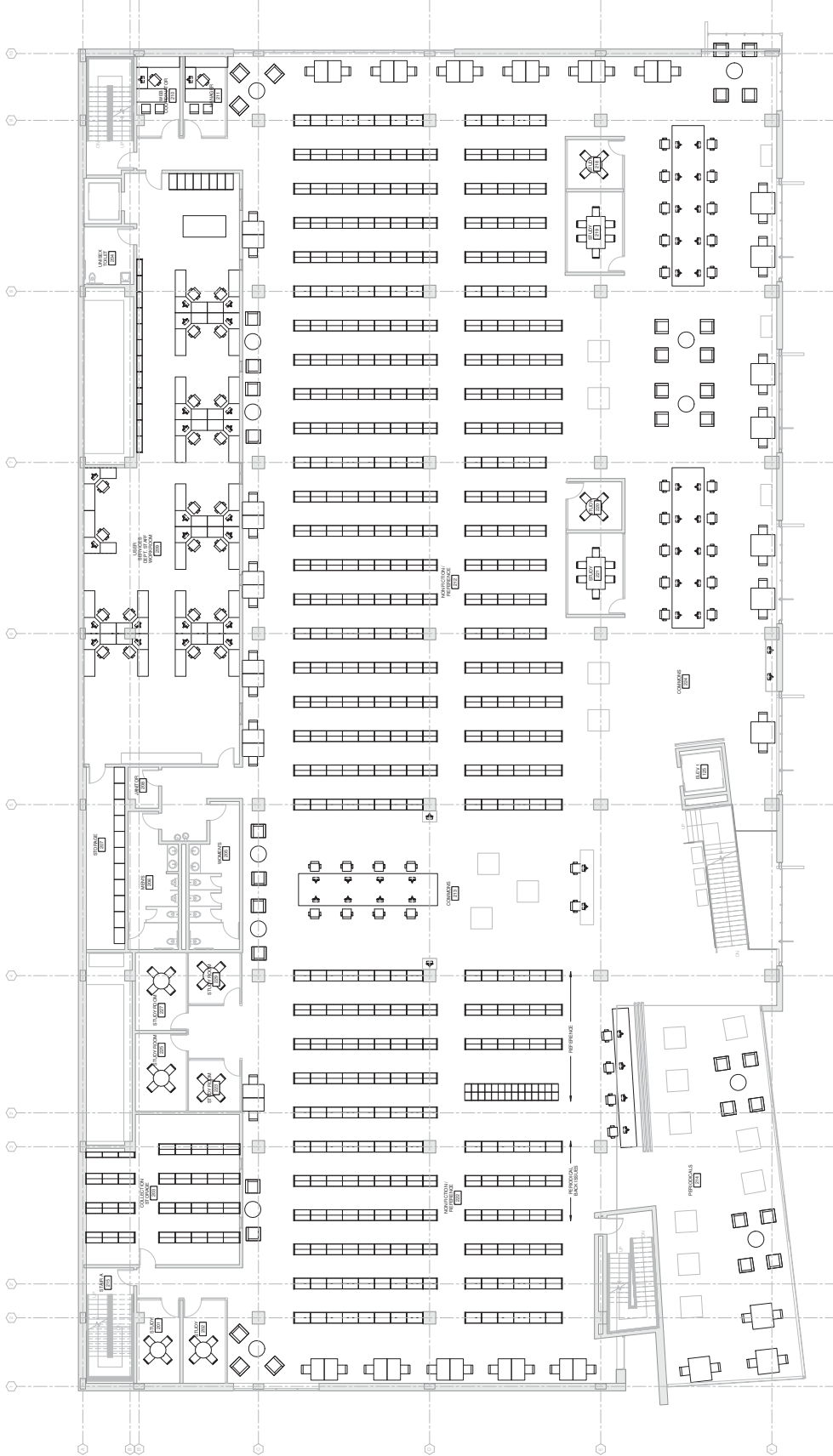
1. GROUND FLOOR FURNITURE PLAN
 A900.2 1/8" = 1'-0"

NOT FOR CONSTRUCTION



1. 1ST FLOOR FURNITURE PLAN
A901 18" x 11"

DATE: 12.2.2011	BY: PROPOSE
PROJECT: 20110411.03	SCHEMATIC DESIGN
DESIGNER: AJL/JG	Checker
DATE: 12.2.2011	BY: PROPOSE



1 2ND FLOOR FURNITURE PLAN
DATE: 12-1-11

MS R
 Mechanical, Electrical & Plumbing
 1000 Pottery Hill Drive
 Madison, WI 53703
 (608) 261-1111
 www.ms-r.com

Arnold and O'Sheridan Inc.
 Mechanical, Electrical & Plumbing
 1000 Pottery Hill Drive
 Madison, WI 53703
 (608) 261-1111
 www.arnold-osheridan.com

Henneman Engineering Inc.
 Mechanical, Electrical & Plumbing
 1000 Pottery Hill Drive
 Madison, WI 53703
 (608) 261-1111
 www.henneman-engineering.com

PROJECT: _____
 DATE: _____
 DRAWN BY: _____
 CHECKED BY: _____

**MADISON CENTRAL
 PUBLIC LIBRARY**
 210 WEST MIFFLIN STREET
 MADISON, WI 53703

DATE: 11.22.2011	BY: J. PROSSER
PROJECT: 20110411.00	DESCRIPTION: SCHEMATIC DESIGN
DRAWN BY: AJL/for	CHECKED BY: _____
3RD FLOOR FURNITURE PLAN	
A903	



1 ROOF PLAN
 A903 11.22.2011

NOT FOR CONSTRUCTION