Division of Finance and Business Operations

Request for Proposal

and Specifications for

Health Science Research Building – Commissioning Services -2025

Wayne State University
Procurement & Strategic Sourcing

March 19, 2025

WAYNE STATE UNIVERSITY

Procurement & Strategic Sourcing
5700 Cass Avenue, suite 4200
Detroit, Michigan 48202
(313) 577-3734

Division of Finance and Business Operations

March 19, 2025

Dear Vendors:

IMPORTANT – PLEASE NOTE: Bid notices will be sent only to those Vendors registered to receive them via our Bid Opportunities Listserve service. To register, visit **http://go.wayne.edu/bids**, and click on the "Join our Listserve" link at the top of the page. Instructions are at the top of the page, and the **BIDS-COMMISSIONING@LISTS.WAYNE.EDU; BIDS-CONSULTANTS_FOR_CONSTRUCTION@LISTS.WAYNE.EDU** Listserv service is under "***Service"*** Bid Opportunities".

Wayne State University invites you to participate in its Request for Proposal process to provide **Health Science Research Building- Commissioning Services -2025**, for the **Facilities Planning and Management**, per the specifications contained herein the Request for Proposal. This service is expected to commence on **April 30, 2025.**

We have a bid information package complete with the Request for Proposal and complete specifications available for downloading from the University Purchasing Web Site at **http://go.wayne.edu/bids** (include capitalization and underscores) as of **March 19, 2025**. When visiting the Web Site, click on the "***Service***" link in green. Copies of the RFP will not be available at the pre-proposal meeting.

To participate, it is **Optional** that you and/or responsible representatives of your organization attend our pre-proposal conference. For this RFP, the University offers the following Pre-Proposal Options: **Virtual.** The meeting will be held on **March 26, 2025, 10:00am (Eastern - Detroit Time).**

Vendors who would like to participate in the pre-proposal meeting via a TEAMS Video Conference or Conference Call, may do so via the information below:

Microsoft Teams Meeting
On-line or via Conference Call
Join the meeting now

Need to join from a mobile device but don't have TEAMS on it?
Visit our website for instruction on adding TEAMS to your device.

Attendance will be taken during the Prebid Meeting. When Pre-proposal Meetings are **Optional**, nominal scorecard points will be awarded for attendance.

We hope you can join us at the **Optional** pre-proposal meeting. Please have a copy of this Request for Proposal for your reference during the meeting. Should you have any questions or concerns about this invitation, please contact me at **(313) 577–3720**, or email: **rfpteam2@wayne.edu**. Thank you for your interest in doing business with Wayne State University.

Sincerely,

Valerie Kreher
Senior Buyer

Enclosure

RFP: Health Science Research Building- Commissioning Services -2025
for the Facilities Planning and Management

WAYNE STATE UNIVERSITY

I. INTRODUCTION

A. **Wayne State University**, founded in 1868, is committed to preparing its students to excel in a fast-paced and interconnected global society. It combines the academic excellence of a major research university with the practical experiences of an institution whose history, location and diversity make it a microcosm of the world students will enter when they graduate. The University holds the Highest Carnegie Foundation classification for research activity. It has 13 colleges and schools and offers more than 350 academic programs including bachelor's, master's and doctoral degrees; post-baccalaureate, graduate and specialist certificates; and three professional programs (**http://wayne.edu/about/**).

B. Procurement & Strategic Sourcing is soliciting proposals from qualified professional organizations, hereafter referred to as VENDOR(s), who specialize in providing **Health Science Research Building-Commissioning Services - 2025** of superior quality, at competitive pricing, as described in the Statement of Work section of the **Request for Proposal** (RFP). **Project must commence on or before April 30, 2025, and be completed as negotiated in the final contract**.

This RFP outlines basic requirements as specified in the Scope of Work section of the RFP (Section III). Proposals submitted are to be in accordance with the outline and specifications contained in and are to remain in effect a minimum of **120** days from the date of submission and may be subject to further extensions as negotiated.

C. **The UNIVERSITY reserves the right to accept, reject, modify, and/or negotiate any and all proposals received in conjunction with the RFP.** It reserves the right to waive any defect or informality in the Proposals on the basis of what it considers to be in its best interests. Any proposal may be rejected which the UNIVERSITY determines to be incomplete, conditional, obscure, or has irregularities of any kind. The UNIVERSITY reserves the right to award to the firm, or firms, which in its sole judgment, will best serve its long-term interest.

This RFP in no manner obligates the UNIVERSITY to the eventual purchase of any products or services described, implied, or which may be proposed, until confirmed by written agreement, and may be terminated by the UNIVERSITY without penalty or obligation at any time prior to the signing of an Agreement or Purchase Order.

D. Expenses for developing and presenting proposals shall be the entire responsibility of the VENDOR and shall not be chargeable to the UNIVERSITY. All supporting documentation and manuals submitted with this proposal will become the property of the UNIVERSITY.

E. All questions concerning this Request for Proposal are to be directed to **Valerie Kreher**, **Senior Buyer**, Email; **rfpteam2@wayne.edu**. The deadline for questions is **March 28, 2025, 12:00 noon**. Under no circumstances may a VENDOR contact other individuals at the UNIVERSITY, or its consultants to discuss any aspect of this RFP, unless expressly authorized by Procurement & Strategic Sourcing to do so.

II. INFORMATION FOR VENDOR

A. General

This RFP contains requests for information. VENDORS, however, in responding to this RFP, are encouraged to provide any additional information they believe relevant. VENDORS are encouraged to examine all sections of this RFP carefully, in that the degree of interrelationship between sections is high.

B. Calendar of Events

Activity	Responsibility	Date
Formal Release of RFP	Procurement	**March 19, 2025**
Optional Pre-Proposal meeting	Procurement /Evaluation Team (ET)/VENDORS	**March 26, 2025 10:00am**

Questions due to Procurement & Strategic Sourcing	VENDORS	**March 28, 2025** - 12 Noon
Delivery of Proposals are by electronic submission on April 2, 2025. The link for bid submission will be posted with the bid details at **http://go.wayne.edu/bids.**	VENDORS	**April 2, 2025, by 2:00 p.m.**
Evaluation of Proposals (clarifications & negotiations)	Procurement / ET	Week of **April 14, 2025**
Announcement of Selected VENDOR	Procurement	Week of **April 21, 2025**
Readiness for Service/Contract Commencement	VENDORS	Week of **April 28, 2025**
Project Completion	VENDORS/ET	**As negotiated in the final contract**

The UNIVERSITY will make every effort to adhere to the above schedule. It is subject however, to time extensions at the University's discretion.

C. Optional Pre-Proposal Meeting

You may attend a **Optional Pre-Proposal Meeting on** as a condition for submitting a proposal. For this RFP, the University offers the following Pre-Proposal Options: **Virtual**

The meeting will be held on **March 26, 2025, 10:00am (Eastern - Detroit Time).**

Vendors who would like to participate in the pre-proposal meeting via a TEAMS Video Conference or Conference Call, may do so via the information below:

Microsoft Teams Meeting
On-line or via Conference Call
Join the meeting now

Need to join from a mobile device but don't have TEAMS on it?
Visit our website for instruction on adding TEAMS to your device.

During this meeting, we will answer any questions you may have to clarify any ambiguities in this Request for Proposal. Answers to questions that cannot be answered during this meeting will be put into an Addendum and emailed to all VENDORS and posted to the University website as soon as they are obtained. Each proposal submitted shall list all addenda, by numbers, which have been received prior to the time scheduled for receipt of proposal.

Attendance will be taken during the Prebid Meeting. When Pre-proposal Meetings are Optional, nominal scorecard points will be awarded for attendance.

Minutes for the Pre-proposal Meeting will be distributed and published on the website as an Addendum. Vendors are responsible for the information in this and all other Addenda and must acknowledge each addendum in Schedule D on the second page of the Schedule.

D. Examination of the Request for Proposal

Before submitting proposals, each VENDOR will be held to have examined the UNIVERSITY requirements outlined in the Scope of Work and Technical Information sections and satisfied itself as to the existing conditions under which it will be obligated to perform in accordance with specifications of this RFP.

No claim for additional compensation will be allowed due to unfamiliarity with the specifications and/or existing conditions. It shall be understood that the VENDOR has full knowledge of all of the existing conditions and accepts them "as is."

WAYNE STATE UNIVERSITY

E. Delivery of Proposals

Proposals with supporting documentation shall be submitted **by electronic submission**. The link for bid submission will be posted with the bid details at **http://go.wayne.edu/bids** beginning **March 19, 2025.**

The electronic submission should be limited to no more than one of each of the following file types: 1 Word Document and/or 1 Excel Workbook and/or 1 PDF document, with a total file size less than **20 megabytes**. ***ZIP Files containing separate sections of a proposal are not acceptable, drop box submissions are not accepted either.*** If your submission was sent correctly, you will receive an auto-reply message acknowledging receipt of your Proposal.

***

The specific format for responses is detailed in **Section II F** (below). Proposals and **Schedule C, Cost Schedule** must be signed, and the authority of the individual signing must be stated thereon. All responses are to be submitted **by electronic submission** on forms furnished with the Bidding documents:

ATTN.: **Valerie Kreher**, **Senior Buyer**
Wayne State University
RFP: Health Science Research Building- Commissioning Services -2025

The link for bid submission will be posted with the bid details at **http://go.wayne.edu/bids** beginning **March 19, 2025.**

Deadline for receipt of proposals by Procurement & Strategic Sourcing is, **April 2, 2025 by 2:00 p.m. (local time). Proposals received after that time will not be accepted.** No details of the proposal will be divulged at the time of opening.

F. Proposal Format

Proposals need not be voluminous but shall provide sufficient information to allow the Owner to evaluate the Consultant's approach, experience, staff and availability.

Proposals are limited to **25 pages total**, one sided, and eleven (11) point font. (This is inclusive of all required documents and schedules and any optional material included at the discretion of the respondent, but tab sheets and the cover pages do not count in the overall document count.)

Proposals are to be submitted with appropriate indices. Each proposal should provide a straightforward concise description of the VENDOR'S service, approach and ability to meet the UNIVERSITY'S needs as stated in this RFP. Response, Schedules and Exhibits listed below must be included in your proposal:

Response

1. Provide Firm Experience in Commissioning including detail of types of commissioning processes.
2. Provide an organization chart for managing and executing this contract.
3. List the individual(s) who will be the Commissioning Authority for the design phase and for the construction phase of the contract (they may be different people). Describe his or her relevant qualifications and experience. This information is required in addition to any resumes the proposer submits.
4. Provide resumes for key staff and subconsultants. The resumes shall include specific information about expertise in commissioning tasks, (e.g. design reviews, specification writing, commissioning management, troubleshooting, test writing, test execution, energy management, etc.).
5. Briefly describe relevant experience of the proposer's team in the following areas. List each party's involvement.
    a. Projects similar to this one
    b. Energy-efficient system design and optimization
    c. Life cycle costing
    d. Experience in environmental sustainable design
    e. Project and construction management

WAYNE STATE UNIVERSITY

6. Describe your proposed approach to managing the project expertly and efficiently, including distribution of tasks, travel, duration of which staff will be on site during what periods of time, etc. Describe what approach you will take to integrate the commissioning into the normal design and construction process in order to minimize potential time delays. Describe what you will do to foster teamwork and cooperation from contractors and design team and what you will do to minimize adversarial relationships. Describe how you intend to determine the appropriate level of commissioning effort for the various systems and equipment.
7. As an attachment, provide the following work products that members of the proposer's team wrote. List the team member who actually wrote the document and the projects on which they were used. Work from the designated Commissioning Authority is preferred.
    a. Commissioning plan that was executed (the process part of the plan)
    b. Electronic version of an issues log
    c. Construction checklists
    d. An actual functional performance test procedure form that was written & executed

University Provided Schedules (provided in this package)

Schedule A - Proposal Certification, Non-Collusion Affidavit, VENDOR Acknowledgements
Schedule B - Insurance Requirements
Schedule C - Cost Schedule, Summary of Quoted Rates
Schedule D - Summary Questionnaire

Vendor Created Exhibits (to be Submitted with Vendor Proposal)

Exhibit 1 - Exceptions/Restrictions, if any exist (**Section II G**)
Exhibit 2 - Profile / Experience / References (**Section II H**)
Exhibit 3 - VENDOR Service Plan (**Section III)**

Care should be exercised in preparation of the proposals since it is the UNIVERSITY'S intent to have the final contract documentation to consist of a University Strategic Source Agreement (Appendix 5) that incorporates the RFP, VENDOR Proposal, any letters of clarification, and will require the issuance of a Purchase Order for invoicing purposes.

If your firm is qualified to provide both Building Enclosure and MEP Systems and this provides economy to Wayne State University, Please include discount in Fee Proposal where indicated

Unnecessarily elaborate brochures or other presentations beyond those sufficient to present a complete and effective quotation are not desired.

G. Proposal Evaluation

1. Proposals will be evaluated, and award will be based on the VENDOR'S ability to offer the best value (quality, past performance and price), and on anticipated quality of service. Items considered include but are not limited to:

- Ability to meet all mandatory requirements and specifications of this RFP.
- Cost of Services; Compensation and Fees; (Schedule C).
- Financial Strength of the VENDOR.
- Proposal Documentation / Presentation.
- VENDOR'S Experience (Exhibit 2).
- VENDOR Profiles/References; (Exhibit 2).
- VENDOR Service Plan; (Exhibit 3).
- Ability to meet all mandatory requirements and specifications of this RFP
- Key individual experience (see Desired Qualifications)
- Staff experience
- Past experience in performing similar projects.
- Expertise of the team in performing the services required by the Project.
- Proposed approach to the project.
- Work examples
- Fee proposal

NOTE: Evaluation Criteria are in alphabetical order and are not stated in order of preference.

VENDOR proposals will be evaluated by a team consisting of members of the UNIVERSITY'S Purchasing and **Facilities Planning and Management**. A preliminary screening will be used to identify competitive VENDORS who have met the mandatory requirements. Procurement & Strategic Sourcing may subsequently request selected VENDORS to attend an interview or make a presentation at a set time and date, to clarify information provided in the proposals. Final consideration, evaluation, and recommendation may be made at this point. However, the UNIVERSITY reserves the right to take additional time for reference review, site visits and/or proposal negotiations.

2. To qualify for evaluation, a VENDOR'S proposal must be responsive, must have been submitted on time and must materially satisfy all **mandatory requirements** identified throughout the RFP, in the judgment of the UNIVERSITY. **Any deviation from requirements indicated herein must be stated in the proposal specifically under the category "Restricted Services", and clearly identified as Exhibit 1.** Otherwise, it will be considered that proposals are in strict compliance with all requirements. Check the box indicating "None" for Restricted Services on the Proposal Certification Schedule A. In those cases where mandatory requirements are stated, material failure to meet those requirements may result in disqualification of the VENDOR'S response

3. If there are portions of any proposal the UNIVERSITY finds unacceptable or otherwise in need of clarification or revision, the UNIVERSITY reserves the right to clarify or negotiate with any or all VENDORS. Should the outcome of evaluations result in a recommendation, any resulting contract will be subject to the approval of the UNIVERSITY'S General Counsel and must be approved and signed by the appropriate UNIVERSITY representative.

4. After notification of acceptance of proposal and the signing of a resulting agreement and/or Purchase Order, the successful VENDOR will be expected to establish and be in a position to **commence work or services on or before April 30, 2025.**

5. If the commissioning firm's personnel or subconsultants change for this project, the Owner must review and approve the replacement personnel, in advance. The replacement personnel shall have at a minimum, equivalent qualifications as the original personnel.

H. VENDOR Profile, Experience, References, and Lost Accounts

1. VENDOR Profile should include:

VENDOR is required to provide organizational data that demonstrates the size, scope and capability of the Company to handle the UNIVERSITY'S specific requirements specified in this RFP. Explain any company relationships that could be construed to be a conflict of interest in doing business with the UNIVERSITY now or in the future.

Upon University request**, VENDOR must agree to provide publicly distributed annual reports and/or independently audited financial statements** including its statement of financial position, statement of operations, and statement of cash flows for at least the past three years. Vendor must further agree to permit the UNIVERSITY, upon request, to audit VENDOR's books, but only as it relates to the Wayne State University account, including invoicing, operational, and technology controls (when applicable). The University is limited to 1 request per calendar year of this agreement.

If / when requested, failure to agree to this will result in disqualification of your bid (see Schedule D).

Financial Information will be treated as confidential and not added to the publicly permanent RFP file. Requested Financials must be sent to:

ATTN.: Kenneth Doherty, Associate Vice President
Procurement & Strategic Sourcing
Wayne State University
RFP: Health Science Research Building- Commissioning Services -2025
Procurement & Strategic Sourcing
5700 Cass Avenue, 4th Floor - Suite 4200 AAB
Detroit, MI 48202

VENDORS must include a self-addressed envelope marked "Confidential" with their financial statement. Statements will be returned upon completion of any University review.

2. Experience

VENDORS are to state in their proposals their qualifications to meet the RFP specifications in terms of past and current consulting experience with the same or similar requirements. This information should be provided in the VENDOR'S **Exhibit 2** of their proposal. VENDORS are to focus on experiences with organizations having needs similar to that of the UNIVERSITY.

3. References

Upon request**, VENDOR must agree to provide** a minimum of **three (3) qualified references**. Requests for references will come from **Valerie Kreher**, **Senior Buyer**, and will be treated as confidential and not added to the publicly permanent RFP file.

References are to be from organizations that have successfully utilized the products and services. The references supplied should include the name and address of the organization, and the contact's name(s), titles, e-mail, and the telephone numbers.

Failure to provide references (if requested) will result in disqualification of your bid.

4. Lost Accounts and Legal Actions

Upon request**, VENDOR must agree to provide** a list of *significant accounts that the VENDOR has lost during the past three (3) years. "Significant" for this purpose shall be construed to mean accounts representing billings by the VENDOR in the range of* ***$25,000.00*** *or more each year.* ***A lost account can be defined when the vendor has been terminated on a job because of performance or default.*** *Contact names and telephone numbers of affected Companies must be provided.*

Indicate any significant past or pending lawsuits or malpractice claims against the VENDOR.

I. VENDOR Service Plan

Vendors should include a complete description of the products and services offered in their Proposal. The Service Plan should include, but not be limit to:

1. A summary of the products or services to be provided.
2. When applicable, a timeline showing how the Vendor plans to deliver products and/or services to fulfill any contract issued as a result of this RFP.
3. Key staff members at the Vendors organization that will be assigned to the University account or will otherwise be part of an implementation team.
4. Any resource requirements on the part of the University necessary in order for the Vendor to meet its obligations under an agreement resulting from this RFP.
5. Any hardware, software, or other technology the University must have in order to use the Vendors products or services.
6. Any alternative ideas or proposals that should be considered by the University in addition to the base proposal.

III. SCOPE OF WORK AND PROJECT REQUIREMENTS

A. General Information

Wayne State University (hereafter referred to as "Owner") is constructing the new Health Sciences Research Building in Detroit, Michigan. The Owner invites you to submit a proposal ("Proposal") for Building Enclosure Commissioning Authority (BE CxA) **and/or** Monitoring-based MEP Systems Commissioning Authority (MEP MBCxA) as requested in this Request for Proposal (RFP) in accordance with the following documents, which are attached hereto, made a part hereof, and form the Contract Documents, which (upon award) may result from this RFP. The Owner is committed to commissioning this facility to ensure that all systems are well designed, complete, functioning properly and maintainable upon occupancy. Additionally, it is paramount that the Owners staff have adequate system documentation, and training prior to occupancy.

Recipients must read the RFP carefully and understand all the terms and conditions. Submission of a proposal acknowledges that you understand and agree to the terms and conditions.
This RFP requires specific technical responses regarding the selected firm's approach and ability to provide the services required for this project.
Based upon the review of this Proposal, some or all of the respondents may be required to attend an interview with the Owner to support their proposal and answer any additional questions.
The successful firm must demonstrate to the Owner that they best meet the Criteria defined in this RFP.

B. Background

The Owner is seeking the services of a qualified commissioning provider for this new construction project. The project will be located west of St. Antoine, on north side of E. Canfield. The new WSU Health Science Research Building is a five-story, plus penthouse, 170,000 square foot facility.

The current phase of the project is Design Development. Construction is scheduled to begin in Sept 2025, with Substantial Completion planned for March 2028, and occupancy during the Second Quarter of 2027. The following documents are included for review:

1. Schematic Design narrative for project prepared by HKS team.
2. Schematic Design Documents for Building Enclosure.
3. Design Development Progress Documents for MEP Systems.

C. Objectives

The objective of commissioning is to provide documented confirmation that a facility fulfills the functional and performance requirements of the building owner, occupants, and operators. To reach this goal, it is necessary for the commissioning process to establish and document the owner's criteria for system function, performance, and maintainability; as well as, to verify and document compliance with these criteria throughout design, construction, start-up, and the initial period of operation. In addition, complete operation and maintenance (O&M) manuals, as well as training on system operation, should be provided to the building operators to ensure the building continues to operate as intended. The Owner is seeking the services of a qualified commissioning provider for this new construction.

The CxA will be involved throughout the project from the Design Phase through the Warranty Phase. The primary role of the CxA is to carry out all phases of Commissioning in accordance with the Owner's objectives and the contract documents. The CxA will be contracted directly to the Owner and report to the Owner's Project Manager.

D. Scope of Work

The CxA shall be responsible for carrying out the following tasks. The proposer is free to suggest changes and improvements to the following task list, but for this proposal it is assumed that these tasks will be completed. For this proposal, Design, Construction, Acceptance, and Warranty Phase services are required.

It is the intent of Wayne State University to seek LEED Gold certification. In any case this proposal must include efforts for commissioning prerequisites as well as enhanced commissioning requirements. Monitoring-Based Commissioning (MBCx) and Building Envelope Commissioning (BECx) shall be integrated throughout all phases of commissioning.

Building Enclosure Commissioning (BE CxA) Detailed Scope

A. Design Phase

a. Create a preliminary commissioning plan to encompass the Design, Construction, Acceptance and Warranty/Operations Phases.

b. Create and maintain a master issues log and a separate record of outstanding deficiencies throughout the entire commissioning process. Issues shall be categorized by phase of the project. Comments during the design phase shall be recorded in the master issues log for response by the A/E. Report all issues as they occur directly to the Owner's Project Manager and provide a copy to the Construction Manager (CM) and Design Team.

c. Create and maintain a master progress summary to track overall progress throughout the entire project. It shall include an entry for each piece of system component cross-referenced with required tasks by the CxA team.

d. Perform final design review, drawings and specifications at following stages of development: late Design Development and late Construction Documents 95%, complete. Provide comments to the Owner and Design Team for recommendations on improving details related to the exterior envelope.

e. Review system warranties to ensure that the Owner's responsibilities are clearly defined.

f. Review the exterior envelope mock-up drawings and provide comments to the Owner, CM, and Design Team.

g. Determine the commissioning requirements and activities to include in the Construction Documents and Project Manuals, with review by the design team, for integration into the project's construction specifications during final design review.

B. Bid Phase

a. During the bid phase, the CxA shall respond to RFIs and Questions regarding the CxA process. RFIs will be coordinated through the CM. CxA shall comment on any proposed substitution requests pertaining to the scope of this work.

C. Construction Phase

a. Review Design Phase Commissioning Plan and provide suggestions with regards to any updates or changes. Revise, as necessary, to include further details on construction phase related activities, including scope and schedule.

b. Perform the tasks and functions in the specifications ascribed to the Commissioning Authority, per this document, plans, specifications, and the commissioning plan created during the design phase.

c. Request and review additional information required to perform commissioning tasks, including O&M materials until sufficient clarity has been obtained, in writing, to be able to write detailed testing procedures.

d. Review and comment on construction mock-ups.

e. Develop documentation and coordinate the commissioning activities pertaining to the field activities listed below, in a logical, sequential, and efficient manner using consistent protocols and forms, centralized documentation, clear and regular communications and consultations with all necessary parties, frequently updated timelines and schedules and technical expertise.

f. Develop an enhanced system check-in plan that covers all materials delivered to the site included in the commissioning process. Completion of the documentation is to be provided by the CxA with 100% verification.

g. Coordinate the commissioning work with the contractor and CM, ensure that commissioning activities are being incorporated into the master schedule.

h. Review all construction progress meeting minutes focusing on commissioning or topics related to systems undergoing commissioning.

i. Review as applicable, normal Contractor submittals related to systems being commissioned for compliance with commissioning needs. The approved version of the submittal information shall be utilized as part of the Construction and Acceptance Phase work (ie, overrules the project drawings). No formal comment input is required but suggested / preferred since the content from the approved submittals will be utilized throughout creation of all commissioning documentation.

j. Review requests for information and change orders for impact on commissioning and owner's objectives.

k. Review coordination drawings to ensure that trades are making a reasonable effort to coordinate.

l. Continuously update the master issues log and maintain a separate record of outstanding deficiencies throughout the entire commissioning process. Issues shall be categorized by discipline and phase of the project with construction issues indicating Envelope. Report all issues as they occur directly to the Owner's Project Manager and CM and provide written progress reports and test results with recommended actions.

m. Update the master progress summary to track overall progress throughout the construction phase of the project. It shall include an entry for each system cross-referenced with required task by the CxA.

D. Acceptance Phase

a. With necessary assistance and review from installing contractors, write the functional performance test (FPT) procedures for systems.

b. Create, coordinate, perform and document the FPT. Coordinate re-testing as necessary until satisfactory performance is achieved.

c. Prepare test plans for, assist with execution of, and document tests of commissioned systems overseen by regulatory authorities and ensure that such tests meet the testing rigor desired by the Owner.

d. Review system warranties to ensure that the Owner's responsibilities are clearly defined.

e. Review the Owner personnel training agenda, content, schedule and attendees; aid in the coordination of the training activity. Comments shall be recorded in the master issues log for response by the A/E.

f. Review operations and maintenance (O & M) information for system undergoing commissioning and comment as applicable. Comments shall be recorded in the master issues log for response by the A/E.

g. Update the master issues log and the separate record of outstanding deficiencies throughout the Acceptance Phase Commissioning Process. Issues shall be categorized by discipline indicating the appropriate Acceptance Phase activities (eg., FPT).

h. Compile contractual sections of the Final Commissioning Report, which shall include the following content:

i. An executive summary report shall be created that includes a list of participants and roles, general project information, commissioned systems summary, and a general description of testing and verification methods for each piece commissioned. The report should contain a deposition by the commissioning provider regarding the adequacy of the system, and associated documentation meeting the contract documents in the following areas:

1. Systems meeting the specifications
2. System installation
3. Functional performance and efficiency
4. Operator/Owner training

ii. All outstanding non-compliance items shall be specifically listed in addition to suggested improvements to equipment or operations, energy conservation measures, commissioning process changes, ongoing / re-commissioning recommendations, lessons learned, and facility improvement measures. Each non-compliance issue shall be referenced to the specific Master Issue Log ID and subsequent functional test, inspection, trend logs, etc. where the deficiency is documented.

iii. Also included in the Final Commissioning Report as an appendices; shall be commissioning plan, the master issues log, (including review comments from entire project), training record,

completed pre-installation checklists, and functional performance test (FPT) results, and critical decision making commissioning communication.

E. Operations / Warranty Phase

a. Provide a 10-month warranty phase review consisting of the following activities:

i. Survey of building stakeholders / occupants
ii. Update Final Commissioning Report
iii. Update the Systems Manual (as needed)

b. As applicable, provide deferred functional performance testing for any systems that were not tested during the Acceptance Phase or that were tested during less than ideal conditions.

F. Systems to be Commissioned -- The following systems and assemblies will be commissioned:

Building enclosure systems - with focus on the following:

a. Exterior wall system
b. Exterior roofing and sheet metal (including infrared imaging)
c. Exterior expansion joints
d. Exterior caulking and sealing
e. Air leakage with blower door testing
f. Material compatibility
g. Flashing and counter flashing
h. Thermal and moisture protection
i. Waterproofing and dampproofing (including static and dynamic water penetration)

* NOTE: Building Enclosure CxA work will consist of two design phase review/comment sessions, eight meetings (virtual) with Design Assist partners, ten construction phase inspections, including mock-ups, two acceptance phase inspections, and at least one warranty phase inspection.

G. Desired Qualifications

It is the Owner's desire for the person(s) designated as Commissioning Authority (CxA) to satisfy as many of the following requirements as possible:

- Acted as the principal Commissioning Authority for at least five (5) projects over 100,000 sf.
- Extensive experience in the operation and troubleshooting of exterior envelope systems.
- Extensive field experience is required. A minimum of five 5 full years in this type of work is preferred.
- Knowledgeable in building operation and maintenance and O&M training.
- Experienced in energy-efficient building design and system optimization.
- Excellent verbal and written communication skills. Highly organized and able to work with both management and trade contractors.
- Experienced in writing commissioning specifications.
- Membership with the AABC Commissioning Group (ACG), the Building Commissioning Association (BCxA), or the National Environmental Balancing Bureau (NEBB) will be considered a plus.
- Demonstrated successful experience with commissioning of research facilities.

The required expertise for this project will be based on skill and experience set of the full team making the proposal. A member of the firm will be the designated Commissioning Authority who is the member of the team that will coordinate the commissioning activities from the technical perspective. This party may not necessarily be the team's overall project or contract manager. The Commissioning Authority must have significant in-building commissioning experience, including technical and management expertise on projects of similar scope. If the Commissioning Authority or prime firm does not have sufficient skills to commission a specific system, the firm shall subcontract with a qualified party to do so. Subcontractor qualifications shall be included and clearly designated in the response to this RFP.

Monitoring-Based MEP Systems Commissioning (MEP MBCxA) Detailed Scope

A. Design Phase

a. Create a preliminary commissioning plan to encompass the Design, Construction, Acceptance and Warranty/Operations Phases, which shall include selection of fault detection and diagnostic (FDD) software.

b. Create and maintain a master issues log and a separate record of outstanding deficiencies throughout the entire commissioning process. Issues shall be categorized by phase of the project. Report all issues as they occur directly to the Owner's Project Manager and provide a copy to the CM. Comments during the design phase shall be recorded in the master issues log for response by the A/E.

c. Create and maintain a master progress summary to track overall progress throughout the entire project. It shall include an entry for each piece of equipment cross-referenced with required tasks by the CxA team.

d. Perform final design review, drawings and specifications at following stages of development: 50% Design Development and Construction Documents 95%, complete.

e. Determine the commissioning requirements and activities to include in the Construction Documents, with review by the design team, for integration into the project's construction specifications during final design review.

f. Coordinate a controls integration meeting where the MEP design engineers discuss sequences of operation, integration between equipment, systems and disciplines to ensure that any issues identified and responsibilities for resolution are clearly described in the specifications.

* NOTE: MEP MBCxA work will consist of two design phase review/comment sessions and ten meetings (virtual) with Design Assist partners.

B. Bid Phase

a. During the bid phase, the CxA shall respond to RFIs and Questions regarding the CxA process. RFIs will be coordinated through the CM. CxA shall comment on any proposed substitution requests pertaining to the scope of this work.

C. Construction Phase

a. Review Design Phase Commissioning Plan and provide suggestions with regards to any updates or changes. Revise, as necessary, to include further details on construction phase related activities, including scope and schedule.

b. Perform the tasks and functions in the specifications ascribed to the Commissioning Authority, per this document, plans, specifications, and the commissioning plan created during the design phase.

c. Develop documentation and coordinate the commissioning activities pertaining to the field activities listed below, in a logical, sequential and efficient manner using consistent protocols and forms, centralized documentation, clear and regular communications and consultations with all necessary parties, frequently updated timelines and schedules and technical expertise.

d. Develop an enhanced equipment check-in plan that covers all equipment delivered to the site included in the commissioning process. Completion of documentation is to be provided by the CxA with 100% verification.

e. Develop an enhanced equipment installation plan that covers all equipment being commissioned onsite. Completion of the documentation is to be provided by the Cx contractor with 100% verification.

f. Review the contractor provided enhanced start-up and initial systems checkout plans with contractors for systems being commissioned and perform site visits, as necessary, to observe component and system startup as required. Attend planning and job-site meetings focused on systems startup to obtain information on construction progress and document systems startup by reviewing contractor/manufacturer start-up reports and by selected site observations. Attain copies of all startup

and associated testing documentation and assist in resolving any discrepancies. Completion of the documentation is to be provided by the Cx contractor with 100% verification.

g. Coordinate the commissioning work with the contractor and Construction Manager (CM), ensure that commissioning activities are being incorporated into the master schedule.

h. Review all construction progress meeting minutes focusing on commissioning or topics related to systems undergoing commissioning.

i. Coordinate a follow-up controls integration meeting where the MEP design team, controls sub-contractor, TAB contractor and CxA discuss integration issues between equipment, systems and disciplines to ensure that integration issues and responsibilities are clearly described in the specifications. Integrate and test FDD software for real-time monitoring, and verify proper mapping of monitoring points and calibration of sensors.

j. Request and review additional information required to perform commissioning tasks, including O&M materials, contractor start-up and checkout procedures. Before startup, gather and review the current control sequences and interlocks and work with contractors and design engineers until sufficient clarity has been obtained, in writing, to be able to write detailed testing procedures.

k. Review as applicable, normal Contractor submittals related to systems being commissioned for compliance with commissioning needs. The approved version of the submittal information shall be utilized as part of the Construction and Acceptance Phase work (ie, overrules the project drawings). No formal comment input is required but suggested / preferred since the content from the approved submittals will be utilized throughout creation of all commissioning documentation.

l. Review requests for information and change orders for impact on commissioning and owner's objectives.

m. Review coordination drawings to ensure that trades are making a reasonable effort to coordinate.

n. Testing, Adjusting and Balancing (TAB) Administration: verify that all TAB submittals meet design documents prior to starting any field work; review air and hydronic systems testing, adjusting and balancing (TAB) reports; add all issues identified by TAB contractor to Master Cx Issues Log and track any outstanding issues (ensuring they get resolved as soon as reasonably possible to facilitate accurate TAB work); schedule an onsite verification of recorded readings. This shall consist of a minimum of one 8-hour day for hydronic and air systems (ie, one day each, following the review of report by MEP design team).

o. Continuously update the master issues log and maintain a separate record of outstanding deficiencies throughout the entire commissioning process. Issues shall be categorized by discipline and phase of the project with construction issues indicating Mechanical or Electrical. Report all issues as they occur directly to the WSU Project Manager and CM and include in written progress reports and test results with recommended actions.

p. Update the master progress summary to track overall progress throughout the construction phase of the project. It shall include an entry for each piece of equipment cross-referenced with required task by the CxA.

D. Acceptance Phase

a. With necessary assistance and review from installing contractors, write the functional performance test (FPT) procedures for equipment and systems. This will include manual functional testing, energy management control system trending and may include stand-alone data-logger monitoring. Submit to the WSU Project Manager for approval by the Owner.

b. Coordinate the creation of functional performance trend logs and monitoring data to verify performance.

c. Create, coordinate, perform and document the FPT. Coordinate re-testing as necessary until satisfactory performance is achieved. The FPT shall include operating the system and components through each of the written sequences of operation, and other significant modes and sequences, including startup, shutdown, unoccupied mode, manual mode, staging, miscellaneous alarms, power failure, security alarm when impacted and interlocks with other systems or equipment. Sensors and actuators shall be calibrated during the startup testing and verification phase by the installing contractors and spot-checked by the commissioning provider during FPT. Review and verify graphics meets needs to track and troubleshoot systems.

d. FPT on respective HVAC equipment shall be executed, if possible, during both the heating and cooling season. However, some overwriting of control values to simulate conditions shall be allowed per the final Commissioning Plan. FPT shall be done using conventional manual methods, control system trend logs, and read-outs or stand-alone data loggers, to provide a high level of confidence in proper system function, as deemed appropriate by the commissioning provider and the Owner.

e. Prepare test plans for, assist with execution of, and document tests of commissioned equipment overseen by regulatory authorities and ensure that such tests meet the testing rigor desired by the Owner. Validate correct operation of FDD software and real-time monitoring capabilities.

f. Review equipment warranties to ensure that the Owner's responsibilities are clearly defined.

g. Review the Owner personnel training agenda, content, schedule and attendees; aid in the coordination of the training activity. Comments shall be recorded in the master issues log for response by the A/E.

h. Review operations and maintenance (O & M) information for system undergoing commissioning and comment as applicable. Comments shall be recorded in the master issues log for response by the A/E.

i. Update the master issues log and the separate record of outstanding deficiencies throughout the Acceptance Phase Commissioning Process. Issues shall be categorized by discipline indicating the appropriate Acceptance Phase activities (e.g., FPT). Report all issues as they occur directly to the WSU Project Manager and the CM, and include in written progress reports and test results with recommended actions.

j. Update the master progress summary to track overall progress throughout the construction phase of the project. It shall include an entry for each piece of equipment cross-referenced with required task by the CxA.

k. Compile contractual sections of the Final Commissioning Report, which shall include the following content:

    i. An executive summary report shall be created that includes a list of participants and roles, general project information, commissioned systems summary, and a general description of testing and verification methods for each piece of commissioned equipment. The report should contain a deposition by the commissioning provider regarding the adequacy of the equipment, and associated documentation meeting the contract documents in the following areas:

        1. Equipment meeting the equipment specifications
        2. Equipment installation
        3. Functional performance and efficiency
        4. Equipment documentation
        5. Operator/Owner training

    ii. All outstanding non-compliance items shall be specifically listed in addition to suggested improvements to equipment or operations, energy conservation measures, commissioning process changes, ongoing / re-commissioning recommendations, lessons learned, and facility improvement measures. Each non-compliance issue shall be referenced to the specific Master Issue Log ID and subsequent functional test, inspection, trend logs, etc. where the deficiency is documented.

iii. Also included in the Final Commissioning Report as an appendices; shall be commissioning plan, the master issues log, (including review comments from entire project), training record, test schedules, completed pre-installation, pre-startup, startup construction checklists, manufacturer/contractor start-up reports, functional performance test (FPT) results, testing/adjusting/balancing (TAB) report, trend log analysis, critical decision making commissioning communication.

E. Operations / Warranty Phase

a. From the time the building is turned over to Wayne State University through 10-month post occupancy review, implement continuous Monitoring-Based Commissioning (MBCx) to track building system performance using real-time data analytics and automated fault detection.
   i. Use trend analysis to optimize building system performance and energy efficiency.
   ii. Regularly review fault detection reports and prioritize resolution of critical faults.
   iii. Establish clear procedures for automated work order generation and fault resolution.
   iv. Conduct ongoing training sessions for facilities management to ensure proper use of MBCx data and software

b. Provide a 10-month warranty phase review consisting of the following activities:
   i. Survey of building stakeholders / occupants
   ii. Follow-up functional performance test of primary lab equipment, including a 25% check of terminal laboratory control devices
   iii. Follow-up functional performance test of primary HVAC equipment, including a 10% check of terminal control devices
   iv. Update Final Commissioning Report
   v. Update the Systems Manual (as needed)

c. As applicable, provide deferred functional performance testing for any systems that were not tested during the Acceptance Phase or that were tested during "off-season" conditions.

F. Systems to be Commissioned -- The following systems and assemblies will be commissioned:

a. Temperature control / building automation system
b. All laboratory hoods, biological safety cabinets, and exhaust systems
c. All major equipment of the heating, ventilating and air conditioning systems. For equipment such as VAV boxes can be sampled at rate of 10% or 10 whichever is greater.
d. All major lighting controls systems, including area occupancy status to BMS system and FA interface to lighting controls. For local lighting controls these can be sampled at rate of 10% or 10 whichever is greater.
e. Emergency Power and Lighting; including a full building Blackout/Power outage test.
f. Domestic hot water heating
g. Automatic Watering System

G. Desired Qualifications

It is the Owner's desire for the person(s) designated as Commissioning Authority (CxA) to satisfy as many of the following requirements as possible:

- Acted as the principal Commissioning Authority for at least five (5) projects over 100,000 sf.
- Extensive experience in the operation and troubleshooting of HVAC systems, energy management control systems.
- Extensive field experience is required. A minimum of five 5 full years in this type of work is preferred.
- Knowledgeable in building operation and maintenance and O&M training.
- Knowledgeable in testing, adjusting and balancing (TAB) of both air and hydronic systems.
- Experienced in energy-efficient equipment design and control system optimization.
- Direct experience in monitoring and analyzing system operation using energy management control system trending and stand-alone data logging equipment.
- Excellent verbal and written communication skills. Highly organized and able to work with both management and trade contractors.

- Experienced in writing commissioning specifications.
- A bachelor's degree in mechanical or electrical engineering is strongly preferred, and P.E. license is desired, however, other technical training, past commissioning, and field experience will be considered.
- Membership with the AABC Commissioning Group (ACG), the Building Commissioning Association (BCxA), the National Environmental Balancing Bureau (NEBB), or ASHRAE (ie, Cx Process Management Professional - CPMP) will be considered a plus.
- Demonstrated successful experience with commissioning of research facilities.

The required expertise for this project will be based on the skill and experience set of the full team making the proposal. A member of the prime firm will be the designated Commissioning Authority who is the member of the team that will coordinate the commissioning activities from the technical perspective. This party may not necessarily be the team's overall project or contract manager. The Commissioning Authority must have significant in-building commissioning experience, including technical and management expertise on projects of similar scope. If the Commissioning Authority or prime firm does not have sufficient skills to commission a specific system, the prime firm shall subcontract with a qualified party to do so. Subcontractor qualifications shall be included and clearly designated in the response to this RFP.

IV. GENERAL REQUIREMENTS AND GUIDELINES

A. Terms and Conditions

Any contract between the UNIVERSITY and VENDOR resulting from this RFP will be made using the University's Strategic Source Agreement (Exhibit V). The Agreement will incorporate this RFP and its terms and conditions by reference. Should the Vendor have additional terms to incorporate into the Agreement, the Vendor's Proposal response must include a formal copy of any VENDOR'S terms and conditions applicable to this transaction. Evaluation and acceptance and/or modification of these terms and conditions by the University's General Counsel is essential prior to the award of the contract. If supplied, this should be included in **Exhibit 1** of the Vendor's proposal**. In the event the VENDOR does not supply terms and conditions with their proposal, the University's terms and conditions will govern this transaction**.

B. Joint or Partnering Bids/Proposals

A joint bid/proposal by two or more Vendors proposing to participate jointly in performance of proposed work may be submitted. A single Vendor must be clearly identified as the "Primary Vendor" who will assume responsibility for performance of all other Vendors and all subcontractors. The Primary Vendor must identify itself as such and submit the proposal under its company name and signature. If a contract is awarded in response to a joint bid/proposal, the Primary Vendor must execute the contract and all Partner Vendors must verify in writing that the Primary Vendor is authorized to represent them in all matters relating to the contract. At least one of the Vendors must have attended any and all mandatory Pre-Proposal or other meetings.

C. Price Schedules

VENDOR is to quote the products and services in accordance with specifications set forth in this Request for Proposal. Prices and other requested data must be stated on or in the exact format of **Cost Schedule C.** Vendors must not modify the format of any Price Schedule or to alter its functionality.

Please Note: You must respond using Schedule C. Failure to do so may result in disqualification of your Proposal. VENDOR shall be responsible for all errors and omissions.

A copy of Cost Schedule C is to be provided in Excel format with your electronic submission. The PDF copy will govern if any discrepancies exist between the PDF copy and electronic version.

D. Pricing Variances

No changes shall be made, nor invoices paid for extra changes, alterations, modifications, deviations, and extra orders except upon a written change order from the UNIVERSITY. The UNIVERSITY will not authorize payment for changes, alterations, modifications, deviations, etc. that are a result of VENDOR error.

E. Certification, Affidavit, and Acknowledgements

The Proposal Certification, Non-Collusion Affidavit, and Vendor Acknowledgements, **Schedule A**, must be executed as a part of the VENDOR'S proposal.

F. Publicity

VENDORS must refrain from giving any reference to this project, whether in the form of press releases, brochures, photographic coverage, or verbal announcements, without written approval from the UNIVERSITY.

G. Freedom of Information Act / non-Confidentiality

Wayne State University is subject to the State of Michigan Freedom of Information Act. As such, proposals may be subject to public review after the contracts have been awarded. VENDORS responding to this proposal are cautioned not to include any proprietary information as part of their proposal.

H. Credit References

From time to time, the University is asked to provide credit and business references to potential new Vendors. In the event your company is awarded a contract as a result of your response to this RFP, the University would like the option to include your company as a future reference**.**

I. Insurance Requirements

The University requires Certificates of Insurance per Schedule B for the following types of work: 1) For any and all construction or construction-like work, 2) When work or service is performed on campus, 3) When food is being provided by a private caterer, and 4) When moving services or bus transportation services are being provided. The University reserves the right to require insurance on a case-by-case basis.

When required, VENDORS must indicate in Schedule D that they can meet the insurance requirements found in Schedule B. If awarded a contract, VENDOR must then provide a Certificate of Insurance naming Wayne State University / Office of Risk Management as a certificate holder and the Board of Governors as an additional insured. During the life of the contract, the VENDOR must maintain insurance as stated in Insurance Provisions (Schedule B) and any additional requirements as specified by the UNIVERSITY Office of Risk Management.

For this project, Insurance is **Required**

J. Minority, Woman and Disabled Veteran Owned Business Enterprises (M/W/DBEs)

Specify in your proposal whether ownership of your company is a certified M/W/DVBE. The University, in accordance with guidelines from the MMSDC and WBENC, considers an M/W/DVBE as one that is at least 51% owned, operated, and controlled by an M/W/DVBE, or in case of a publicly owned business, at least 51% of the stock must be owned by an M/W/DVBE.

If the firm is not an M/W/DVBE, describe the firm's partnering relationships (if any) with M/W/DBE and how it plans to support the UNIVERSITY'S goal to award UNIVERSITY business to M/W/DVBEs.

1. Reporting
   The selected firm will identify and fairly consider M/W/DVBE for subcontracting opportunities when qualified firms are available to perform a given task in performing for the UNIVERSITY under the resulting agreement. The selected VENDOR must submit a quarterly M/W/DVBE business report to the UNIVERSITY Procurement & Strategic Sourcing by the 15th of the month following each calendar quarter, specifically the months of April, July, October, and January. Such reports should be sent directly to:

   Kenneth Doherty, Associate Vice President
   Procurement & Strategic Sourcing
   Wayne State University
   Health Science Research Building- Commissioning Services -2025
   5700 Cass Avenue, Suite 4200, AAB
   Detroit, MI 48202

2. Report Detail
   M/W/DVBE business reports must contain, but are not limited to the following:
   - Firm's name, address, and phone number with which the VENDOR has contracted over the specified quarterly period
   - Contact person at the minority firm who has knowledge of the specified information
   - Type of goods and/or services provided over the specified period of time
   - Total amount paid to the minority firm as it relates to the UNIVERSITY account.

Specify in your proposal whether your company is a certified 8(A) firm.

A complete set of the University's Supplier Diversity Program, which includes complete definitions of each of the above, can be downloaded from our web site at

http://procurement.wayne.edu/docs/university_policy_2004_02.doc.

K. Ownership of Documents

All documents prepared by the VENDOR, including but not limited to: tracings, drawings, estimates, specifications, field notes, investigations, studies and reports, shall become the property of the UNIVERSITY. At the UNIVERSITY'S option, such documents will be delivered to UNIVERSITY Procurement & Strategic Sourcing. Prior to completion of the contracted services, the UNIVERSITY shall have a recognized proprietary interest in the work product of the VENDOR.

L. WSU Wage Rates

For construction and construction-like work, Wayne State University requires all project contractors, including subcontractors, who provide labor on University projects to compensate at a rate no less than Wayne State University wage rates.

The rates of wages and fringe benefits to be paid to each class of laborers and mechanics by each VENDOR and subcontractor(s) (if any) shall be not less than the wage and fringe benefit rates prevailing in Wayne County, Michigan, as determined by the United States Secretary of Labor. Individually contracted labor commonly referred to as "1099 Workers" and subcontractors using 1099 workers are not acceptable for work on any of Wayne State's properties. Rates for all counties are available at https://wdolhome.sam.gov/, and Procurement will post the schedules quarterly that pertain to Wayne County on its website at http://procurement.wayne.edu/vendors/wage-rates.php.

Certified Payroll must be provided for each of the contractor's or subcontractor's payroll periods for work performed on any University project. Certified Payroll must accompany Pay Applications, and be fully reconciled with the final Pay Application. Failure to provide certified payroll will constitute a material breach of contract, and pay applications will be returned unpaid, and remain unpaid until satisfactory supporting documents are provided.

Additional information can be found on the University Procurement & Strategic Sourcing's web site at the following URL address: http://procurement.wayne.edu/vendors/wage-rates.php.

PROCEDURE
Construction Bids and other Bids or Proposals for work that includes construction shall contain a WSU Wage Rate clause outlining a contractor's responsibilities under University policy. Each bid solicitation shall include reference to the most current wage determination schedule that contractors can use when preparing their bids.

When compensation will be paid under WSU Wage Rate requirements, the University shall require the following:

The contractor shall obtain and keep an accurate record showing the name and occupation of and the actual wages and benefits paid to each laborer and mechanic employed in connection with this contract.

The contractor shall submit a completed certified payroll document [U.S. Department of Labor Form WH 347] verifying and confirming the WSU Wage and benefits rates for all employees and subcontractors for each payroll period for work performed on this project. The certified payroll form can be downloaded from the Department of Labor website at http://www.dol.gov/whd/forms/wh347.pdf.

A properly executed sworn statement is required from all tiers of contractors, sub-contractors and suppliers which provide services or product of $10,000.00 or greater. Sworn statements must accompany applications for payment. All listed parties on a sworn statement as a subcontractor must submit Partial or Full Conditional Waivers for the amounts invoiced on the payment application. A copy of the acceptable WSU Sworn Statement and Waiver will be provided to the awarded contractor.

If the VENDOR or subcontractor fails to pay the WSU rates of wages and fringe benefits and does not cure such failure within 10 days after notice to do so by the UNIVERSITY, the UNIVERSITY shall have the right, at its option, to do any or all of the following:

- Withhold a portion of payments due the VENDOR as may be considered necessary by the UNIVERSITY to pay laborers and mechanics the difference between the rates of wages and fringe benefits required by this contract and the actual wages and fringe benefits paid.
- Terminate the contract and proceed to complete the contract by separate agreement with another vendor or otherwise, in which case the VENDOR and its sureties shall be liable to the UNIVERSITY for any excess costs incurred by the UNIVERSITY.
- Propose to the Associate Vice President for Business Services / Procurement that the Vendor be considered for Debarment in accordance with the University's Debarment Policy, found on our website at https://policies.wayne.edu/appm/2-8-debarment-policy-on-non-responsible-vendor-in-procurement-transactions .

For more information and a general WSU Wage Rate schedule, see Purchasing Website at:
http://procurement.wayne.edu/vendors/wage-rates.php.

M. Buy American

Wayne State University intends to purchase products in the United States of America whenever an American made* product is available that meets or exceeds the specifications requested and the price is equal to or lower than a foreign made product. Vendors are required to bid American made products whenever available. Vendors may bid foreign made products when:

1) They are specified
2) As an alternate as long as they are technically equal to the product specified.

* (More than 50% of the product is manufactured or assembled in the U.S.A.)

N. Smoke and Tobacco-Free Policies

On August 19, 2015, Wayne State joined hundreds of colleges and universities across the country that have adopted smoke- and tobacco-free policies for indoor and outdoor spaces. Contractors are responsible to ensure that all employees and all subcontractors' employees are in compliance anytime they are on WSU's main, medical, or extension center campuses. The complete policy can be found at http://wayne.edu/smoke-free/policy/.

O. Tax Exempt

Wayne State University is a tax-exempt institution. The Vendor shall include in its proposal and make payment of all Federal, State, County and Municipal taxes, including Michigan State Sales and Use Taxes, now in force or which may be enacted during the progress and completion of the work covered. Information regarding the State of Michigan sales and use tax laws related to construction or other similar work can be found in SOM Revenue Administrative Bulletin 2016-18.

Schedule A
Response to Wayne State University
Request for Proposal
RFP: Health Science Research Building- Commissioning Services -2025
and any Amendments, Thereto

Dated: March 19, 2025

Proposal Certification, Acknowledgements, and Non-Collusion Affidavit

VENDOR is to certify its proposal as to its compliance with the Request for Proposal specifications using the language as stated hereon.

ACKNOWLEDGEMENTS

By virtue of submittal of a Proposal, VENDOR acknowledges and agrees that:

- All of the requirements in the Scope of Work of this RFP have been read, understood and accepted.
- The University's General Requirements and Guidelines have been read, understood and accepted.
- Compliance with the Requirements and/or Specifications, General Requirements and Guidelines, and any applicable Supplemental Terms and Conditions will be assumed acceptable to the VENDOR if not otherwise noted in the submittal in an Exhibit I, Restricted Services.
- The Supplier is presently not debarred, suspended, proposed for debarment, declared ineligible, nor voluntarily excluded from covered transactions by any Federal or State of Michigan department or agency.
- Wayne State University is a constitutionally autonomous public university within Michigan's system of public colleges and universities, and as such, is subject to the State of Michigan Freedom of Information Act 442 of 1976. Any Responses Proposals, materials, correspondence, or documents provided to the University are subject to the State of Michigan Freedom of Information Act, and may be released to third parties in compliance with that Act, regardless of notations in the VENDOR's Proposal to the contrary.
- Any contract between the UNIVERSITY and VENDOR resulting from the RFP will be made using the University's Strategic Source Agreement. The Agreement will incorporate this RFP and its terms and conditions and Vendor's Response Proposal by reference. Should the Vendor have additional terms to incorporate into the Agreement, they will be incorporated into the Agreement as an Appendix.
- Upon University request, VENDOR agrees to provide publicly distributed annual reports and/or independently audited financial statements including its statement of financial position, statement of operations, and statement of cash flows for at least the past three years.
- Upon University request, Vendor agrees to permit the UNIVERSITY to audit VENDOR's books, but only as it relates to the Wayne State University account.
- All of the Terms and Conditions of this RFP and Vendor's Response Proposal become part of any ensuing agreement, regardless of whether the ensuing agreement specifically references the RFP and Vendor's Response Proposal.
- The individual signing below has authority to make these commitments on behalf of Supplier.
- This proposal remains in effect for **[120]** days.

VENDOR, through the signature of its agent below, hereby offers to provide the requested products/services at the prices specified, and under the terms and conditions stated and incorporated into this RFP.

PROPOSAL CERTIFICATION

The undersigned, duly authorized to represent the persons, firms and corporations joining and participating in the submission of this Proposal states that the Proposal contained herein is complete and is in strict compliance with the requirements of the subject Request for Proposal dated **March 19, 2025,** except as noted in Exhibit 1, the "**Restricted Services/Exceptions to RFP**" section of the Proposal. If there are no modifications, deviations or exceptions, indicate "None" in the box below:

☐ **NONE** – There are no exceptions to the University's requirements or terms

☐ **YES** – Exceptions exist as shown in Exhibit 1, Restricted Services.

WAYNE STATE UNIVERSITY

NON-COLLUSION AFFIDAVIT

The undersigned, duly authorized to represent the persons, firms and corporations joining and participating in the submission of the foregoing Proposal, states that to the best of his or her belief and knowledge no person, firm or corporation, nor any person duly representing the same joining and participating in the submission of the foregoing Proposal, has directly or indirectly entered into any agreement or arrangement with any other VENDORS, or with any official of the UNIVERSITY or any employee thereof, or any person, firm or corporation under contract with the UNIVERSITY whereby the VENDOR, in order to induce acceptance of the foregoing Proposal by said UNIVERSITY, has paid or given or is to pay or give to any other VENDOR or to any of the aforementioned persons anything of value whatever, and that the VENDOR has not, directly or indirectly entered into any arrangement or agreement with any other VENDOR or VENDORS which tends to or does lessen or destroy free competition in the letting of the contract sought for by the foregoing Proposal.

The VENDOR hereby certifies that neither it, its officers, partners, owners, providers, representatives, employees and parties in interest, including the affiant, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other proposer, potential proposer, firm or person, in connection with this solicitation, to submit a collusive or sham bid, to refrain from bidding, to manipulate or ascertain the price(s) of other proposers or potential proposers, or to obtain through any unlawful act an advantage over other proposers or the college.

The prices submitted herein have been arrived at in an entirely independent and lawful manner by the proposer without consultation with other proposers or potential proposers or foreknowledge of the prices to be submitted in response to this solicitation by other proposers or potential proposers on the part of the proposer, its officers, partners, owners, providers, representatives, employees or parties in interest, including the affiant.

CONFLICT OF INTEREST

The undersigned proposer and each person signing on behalf of the proposer certifies, and in the case of a sole proprietorship, partnership or corporation, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of their knowledge and belief, no member of the UNIVERSITY, nor any employee, or person, whose salary is payable in whole or in part by the UNIVERSITY, has a direct or indirect financial interest in the award of this Proposal, or in the services to which this Proposal relates, or in any of the profits, real or potential, thereof, except as noted otherwise herein.

Any notice required under the Agreement shall be personally delivered or mailed by first class or certified mail, with proper postage, prepaid, to the Subject VENDOR at the following address:

Company Name: _____

Address: _____

_____

Telephone: (_____)_____

Email address: _____

Submitted by: _____

Signature _____

_____ _____

(Title) (Date)

Schedule B

Insurance Requirements *(Rev 8-2023)*

For this project, Insurance is **Required**

The Vendor, at its sole expense, shall cause to be issued and maintained in full effect for the term of this agreement, insurance as set forth hereunder:

General Requirements

	Type of Insurance	Minimum Requirement
1.	Commercial General Liability (CGL) CGL insurance should be written on ISO form CG 00 01 (or equivalent substitute)	$1,000,000 combined single limit $2,000,000 annual aggregate
2.	Professional Liability	$2,000,000 combined single limit $2,000,000 annual aggregate
3.	Excess Liability (Umbrella)	$5,000,000 per occurrence
4.	Commercial Automobile Liability (including hired and non-owned vehicles)	$1,000,000 combined single limit per accident for bodily injury and property damage, without annual aggregate.
5.	Workers' Compensation (Employers' Liability)	Required by the State of Michigan and Employer's Liability in the amount of $1,000,000 per accident for bodily injury or disease.

Maximum Acceptable Deductibles

Type of Insurance	Deductible
Commercial General Liability	$5,000
Commercial Automobile Liability	0
Workers' Compensation	0
Property - All Risk	$1,000

Coverage

1. All liability policies must be written on an occurrence form of coverage.
2. Commercial General Liability (CGL) includes, but is not limited to: consumption or use of products, existence of equipment or machines on location, and contractual obligations to customers.
3. The Board of Governors of Wayne State University shall be named as an additional insured, but only with respect to accidents arising out of said contract.
4. The additional insured provision shall contain a cross liability clause as follows: "The insurance afforded applies separately to each insured against whose claim is made or suit is brought, except with respects to the limits of the company's liability."
5. The insurance company for each line of insurance coverage will be reviewed and checked per the A.M. Best's Key Rating Guide. **A rating of not less than "A-" is required**

Certificates of Insurance

1. Certificates of Insurance naming Wayne State University / Office of Risk Management as the certificate holder and stating the minimum required coverage must be forwarded to the Office of Risk Management to be verified and authenticated with the agent and/or insurance company.
2. Certificates shall contain a statement from the insurer that, for this contract, the care, and custody or control exclusion is waived.
3. Certificates shall be issued on a ACORD form or one containing the equivalent wording, and require giving WSU a thirty (30) day written notice of cancellation or material change prior to the normal expiration of coverage.
4. Revised certificates must be forwarded to the Office of Risk Management thirty (30) days prior to the expiration of any insurance coverage listed on the original certificate, as follows:

   Wayne State University
   Office of Risk Management
   5700 Cass Avenue, Suite 4622 AAB
   Detroit, MI 48202

Specific Requirements- Individual contracts may require coverage in addition to the minimum general requirement such as, business interruption, higher limits and or blanket fidelity insurance.

Schedule B

Exception to the insurance requirements is to be approved, in writing, by the Office of Risk Management. Exceptions are determined by the type and nature of the contract and the individual contractor.

Schedule B

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 01/01/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: TBD	
Insurance Agent-Broker Address City, State, Zipcode	PHONE (A/C, No, Ext): TBD	FAX (A/C, No): TBD
	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : TBD	
INSURED	INSURER B : TBD	
Vendor Entity Name Address City, State, Zipcode	INSURER C : TBD	
	INSURER D : TBD	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC	Y		TBD (WSU Requires This)	01/01/2000	01/01/2001	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 1,000,000 $ 300,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
A	AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] ALL OWNED AUTOS [X] SCHEDULED AUTOS [X] HIRED AUTOS [X] NON-OWNED AUTOS	Y		TBD (WSU Requires This)	01/01/2000	01/01/2001	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 1,000,000 $ $ $ $
	[ ] UMBRELLA LIAB [ ] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $						EACH OCCURRENCE AGGREGATE $	$ $ $
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N [ ] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		TBD (WSU Requires This)	01/01/2000	01/01/2001	[X] WC STATU-TORY LIMITS [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 100,000 $ 100,000 $ 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is require

The Board of Governors of Wayne State University shall be named as an additional insured, but only with respect to accidents arising out of said contract

CERTIFICATE HOLDER

Wayne State University
Enterprise Risk Management & Insurance
Programs 5700 Cass Avenue, Suite 4622 AAB
Detroit, MI 48202

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Authorized Signature Required

WAYNE STATE UNIVERSITY

Schedule C

(Cost Schedule; Compensation and Fees)

See website:

http://go.wayne.edu/bids

WAYNE STATE UNIVERSITY

SCHEDULE D - SUMMARY QUESTIONNAIRE (2 PAGES)

		YES	ALTERNATIVE
1.	Can your company **commence on or before April 30, 2025 and be completed by As negotiated in the final contract**?	_____	_____
2.	Did you attend **the Optional Pre-Proposal** meeting **on March 26, 2025?**	_____	_____
3.	Did your company provide the required Proposal Certification, Non- Collusion Affidavit and Vendor Acknowledgement**, Schedule A**?	_____	_____
4.	If awarded a contract, will your company provide a certificate of insurance to meet or exceed all our minimum requirements as outlined in **Schedule B?**	_____	**Required**
5.	Did your company complete and provide the Summary **Price Schedule C**, and submit it electronically**?** ***(Zip Files are not acceptable)***	_____	_____
6.	Please complete the following:		
	Total number of employees in your company	_____	
	Year your company was incorporated (year founded)	_____	
7.	Are you or any Officer, Owner or Partner in this company an employee of Wayne State University, or have you been an employee within the past 24 months? If Yes, explain in Exhibit 1.	___ **Yes** ___ **No**	
8.	Are any family members of any Officer, Owner or Partner in this company employees of Wayne State University? If Yes, explain in Exhibit 1.	___ **Yes** ___ **No**	
9.	Did your company provide any exceptions or restricted services as an Exhibit 1?	___ **Yes** ___ **No**	
10.	For any construction or installation work, did your company quote services at WSU Wage Rates and clearly indicate such in your proposal?	_____	_____

11. ADDENDA:

The undersigned affirms that the cost of all work covered by the following Addenda are taken into consideration when providing price and other elements of the vendor's proposal.

Addendum No._____Date_____ Addendum No._____Date_____

Addendum No._____Date_____ Addendum No._____Date_____

Addendum No._____Date_____ Addendum No._____Date_____

WAYNE STATE UNIVERSITY

12. Does your company agree to provide a list of lost accounts in excess of $25,000, if any? _____ _____

13. Does your company agree to provide a minimum of 3 references to the University upon request, with specific contact names and phone numbers? _____ _____

14. Does your company agree to comply with the University Smoke and Tobacco Free Policies? _____ _____

15. If awarded an agreement as a result of this RFP, is your company willing to serve as a future credit reference for the University? _____ _____

Company Name: _____

Address: _____

_____

Telephone: (_____)_____

Email address: _____

Submitted by: _____

Signature _____

_____ _____
(Title) (Date)

WAYNE STATE UNIVERSITY

APPENDIX 1

(Wayne State University Campus Map)

See web site:

http://campusmap.wayne.edu/

A detailed list of Cash & Coin operated lots can be viewed at

https://procurement.wayne.edu/driving-directions-to-campus

APPENDIX 2

New Vendor Set-Up Requirements

If you are a potential new supplier to the University, thank you for your interest in doing business with the Wayne State. The first step will be for you to register on the Wayne State University Supplier/Vendor Registration portal for Businesses and Non-Employee Individual Payees.

If you're an existing supplier to the University, simply disregard the information below.

The supplier database is used for all external payments and to qualify potential U.S. Based suppliers, so these suppliers may be invited to participate in Wayne State University future sourcing/bid selection processes for various products and services. The process should take 15 minutes or less to complete. Before beginning, please have handy a PDF copy of your current W9, insurance certificate (if applicable), and any certifications, such as supplier diversity certifications.

The process is a two-step process. At step one, you'll be asked for your name, company name, and email address. Our system will validate the email domain, and upon validation, will return an email with a separate link to complete the process. You'll navigate through 9 separate screens:

1. Welcome
2. Company or Individual Overview
3. Addresses
4. Contacts
5. Insurance (if applicable)
6. Payment Information
7. Tax Information
8. Conflict of Interest information
9. Certify & Submit

The link for Domestic (U.S. Based) vendors to self-register via our new supplier portal found at **https://solutions.sciquest.com/apps/Router/SupplierLogin?CustOrg=WayneState**

** Foreign Vendors: Please complete the PDF writable vendor registration form **New Vendor Request - Businesses** and email it to **purchasingdocs@wayne.edu** for registration. Be sure to include the appropriate IRS W-8 **

Suppliers with a Disability If you need accessibility assistance or to request our Procurement Personnel to register your company, please contact the Procurement Team at **purchasingdocs@wayne.edu**

WAYNE STATE UNIVERSITY

APPENDIX 3

WSU WAGE RATES

(POSTED SEPARATELY)

See web site:

http://go.wayne.edu/bids

WAYNE STATE UNIVERSITY

APPENDIX 4

DRAWINGS

See web site:

http://go.wayne.edu/bids

APPENDIX 5

WAYNE STATE UNIVERSITY
STRATEGIC SOURCE AGREEMENT

WAYNE STATE UNIVERSITY

STRATEGIC SOURCE AGREEMENT

This Agreement, effective as of the date of the last signature of the authorized representatives (the "Effective Date"), is made by and between Wayne State University, 5700 Cass Avenue, suite 4200, Detroit, Michigan 48202, a constitutional body corporate of the State of Michigan ("University") and, ***(Supplier_Name), (Supplier_Address), (Supplier_City_State_Zip),*** ("the Supplier")

For good and valuable consideration, the parties agree as follows:

1. **General Purpose:** The general purpose of this Agreement is to engage the services of the Supplier to provide ***(Named_Services)*** (**Services**), per the University Request for Proposal dated ***(Quote_Date)*** (the RFP) and the Supplier's response Proposal dated ***(Bid_Date),*** and the Price Schedule attached as Exhibit C. The University has assigned ***(Project_Manager)*** as the Contract Administrator. Only contract directives from the University's Procurement and Strategic Sourcing Department or the Contract Administrator shall be accepted by the Supplier. The Procurement contact for this agreement is **Valerie Kreher**, email; **rfpteam2@wayne.edu**.

2. **General Duties of the Supplier:** The Supplier shall provide the University with ***(Named_Services)*** of superior quality, at competitive pricing, as described in the Statement of Work section of the RFP, which is incorporated by reference into this Agreement. The Supplier agrees to perform such professional services with the standard of professional care and skill customarily provided in the performance of such services. The supplier agrees to perform these services to the reasonable satisfaction of the University during the term of this Agreement.

3. **Term:** The contract period shall be for an initial time-period commencing on the date of the last signature of the authorized representatives, and shall continue through **(Contract_End_Date)** (the "Initial Term"), with the option to renew for up to two additional one-year periods of Services (each a "Renewal Term" and together with the Initial Term, the "Term"), through **(Extension_Date).** Renewal is contingent upon both parties agreeing in writing to do so, based on satisfaction of the price and the Supplier's performance.

4. **The Roles and Responsibilities (Scope of Work):**
The roles and responsibilities of the Supplier are listed in Exhibit A of this agreement.

5. **Wayne State University Wage Rates:** For construction and construction-like work, Wayne State University requires all project contractors, including subcontractors, who provide labor on University projects to compensate at a rate no less than WSU Wage Rates, as indicated on our website at: https://procurement.wayne.edu/vendors/wage-rates. This includes, but is not limited to new construction, building renovation, and installation of furniture or equipment where a construction trade is used (i.e. installation of audiovisual equipment or furniture requiring electrical or carpentry work). The complete policy regarding WSU Wage Rates can be found at https://policies.wayne.edu/appm/2-10-prevailing-wage-construction.

6. **Customer Support:** The Supplier shall have a primary point of contact for the University community. The contact shall be accessible during normal business hours of every business day, 8:00 am to 5:00 pm (Eastern Time).

7. **Business Review Meetings:** In order to maintain the partnership between the University and the Supplier, the University requires regular Business Review meetings. Meetings shall be held on at least an annual basis, or more frequently upon University request. The business review meeting shall include, but not be limited to, the following:
    - Review of Supplier performance as demonstrated in supplier scorecards
    - Review of minimum required reports (see Section 8 below)
    - Review of continuous improvement plans

    Frequency of Business Review meetings will be defined at the end of the Initial Term by mutual agreement.

8. **Reports:** The Supplier will submit applicable monthly and quarterly usage reports, in the format specified below, to the Procurement and Strategic Sourcing Department, which details the usage during the reporting period.
Reports are to be submitted to ***(Project_Manager)*** as listed below:

    Monthly and Year-to Date (YTD) reports are required to be received in an excel format, no later than the 6th of the month following activity, and must include the following information:

    Reports & Statistics

- Quantity and total value of all product being sold & installed
- Total value of tier 2 purchases obtained from Diverse Businesses (M/W/DBE)
- _____
- _____

Upon reasonable request, additional ad hoc reports must be prepared and made available to the University.

9. **Purchase Orders:** Orders will be placed for goods, services or projects as the need arises, or will be issued as blanket orders for each individual fiscal year. Each order will be placed on a University Purchase Order generated through our WayneBuy system. All subsequent invoices, packing tickets, and other correspondence related to the individual order are to include the unique PO number.

10. **Invoicing:** Deliveries or services shall be invoiced on an individual basis and shall be due thirty (30) days after University's receipt and approval of invoice. The invoices must reference the PO number and be submitted to the University's Accounts Payable department via email address: **wsuinvoices@wayne.edu**.

11. **ACH Payments:** ACH payments are both faster and less costly for Suppliers and the University. As a result, this is the University's preferred payment method. The Supplier is expected to enroll in the University's ACH program. The ACH payment agreement form can be downloaded at **https://disbursements.wayne.edu/files/ach_payment_agreement_form.pdf**. The completed form should be digitally signed or signed & scanned, and sent to **vendorach@wayne.edu**.

12. **Tax Exempt:** Wayne State University is a tax-exempt institution. The Supplier shall include in its proposal and make payment of all Federal, State, County and Municipal taxes, including Michigan State Sales and Use Taxes, now in force or which may be enacted during the progress and completion of the work covered. Information regarding the State of Michigan sales and use tax laws related to construction or other similar work can be found in SOM Revenue Administrative Bulletin 2016-18.

13. **eProcurement Requirements:** The University has implemented an eProcurement platform. The Supplier will work in close cooperation with the Procurement Department to adapt to the eProcurement program as required by the University.

14. **Annual Price Increases:** All prices quoted must be firm through September 30, 20__. If a price increase is required at the end of periods two or three, the Supplier must have their request in writing to the Commodity Manager no later than July 31 of the preceding term. Price increases must be justified by citing the appropriate market indices. Price increases will be reviewed and either accepted or rejected in writing.

15. **Confidentiality of Information:** The Supplier agrees to keep confidential and not to disclose to third parties any information provided by the University pursuant to this Agreement unless the Supplier has received prior written consent of the University to make such disclosure. This obligation of confidentiality does not extend to any information that:
    a) Was in the possession of the Supplier at the time of disclosure by the University, directly or indirectly;
    b) Is or has become, through no fault of the Supplier, available to the general public; or
    c) Is independently developed and hereafter supplied to the Supplier by a third party without restriction on disclosure. The provisions of this Section 14 shall survive expiration and termination of this Agreement.

    The Supplier is required to sign the University Confidentiality and Non-Disclosure Agreement. A copy of the Agreement can be found in Exhibit B. If the Supplier is not an individual, the Supplier represents and warrants that it has the authority to bind each of its employees, officers, agents, representatives and consultants to the terms of the Agreement. The Supplier shall be responsible for ensuring such personnel are aware of and comply with all obligations imposed by this Confidentiality and Non-Disclosure Agreement.

16. **Independent Contractor:** The parties expressly acknowledge that the Supplier is an independent contractor. The Supplier is not an agent, partner, or employee of the University. The Supplier shall not have the authority to enter into any contract or agreement to bind the University and shall not represent to anyone that the Supplier has such authority. The Supplier represents and warrants to the University that in performing the Services hereunder, the Supplier will not be in breach of any agreement with a third party. The Supplier declares that it is not a Legislator, elected or appointed officer, or that its firm is not owned or controlled by any Legislator, elected or appointed officer, compensated or uncompensated, member of a State board or commission, or other employee of the State of Michigan (including an employee, officer, or official of Wayne State University). The Supplier agrees that he/she is subject to the University's regulations, laws of the United States and of the State of Michigan, and that, in the event of violation of these, or behavior that is considered to be detrimental to the University or its students, faculty or staff; the University shall have the right to terminate the agreement without prior notice.

17. **Property Rights and Reports:** The Supplier agrees that any computer programs, software, documentation, copyrightable work, discoveries, inventions, improvements, or other products developed by the Supplier solely, or with others, resulting from the performance of this Agreement are the property of the University, and the Supplier assigns all rights therein to the University. The Supplier further agrees to provide the University with any assistance which the University may require to obtain patents or

copyright registrations, including the execution of any documents submitted by the University. This provision shall survive expiration and termination of this Agreement.

18. **Indemnification and Hold Harmless:** The **Supplier** agrees that any personal injury to the Supplier or third parties or any property damage incurred in the course of performance of this Agreement that are not the result of any act or omission on the part of the University shall be the responsibility of the Supplier. The Supplier agrees to indemnify, defend, and hold harmless the University, its governing board, officers, employees, agents, and students from and against any and all costs, losses, damages, liabilities, expenses, demands, and judgments, including court costs and attorneys' fees, whether for personal injury or property damage, infringement of any third party intellectual property right, or any other claim, which may arise out of the Supplier's performance of this Agreement whether caused in whole or in part by the Supplier or anyone for whom the Supplier is responsible, regardless of whether or not it is caused in part by the University.

19. **Non-Discrimination:** The parties agree that in the performance of any contract they shall not discriminate in any manner on the basis of race, creed, color, national origin, age, religion, sex, sexual orientation, marital status or handicap protected by law. Such action shall include, but is not limited to the following: employment, upgrading, demotion, transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation. The **Supplier** certifies that they will conform to the provisions of the Federal Civil Rights Action of 1964, as amended. Information on the Civil Rights Act can be found at **http://www.eeoc.gov/laws/statutes/titlevii.cfm**

20. **Civil Rights Requirements:** The **Supplier** must be in compliance with the directives of the Michigan Department of Civil Rights. The Department of Civil Rights web address is **http://www.michigan.gov/mdcs/0,1607,7-147-6881---,00.html**

21. **Immigration Reform and Control Act of 1986:** The **Supplier** certifies that they do not and will not during the performance of this contract employ illegal alien workers or otherwise violate the provisions of the federal Immigration Reform and Control Act of 1986.

22. **Debarment Status***:* The **Supplier** certifies that they are not currently debarred from submitting bids on contracts nor are they an agent of any person or entity that is currently debarred from submitting bids on contracts. The University's Department Policy can be found at **https://policies.wayne.edu/appm/2-8-debarment-policy-on-non-responsible-vendor-in-procurement-transactions**. State of Michigan information on Debarment can be found at **http://www.michigan.gov/buymichiganfirst/0,1607,7-225-48677-20042--,00.html**. The Federal Debarred Vendor List (Excluded Parties List System) and related links searched at **https://www.dol.gov/agencies/ofccp/debarred-list**

23. **Supplier Liability:** The **Supplier** will be liable for any associated costs of repairs for damage to buildings or other UNIVERSITY property caused by the negligence of the Supplier's employees.

24. **Early Termination by the University:** The UNIVERSITY shall have the right to terminate the contract with the **Supplier** without penalty after the UNIVERSITY'S thirty (30) days written notice of termination to the **Supplier** under the following circumstances:

    1. Default of **Supplier**

       It shall be considered a default whenever the **Supplier** shall:

       a. Disregard or violate material provisions of the contract documents or UNIVERSITY instructions, or fail to execute the work according to the agreed upon schedule of completion and/or time of completion specified, including extensions thereof, or fail to reach agreed upon performance results.

       b. Declare bankruptcy, become insolvent, or assign company assets for the benefit of creditors.

    2. Convenience of the UNIVERSITY

       When termination of the contract is determined to be in the best interest of the University for serving it's community, and its students, faculty, and staff.

    Note: Any contract cancellation notice shall not relieve the SUPPLIER of the obligation to deliver and/or perform prior to the effective date of cancellation.

25. **Cancellation of Contract by the Supplier:** The Supplier must provide a minimum of ninety (90) days written notice of cancellation of contract to the UNIVERSITY regardless of the reason for said termination. Such notification must be sent to:

    Kenneth Doherty, Associate Vice President
    Procurement & Business Services
    Wayne State University
    RFP: Health Science Research Building- Commissioning Services -2025
    5700 Cass Avenue, Suite 4200, AAB

Detroit, MI 48202

26. **Notice:** Any notice to either party hereunder must be in writing signed by the party giving it and shall be served either personally or by registered or certified mail addressed as follows:

To the University:	To the Supplier:
Wayne State University	***(Supplier_Name)***
Kenneth Doherty, Associate VP	***(Supplier Representative)***
Procurement & Strategic Sourcing	***(Representative_Title)***
5700 Cass Avenue, Suite 4200	*(Supplier_Address), (Supplier_City_State_Zip)*
Detroit, MI, 48202	

The above notification addresses as may be modified by either party during the agreement, only by written notice. All such notices shall be effective only when received by the addressee.

27. **Entire Agreement:** This Agreement and its exhibits, along with the RFP dated ***(Quote_Date)*** and the Supplier's Proposal dated ***(Bid_Date)*** (and its attachments, if any), and subsequent clarifications and addenda, constitute the entire agreement between the parties with respect to the subject matter hereof and may not be amended except by a written agreement signed by the Supplier and an authorized representative of the University. The terms of this Agreement shall prevail over any conflicting terms of the RFP and Supplier's Proposal to the extent that there is a conflict. Said terms govern and supersede the standard terms and conditions of individual Purchase Orders, regardless of whether said Purchase Orders specifically reference back to this Agreement.

28. **Modification of Service:** The UNIVERSITY reserves the right to modify the services during the course of the contract, with concurrence of the **Supplier**. Any changes in pricing and rates proposed by the **Supplier** resulting from such changes are subject to acceptance by the UNIVERSITY.

    In the event prices and rates cannot be negotiated to the satisfaction of both parties, the contract may be subject to cancellation and competitive bidding based upon the new specifications.

29. **Severability:** The terms of this Agreement are severable such that if any term or provision is declared by a court of competent jurisdiction to be illegal, void, or unenforceable, the remainder of the provisions shall continue to be valid and enforceable.

30. **Governing Law and Compliance:** This Agreement shall be governed by and construed under the laws of the State of Michigan, without regard to its choice of law rules. Any lawsuits arising from or incident to this Agreement shall be brought in the Michigan Court of Claims. Each party will be individually responsible for compliance with all laws, including anti-discrimination laws, which may be applicable to their respective activities under this Agreement.

31. **Non-Waiver:** The delay or failure of either party to exercise any of its rights under this Agreement for a breach thereof shall not be deemed to be a waiver of such rights, nor shall the same be deemed to be a waiver of any subsequent breach, either of the same provision or otherwise.

32. **Non-Assignment:** The agreement shall be between the UNIVERSITY and the **Supplier,** and the **Supplier** shall neither assign nor delegate the agreement, its rights or obligations, or any of its terms without the express written permission of the UNIVERSITY.

33. **Authority:** The parties warrant that they have the authority to enter into this Agreement and that entering into this Agreement is not restricted or prohibited by any existing agreement to which they are parties.

34. **Non-Exclusivity:** This Agreement does not create an exclusive relationship between Wayne State University and the Supplier. The University reserves the right to use other service providers, in the event it is determined to be in the best interest of the University, its employees, students, or staff.

35. **Credit References:** From time to time, the University is asked to provide credit and business references to potential new Suppliers. Company agrees that it will serve as a Credit Reference for the University with respect to the amount and timeliness of payments.

36. **Financial Reports:** Upon University request, the Supplier must provide publicly distributed annual reports and/or independently audited financial statements including its statement of financial position, statement of operations, and statement of cash flows.

37. **Right to Audit:** Supplier must further agree to permit the UNIVERSITY, upon request, to audit SUPPLIER's books, but only as it relates to the Wayne State University account, including invoicing, operational, and technology controls (when applicable). The University is limited to 1 request per calendar year of this agreement.

38. **Insurance:**

INSURANCE REQUIREMENTS *(Rev 2-2015)*

The Supplier, at its sole expense, shall cause to be issued and maintained in full effect for the term of this Agreement, insurance as set forth hereunder:

General Requirements

	Type of Insurance	Minimum Requirement
1.	Commercial General Liability (CGL) CGL insurance should be written on ISO form CG 00 01 (or equivalent substitute)	$1,000,000 combined single limit $2,000,000 annual aggregate
	Contracts valued at $100,000 per year or more	Umbrella Liability per occurrence and in the annual aggregate of $5,000,000.
2.	Commercial Automobile Liability (including hired and non-owned vehicles)	$1,000,000 combined single limit per accident for bodily injury and property damage, without annual aggregate.
3.	Workers' Compensation (Employers' Liability)	Required by the State of Michigan and Employer's Liability in the amount of $500,000 per accident for bodily injury or disease.

Maximum Acceptable Deductibles

Type of Insurance	Deductible
Comprehensive General Liability	$5,000
Comprehensive Automobile Liability	0
Workers' Compensation	0
Property - All Risk	$1,000

Coverage

1. All liability policies must be written on an occurrence form of coverage.
2. Commercial General Liability (CGL) includes, but is not limited to: personal injury, property damage, consumption or use of products, existence of equipment or machines on location, and contractual obligations to customers.
3. The Board of Governors of Wayne State University shall be named as an additional insured, but only with respect to accidents arising out of said contract, on any of Supplier's or its subcontractors' insurance policies.
4. The additional insured provision shall contain a cross liability clause as follows: "The insurance afforded applies separately to each insured against whose claim is made or suit is brought, except with respects to the limits of the company's liability."
5. The insurance company for each line of insurance coverage will be reviewed and checked per the A.M. Best's Key Rating Guide. **A rating of not less than "A-" is required**.

Certificates of Insurance

1. Certificates of Insurance naming Wayne State University / Office of Risk Management as the certificate holder and stating the minimum required coverage must be forwarded to the Office of Risk Management to be verified and authenticated with the agent and/or insurance company.
2. Certificates shall contain a statement from the insurer that, for this contract, the care, custody, or control exclusion is waived.
3. Certificates shall be issued on a ACORD form or one containing the equivalent wording, and require giving WSU a thirty (30) day written notice of cancellation or material change prior to the normal expiration of coverage.
4. Revised certificates must be forwarded to the Office of Risk Management thirty (30) days prior to the expiration of any insurance coverage listed on the original certificate, as follows:

Wayne State University
Office of Risk Management
5700 Cass Avenue, Suite 4622 AAB
Detroit, MI 48202

Specific Requirements- Individual contracts may require coverage in addition to the minimum general requirement such as, business interruption, higher limits and or blanket fidelity insurance.

Exception to the insurance requirements is to be approved, in writing, by the Office of Risk Management. Exceptions are determined by the type and nature of the contract and the individual contractor.

IN WITNESS WHEREOF, the authorized representatives of the parties have executed this Agreement on ***(Contract_Date)***.

Wayne State University

Signature:

Name: Kenneth Doherty, CPSM

Title: Associate Vice President – Procurement

Date:

Phone: 313-577-3756

email: ac0578@wayne.edu

(Supplier_Name)

Signature:

Name:

Title:

Date:

Phone:

email:

Wayne State University

Signature:

Name: Bethany Gielczyk

Title: Senior Vice President, Business Affairs; Chief Financial Officer, Treasurer

Date:

Phone: 313-577-5426

email: BGielczyk@wayne.edu

EXHIBIT A
Roles & Responsibilities

The roles and responsibilities of the Supplier are listed below.
(Scope_of_Work)

.

EXHIBIT B
Confidentiality and
Non-Disclosure Agreement

Wayne State University, hereafter referred to as "University", has contracted with ***(Supplier_Name)***, hereafter referred to as "The Supplier" to supply ***(Named_Services)*** and related services to the University as defined in and pursuant to the Strategic Source Agreement ("Agreement") between the parties. As part of this Agreement, the undersigned agrees to the terms of this Confidentiality and Non-Disclosure Agreement (the "NDA") as follows:

1) Confidential Information

For the purposes of this NDA the term "Confidential Information" shall mean any non-public, proprietary or confidential information received by the Supplier, from the University, in the course of providing services as described above, including but not limited to:

(i) any and all technical and business information of the University and

(ii) information from third parties related to health care services and research; provided, however, that Confidential Information does not include any information that:

  (a) was in the possession of the Supplier at the time of disclosure by the University, directly or indirectly,

  (b) is or has become, through no fault of the Supplier, available to the general public or

  (c) is independently developed and hereafter supplied to the Supplier by a third party without restriction on disclosure.

2) Use of Information

The undersigned hereby agrees not to use Confidential Information for any purpose except in the performance of services as described above.

3) Reproduction of Materials

The undersigned will not retain or transfer any programming, documentation, or any other University controlled or provided software or other materials. No such materials may be copied or reproduced without the University's express prior written consent, and any copies made shall become the property of the University.

4) Confidentiality

The undersigned agrees to maintain the confidentiality of the Confidential Information, programs, documentation, and any related materials. The undersigned will not share any information regarding the Confidential Information, programs, documentation, and any related materials with any third party, subcontractor, or independent vendor unless expressly given permission in writing by an authorized University official.

5) No Waiver

Nothing in this NDA shall be construed to limit or otherwise reduce the University's rights to enforce its terms. No delay or forbearance by the University in enforcing any rights set forth in this NDA shall be construed to operate as a waiver of such rights.

6) Supplier Employees and Agents

The Supplier represents and warrants that it has the authority to bind each of its employees, officers, agents, representatives and consultants to the terms of the Agreement. The Supplier shall be responsible for ensuring such personnel are aware of and comply with all obligations imposed by this NDA.

7) Breach of Contract

Any breach of this NDA by the Supplier and/or any of its officers, agents, employees, representatives and/or consultants shall be considered a material breach of the Service Provider Agreement or individual Purchase Order. The Supplier and each of its officers, agents, employees, representatives and/or consultants shall be both jointly and individually liable to the University for any Damages as a result of any breach of this NDA.

The Supplier acknowledges and agrees that a breach of this NDA may cause continuing and irreparable injury to the University as a direct result of any such violation, for which the remedies at law may be inadequate, and that the University shall therefore be entitled, in the event of any actual or threatened violation of the NDA by the Supplier, and in addition to any other remedies available to it, to a temporary restraining order and to injunctive relief against the Supplier or the undersigned to prevent any violations thereof, and to any other appropriate equitable relief.

8) Governing Law, Modification

This NDA shall be governed by and construed under the laws (other than the choice or conflict of law provisions) of the State of Michigan. Any legal action arising out of or relating to this NDA shall be brought in the Michigan Court of Claims. The provisions of this NDA may not be amended except in a writing signed on behalf of each party.

The undersigned agrees to the specific terms expressed in this NDA.

Name	( ) Telephone
Title	***(Supplier_Name)*** Company
Signature	Date

WAYNE STATE UNIVERSITY

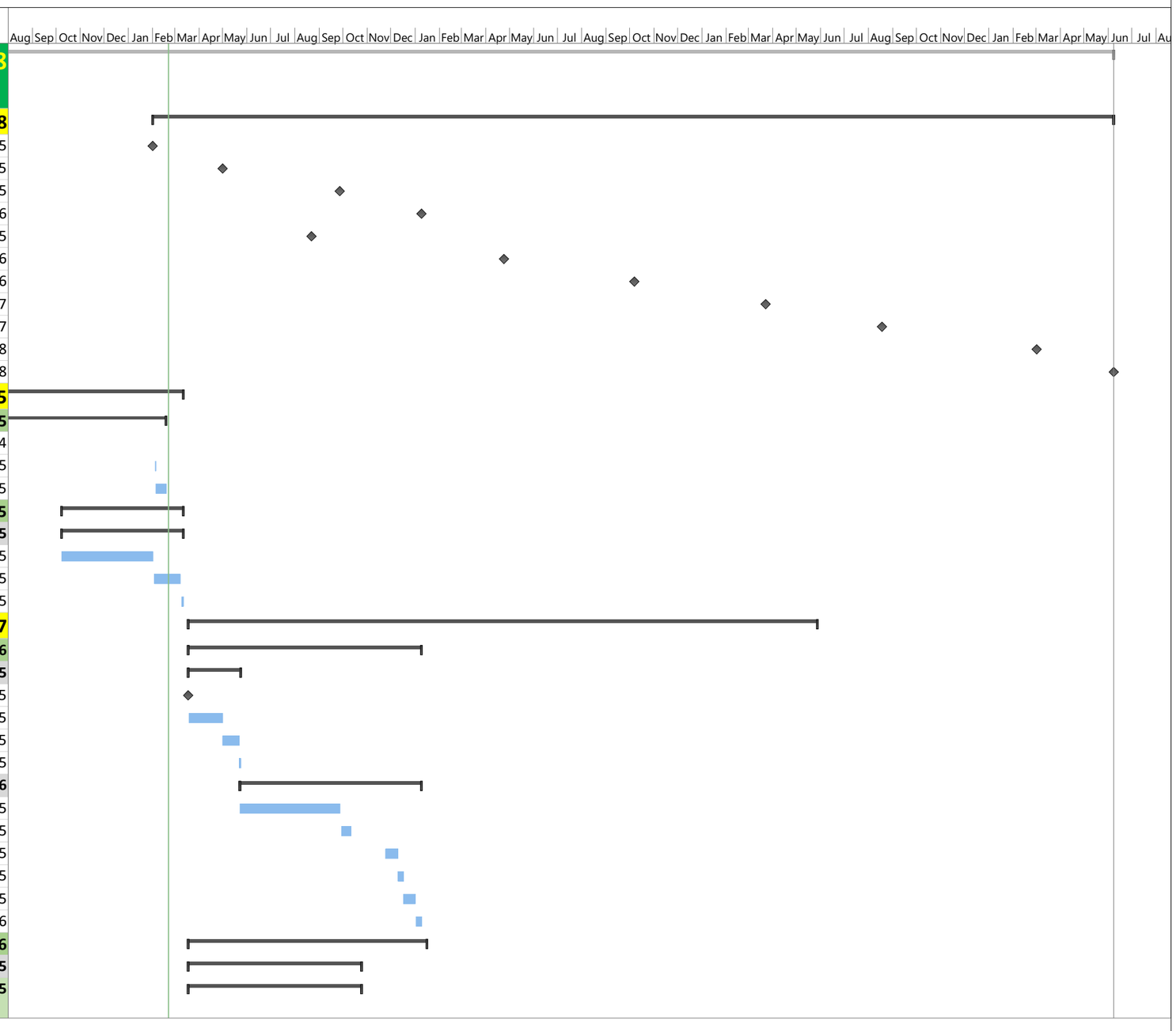
EXHIBIT C

Price or Rate Structure

CHRISTMAN
BUILDING SINCE 1894

Wayne State University
Health Sciences Building
Proposal Schedule

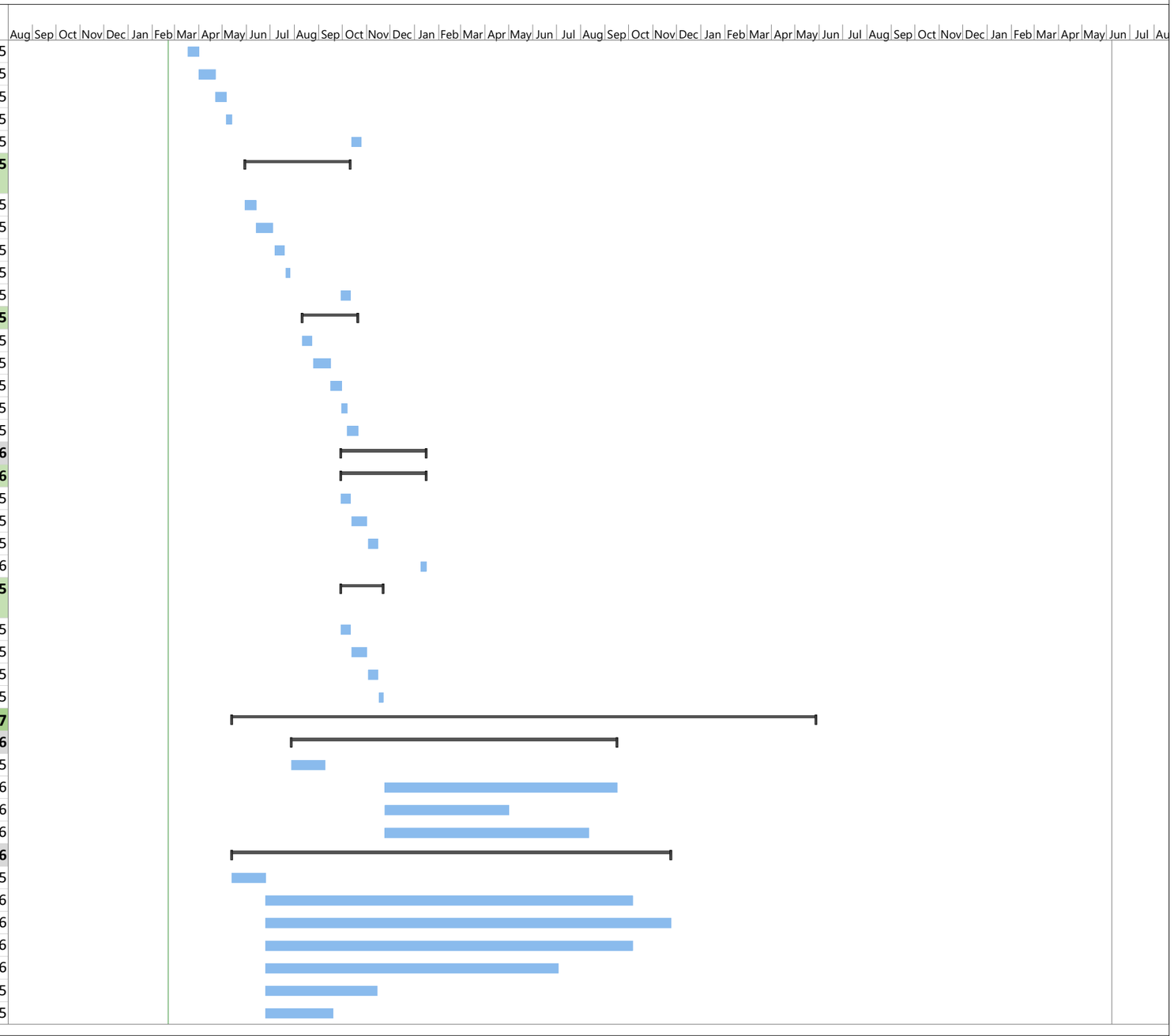
ID	Name	Duration	Start	Finish
0	**Wayne State University - Health Sciences Building**	**1051 d**	**Thu 4/18/24**	**Wed 6/7/28**
1	**Project Milestones**	**851 d**	**Fri 1/31/25**	**Wed 6/7/28**
2	Schematic Drawings Issued	0 d	Fri 1/31/25	Fri 1/31/25
3	Design Drawings Issued	0 d	Wed 4/30/25	Wed 4/30/25
4	Construction Drawings Issued	0 d	Fri 9/26/25	Fri 9/26/25
5	Final Construction GMP Approval	0 d	Thu 1/8/26	Thu 1/8/26
6	Construction Mobilization	0 d	Thu 8/21/25	Thu 8/21/25
7	Structural Steel Erection Completion	0 d	Thu 4/23/26	Thu 4/23/26
8	Temporary Enclosure of Building	0 d	Tue 10/6/26	Tue 10/6/26
9	Building Envelope Completion	0 d	Mon 3/22/27	Mon 3/22/27
10	Site Paving Completion	0 d	Tue 8/17/27	Tue 8/17/27
11	Substantial Completion	0 d	Wed 3/1/28	Wed 3/1/28
12	Owner Move-In	0 d	Wed 6/7/28	Wed 6/7/28
13	**Project Initiation Phase**	**227 d**	**Thu 4/18/24**	**Tue 3/11/25**
14	**Contract Execution**	**211 d**	**Thu 4/18/24**	**Mon 2/17/25**
15	Request for Proposal (RFP)	20 d	Thu 4/18/24	Wed 5/15/24
16	WSU/Christman Contract Issued	1 d	Tue 2/4/25	Tue 2/4/25
17	Contract Execution	9 d	Wed 2/5/25	Mon 2/17/25
18	**Design / Engineering**	**107 d**	**Tue 10/8/24**	**Tue 3/11/25**
19	**Schematic Design**	**107 d**	**Tue 10/8/24**	**Tue 3/11/25**
20	Schematic Design	80 d	Tue 10/8/24	Fri 1/31/25
21	SD Estimate	25 d	Mon 2/3/25	Fri 3/7/25
22	SD Estimate Owner Review	2 d	Mon 3/10/25	Tue 3/11/25
23	**Project Preconstruction**	**559 d**	**Mon 3/17/25**	**Thu 5/27/27**
24	**Design/Engineering**	**206 d**	**Mon 3/17/25**	**Thu 1/8/26**
25	**Design Development**	**49 d**	**Mon 3/17/25**	**Fri 5/23/25**
26	50% DDs	0 d	Mon 3/17/25	Mon 3/17/25
27	Design Development	31 d	Wed 3/19/25	Wed 4/30/25
28	DD Estimate	15 d	Thu 5/1/25	Wed 5/21/25
29	DD Owner Review	2 d	Thu 5/22/25	Fri 5/23/25
30	**Construction Documents**	**158 d**	**Fri 5/23/25**	**Thu 1/8/26**
31	Construction Document Development	88 d	Fri 5/23/25	Fri 9/26/25
32	Construction Document Review	10 d	Mon 9/29/25	Fri 10/10/25
33	GMP - Initial Submission	10 d	Mon 11/24/25	Tue 12/9/25
34	GMP - Initial - Owner Review & Comments	5 d	Wed 12/10/25	Tue 12/16/25
35	GMP - Final Submission	10 d	Wed 12/17/25	Wed 12/31/25
36	Final GMP Approval & Subcontract Finalization	5 d	Fri 1/2/26	Thu 1/8/26
37	**Bid Package Procurement**	**211 d**	**Tue 3/18/25**	**Thu 1/15/26**
38	**Early Bid Packages**	**156 d**	**Tue 3/18/25**	**Fri 10/24/25**
39	**Bid Package #1 - (ERP)MEP Equipment/Exterior Enclosure**	**156 d**	**Tue 3/18/25**	**Fri 10/24/25**



CHRISTMAN
BUILDING SINCE 1894

Wayne State University
Health Sciences Building
Proposal Schedule

ID	Name	Duration	Start	Finish
40	BP1 - Bid at 50% DD Docs - Issue Package	2 wks	Tue 3/18/25	Mon 3/31/25
41	BP1 - Bids Due	3 wks	Tue 4/1/25	Mon 4/21/25
42	BP1 - Post Bid Meetings	2 wks	Tue 4/22/25	Mon 5/5/25
43	BP1 - Contract Award	1 wk	Tue 5/6/25	Mon 5/12/25
44	BP1 - Addendum (CD Docs)/Finalize Subcontra	2 wks	Mon 10/13/25	Fri 10/24/25
45	**Bid Package #2 - Site Utilities/Concrete/Structural Steel/Elevators**	**94 d**	**Fri 5/30/25**	**Fri 10/10/25**
46	BP2 - Bid at CD Docs - Issue Package	2 wks	Fri 5/30/25	Thu 6/12/25
47	BP2 - Bids Due	3 wks	Fri 6/13/25	Thu 7/3/25
48	BP2 - Post Bid Meetings	2 wks	Mon 7/7/25	Fri 7/18/25
49	BP2 - Contract Award	1 wk	Mon 7/21/25	Fri 7/25/25
50	BP2 - Addendum (CD Docs)/Finalize Subcontra	2 wks	Mon 9/29/25	Fri 10/10/25
51	**Bid Package #3 - Scott Hall Bridge**	**50 d**	**Mon 8/11/25**	**Mon 10/20/25**
52	BP3 - Bid at CD Docs - Issue Package	2 wks	Mon 8/11/25	Fri 8/22/25
53	BP3 - Bids Due	3 wks	Mon 8/25/25	Mon 9/15/25
54	BP3 - Post Bid Meetings	2 wks	Tue 9/16/25	Mon 9/29/25
55	BP3 - Contract Award	1 wk	Tue 9/30/25	Mon 10/6/25
56	BP3 - Addendum (CD Docs)/Finalize Subcontra	2 wks	Tue 10/7/25	Mon 10/20/25
57	**Remaining Bid Packages**	**75 d**	**Mon 9/29/25**	**Thu 1/15/26**
58	**Bid Package #4 - Architectural Fit Out/Finishes/I**	**75 d**	**Mon 9/29/25**	**Thu 1/15/26**
59	BP4 - Bid at CD Docs - Issue Package	2 wks	Mon 9/29/25	Fri 10/10/25
60	BP4 - Bids Due	3 wks	Mon 10/13/25	Fri 10/31/25
61	BP4 - Post Bid Meetings	2 wks	Mon 11/3/25	Fri 11/14/25
62	BP4 - Contract Award	1 wk	Fri 1/9/26	Thu 1/15/26
63	**Bid Package #5 - Landscaping/Site Paving/Site Signage**	**40 d**	**Mon 9/29/25**	**Fri 11/21/25**
64	BP5 - Bid at CD Docs - Issue Package	2 wks	Mon 9/29/25	Fri 10/10/25
65	BP5 - Bids Due	3 wks	Mon 10/13/25	Fri 10/31/25
66	BP5 - Post Bid Meetings	2 wks	Mon 11/3/25	Fri 11/14/25
67	BP5 - Contract Award	1 wk	Mon 11/17/25	Fri 11/21/25
68	**Submittals & Material Procurement (Long Lead)**	**519 d**	**Tue 5/13/25**	**Thu 5/27/27**
69	**Civil**	**289 d**	**Mon 7/28/25**	**Tue 9/15/26**
70	Submittal Development & Approvals	30 d	Mon 7/28/25	Mon 9/8/25
71	BioRetention Cell	41 wks	Mon 11/24/25	Tue 9/15/26
72	Underground Structures	22 wks	Mon 11/24/25	Thu 4/30/26
73	Underground Detention System	36 wks	Mon 11/24/25	Mon 8/10/26
74	**Electrical**	**390 d**	**Tue 5/13/25**	**Mon 11/23/26**
75	Submittal Development & Approvals	30 d	Tue 5/13/25	Tue 6/24/25
76	15 KV Outdoor Switchgear	65 wks	Wed 6/25/25	Mon 10/5/26
77	Emergency Diesel Engine Generators	72 wks	Wed 6/25/25	Mon 11/23/26
78	15 KV Fire Pump Switch	65 wks	Wed 6/25/25	Mon 10/5/26
79	300 KVA Pad Mounted Transformer	52 wks	Wed 6/25/25	Thu 7/2/26
80	300 KVA UPS	20 wks	Wed 6/25/25	Thu 11/13/25
81	50 KVA UPS	12 wks	Wed 6/25/25	Thu 9/18/25



CHRISTMAN
BUILDING SINCE 1894

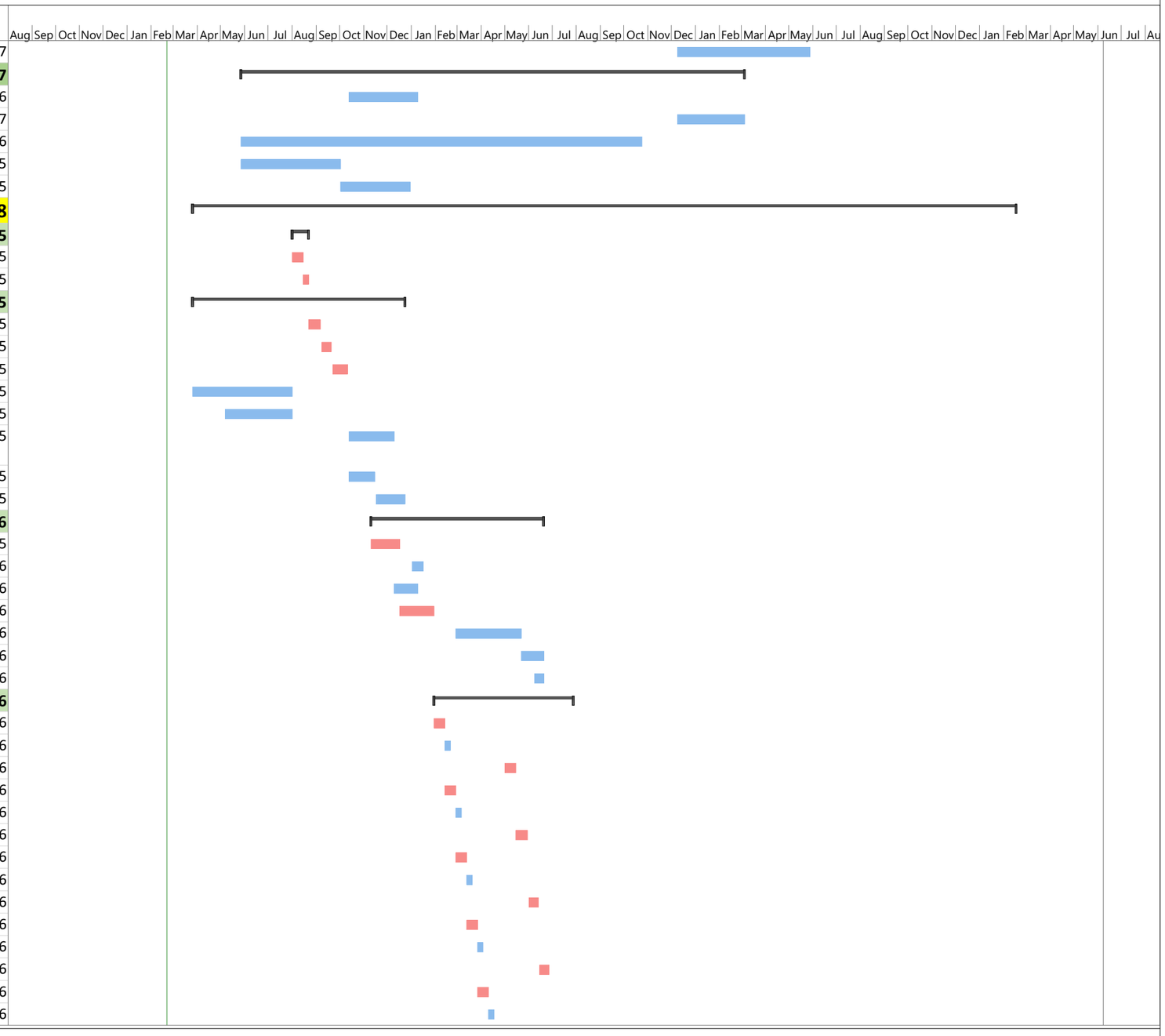
Wayne State University
Health Sciences Building
Proposal Schedule

ID	Name	Duration	Start	Finish
82	Double-Ended 277/480C Switchboards	72 wks	Wed 6/25/25	Mon 11/23/26
83	Step-Down Transformer 208/120V	12 wks	Wed 6/25/25	Thu 9/18/25
84	Lighting Sample Approvals	30 d	Wed 5/28/25	Wed 7/9/25
85	**Mechanical/Plumbing**	**240 d**	**Tue 5/13/25**	**Wed 4/22/26**
86	Submittal Development & Approvals	30 d	Tue 5/13/25	Tue 6/24/25
87	Mechanical Roof Curbs	6 wks	Wed 6/25/25	Wed 8/6/25
88	Air Handling Units	42 wks	Wed 6/25/25	Wed 4/22/26
89	Air Cooled Chillers	28 wks	Wed 6/25/25	Wed 1/14/26
90	Electric Humidifers	25 wks	Wed 6/25/25	Mon 12/22/25
91	Gas Fired Boilers	20 wks	Wed 6/25/25	Thu 11/13/25
92	Air Compressor System	23 wks	Wed 6/25/25	Mon 12/8/25
93	Specialty Clinical Sinks	30 wks	Wed 6/25/25	Wed 1/28/26
94	Reverse Osmosis Generator & Reservoir	26 wks	Wed 6/25/25	Tue 12/30/25
95	Medical Vacuum System	36 wks	Wed 6/25/25	Wed 3/11/26
96	High Purity Deionized Water System & Generato	30 wks	Wed 6/25/25	Wed 1/28/26
97	Chilled Water Pumps	26 wks	Wed 6/25/25	Tue 12/30/25
98	Heating Hot Water Pumps	22 wks	Wed 6/25/25	Mon 12/1/25
99	Plumbing Fixtures	30 wks	Wed 6/25/25	Wed 1/28/26
100	Lab Specialties	24 wks	Wed 6/25/25	Mon 12/15/25
101	**Exterior**	**270 d**	**Tue 5/13/25**	**Thu 6/4/26**
102	Submittal Development & Approvals	30 d	Tue 5/13/25	Tue 6/24/25
103	Exterior Mockup Development	10 d	Wed 6/25/25	Wed 7/9/25
104	Exterior Mockup Procurement & Delivery	10 wks	Thu 7/10/25	Thu 9/18/25
105	Pre-Cast Panels	36 wks	Fri 9/19/25	Thu 6/4/26
106	Curtainwall/Glazing	22 wks	Fri 9/19/25	Wed 2/25/26
107	Terracotta Panels	26 wks	Fri 9/19/25	Wed 3/25/26
108	Metal Rainscreen Panels	18 wks	Fri 9/19/25	Wed 1/28/26
109	**Elevators**	**180 d**	**Mon 7/28/25**	**Fri 4/10/26**
110	Submittal Development & Approvals	30 d	Mon 7/28/25	Mon 9/8/25
111	Hydraulic Elevator	20 wks	Tue 9/9/25	Fri 1/30/26
112	Freight Elevator	30 wks	Tue 9/9/25	Fri 4/10/26
113	**Finishes**	**150 d**	**Fri 1/16/26**	**Mon 8/17/26**
114	Submittal Development & Approvals	30 d	Fri 1/16/26	Thu 2/26/26
115	Sample Approvals	30 d	Fri 1/30/26	Thu 3/12/26
116	Porcelain Floor Tile	12 wks	Fri 3/13/26	Fri 6/5/26
117	Wood Looking LVT	16 wks	Fri 3/13/26	Mon 7/6/26
118	Terrazzo Flooring	16 wks	Fri 3/13/26	Mon 7/6/26
119	Porcelain Wall Tile	16 wks	Fri 3/13/26	Mon 7/6/26
120	Lead Lined Walls	20 wks	Fri 2/27/26	Mon 7/20/26
121	Wood Metal Ceiling Panels	22 wks	Fri 3/13/26	Mon 8/17/26
122	**Structural Steel**	**467 d**	**Mon 7/28/25**	**Thu 5/27/27**
123	Structural Steel - Shop Drawings & Approval	30 d	Mon 7/28/25	Mon 9/8/25
124	Structural Steel - Fab & Deliver	16 wks	Tue 9/9/25	Fri 1/2/26
125	Scott Hall Bridge - Shop Drawings & Approval	30 d	Mon 10/26/26	Tue 12/8/26

CHRISTMAN
BUILDING SINCE 1894

Wayne State University
Health Sciences Building
Proposal Schedule

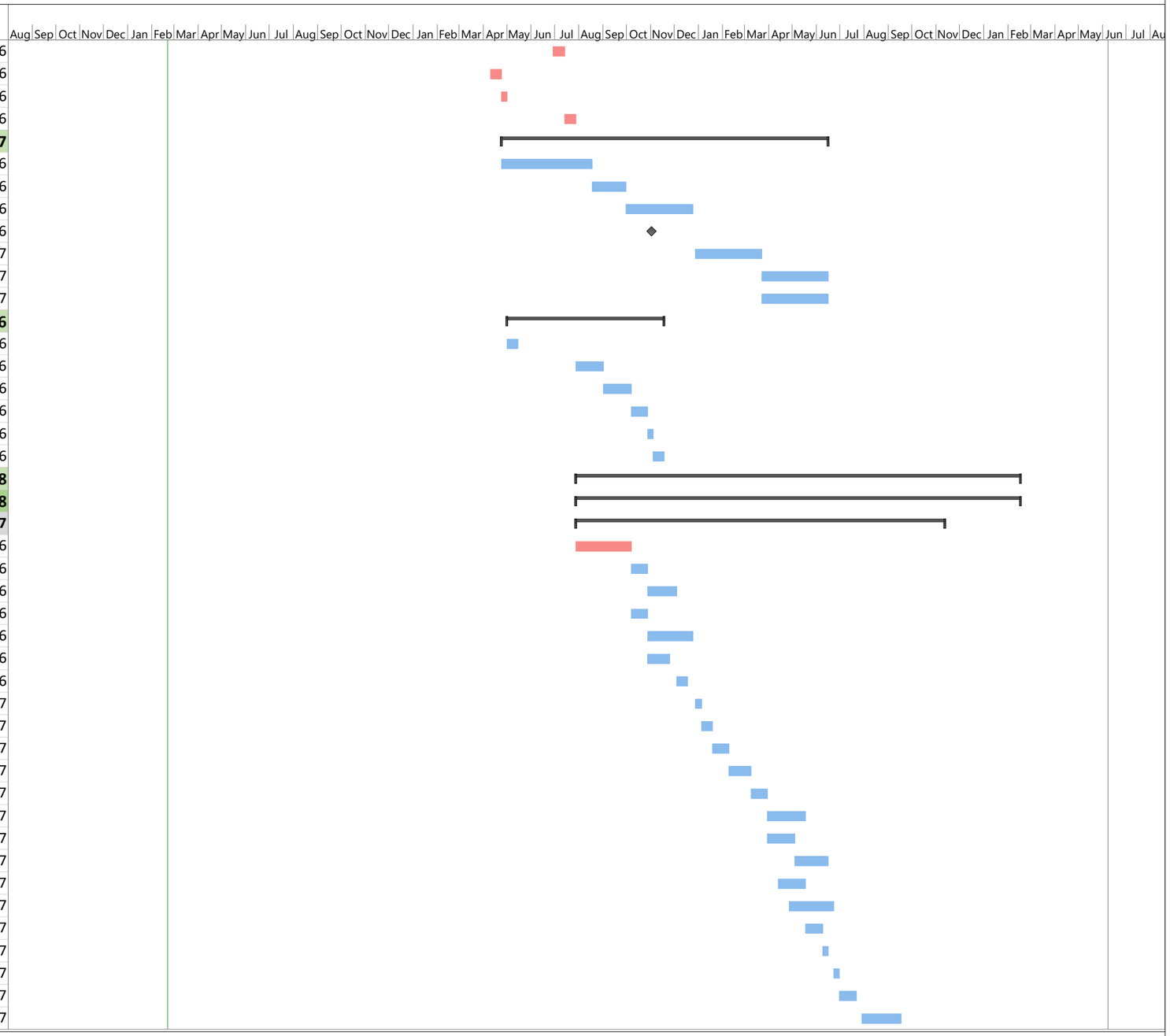
ID	Name	Duration	Start	Finish
126	Scott Hall Bridge - Fab & Delivery	24 wks	Wed 12/9/26	Thu 5/27/27
127	**Permits**	**450 d**	**Tue 5/27/25**	**Thu 3/4/27**
128	State Permitting	60 d	Mon 10/13/25	Thu 1/8/26
129	City of Detroit ROW Permit - Shutdown Canfield	60 d	Wed 12/9/26	Thu 3/4/27
130	City of Detroit - Encroachment Permit	18 mon	Tue 5/27/25	Fri 10/23/26
131	WSU Parcel Reconfiguration	90 d	Tue 5/27/25	Wed 10/1/25
132	Storm Water Permit	60 d	Thu 10/2/25	Mon 12/29/25
133	**Construction**	**735 d**	**Wed 3/26/25**	**Wed 2/16/28**
134	**Mobilization**	**15 d**	**Fri 8/1/25**	**Thu 8/21/25**
135	Site Fencing & Construction Office Setup	10 d	Fri 8/1/25	Thu 8/14/25
136	Site Layout & Control	5 d	Fri 8/15/25	Thu 8/21/25
137	**Site Work**	**190 d**	**Wed 3/26/25**	**Tue 12/23/25**
138	Site Demolition	10 d	Fri 8/22/25	Fri 9/5/25
139	Temporary Roads	10 d	Mon 9/8/25	Fri 9/19/25
140	Site Excavation/Grading	15 d	Mon 9/22/25	Fri 10/10/25
141	Temporary Electrical Service - Building & Trailer	90 d	Wed 3/26/25	Fri 8/1/25
142	Temporary Water Connection	60 d	Wed 5/7/25	Fri 8/1/25
143	Underground Electrical/Telecommunications Ductbanks	40 d	Mon 10/13/25	Tue 12/9/25
144	Storm/Sewer/Fire/Gas Utility Installation	25 d	Mon 10/13/25	Fri 11/14/25
145	Crane Roads/Pad/Erection	25 d	Mon 11/17/25	Tue 12/23/25
146	**Foundations & SOG**	**155 d**	**Mon 11/10/25**	**Fri 6/19/26**
147	Foundations Excavation	25 d	Mon 11/10/25	Tue 12/16/25
148	Foundations - Anchorbolt Placement	10 d	Fri 1/2/26	Thu 1/15/26
149	Earthwork & Aggregates - Building Pad Installation	20 d	Wed 12/10/25	Thu 1/8/26
150	Foundations - Form, Rebar, Place	30 d	Wed 12/17/25	Thu 1/29/26
151	Underground MEP	60 d	Fri 2/27/26	Thu 5/21/26
152	SOG Prep & Place	20 d	Fri 5/22/26	Fri 6/19/26
153	SOG Embeds	10 d	Mon 6/8/26	Fri 6/19/26
154	**Structural Steel & Decks**	**125 d**	**Fri 1/30/26**	**Mon 7/27/26**
155	Erect Steel - Ground Floor to Floor 2	10 d	Fri 1/30/26	Thu 2/12/26
156	Metal Decking/SOD Prep - Floor 2	5 d	Fri 2/13/26	Thu 2/19/26
157	Slab-on-Deck - Floor 2	10 d	Fri 5/1/26	Thu 5/14/26
158	Erect Steel - Floor 2 to Floor 3	10 d	Fri 2/13/26	Thu 2/26/26
159	Metal Decking - Floor 3	5 d	Fri 2/27/26	Thu 3/5/26
160	Slab-on-Deck - Floor 3	10 d	Fri 5/15/26	Fri 5/29/26
161	Erect Steel - Floor 3 to Floor 4	10 d	Fri 2/27/26	Thu 3/12/26
162	Metal Decking - Floor 4	5 d	Fri 3/13/26	Thu 3/19/26
163	Slab-on-Deck - Floor 4	10 d	Mon 6/1/26	Fri 6/12/26
164	Erect Steel - Floor 4 to Floor 5	10 d	Fri 3/13/26	Thu 3/26/26
165	Metal Decking - Floor 5	5 d	Fri 3/27/26	Thu 4/2/26
166	Slab-on-Deck - Floor 5	10 d	Mon 6/15/26	Fri 6/26/26
167	Erect Steel - Floor 5 to Penthouse	10 d	Fri 3/27/26	Thu 4/9/26
168	Metal Decking - Penthouse	5 d	Fri 4/10/26	Thu 4/16/26



CHRISTMAN
BUILDING SINCE 1894

Wayne State University
Health Sciences Building
Proposal Schedule

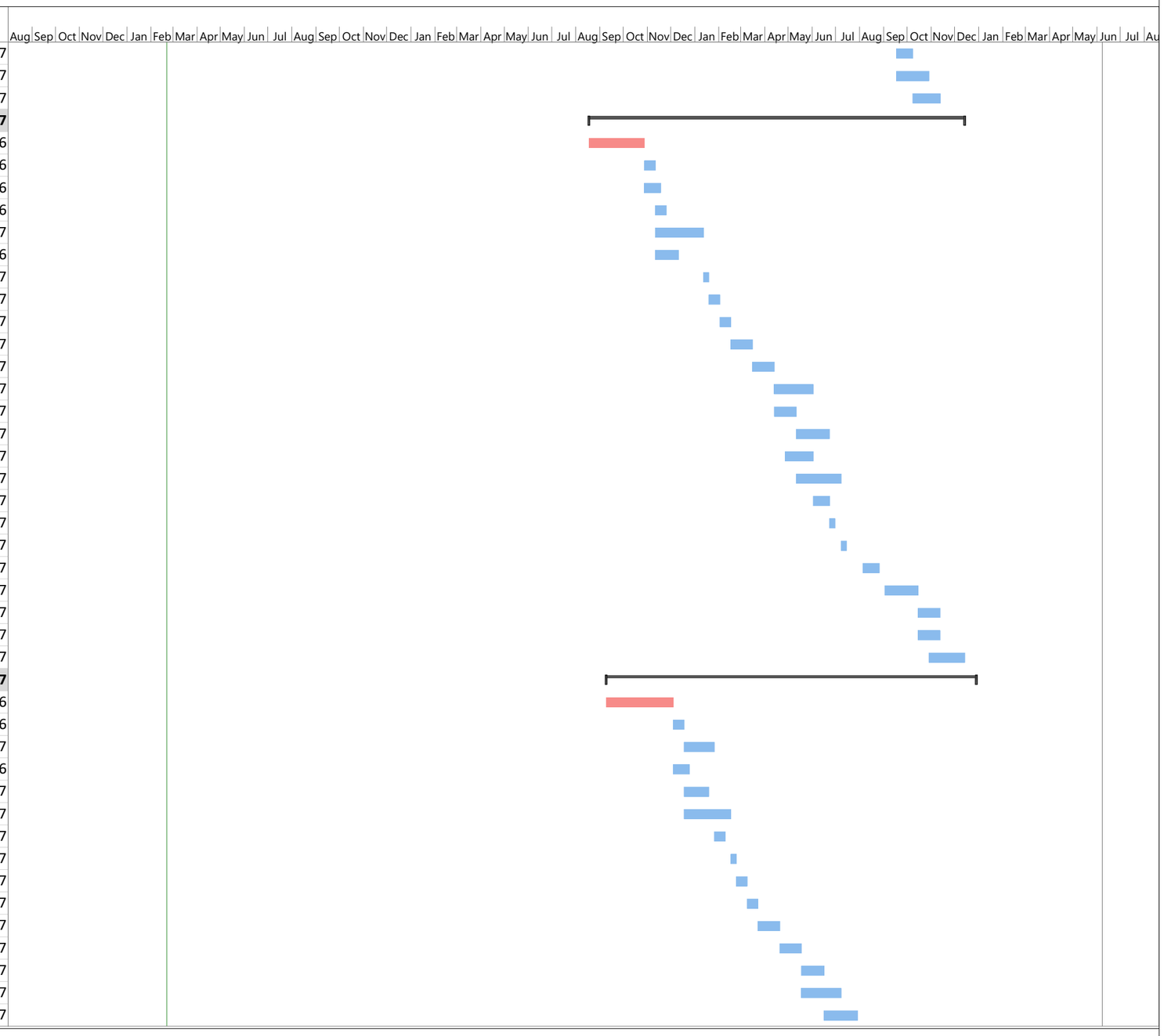
ID	Name	Duration	Start	Finish
169	Slab-on-Deck - Penthouse	10 d	Mon 6/29/26	Mon 7/13/26
170	Erect Steel - Penthouse to Roof	10 d	Fri 4/10/26	Thu 4/23/26
171	Metal Decking - Roof	5 d	Fri 4/24/26	Thu 4/30/26
172	Slab-on-Deck - Roof	10 d	Tue 7/14/26	Mon 7/27/26
173	**Building Enclosure**	**290 d**	**Fri 4/24/26**	**Tue 6/15/27**
174	Exterior Framing	80 d	Fri 4/24/26	Mon 8/17/26
175	Vapor Barrier/Waterproofing	30 d	Tue 8/18/26	Tue 9/29/26
176	Pre-Cast Exterior Panels	60 d	Wed 9/30/26	Thu 12/24/26
177	Temporary Enclosure (If Required)	0 d	Mon 11/2/26	Mon 11/2/26
178	Curtainwall	60 d	Mon 12/28/26	Mon 3/22/27
179	Terracotta Exterior Panels	60 d	Tue 3/23/27	Tue 6/15/27
180	Metal Wall Exterior Panels	60 d	Tue 3/23/27	Tue 6/15/27
181	**Roofing**	**140 d**	**Fri 5/1/26**	**Tue 11/17/26**
182	Equipment Curbs & Rails	10 d	Fri 5/1/26	Thu 5/14/26
183	Roofing Phase #1 - Densdeck and Vapor Barrier	25 d	Tue 7/28/26	Mon 8/31/26
184	Roofing Phase #2 - PVC Roof	25 d	Tue 9/1/26	Tue 10/6/26
185	Roof/Pad Flashings & Trim	15 d	Wed 10/7/26	Tue 10/27/26
186	Roofing Walk Pads	5 d	Wed 10/28/26	Tue 11/3/26
187	Lightning Protection	10 d	Wed 11/4/26	Tue 11/17/26
188	**Building Interiors**	**395 d**	**Tue 7/28/26**	**Wed 2/16/28**
189	**Main Building**	**395 d**	**Tue 7/28/26**	**Wed 2/16/28**
190	**5th Floor**	**330 d**	**Tue 7/28/26**	**Thu 11/11/27**
191	Overhead MEPF	50 d	Tue 7/28/26	Tue 10/6/26
192	Interior Wall Framing	15 d	Wed 10/7/26	Tue 10/27/26
193	Stair Installation	25 d	Wed 10/28/26	Thu 12/3/26
194	Spray Fireproofing	15 d	Wed 10/7/26	Tue 10/27/26
195	In-Wall MEPF	40 d	Wed 10/28/26	Thu 12/24/26
196	Door Frame Installation	20 d	Wed 10/28/26	Tue 11/24/26
197	Drywall - 1 Side	10 d	Fri 12/4/26	Thu 12/17/26
198	In-Wall Inspection/Sign Off	5 d	Mon 12/28/26	Mon 1/4/27
199	Close-In Walls	10 d	Tue 1/5/27	Mon 1/18/27
200	Hang, Tape & Finish Drywall	15 d	Tue 1/19/27	Mon 2/8/27
201	Wall Finishes/Tile	20 d	Tue 2/9/27	Mon 3/8/27
202	Prime/Paint First Coat	15 d	Tue 3/9/27	Mon 3/29/27
203	Ceiling Grid/Frame Installation	35 d	Tue 3/30/27	Mon 5/17/27
204	Millwork/Lab Casework	25 d	Tue 3/30/27	Mon 5/3/27
205	Lab Specialties	30 d	Tue 5/4/27	Tue 6/15/27
206	Plumbing Fixtures	25 d	Tue 4/13/27	Mon 5/17/27
207	Light Fixtures	40 d	Tue 4/27/27	Tue 6/22/27
208	Grilles/Diffusers	15 d	Tue 5/18/27	Tue 6/8/27
209	Spray Fireproofing - Patching	5 d	Wed 6/9/27	Tue 6/15/27
210	Overhead MEPF Inspection	5 d	Wed 6/23/27	Tue 6/29/27
211	Ceiling Tile Installation	15 d	Wed 6/30/27	Wed 7/21/27
212	Flooring	35 d	Thu 7/29/27	Thu 9/16/27



CHRISTMAN
BUILDING SINCE 1894

Wayne State University
Health Sciences Building
Proposal Schedule

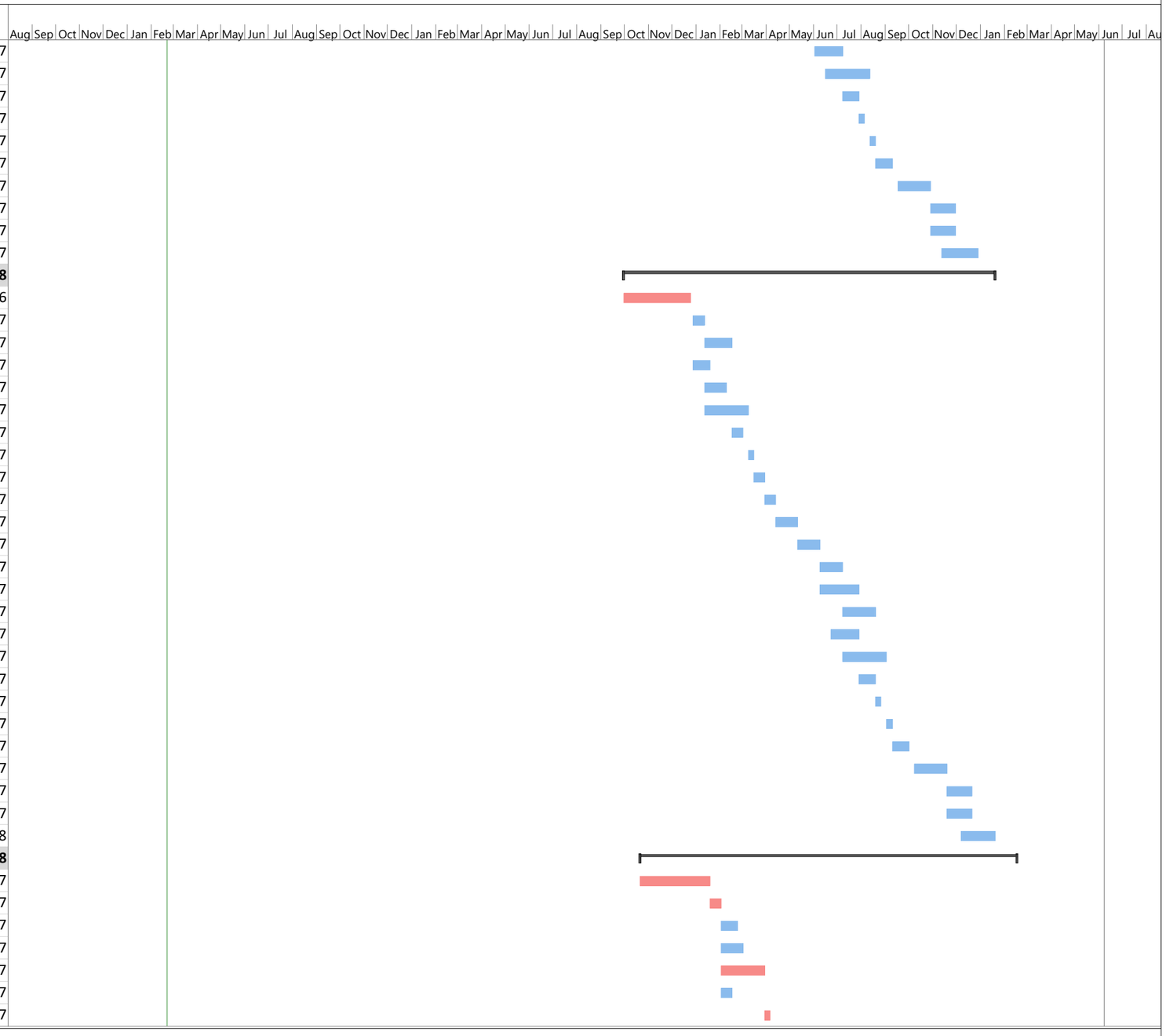
ID	Name	Duration	Start	Finish
213	Finish Paint - 2nd Coat	15 d	Fri 9/17/27	Thu 10/7/27
214	Door Frames/Hardware	30 d	Fri 9/17/27	Thu 10/28/27
215	MEPF Finish Devices	25 d	Fri 10/8/27	Thu 11/11/27
216	**4th Floor**	**335 d**	**Tue 8/18/26**	**Mon 12/13/27**
217	Overhead MEPF	50 d	Tue 8/18/26	Tue 10/27/26
218	Interior Wall Framing	10 d	Wed 10/28/26	Tue 11/10/26
219	Spray Fireproofing	15 d	Wed 10/28/26	Tue 11/17/26
220	Drywall - 1 Side	10 d	Wed 11/11/26	Tue 11/24/26
221	In-Wall MEPF	40 d	Wed 11/11/26	Mon 1/11/27
222	Door Frame Installation	20 d	Wed 11/11/26	Thu 12/10/26
223	In-Wall Inspection/Sign Off	5 d	Tue 1/12/27	Mon 1/18/27
224	Close-In Walls	10 d	Tue 1/19/27	Mon 2/1/27
225	Hang, Tape & Finish Drywall	10 d	Tue 2/2/27	Mon 2/15/27
226	Wall Finishes/Tile	20 d	Tue 2/16/27	Mon 3/15/27
227	Prime/Paint First Coat	20 d	Tue 3/16/27	Mon 4/12/27
228	Ceiling Grid/Frame Installation	35 d	Tue 4/13/27	Tue 6/1/27
229	Millwork/Lab Casework	20 d	Tue 4/13/27	Mon 5/10/27
230	Lab Specialties	30 d	Tue 5/11/27	Tue 6/22/27
231	Plumbing Fixtures	25 d	Tue 4/27/27	Tue 6/1/27
232	Light Fixtures	40 d	Tue 5/11/27	Wed 7/7/27
233	Grilles/Diffusers	15 d	Wed 6/2/27	Tue 6/22/27
234	Spray Fireproofing - Patching	5 d	Wed 6/23/27	Tue 6/29/27
235	Overhead MEPF Inspection	5 d	Thu 7/8/27	Wed 7/14/27
236	Ceiling Tile Installation	15 d	Thu 8/5/27	Wed 8/25/27
237	Flooring	30 d	Thu 9/2/27	Thu 10/14/27
238	Door Frames/Hardware	20 d	Fri 10/15/27	Thu 11/11/27
239	Finish Paint - 2nd Coat	20 d	Fri 10/15/27	Thu 11/11/27
240	MEPF Finish Devices	30 d	Fri 10/29/27	Mon 12/13/27
241	**3rd Floor**	**330 d**	**Wed 9/9/26**	**Tue 12/28/27**
242	Overhead MEPF	60 d	Wed 9/9/26	Thu 12/3/26
243	Interior Wall Framing	10 d	Fri 12/4/26	Thu 12/17/26
244	Stair Installation	25 d	Fri 12/18/26	Mon 1/25/27
245	Spray Fireproofing	15 d	Fri 12/4/26	Thu 12/24/26
246	Door Frame Installation	20 d	Fri 12/18/26	Mon 1/18/27
247	In-Wall MEPF	40 d	Fri 12/18/26	Mon 2/15/27
248	Drywall - 1 Side	10 d	Tue 1/26/27	Mon 2/8/27
249	In-Wall Inspection/Sign Off	5 d	Tue 2/16/27	Mon 2/22/27
250	Close-In Walls	10 d	Tue 2/23/27	Mon 3/8/27
251	Hang, Tape & Finish Drywall	10 d	Tue 3/9/27	Mon 3/22/27
252	Wall Finishes/Tile	20 d	Tue 3/23/27	Mon 4/19/27
253	Prime/Paint First Coat	20 d	Tue 4/20/27	Mon 5/17/27
254	Millwork/Lab Casework	20 d	Tue 5/18/27	Tue 6/15/27
255	Ceiling Grid/Frame Installation	35 d	Tue 5/18/27	Wed 7/7/27
256	Lab Specialties	30 d	Wed 6/16/27	Wed 7/28/27



CHRISTMAN
BUILDING SINCE 1894

Wayne State University
Health Sciences Building
Proposal Schedule

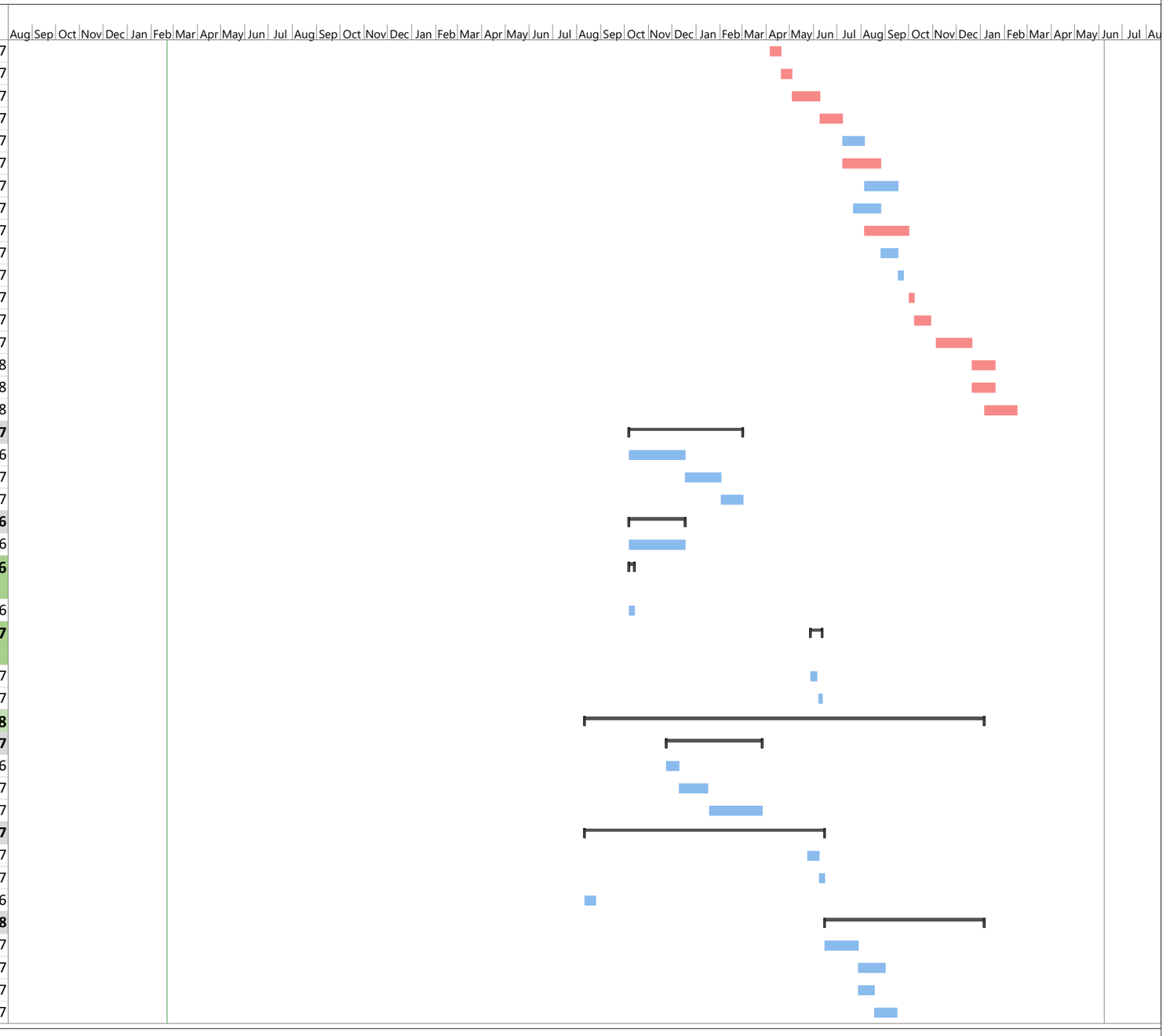
ID	Name	Duration	Start	Finish
257	Plumbing Fixtures	25 d	Wed 6/2/27	Wed 7/7/27
258	Light Fixtures	40 d	Wed 6/16/27	Wed 8/11/27
259	Grilles/Diffusers	15 d	Thu 7/8/27	Wed 7/28/27
260	Spray Fireproofing - Patching	5 d	Thu 7/29/27	Wed 8/4/27
261	Overhead MEPF Inspection	5 d	Thu 8/12/27	Wed 8/18/27
262	Ceiling Tile Installation	15 d	Thu 8/19/27	Thu 9/9/27
263	Flooring	30 d	Fri 9/17/27	Thu 10/28/27
264	Door Frames/Hardware	20 d	Fri 10/29/27	Mon 11/29/27
265	Finish Paint - 2nd Coat	20 d	Fri 10/29/27	Mon 11/29/27
266	MEPF Finish Devices	30 d	Fri 11/12/27	Tue 12/28/27
267	**2nd Floor**	**330 d**	**Wed 9/30/26**	**Wed 1/19/28**
268	Overhead MEPF	60 d	Wed 9/30/26	Thu 12/24/26
269	Interior Wall Framing	10 d	Mon 12/28/26	Mon 1/11/27
270	Stair Installation	25 d	Tue 1/12/27	Mon 2/15/27
271	Spray Fireproofing	15 d	Mon 12/28/26	Mon 1/18/27
272	Door Frame Installation	20 d	Tue 1/12/27	Mon 2/8/27
273	In-Wall MEPF	40 d	Tue 1/12/27	Mon 3/8/27
274	Drywall - 1 Side	10 d	Tue 2/16/27	Mon 3/1/27
275	In-Wall Inspection/Sign Off	5 d	Tue 3/9/27	Mon 3/15/27
276	Close-In Walls	10 d	Tue 3/16/27	Mon 3/29/27
277	Hang, Tape & Finish Drywall	10 d	Tue 3/30/27	Mon 4/12/27
278	Wall Finishes/Tile	20 d	Tue 4/13/27	Mon 5/10/27
279	Prime/Paint First Coat	20 d	Tue 5/11/27	Tue 6/8/27
280	Millwork/Lab Casework	20 d	Wed 6/9/27	Wed 7/7/27
281	Ceiling Grid/Frame Installation	35 d	Wed 6/9/27	Wed 7/28/27
282	Lab Specialties	30 d	Thu 7/8/27	Wed 8/18/27
283	Plumbing Fixtures	25 d	Wed 6/23/27	Wed 7/28/27
284	Light Fixtures	40 d	Thu 7/8/27	Wed 9/1/27
285	Grilles/Diffusers	15 d	Thu 7/29/27	Wed 8/18/27
286	Spray Fireproofing - Patching	5 d	Thu 8/19/27	Wed 8/25/27
287	Overhead MEPF Inspection	5 d	Thu 9/2/27	Thu 9/9/27
288	Ceiling Tile Installation	15 d	Fri 9/10/27	Thu 9/30/27
289	Flooring	30 d	Fri 10/8/27	Thu 11/18/27
290	Door Frames/Hardware	20 d	Fri 11/19/27	Mon 12/20/27
291	Finish Paint - 2nd Coat	20 d	Fri 11/19/27	Mon 12/20/27
292	MEPF Finish Devices	30 d	Tue 12/7/27	Wed 1/19/28
293	**1st Floor**	**335 d**	**Wed 10/21/26**	**Wed 2/16/28**
294	Overhead MEPF	60 d	Wed 10/21/26	Mon 1/18/27
295	Interior Wall Framing	10 d	Tue 1/19/27	Mon 2/1/27
296	Spray Fireproofing	15 d	Tue 2/2/27	Mon 2/22/27
297	Door Frame Installation	20 d	Tue 2/2/27	Mon 3/1/27
298	In-Wall MEPF	40 d	Tue 2/2/27	Mon 3/29/27
299	Drywall - 1 Side	10 d	Tue 2/2/27	Mon 2/15/27
300	In-Wall Inspection/Sign Off	5 d	Tue 3/30/27	Mon 4/5/27



CHRISTMAN
BUILDING SINCE 1894

Wayne State University
Health Sciences Building
Proposal Schedule

ID	Name	Duration	Start	Finish
301	Close-In Walls	10 d	Tue 4/6/27	Mon 4/19/27
302	Hang, Tape & Finish Drywall	10 d	Tue 4/20/27	Mon 5/3/27
303	Wall Finishes/Tile	25 d	Tue 5/4/27	Tue 6/8/27
304	Prime/Paint First Coat	20 d	Wed 6/9/27	Wed 7/7/27
305	Millwork/Lab Casework	20 d	Thu 7/8/27	Wed 8/4/27
306	Ceiling Grid/Frame Installation	35 d	Thu 7/8/27	Wed 8/25/27
307	Lab Specialties	30 d	Thu 8/5/27	Thu 9/16/27
308	Plumbing Fixtures	25 d	Thu 7/22/27	Wed 8/25/27
309	Light Fixtures	40 d	Thu 8/5/27	Thu 9/30/27
310	Grilles/Diffusers	15 d	Thu 8/26/27	Thu 9/16/27
311	Spray Fireproofing - Patching	5 d	Fri 9/17/27	Thu 9/23/27
312	Overhead MEPF Inspection	5 d	Fri 10/1/27	Thu 10/7/27
313	Ceiling Tile Installation	15 d	Fri 10/8/27	Thu 10/28/27
314	Flooring	30 d	Fri 11/5/27	Mon 12/20/27
315	Door Frames/Hardware	20 d	Tue 12/21/27	Wed 1/19/28
316	Finish Paint - 2nd Coat	20 d	Tue 12/21/27	Wed 1/19/28
317	MEPF Finish Devices	30 d	Thu 1/6/28	Wed 2/16/28
318	**Penthouse**	**100 d**	**Wed 10/7/26**	**Mon 3/1/27**
319	Exterior/Roof Enclosure	50 d	Wed 10/7/26	Thu 12/17/26
320	Stair to Roof	30 d	Fri 12/18/26	Mon 2/1/27
321	Equipment Installation	20 d	Tue 2/2/27	Mon 3/1/27
322	**Roof**	**50 d**	**Wed 10/7/26**	**Thu 12/17/26**
323	Exterior/Roof Enclosure	50 d	Wed 10/7/26	Thu 12/17/26
324	**Elliman Connector (NEED TO BUILD OUT THIS SCHEDULE SECTION)**	**5 d**	**Wed 10/7/26**	**Tue 10/13/26**
325	Interior Barricades	5 d	Wed 10/7/26	Tue 10/13/26
326	**Scott Hall Connector (NEED TO BUILD OUT THIS SCHEDULE SECTION)**	**10 d**	**Fri 5/28/27**	**Fri 6/11/27**
327	Interior Barricades	5 d	Fri 5/28/27	Fri 6/4/27
328	Set Bridge/Connector	5 d	Mon 6/7/27	Fri 6/11/27
329	**Site Work Completion**	**355 d**	**Tue 8/11/26**	**Wed 1/5/28**
330	**Generator Yard**	**85 d**	**Tue 11/24/26**	**Fri 3/26/27**
331	Equipment Pads	10 d	Tue 11/24/26	Wed 12/9/26
332	Set Equipment	25 d	Thu 12/10/26	Fri 1/15/27
333	Exterior Enclosure	50 d	Mon 1/18/27	Fri 3/26/27
334	**Site Utilities**	**214 d**	**Tue 8/11/26**	**Mon 6/14/27**
335	BioRetention Cell	10 d	Mon 5/24/27	Mon 6/7/27
336	Pre-Treatment Structures	5 d	Tue 6/8/27	Mon 6/14/27
337	Underground Detention System	10 d	Tue 8/11/26	Mon 8/24/26
338	**Site Finishes**	**141 d**	**Tue 6/15/27**	**Wed 1/5/28**
339	Excavation/Fine Grading	30 d	Tue 6/15/27	Tue 7/27/27
340	Concrete Paving	25 d	Wed 7/28/27	Tue 8/31/27
341	Asphalt Paving	15 d	Wed 7/28/27	Tue 8/17/27
342	Top Soil	20 d	Wed 8/18/27	Wed 9/15/27



CHRISTMAN
BUILDING SINCE 1894

Wayne State University
Health Sciences Building
Proposal Schedule

ID	Name	Duration	Start	Finish
343	Monument Site Signage	10 d	Thu 9/16/27	Wed 9/29/27
344	Landscaping	25 d	Thu 9/16/27	Wed 10/20/27
345	Light Poles & Site Furnishings	15 d	Tue 12/14/27	Wed 1/5/28
346	**Project Closeout**	**169 d**	**Fri 10/8/27**	**Wed 6/7/28**
347	Comissioning/Startup	90 d	Fri 10/8/27	Wed 2/16/28
348	Punch List	40 d	Thu 1/6/28	Wed 3/1/28
349	Substantial Completion	0 d	Wed 3/1/28	Wed 3/1/28
350	FF&E Support	100 d	Wed 1/19/28	Wed 6/7/28
351	Closeout Documentation	60 d	Thu 3/2/28	Wed 5/24/28
352	Owner Move-in	0 d	Wed 6/7/28	Wed 6/7/28

Wayne State University | Health Sciences Research Building

Schematic Design
HKS# 26234.000
January 31, 2025

WAYNE STATE
School of Medicine

HKS

Table of Contents

WAYNE STATE
School of Medicine

HKS

Site – Civil Schematic Design Narrative

Utility Connections

Table 1 - Site Utilities and Entities Involved

Utilities	Entities Involved
Gas	DTE Gas
Electric	DTE Electric
Water Main	Detroit Water and Sewer (DWSD), Great Lakes Water Authority (GLWA)
Combined Sewer	Detroit Water and Sewer (DWSD), Great Lakes Water Authority (GLWA)
Steam Distribution System	Detroit Therman Company
Cable	Comcast
Fiber	Crown Castle, Extenent, Everstream, AT&T, Verizon

I. Water Main

i. Existing Conditions: City of Detroit, DWSD, GLWA
   1. Updated topographic survey information obtained by SDA 12/2024 has been utilized to confirm the location and size of the existing watermain used for civil schematic design.
   2. The updated survey has confirmed the site has City of Detroit and GLWA water mains on all sides of the project site. Within Brush St there is a 16" DWSD water distribution main and a 6'' DWSD water distribution main according to City map rolls and corroborated with the updated survey. Along E Canfield St there is a 42" DWSD water transmission main, a 12'' DWSD water distribution main, and a 6'' DWSD water distribution main according to City map rolls and corroborated with the updated survey. Along St Antoine there is a12" DWSD water distribution main, 42'' DWSD water transmission main, and a 6'' DWSD water distribution main.

ii. Proposed Connections:
   1. Proposed service connection to 16" watermain along Brush St. for fire and domestic service, see Figure 1.
   2. Proposed hydrant on Canfield will connect to the 6'' water main along E Canfield.
   3. SD has confirmed with Osborn the location of water connections to the building based on internal floor plan provided.
      - This connection represents a deviation from the original PIP and 25% SD water lead proposed locations and connection within Canfield as identified in Figure 3.
      - Length of proposed water lead connection to Brush exceeds the 200' maximum allowable per DWSD standards without a flush mechanism (i.e. hydrant), or a loop system to avoid stagnant water.

iii. Next Steps:
   1. SD to analyze proposed water service for length and value engineer prior to meeting with DWSD to confirm their acceptance of additional length.

Figure 1: Proposed School of Medicine Connection to 16” WM in Canfield

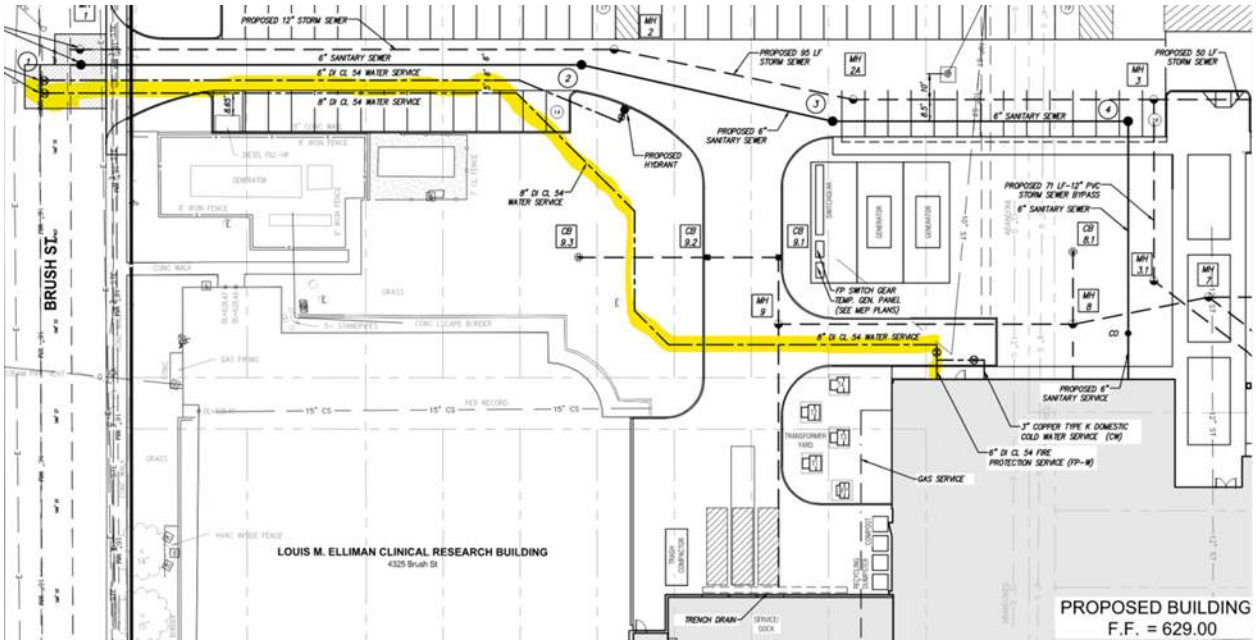


Figure 2: Proposed School of Medicine Hydrant Location on Canfield

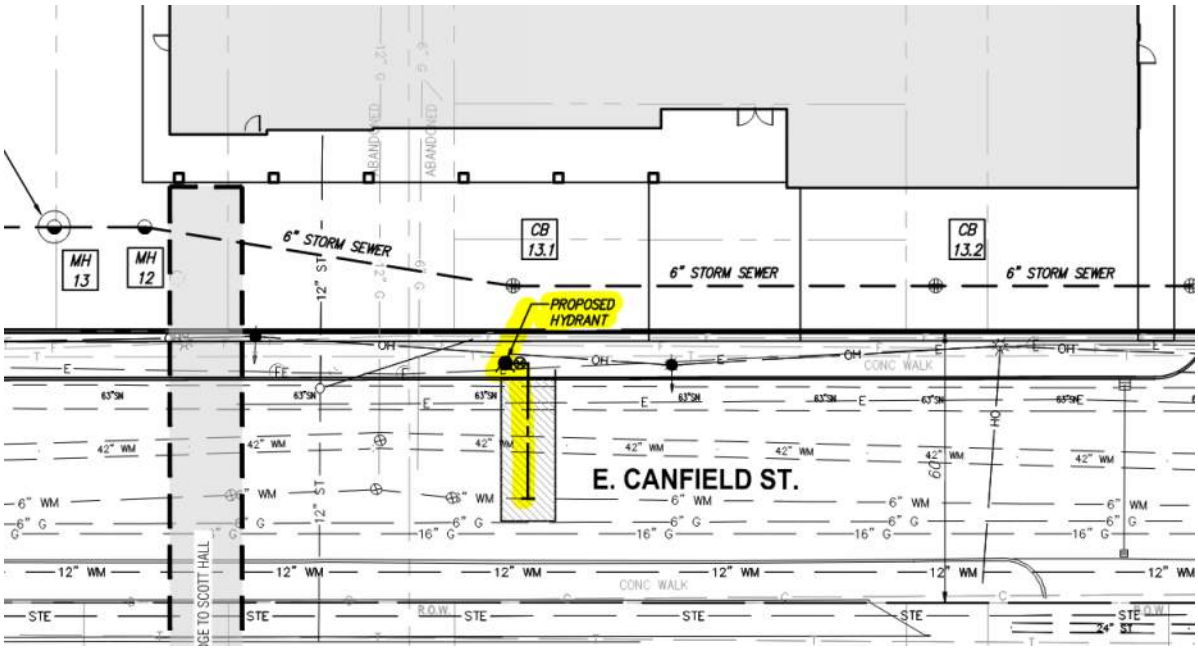
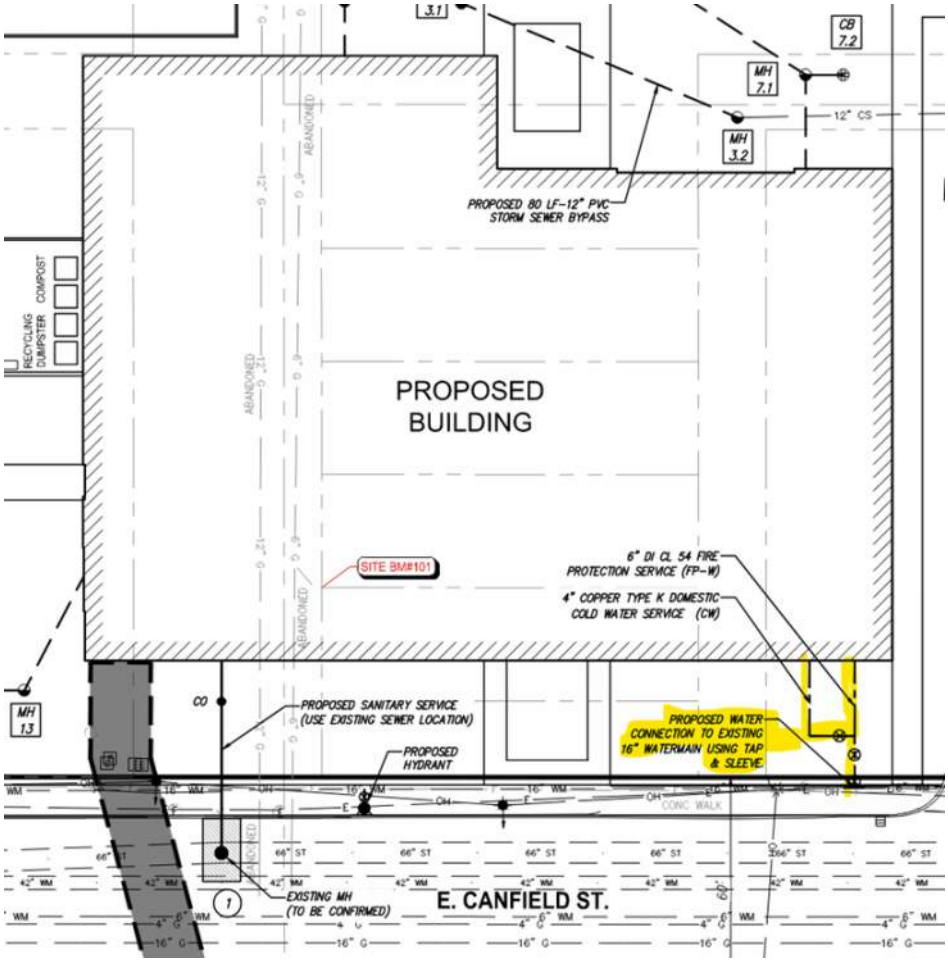


Figure 3: 25% SD Proposed School of Medicine Connection to 16" WM in Canfield

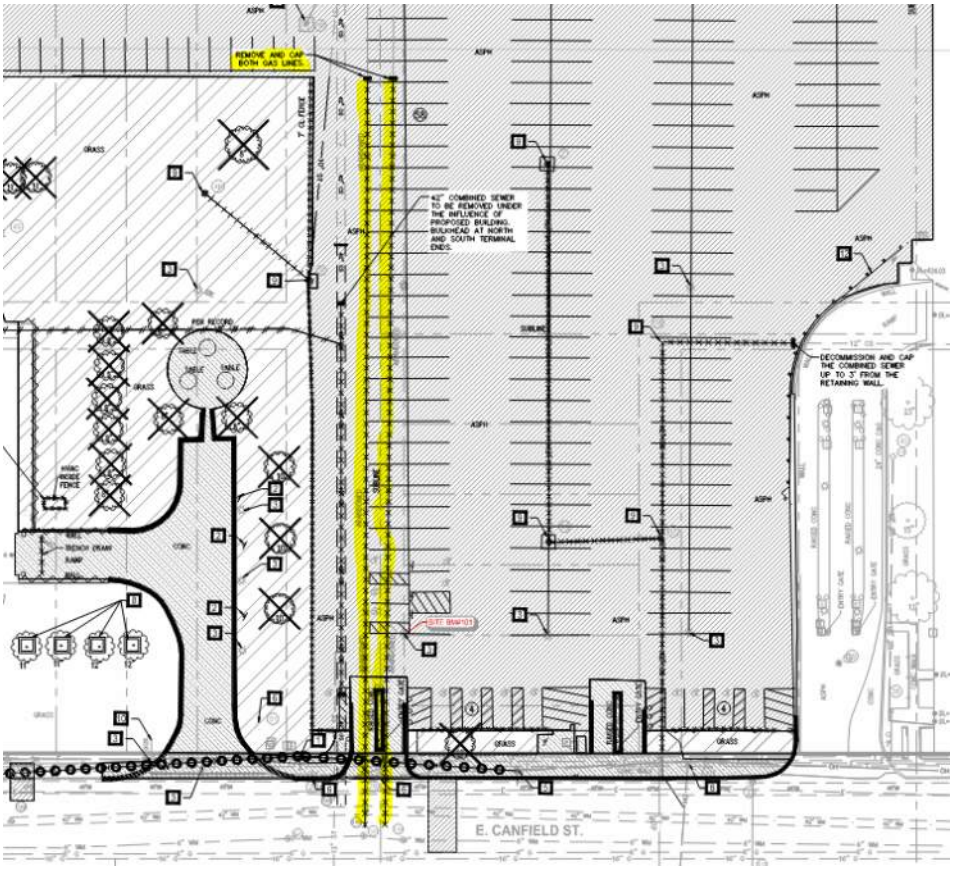


II. Gas Main

i. Existing Conditions: DTE

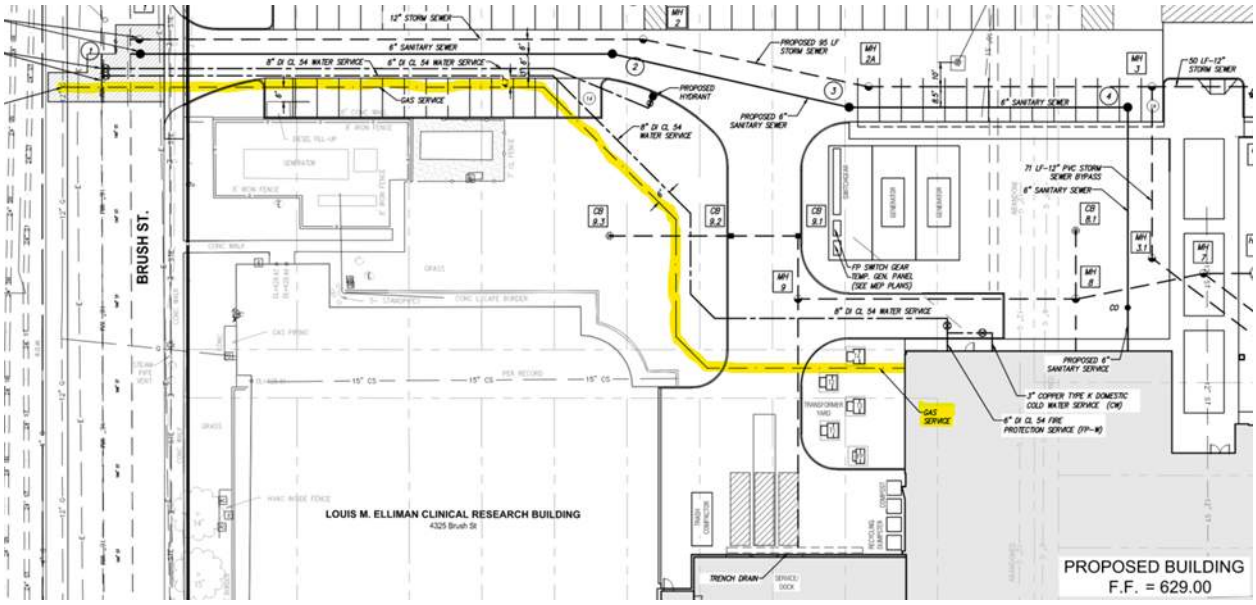
1. Per the update survey, the Site has four DTE gas mains around and/or through it. There is a 12” - 10# main on Brush St that was installed in 2022. On E Canfield there are two mains, one is a 6” – 10# main that was installed in 1974 and the second is a 16” – 10# main that was installed in 1953. Along St Antoine there is a 6” – 10# main that was installed in 1975. Through the site there are abandoned 6” and 12” gas lines running east/west and south to Canfield. In figure 2, the site area is shown with a red line, the gray lines through the site represent the abandoned lines and the blue and green lines show the mains.
2. The existing gas lines through the site sizes 6” and 12” are proposed to be abandoned in place.

Figure 4: Proposed Demolition Plan



ii. Proposed Connections:
    a. The proposed building is located over the existing abandoned 6” and 12” gas lines.
    b. A new connection to the 12” – 10# main on Brush Street is proposed from the west side of the proposed building in coordination with DTE.

Figure 5: WSU SOM Connection to 12” – 10# Gas Main in Brush Street



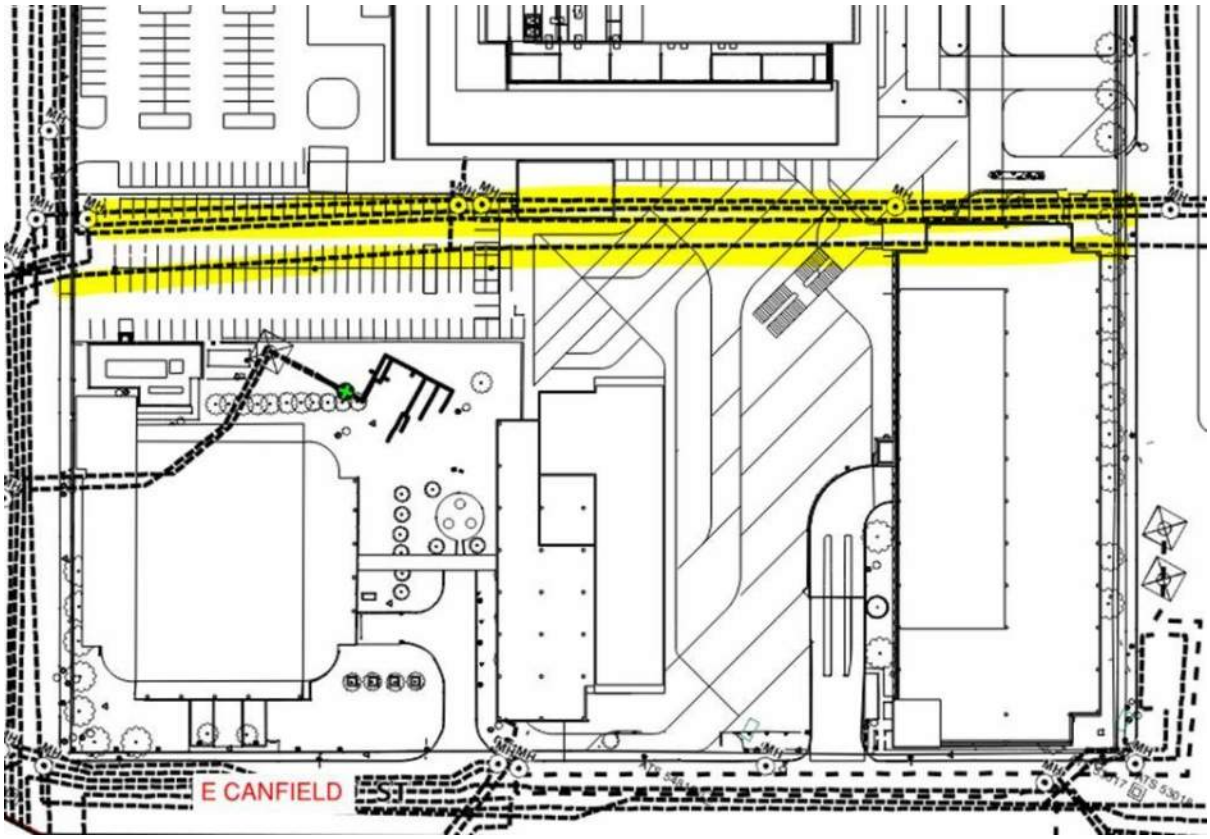
1. The proposed connection was determined in coordination with the MEP based on location of meter/meter room and may not be most direct or shortest route to an available gas main.

iii. Next Steps: Engage with DTE gas service planners for the connection to main in Brush to coordinate load and service requirements.

III. Electric

a. Existing Conditions: DTE
    i. DTE has many electric conduits along Brush Street, E Canfield, and St Antoine Street as confirmed through the recent Miss Dig tickets procured during the updated survey. Electric conduits are located in association with the vacated Garfield right-of-way on the site that runs east to west, see Figure 6.

Figure 6: Existing Electric Conduit Map



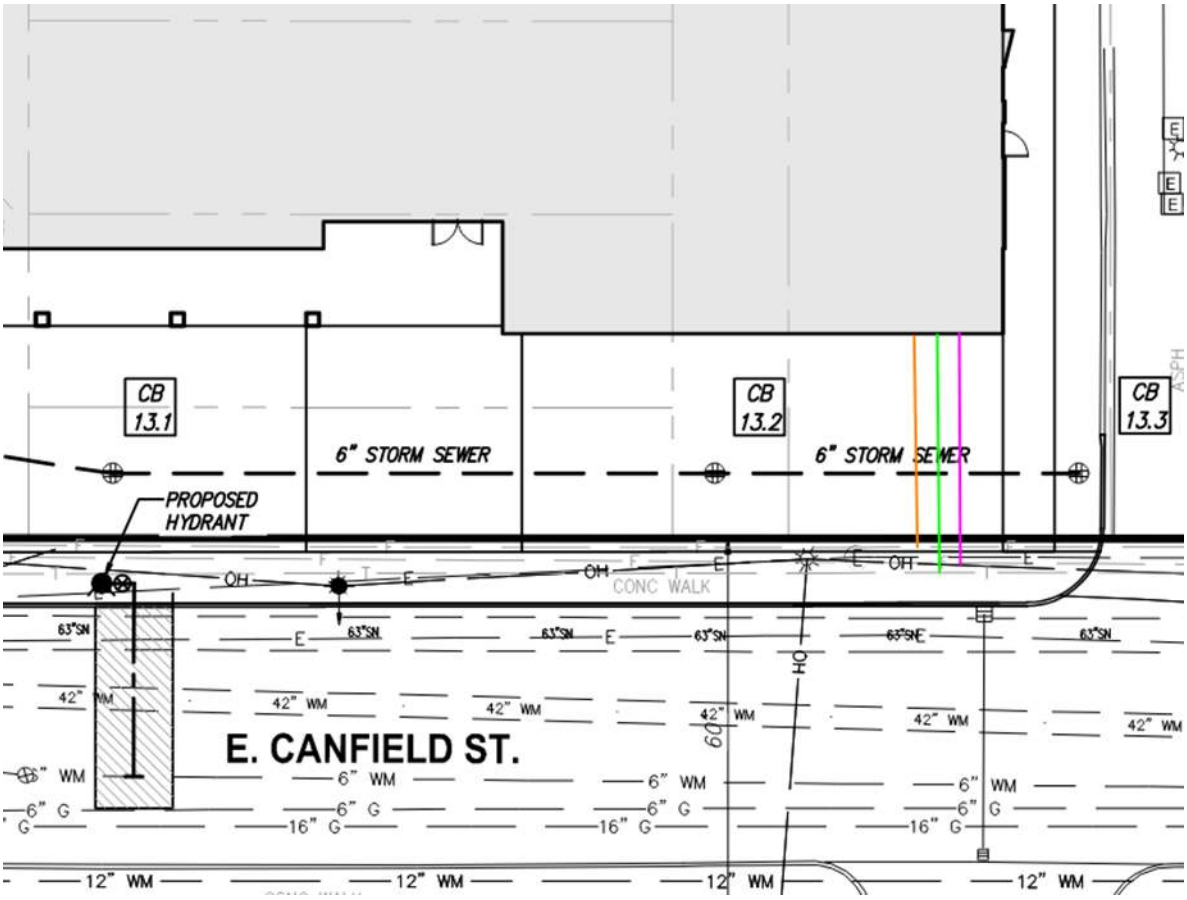
i. Proposed Connections:
    1. The proposed WSU SOM Building connection to the DTE conduit remains on the north side of E Canfield.
ii. Next Steps: It is likely some if not all, DTE conduits will need relocation through the site. Coordination with DTE for new service connection through preliminary load sheets and additional engagement meetings will be necessary. MEP will be required as part of this coordination effort.

IV. Fiber

a. Existing Conditions: Carriers - Comcast, Extenent, AT&T, Verizon
    i. There are many fiber providers around the site, it has been determined that US Signal Primary will be providing service to the site with AT&T as the primary last mile service and Comcast as the secondary last mile service.

b. Proposed Connections: AT&T, Comcast
    i. The Proposed WSU SOM Building connection to the AT&T 2” fiber conduit within E Canfield Street.

Figure 7: Proposed Fiber Connection



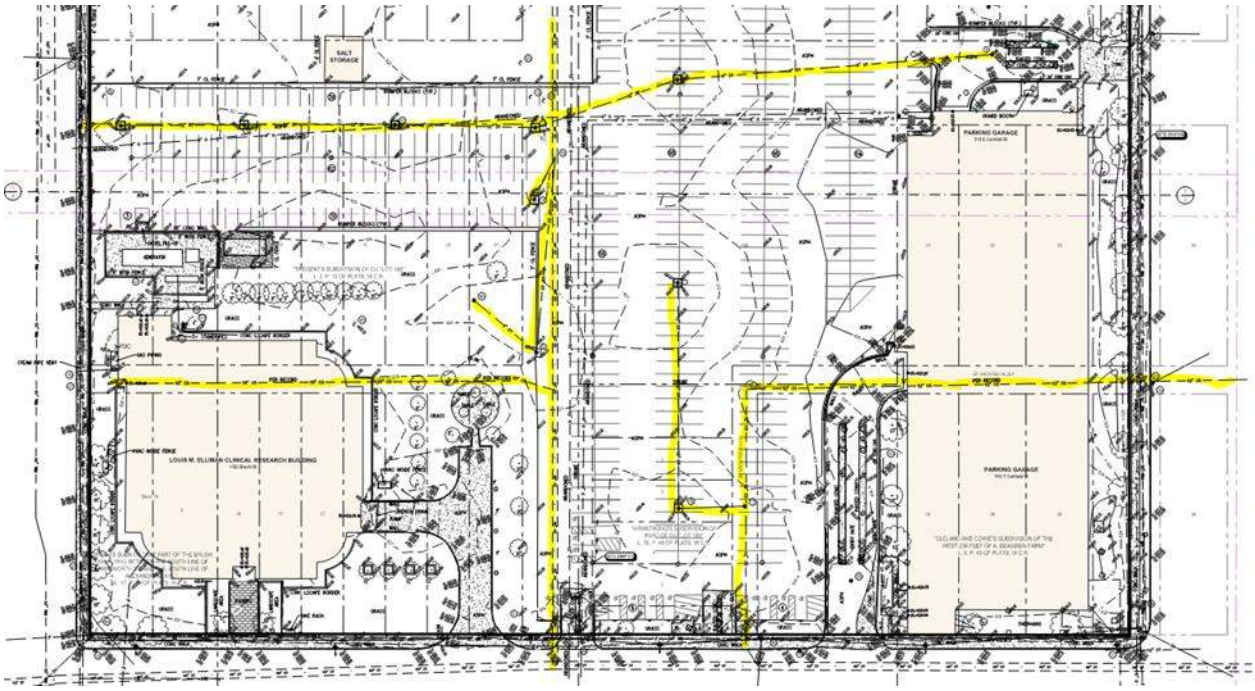
V. Combined Sewer

a. Existing Conditions: City of Detroit, DWSD

i. There are abandoned storm and combined sanitary sewer systems that run through the site and are located under buildings as confirmed with the updated survey There are 5 existing storm manholes on site, 1 of which is inaccessible, and 14 existing catch basins with varying shapes. There are three City of Detroit sewer mains surrounding the site:

1. Brush Street - 12’0” combined sewer.
2. E Canfield - 5’3” x 7’0” combined sewer.
3. St Antoine - 6’6” combined sewer

Figure 8: Existing Abandoned Combined Sanitary Sewer and Storm Lines



i. Proposed Connections:
    1. The proposed connection for the proposed underground detention system is to the 12'0'' storm sewer in Brush St.

ii. Next Steps: CCTV of relevant abandoned lines on the site may still be necessary. Engineering review in early DD will determine which lines with DWSD.
    1. CCTV findings will determine use, abandonment, removal and/or bulkhead of CS lines.

VI. Stormwater Management

a. There is approximately 2.2 acres with an approximate contributing area of 1.7 acres of impervious which includes the parking area to the north. The City of Detroit requires stormwater management when there is a replacement or creation of one-half acre of impervious surface. Overall, there will be a proposed reduction of .79 acres of impervious contributing area. The site is less than a 5-acre development which requires the site to comply with the 10-year 24-hour storm per the post-construction stormwater management ordinance.

Table 2: Area Table

Impervious/ Pervious Areas	Area (acre)	% Total
Roof (Impervious)	0.72	34%
Asphalt/Concrete (Impervious)	0.32	15%
Lawn (Pervious)	1.08	51%
TOTAL	2.12	

b. The water quality standards for a combined sewer system are to remove 80% of total suspended solids (TSS) during a 1.0-inch rain event or have an effluent TSS concentration of less than or equal to 80 mg/L during a 1.0-inch rain event or retain the volume generated by 1.0-inch over the regulated area. Meeting these requirements protects water quality in nearby water bodies. The site is expected to fall under alternative compliance. To apply for alternative compliance, the applicant must show that the site has extraordinarily difficult site conditions that make retaining water onsite infeasible. One of the two ways to show qualification for alternative compliance is by completing infiltration testing and observing an infiltration rate of 0.2 inches per hour (or less). The second condition that is required for qualification is the groundwater level must be 2 vertical feet below the bottom of the proposed stormwater control measures. Alternative compliance would require one of three options to be completed.
c. The first option is onsite mitigation which is the preferred alternative compliance option. Extended detention is the alternative to volume control when existing soils have inadequate infiltration. Extended detention follows a 2-year 24-hour storm requirement, to determine the volume required for this system the following equation is utilized:
    i. V = 6897 * C * A. There will need to be two outlets from the detention system, one to release the extended detention volume over 48 hours and the second outlet to control the 10-year peak discharge.
d. The second alternative compliance option is offsite mitigation, in this option the management of stormwater is handled offsite on land within the City of Detroit. One requirement is that the stormwater control management must be constructed on a single parcel that has the same or greater amount of impervious area as the site being developed. The installation of offsite mitigation must be completed within 2 years from the date that stormwater management plan is approved or prior to full completion of the development project related to the offsite mitigation project. All requirements for on-site mitigation stormwater management also apply to offsite mitigation.
e. The last stormwater alternative compliance is the In-Lieu Fee. With this option, applicants pay a one-time fee determined by the following formula: Required volume (gallons) * Unit Cost ($/gallon). The In-Lieu Fee is not recommended as the cost is much greater than completing the on or offsite alternative compliance.
f. Alternative compliance should be submitted to DWSD with the following documents: hydrological analysis, site plans, geotechnical reports, environmental site assessments, and engineering analysis.
g. An underground detention basin is proposed at the northeast end of the property for the purpose of retaining runoff from the northern portion of the proposed project area. The system is designed to have 8 – 80 foot long 48'' diameter corrugated metal pipes

that manage up to 8,042 cubic feet of storage, see Figure 9. This storage includes extended detention volume, peak flow control volume, and flood control volume. This system outlets towards the 12” storm sewer along Brush St. There is also a storm sewer bypass that connects to the 12’’ combined sewer that extends under the parking structure and continues towards St. Antoine St. A hydrodynamic separator has been added to the system to meet water quality standards described in the PCSWMO. This project plans to do onsite mitigation by designing an extended detention system within the project limit area. A second system is found in the southern lawn area. This system is a bioretention system that manages 716 cubic feet of storage. This storage includes extended detention volume, peak flow control volume, and flood control volume. Finally, the bioretention cell outlets to the existing 5’-3’’x7’-0’’ sewer along E Canfield. See Figure 10.

Figure 9: Proposed Underground Retention System

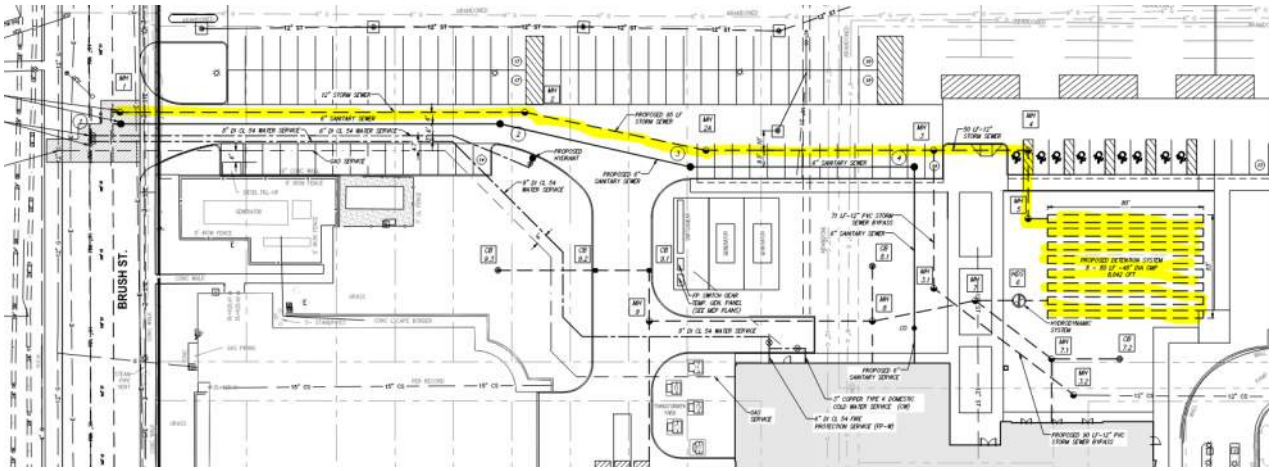
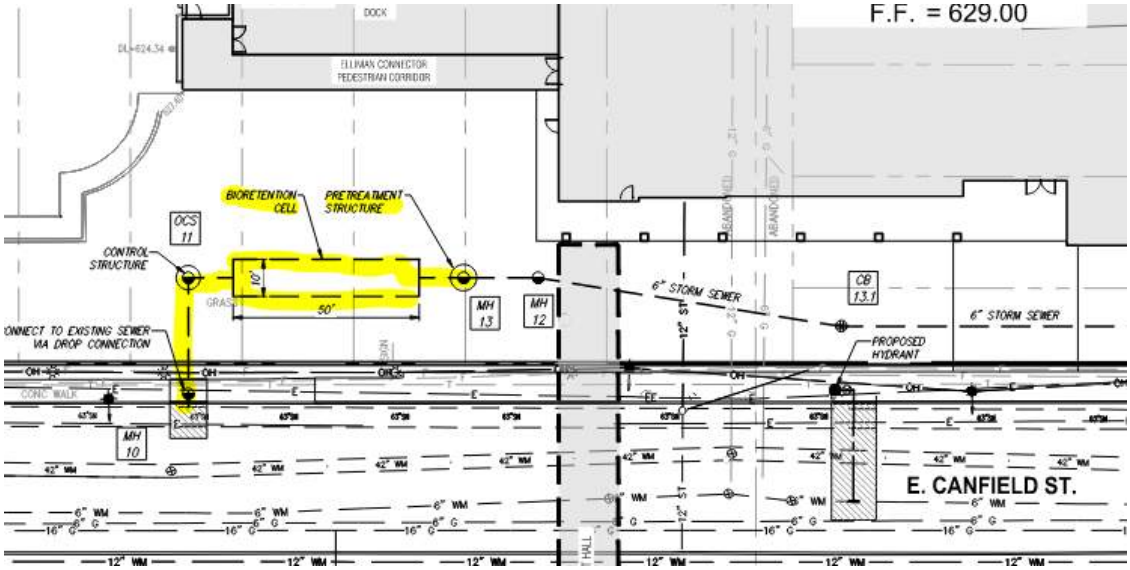


Figure 10: Proposed Bio Retention Cell



VII. Site Entitlement Process

a. Parcel Combination, see Figure 11.
   i. Exhibit Completion - SDA to provide draft exhibits week of 1/13.
   ii. Submission by WSU: Upon Approval of the Draft Exhibit and other supporting documents - February 2025Time Frame: 3 months minimum
   iii. Notes: SDA to provide exhibit. WSU to handle letters and submittal.

b. Outright Vacation, see Figure 12
   i. Exhibit Completion: SDA to provide draft exhibit week of 1/13
   ii. Petition Submittal: Upon Approval of the Draft Exhibit - February 2025
   iii. Time Frame: 6 months minimum
   iv. Notes: The request for petition will be reviewed by 15 agencies all required to sign off on the vacation. The petition must be heard at 3 separate City Council Meetings which can be difficult to occur sequentially.

c. ROW Encroachment
   i. Exhibit Completion: During Design Development, once bridge parameters are final.
   ii. Petition Submittal: March/April 2025
   iii. Time Frame: 6 months minimum
   iv. Notes: Do not submit until the design is fully vetted by design team and client. Once the petition is submitted it cannot be modified by the applicant

d. Storm Water Management Review and Approval
   i. Permit Review Submittal to DWSD: At Final CD
   ii. Time Frame: 45 days minimum
   iii. Notes: Concept meetings with DWSD will begin at completion of SD to confirm design methodology.

Figure 11: Parcel Combination Exhibit

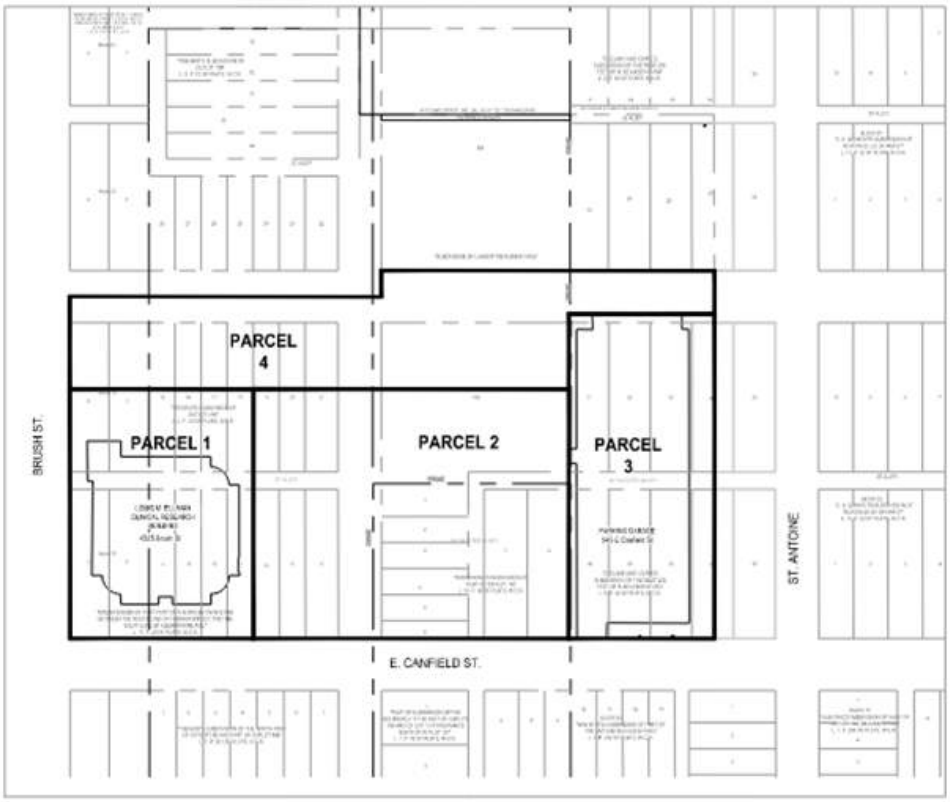
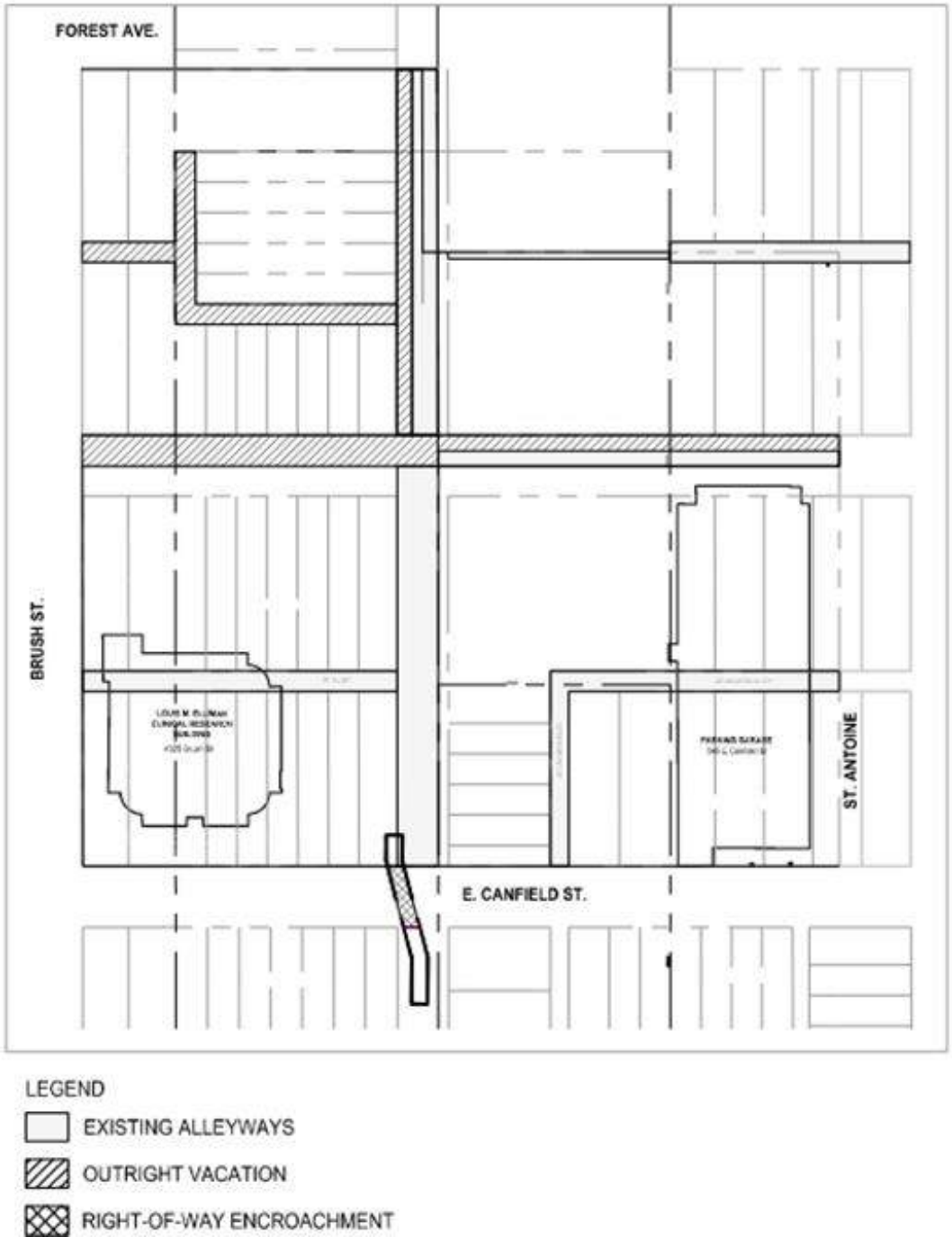


Figure 12: Vacation Exhibit



Interior Design Narrative

The design team is committed to a responsible design approach and will work with Wayne State University to implement interior materials that minimize negative environmental impacts, contribute to LEED credits and adhere to their facility standards. Durability, maintenance, aesthetic value, and overall performance will be a priority in the selection of materials. Advances in technology and design have made many products available with robust performance and high aesthetic quality.

In conjunction with the exterior design efforts, the interior design of the new School of Medicine Research building will incorporate materiality that stays true to the campus and surrounding community fabric. An inclusive design with a focus on fostering community and connection between the university and the new building will be created utilizing simple yet elevated design detailing in both public and user spaces. The interior spaces will exhibit layered materiality and textures that create a modern space with connections to biophilia.

Space Typology

The following descriptions represent the current interior design intentions for the Wayne State University project. Each space is organized by the finishes that are appropriate for it: public spaces, administrative spaces, lab spaces, service spaces. Additional spaces not mentioned below; refer to architectural drawing set and reference WSU standards.

PUBLIC SPACES

Entry Vestibules

- CPT04 walk off carpet tile and RB01 rubber base
- Walls are to be painted IPT01 except for Main Lobby Vestibules, where the elevated exterior finishes are wrapping into the interior space
- Ceilings are to be gypsum with recessed down lights except for Main Lobby Vestibules, where the exterior and interior ceilings will meet
- Public facing corner guards, CG02 to be utilized

Main Lobby

- Terrazzo flooring throughout Main Lobby space with 6” H terrazzo base, TER01
- A mix of T02 and T03 large format porcelain wall panels with metal trim to be installed on east and west walls of the lobby
- SSF02 accent portals, 8’ AFF openings, are located at each corridor entry. Portals will case the entire opening and have an integrated threshold in the floor, SSF02
    - SSF02 portals run the full height of the lobby wall to meet the ceiling plane
- Wood look metal ceiling panels, WCP01, will be the main feature ceiling element. The ceiling element is held back from the perimeter walls to allow for recessed indirect lighting to run the perimeter and down the center of the ceiling plan
- A gypsum ceiling drop occurs over the welcome desk with feature pendant lights over the desk. A linear recessed wall wash is located along the west wall to wash the porcelain wall panels.

Meeting Rooms
- Accent elevated carpet tile with millwork style rubber wall base (CPT02 and RB02)
- Wall finishes to include low-VOC paint, two-color allowances.
- Standard ACT01 in all rooms except for large Multipurpose Room and Technology center, where a gypsum perimeter ceiling and elevated acoustic ceiling panels are utilized (ACT04)
- Public facing corner guards, CG02, where required

Toilet Rooms
- 12”x24” porcelain floor tile with coved metal trim at base/wall intersection.
- Wall finishes include 3”x12” porcelain wall accent tile at wet walls and low-VOC accent paint (IPT10) at a Level 05 wall finish. Metal trim to be full-height to protect exposted tile edges
- Ceiling to be painted gypsum board with linear cove wall wash light above lavatories

ADMINISTRATIVE SPACES

Offices
- Standard field carpet tile and 4” rubber wall base (CPT01 and RB01)
- Wall finishes to include low-VOC paint, two-color allowances.
- Standard ACT01 ceiling
- Public facing corner guards, CG02 to be utilized

Wellness and Respite
- Wood-look LVT and 4” rubber wall base (LVT01 and RB01)
- Wall finishes to include low-VOC paint, two-color allowances.
- Standard ACT01 ceiling
- Public facing corner guards, CG02 to be utilized

Workspaces
- Accent carpet tile and 4” millwork rubber wall base (CPT03 and RB02)
- Wall finishes to include low-VOC paint, two-color allowances. Additional acoustic wall panels located within open work areas for enhanced acoustics (AP01)
- Standard ACT01 ceiling with some areas being exposed and ceiling hung acoustic baffles to be installed with integral lighting (ACT05)
- Public facing corner guards, CG02 to be utilized

LAB SPACES

Wet Labs and Lab Support Spaces
- Field and accent sheet rubber flooring with 6” integral cove base (SHR01 and SHR02)
- Wall finishes to include low-VOC epoxy paint, two-color allowances.
    - Radioisotope rooms are feature lead lined walls.

- Scrubbable ACT ceiling (ACT02) with linear recessed light fixtures. Some specific specialty labs require gasketed grids in addition to scrubbable ceiling. Additionally BSL 3 will have scrubbable painted gypsum ceilings.
- BOH facing corner guards, CG01 to be utilized

Wet Labs and Lab Support Spaces

- Field and accent sheet rubber flooring with 6” integral cove base (SHR01 and SHR02)
- Wall finishes to include low-VOC epoxy paint, two-color allowances.
    - Radioisotope rooms are feature lead lined walls.
- Scrubbable ACT ceiling (ACT02) with linear recessed light fixtures. Some specific specialty labs require gasketed grids in addition to scrubbable ceiling. Additionally BSL 3 will have scrubbable painted gypsum ceilings.
- BOH facing corner guards, CG01 to be utilized
- Corridors in laboratory spaces to match lab support space finishes

Core Lab

- Static dissipative sheet flooring with 6” integral cove base (SVT01)
- Wall finishes to include low-VOC epoxy paint, two-color allowances.
- Scrubbable ACT ceiling (ACT02) with linear recessed light fixtures. Some specific specialty labs require gasketed grids in addition to scrubbable ceiling.
- BOH facing corner guards, CG01 to be utilized

SERVICE SPACES

Storage Rooms, MEP, Electrical

- Sealed concrete flooring (SC01)
- Wall finishes to include low-VOC paint
- Exposed ceiling, painted (IPT05)
- BOH facing corner guards, CG01 to be utilized

EVS, Bio Hazard/Hazardous Waste

- Sealed concrete flooring (SC01)
- Wall finishes to include low-VOC epoxy paint and sheet wall protection to 4’ AFF
- Gypsum ceiling, painted (IPT05)
- BOH facing corner guards, CG01 to be utilized

Service Corridor/Dock

- Sealed concrete flooring (SC01)
- Wall finishes to include low-VOC paint
- Exposed ceiling, painted (IPT05)
- BOH facing corner guards, CG01 to be utilized

END OF INTERIOR DESIGN NARRATIVE

1 Introduction

This structural narrative provides an overview of the structural specifications and framing systems.

2 Building Codes and Standards

In anticipation of the Michigan Building Code adopting an updated IBC, the design is based on the 2021 International Building Code (hereafter referred to as the Code). Additional structural standards used include:

- General loading standard: ASCE 7-16 Minimum Design Loads for Buildings and Other Structures.
- Concrete standard: ACI 318-19 Building Code Requirements for Structural Concrete and Commentary
- Steel standard: ANSI/AISC 360-16 Specification for Structural Steel Buildings.
- Cold Formed Metal standard: AISI S100-16
- Masonry standard: Building Code Requirements and Specification for Masonry Structures, 2016 (TMS 402-16 / TMS 602-16)

2.1 References

Preliminary geotechnical information referenced in the following Report:

- Preliminary Geotechnical Investigation; Proposed Health Sciences Building; Site 2 Adjacent to Elliman Research Building; Wayne State University, Detroit, MI; TEC Report: 62846 by Testing Engineers & Consultants, Inc.

3 Loading

3.1 Risk Category

Based on the essential facility designation the building is to be designed for Risk Category III.

3.2 Dead Loads

Dead loads include the weight of all structural elements and permanent structural elements plus the superimposed weight of finishes, cladding, and fixed equipment.

3.3 Live Loads

Assumed live loads for various floor uses are given in the following table.

Occupancy	***Live Load***
Laboratories	60 PSF + 15 PSF Partition
Corridors above first floor	80 PSF
Lobby, and other Public Areas	100 PSF
Stairs, Exit Ways, and First Floor Corridors	100 PSF
Assembly area with moveable seating	100 PSF (Not reducible)
Mechanical rooms	125 PSF
Light Storage or Light Mechanical Space	125 PSF
Heavy Storage or Heavy Mechanical Space	250 PSF
Roof – Typical	20 PSF
Balconies & Roof Top Garden	1.5x live load area served not greater than 100 PSF
Fire Truck Load	250 PSF OR HS20 TRUCK LOAD

The Code permits live loads to be reduced for structural elements that support a floor area larger than 400 ft^2. Live loads will be reduced as permitted by ASCE 7-16 for the design of columns, girders, and foundations.

3.4 Snow Loads

The snow loads are developed based on ASCE 7-16. Typical snow loads assumed are:

- Ground snow load: 20 psf
- Exposure factor: 1.0
- Thermal factor: 1.0
- Importance factor: 1.1
- Flat roof snow load: 22 psf (minimum)
- Allowance for snow drift per ASCE 7 based on roof geometry and projections.

3.5 Wind Loads

The following wind loading parameters for this site are from ASCE 7-16:

- Risk Category: III
- Basic Wind Speed, 3-second gust (V_u): 115 mph
- Deflection Wind Speed (MRI 100-Year): 92mph
- Exposure Category: C
- Wind directionality factor K_d: 0.85
- Topographical factor K_t: 1.0
- Height factor K_z(max): 1.13
- Gust factor G: 0.85
- Enclosure Classification: Enclosed Building

3.6 Seismic Loads

The following seismic loading parameters for this site are from ASCE 7-16:

- Risk Category: III
- Seismic Importance Factor: I_e = 1.25
- Site Class: D – Stiff Soil
- Seismic Design Category: B
- S_s - MCE_R ground motion. (for 0.2 sec period): 0.102
- S_1 - MCE_R ground motion. (for 1.0 sec period): 0.046
- S_{MS} – Site-modified spectral acceleration value: 0.163
- S_{M1} – Site-modified spectral acceleration value: 0.109
- S_{DS} – Numeric seismic design value at 0.2s period: 0.109
- S_{D1} – Numeric seismic design value at 1.0s period: 0.073
- Steel systems not specifically detailed for seismic resistance: R=3, Omega=3, Cd=3

3.7 Load Combinations

For preliminary design, the load combinations are taken from the ASCE 7 code. The principal combinations used for design are:

Load Combination (Strength)
1.4D

1.2(D + T) + 1.6L + 0.5Lr
1.2(D + T) + 1.6L + 0.5S
1.2D + 1.6Lr + L
1.2D + 1.6Lr +/- 0.5W
1.2D + 1.6S + L
1.2D + 1.6S+/- 0.5W
1.2D +/- 1.0W+ L + 0.5Lr
1.2D +/- 1.0W+ L + 0.5S
1.2D +/- 1.0E+ L + 0.2S
0.9D +/- 1.0W
0.9D +/- 1.0E

Where:

D = Self weight plus superimposed dead loads
L = Live loads
L_r = Roof Live loads
S = Flat roof snow loads
W = Wind loads
E = Seismic loads
T = Temperature

The foundation soil demands are calculated based on a working stress foundation/soil stiffness model and allowable stress design load combinations as follows:

Load Combination (Allowable Stress Design)
D
D + L
D + Lr
D + S
D + 0.75L + 0.75Lr
D + 0.75L +0.75S

D +/- 0.6 W
D +/- 0.7E
D +0.75L +/- 0.75(0.6W) + 0.75Lr
D +0.75L +/- 0.75(0.6 W) + 0.75S
D +0.75L +/- 0.75(0.7E) + 0.75S
0.6D +/- 0.6 W
0.6D +/- 0.7E

For serviceability checks, $W_{service}$ is taken as the 50-year return period wind.

4 Structural Serviceability Criteria

4.1 Floor Live and Dead Load Deflections

The floors will be designed in accordance with the recommended deflection limits in the Building Code, unless more stringent project specific criteria is required in specific areas. The deflections shall meet the following:

- Live Load displacement, typical: the smaller of span/360 or 1 inch
- Live Load displacement at Exterior Beams: the smaller of span/600 or 3/8 inch
- Total displacement (DL + LL – Camber): span/240

Camber is specified for 75% of the wet-load deflection: minimum 1/2 inch.

Locations that require more stringent deflection criteria will be identified in future design phases. These areas include curtain wall support, movable partitions, sliding glass walls, etc.

4.2 Floor Vibration

Floor vibrations will be evaluated in accordance with the reference guide, “A Design Guide for Footfall Induced Vibration of Structures,” published by The Concrete Centre and the AISC Design Guide 11 “Vibrations of Steel-Framed Structural Systems Due to Human Activity,” published by the American Institute of Steel Construction. Finite element models will be used to calculate the vibration response factor, R, which is a multiplier on the level of vibration at the threshold of human perception.

The acceptability range for perceptible floor vibrations and vibrations for sensitive equipment will be agreed to with the owner in the subsequent design phase.

4.2.1 *Vibration Sensitive Equipment*

- Velocity Limit:
  4000 micro-inch per second (RMS) provided by the Owner for typical labs.

  2000 micro-inch per second (RMS) for specialty areas as designated on plan.
- Walking Pace:
  75 steps per minutes, typical
  100 steps per minutes at corridor

4.3 Lateral Displacements

The lateral system will be designed to meet the serviceability limits set by the code. The building drift shall meet the following requirements:

- Seismic drift: 1.5% of story height
- Wind drift: height/500

5 Materials

5.1 Structural Steel

- Typical for Structural Shapes: ASTM A992 Grade 50 (Fy = 50 ksi)
- Plates and Angles: ASTM A36
- Structural Steel Tubing Sections (TS or HSS Sections): Square and Rectangular Sections: ASTM A500, Grade C (Fy = 50 ksi); Round Sections: ASTM A500, Grade C (Fy = 46 ksi)
- Steel Pipe Sections: ASTM A53 Type E or S (welded or seamless), Grade B (Fy = 35ksi) or ASTM A501 (Fy = 35ksi)
- High Strength Bolts: High strength bolts, nuts and washers shall comply with ASTM A325 with unless otherwise noted. ASTM A490 where indicated on the drawings. “Twist Off” type tension controlled bolt / nut / washer assemblies are allowed and shall conform to ASTM F1852.
- Anchor Rods and Anchor Bolts: ASTM A1554, Grade 55 (weldable per section S1 and CVN toughness of at least 20 ft-lbs at 65 degrees Fahrenheit per section S4). ASTM A1554 Grade 105 where designated on Drawings.
- Headed studs: ASTM A108
- Deformed Bar Anchors: Stud type, ASTM A 496 cold finished low-carbon steel, minimum tensile strength of 80,000 psi. Provide Nelson Deformed Bar Concrete Anchors D2L or equal.
- Welding electrodes: E70

- Threaded rod: ASTM A36
- Non-shrink grout for base plates: f'c = 8000 psi

5.2 Metal Deck

- Galvanized Steel Decking: ASTM A653 - SS Designation, Grade 33, Minimum yield 38 ksi, with zinc coating in accordance with ASTM A653, G60, unless otherwise indicated.
- Composite Floor Deck: 1. Galvanized-Steel Sheet: ASTM A 653/A 653M, Structural Steel (SS), Grade 50, G60 (Z180) zinc coating, unless otherwise indicated.

5.3 Reinforced Concrete

- Concrete for Slab-on-grade and Spread Footings – Normal weight: f'c = 4,000 psi
- Concrete for Grade Beams and Drilled Piers – Normal weight: f'c = 6,000 psi
- Concrete fill in metal decks – Normal weight: f'c = 4,000 psi
- Concrete for Suspended Slabs and Beams – Normal weight: f'c = 6,000 psi
- Concrete for Shear Walls – Normal weight: f'c = 6,000 psi
- Concrete for Columns – Normal weight: f'c = 8,000 psi
- Reinforcing bars: ASTM A615 GR 60 (ASTM A706 where welding is required)

6 Foundations

Ground water was encountered during the soil investigation from 3 to 21 feet below the existing ground surface. With likely variable perched seasonal water conditions, perimeter drainage and waterproofing below grade structures is recommended. Further coordination is required with the geotechnical engineer of record as to the potential for hydrostatic uplift and recommendations for perimeter foundation drainage.

6.1 Shallow Foundations

Based on the geotechnical report, the native site soils and properly compacted crushed stone fill are acceptable for supporting the structure on shallow foundations. Bearing at depths of around 5.5', foundations can be estimated to have a net allowable bearing pressure of 6,000psf.

If site fill is removed and replaced with compacted crushed stone, the foundations could be placed at a depth of 3.5' or shallower for interior footings. The geotechnical report provides further requirements for the site fill removal and replacement.

It is understood that within the footprint of the proposed building an existing abandoned utility has been located and appears on the Schematic Design Civil Drawings. We anticipate ground

improvement measures may be required in this area and will be described in a forthcoming geotechnical report. If bearing pressures in this area do not allow for shallow foundations, deep foundations may be required adjacent to and/or within this zone.

6.2 Basement

We do not anticipate a basement structure at this time. Should one be required, the allowable bearing pressure reduces with depth of the structure and will need to be evaluated as part of the development of the design.

7 Structural System

7.1 Gravity System

The main structural system will consist of composite steel frame (wide flange members) supporting a composite concrete on metal deck assembly. The deck assembly is anticipated to be a 2-inch fluted deck with a 6-1/2-inch total normal weight concrete thickness to achieve a 2-hour rated slab.

A typical bay measures 21-feet by 21.5-feet in plan with some longer bays measuring up to 33-feet in length. The typical bay is comprised of W18 to W21 beams spaced approximately 7.5-feet on center, and W21 to W24 girders depending on the loading and vibration criteria. The columns are wide flange W14 members that range in size up the height of the building. All primary steel framing to be fireproofed to achieve a minimum 2-hour floor.

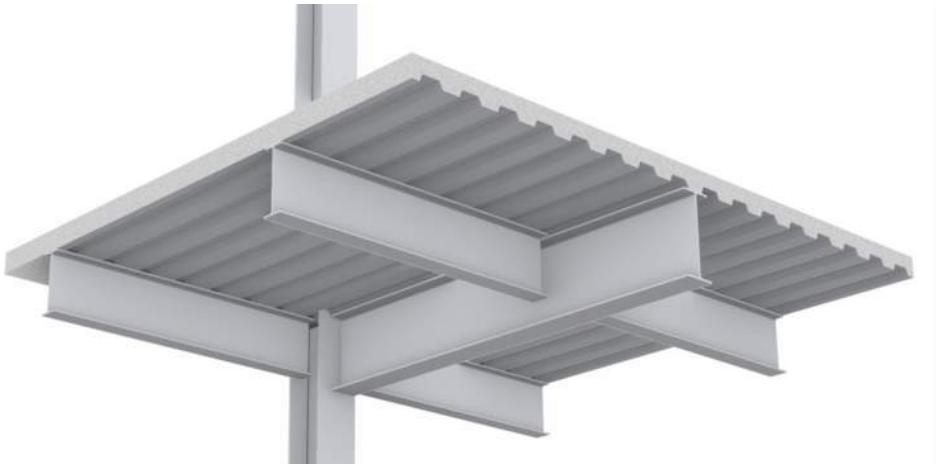


Figure 1: Typical Composite Steel Floor Framing.

Based on the preliminary gravity steel framing studies, we estimate the following steel weight per square foot, see table below *Typical Range of Steel Quantities*. These totals do not include steel weight for the lateral system.

Typical Range of Steel Quantities					
Usage	Beams/Girders (psf)	Columns (psf)	Connections (10%)	Miscellaneous (10%)	Total (psf)
Typical Floor	7.5	2.5	1.0	1.0	12
Vibration Sensitive	11	2.5	1.4	1.4	16.3

The Schematic Design Structural Drawings provide a typical floor framing layout with typical beam depths.

7.2 Lateral System

The lateral system will consist of braced frames in one direction and moment frames in the other. These will be located at or near the elevators, and stair cores, with a minimum of 4 frames in each direction. See the Schematic Design Structural Drawings for the proposed layout of frame elements. The locations for the lateral elements are subject to adjustment as the interior design progresses.

7.3 Pedestrian Bridge

The proposed pedestrian bridge spans over E. Canfield Street to establish a direct connection between the new School of Medicine and Scott Hall. The pedestrian bridge is envisioned as full story deep steel truss frame supported by foundations on either side of the roadway. Foundations will be in an arrangement of one or two drilled piers that bear on hard pan. Bridge columns will be supported on pile caps. The forthcoming geotechnical report will inform the final arrangement.

The pedestrian bridge will require gravity and length-wise lateral connection to the new structure but will not connect to the Scott Hall structure in order to minimize structural implications to the existing building.

A preliminary arrangement for the truss is provided within the Schematic Design Structural Drawings and shown in the figure below. The structure bridge is anticipated to be comprised of 75 to 80 tons of steel. The configuration is subject to further input from the architect as many of the components will be exposed within the architecture.

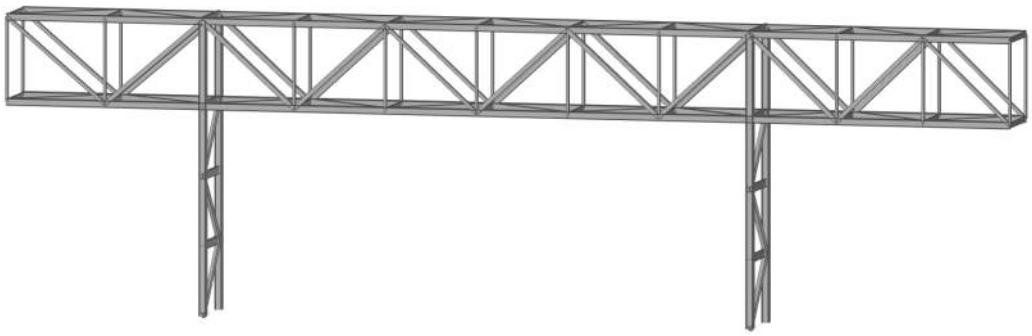


Figure 2 - Bridge Truss Arrangement

Mechanical

Index

Design Standards

Wayne State is constructing a new School of Medicine Health Sciences Building to create a world class, nationally recognized, regional destination as a Detroit-centered facility where the collaboration of research and academics leads to excellent outcomes, financial stewardship, and compassion.

Applicable Codes & Standards

1. ASHRAE
    a. 90.1 (2013) – Energy
2. Illuminating Engineering Society (IES)
    a. The Lighting Handbook, 10th Edition
3. International Code Council
    a. ICC A117.1 (2017) – Accessible & Usable Building & Facilities
4. NFPA
    a. 70 (2023) – NEC, with part 8 State Amendments
    b. 72 (2016) – National Fire Alarm & Signaling Code
    c. 101 (2012) – Life Safety
    d. 110 (2019) – Emergency & Standby Power Systems
    e. 111 (2019) – Stored Electrical Energy Emergency & Standby Power Systems
5. ICC A117.1 (2017) – Accessible & Usable Building & Facilities
6. Michigan Building Code – 2015
7. Michigan Mechanical Code – 2021
8. Michigan Plumbing Code – 2021
9. Michigan Energy Code – 2015

Space Criteria
Outside air conditions
Winter: 3 deg F db
Summer: 95 deg F db / 75 deg R wb

INDOOR AIR CONDITIONS				
Space Type	*Summer Deg F db*	*Summer RH*	*Winter Deg F db*	*Winter RH*
Offices	*76*	*50% max*	*70*	*Floating*
Labs	*76*	*50% max*	*70*	*50%*
Toilet Rooms	*76*	*50% max*	*70*	*Floating*
Mechanical Rooms	*-Ventilation Only-*		*68*	*Floating*
Comm Closet	*78*	*60% max*	*60*	*Floating*

Systems

Heating, ventilation, and air conditioning for the School of Medicine Health Sciences Building will be accomplished through central variable volume air-handling units (AHUs). Air will be distributed throughout the facility to various zones as required to mee the heat gain, outside air calculations, and air change requirements.

1. Zoning controls will ensure each space or group of spaces receives the heating and cooling it requires at any moment.

HVAC infrastructure consists of four (4) air-cooled chillers headered together to provide chilled water for the building. Five (5) 2,000 MBH boilers will operate to provide heating hot water for the building. Laboratory exhaust fans will be located on the roof pulling air through energy recovery devices located within the AHU supplying air to the labs. Air handling units with energy recovery will provide conditioned air to the office / meeting areas. Air-handling units, hot water boilers, pumps and heat exchangers will be located in the penthouse, while the air-cooled chillers and exhaust fans will be located on the roof.

Chilled Water

1. Four (4) air-cooled chillers nominal, 250-ton, will be piped in parallel. Three (3) chillers will incorporate heat recovery and one (1) will incorporate free cooling to increase efficiency.
2. The heat recovery chillers should provide heating capacity for summer reheat.
3. Heat exchangers will be provided to separate the exterior chilled water and interior chilled water.
    a. 30% Propylene glycol will be in the outside chilled water.
4. Heat exchangers will be provided to separate the exterior reheat water and interior heating water.
    a. 30% Propylene glycol will be in the outside chilled water.
5. Piping, 3” and smaller, will be Type “L” copper tubing with wrought copper solder fittings, piping 4” and larger will be Schedule 40 black steel piping with Schedule 40 black steel butt welded, screwed, or flanged fittings. Piping on each floor will be arranged in a reverse/direct return configuration utilizing manual balance valves/automatic flow controls at equipment. Isolation valves will be provided at each floor to permit service without shutting down the entire system.
6. The chilled water system will also include multiple bladder style expansion tanks, automatic water make-up assembly, chemical shot feeder, heat exchanger and an air separator with an automatic air vent, delivering of consistent pressure and performance.

Heating Water

1. Building heat (pre-heat, reheat, perimeter radiant, main coils) will use hot water. The five (5) 2,000 MBH gas fired heating hot water boilers will provide heating capacity for the building and have 1 boiler on standby.
2. The heating hot water system shall be able to accommodate a varying supply temperature range of 120°F- 180°F to AHU preheat/main heating coils, VAV box reheat, and any perimeter radiation heaters. Heating coils shall be designed for a 40°F temperature drop with building reset based on outside air conditions to operate the system as efficiently as possible.
3. Primary heat for perimeter areas will be provided by the terminal VAV reheat coils with supplemental heat used only as needed for high heat loss areas such as entrances.
    a. Heating hot water radiant panels shall be employed where large window or other envelope component losses are anticipated.
4. Hot water unit heaters shall be provided in typical mechanical spaces. Hot water cabinet heaters shall be provided at stairwells and building entry points and vestibules.
5. Heat exchangers will be provided to separate the exterior heating hot water and interior heating water.
    a. 30% Propylene glycol will be in the outside heating hot water.
6. Piping, 3" and smaller, will be Type "L" copper tubing with wrought copper solder fittings, piping 4" and larger will be Schedule 40 black steel piping with Schedule 40 black steel butt welded, screwed, or flanged fittings. Piping on each floor will be arranged in a reverse/direct return configuration utilizing manual balance valves/automatic flow controls at equipment. Isolation valves will be provided at each floor to permit service without shutting down the entire system.
7. The heating hot water system will also include multiple bladder style expansion tanks, automatic water make-up assembly, chemical shot feeder, heat exchanger and an air separator with an automatic air vent, delivering of consistent pressure and performance.

Pumping

1. The chilled water system will utilize primary/secondary flow control.
    a. Four (4) chilled water primary pumps (CHWPs) will be provided and piped to allow any pump to serve any chiller.
    b. Four (4) chilled water secondary pumps (CHWPs) will be provided and piped to allow any pump to serve chilled water to the building.
2. The heating hot water system will utilize variable primary flow control.
    a. Four (4) heating hot water primary pumps (HWPs) will be provided and piped to allow any pump to serve the boilers.
    b. Two (2) heating hot water pumps (HWPs) will be provided and piped to allow any pump to serve the heat recovery side of the air-cooled chillers.

Airside

The proposed airside HVAC systems apply different technologies to suite various space types and spatial requirements. Additionally, system control is designed with consideration for ease of operation, energy efficiency, and general appropriateness for the task. In general, the HVAC airside systems are comprised of the following:

1. Single-duct variable-airflow, multiple-fan air handling units.
2. Dedicated systems: technology and main distribution spaces.
3. Energy recovery wheels

Service (Type)	Service (Floor)	Mark	Airflow (CFM)	AHU Location
Labs	Level 1, 2, 3, 4, 5	AHU-1	105,000	Penthouse

Offices	Level 2, 3, 4, 5	AHU-2	70,000	Penthouse
Community / Core	First floor	AHU-3	25,000	Penthouse
Stairwell	Stairwell	AHU-4	5,000	Penthouse
Stairwell	Stairwell	AHU-5	5,000	Penthouse

The lab space located on ground through 5th will be served by one (1) AHU in the penthouse. The office space located on 2nd through 5th will be served by one (1) AHU in the penthouse The community space on the ground floor will have a dedicated AHU in the penthouse. Each stairwell will have a dedicated AHU for pressure control.

Air handling Units – General Office space

1. The air handling units (AHU's) shall be custom fabricated, energy recovery, single duct variable air volume design, providing heating and cooling to the spaces as required. Systems will operate continuously, year-round.
    a. Indoor AHUs shall include an inlet section, return fan section, economizer section, mixing section, MERV-8 pre-filters, hot water pre-heat, energy recovery device, chilled water-cooling coil section, supply fan arrays, MERV-14 final filters, and discharge plenums.
    b. Ultraviolet Germicidal Irradiation (UVGI) will be reviewed for cooling coils applications.
2. The AHU's shall be connected to outside air for ventilation, as required per code. Motorized dampers on the return air ductwork and outside air ductwork will modulate to control the outside air quantity based on measured outside airflow.
3. Fan sections shall be provided with multi-array (minimum of four fans per supply section on AHU's larger than 20,000 cfm) plenum fan type systems. Fan wheels shall be welded aluminum centrifugal airfoil type blades. Motors shall be NEMA premium efficient, variable frequency drive (VFD) rated with insulation class F or greater complete with grounding rings for VFD operation. Fan arrays shall be individually isolated from unit casing and fan framing via spring isolators.
    a. All fans shall be supplied with individual VFDs to ramp down fan motors during periods of part load. Supply air volume will be controlled by modulating the multiple supply VFDs in response to a duct static pressure sensor located near the end of the duct system. Discharge air temperature control will be through cooling coil control in sequence. Fan array systems shall utilize multiple VFDs at a 1:1 ratio.
    b. Each supply fan array shall be N+1 design such that the unit will remain capable of delivering the scheduled design air quantities at required static pressure with one fan out of operation.
4. Unit casings shall be 2", double wall, insulated with minimum R-value of 13. Inner wall liners shall be solid galvanized G-90 with aluminum or stainless-steel floor liners throughout. The cooling coil sections shall be provided with stainless steel wall liner.
5. Coils shall be constructed of copper tubing and mechanically bonded aluminum fins. Cooling coils shall be provided with stainless steel headers and casings. Air velocity through cooling coils shall be limited to 450 fpm maximum.
    a. Cooling coils shall be sized at maximum 8 row/10 fins per inch.
    b. Cooling coil sections shall be provided with high intensity UV lighting.
6. Filtration ratings are based on ASHRAE Standard 52.1. Pre-filters shall be MERV 8 minimum. Prefilter section shall include 2-inch 30% efficiency disposable filters. MERV 14 final filters shall be provided for all air handlers.
7. Airflow monitoring stations shall be provided at all air handler outdoor air intake and supply fan sections.
8. Exhaust air shall have a MERV-8 filter before energy recovery wheel.

9. There shall be an internal bypass of the wheel for economizer.
10. Units shall be provided with interior 120v, LED lighting and access door window viewing per industry standard. AHUs will have duct smoke detectors, per NFPA 90A, and smoke dampers on all systems greater than 15,000 cfm.
11. Mechanical room AHU's will utilize a sidewall louvered outside air intake and common louvered relief wall during regular and economizer modes. Architecturally, the walls will be coordinated for aesthetics and velocities.

Air handling Unit – Lab Space

1. The AHU shall be custom fabricated, with dual air tunnel, energy recovery (runaround coil), variable air volume design, providing heating and cooling to the spaces as required. Systems will operate continuously, year-round.
    a. Indoor AHUs shall include an inlet section, MERV-8 pre-filters, hot water pre-heat, energy recovery device, chilled water-cooling coil section, supply fan arrays, humidifier grid, exhaust fan arrays, final filter section with HEPA final-filters, and discharge plenums.
    b. Ultraviolet Germicidal Irradiation (UVGI) will be reviewed for cooling coils applications.
2. The AHU shall be connected to outside air for ventilation, as the unit will be 100% OA.
3. Fan sections shall be provided with multi-array (minimum of four fans per supply section on AHUs larger than 20,000 cfm) plenum fan type systems. Fan wheels shall be welded aluminum centrifugal airfoil type blades. Motors shall be NEMA premium efficient, variable frequency drive (VFD) rated with insulation class F or greater complete with grounding rings for VFD operation. Fan arrays shall be individually isolated from unit casing and fan framing via spring isolators.
    a. All fans shall be supplied with individual VFDs to ramp down fan motors during periods of part load. Supply air volume will be controlled by modulating the multiple supply VFDs in response to a duct static pressure sensor located near the end of the duct system. Discharge air temperature control will be through cooling coil control in sequence. Fan array systems shall utilize multiple VFDs at a 1:1 ratio.
    b. Each supply fan array shall be N+1 design such that the unit will remain capable of delivering the scheduled design air quantities at required static pressure with one fan out of operation.
4. Unit casings shall be 2", double wall, insulated with minimum R-value of 13. All inner walls shall be stainless steel with aluminum or stainless-steel floor liners throughout.
5. AHU-1 components within the air tunnel shall be coated.
6. Coils shall be constructed of copper tubing and mechanically bonded aluminum fins. Cooling coils shall be provided with stainless steel headers and casings. Air velocity through cooling coils shall be limited to 450 fpm maximum.
    a. Cooling coils shall be sized at maximum 8 row/10 fins per inch.
    b. Cooling coil sections shall be provided with high intensity UV lighting.
7. Filtration ratings are based on ASHRAE Standard 52.1. Pre-filters shall be MERV 8 minimum. Prefilter section shall include 2-inch 30% efficiency disposable filters. HEPA final filters shall be provided for the air handler.
8. Exhaust air shall have a MERV-8 filter before energy recovery wheel.
9. Airflow monitoring stations shall be provided at all air handler outdoor air intake and supply fan sections.
10. Units shall be provided with interior 120v, LED lighting and access door window viewing per industry standard. AHUs will have duct smoke detectors, per NFPA 90A, and smoke dampers on all systems greater than 15,000 cfm.
11. Two (2) electric humidifiers will be mounted in the penthouse and associated humidifier grids installed within each air supply air tunnel in the AHU-1.

12. Mechanical room AHU's will utilize a sidewall louvered outside air intake and high plume exhaust fans to relief the exhaust air. Architecturally, the walls will be coordinated for aesthetics and velocities.

Airside Distribution - Office and Core Area

Program spaces shall be supplied with an overhead VAV distribution system. All supply air shall be fully ducted from the air handling units through vertical shafts to each distribution space. The return air will be plenum return on the floors and ducted from the shaft back to the AHU. All distribution spaces will receive air provided by a VAV box to modulate the airflow and control the local space temperature. Each VAV box will have a hot water reheat coil, that will be controlled by a local thermostat strategically placed with user input.

1. Supply air distribution shall be medium pressure (minimum 4-inch W.C.) pressure class construction with fast acting terminal boxes or air valves to control air quantities delivered to each zone. Supply air distribution downstream of VAV boxes shall be low pressure, 2-inch W.C. pressure class construction. Manual balancing dampers shall be used at low pressure taps to balance flow.
    a. Ductwork will be constructed in accordance with SMACNA Standards for appropriate pressure class.
    b. Ductwork will be sealed to meet SMACNA Seal Class A as a minimum and to limit ductwork leakage not exceeding 1% of the design flow rate for high pressure ductwork and 2% of design flow rate for low pressure ductwork.
2. Supply air ductwork shall be externally insulated. Supply air ductwork shall not be internally lined.
3. Sound attenuating flexible duct maximum 5 feet in total length, will be provided at the supply diffusers to control noise.
4. Sound attenuators at the discharge of air terminal devices will not be provided unless required to meet noise criteria.
5. Duct Distribution Criteria
    a. High and Medium pressure design velocity shall be 2,000 fpm or 0.10“ / 100 ft maximum.
    b. Low pressure design velocity shall be 1,500 fpm or 0.08”/ 100 ft maximum.
6. Return Air Distribution shall be low pressure, 2-inch pressure class construction. Manual balance dampers shall be provided at mains, branches, and taps to balance flow.
    a. Ductwork will be constructed in accordance with SMACNA Standards for appropriate pressure class.
    b. Ductwork will be sealed to meet SMACNA Seal Class A as a minimum and to limit ductwork leakage not exceeding 2% of design flow rate for low pressure ductwork. Ductwork will be pressure tested to ensure the leakage is being met.
    c. Return air ductwork will be externally insulated in mechanical rooms.
    d. Return air shall be fully ducted rigid ductwork. Pre-engineered, manufactured, acoustic, air transfer ducts shall be used. Note that ductwork criteria are a maximum and the duct system will be engineered and sized to optimize cost, ceiling space, fan horsepower, and acoustics.
    e. Return air VAV air valves shall be utilized to control pressurization in laboratories and other critical spaces.
7. Return air ductwork shall be externally insulated, per ASHRAE 90.1-2019. Return air ductwork shall not be internally lined.
8. Rigid ductwork shall be provided for the connection to exhaust grilles.

Airside Distribution - Lab Space

Program spaces shall be supplied with an overhead VAV distribution system. All supply and exhaust air shall be fully ducted from the air handling units through vertical shafts to each distribution space. All distribution spaces will receive air provided by a fast-acting VAV boxes or air valves to modulate the airflow and control the local space temperature and required pressurization. Each supply air box will have a hot water reheat coil, that will be controlled by a local thermostat strategically placed with user input. The exhaust side will be controlled through an exhaust air valve. The air valves will be connected to confirm pressure compared to adjacent spaces.

1. Supply air distribution shall be high pressure (minimum 10-inch W.C.) pressure class construction with fast acting VAV boxes or air valves to control air quantities delivered to each zone. Supply air distribution downstream of VAV boxes shall be high pressure, 10-inch W.C. pressure class construction. Manual balancing dampers shall be air-tight dampers.
    a. Ductwork will be constructed in accordance with SMACNA Standards for appropriate pressure class.
    b. Ductwork will be sealed to meet SMACNA Seal Class A as a minimum and to limit ductwork leakage not exceeding 1% of the design flow rate for high pressure ductwork.
2. Supply air ductwork shall be externally insulated. Supply air ductwork shall not be internally lined.
3. Standard ceiling diffusers will be utilized in majority of lab space / alcoves without fume hoods. High volume low velocity diffusers will be utilized for air distribution in small alcoves where fume hoods are located.
4. Rigid ductwork shall be provided for the connection to supply grilles.
5. Duct Distribution Criteria
    a. High and Medium pressure design velocity shall be 2,000 fpm or 0.10“ / 100 ft maximum.
6. Exhaust Air Distribution ductwork shall be 18 ga 304L stainless steel from exhaust grilles to exhaust main. Exhaust shall be galvanized ductwork.
    a. Exhaust air ductwork will be externally insulated in mechanical rooms.
    b. Exhaust air valves shall be utilized to control pressurization in laboratories and other critical spaces.
7. Exhaust air ductwork shall be externally insulated, per ASHRAE 90.1-2013. Exhaust air ductwork shall not be internally lined.
8. Rigid ductwork shall be provided for the connection to exhaust grilles.

Ventilation and Exhaust Systems

1. Demand-Control Ventilation at all Air Handling Units
    a. Space air handling units will be capable of providing the minimum ventilation air required by International Mechanical Code or ASHRAE 62.1, whichever is more stringent for the space.
2. Monitoring the need for additional outdoor air supply can be done in different ways. The most common strategies are noted below:
    a. CO2 control – CO2 sensors located in the occupied zone or return duct of each variable volume air handling unit send a signal to the air handling unit to modulate (open or close) the outdoor air damper as required.
    b. Occupancy sensors (grouped with the lighting control) – when activated, sensors signal the air handling unit to modulate open/close the outdoor air damper as required.
    c. CO2 sensors shall be provided at conference rooms and main lobby. Further investigation in the Design Development stage will determine if the grouping of control with occupancy sensors is viable.
3. Labs / Specialty Exhaust
    a. Exhaust for hoods, general lab and alcoves will be provided by air valves and will be removed from the space using laboratory exhaust fans.
    b. 2 sets of laboratory exhaust fans will be located on the roof. Each set of fans will pull exhaust air through their respective exhaust air tunnel side of AHU-1 and out of the

building. Each set of laboratory exhaust fans will total 55,000 CFM for a total of 110,000 CFM.

c. Space pressurization control shall be monitored locally with digital display and thru the building automation system. Space pressurization shall be managed with exhaust air valves and exhaust fan speed control; exhaust fan speed shall be based on duct static pressure setpoint while individual space pressurization shall be based on independent space differential pressure. Pressurization shall be maintained through Occupied and Unoccupied space modes.

4. Ventilation for Restrooms and Janitor Closet
    a. Ventilation for restrooms will include of a combination of makeup air required to compensate for code mandated exhaust volumes, and that needed to maintain thermal comfort. Exhaust rates are dictated by fixture quantities.
    b. General exhaust shall serve toilet rooms and janitor's closets.
    c. Ductwork will be constructed in accordance with SMACNA Standards for appropriate pressure class.
    d. Ductwork will be sealed to meet SMACNA Seal Class A as a minimum and to limit ductwork leakage not exceeding 2% of design flow rate for low pressure ductwork. The ductwork shall be leak tested to ensure the leakage rates are not exceeded.
    e. Exhaust air ductwork will be externally insulated directly under exposed roof and when tied to a fan using energy recovery.
    f. Exhaust fans that do not run continuously will be provided with low leakage, motorized isolation dampers.
    g. Note that this criterion is a maximum and the duct system will be engineered and sized to optimize cost, ceiling space, fan horsepower, and acoustics.
5. Ventilation for Mechanical Equipment Rooms
    a. Mechanical and plumbing equipment rooms will be tempered and exhausted.
    b. MEP rooms will be provided with heat using hot water unit heaters to provide heating. In addition, any room containing equipment which produces heat will be provided with air conditioning units.
6. Conditioning for Main Electrical Switchgear, Elevator/Hoist Machine Rooms, and MDF/IDF spaces
    a. The International Building Code calls for a dedicated ventilation or air conditioning system to maintain elevator machine room space conditions within the boundaries of those identified by the manufacturer for proper operation.
    b. As with mechanical and electrical equipment rooms, where possible these conditions shall be maintained by exhaust fan and transfer air from surrounding areas.
    c. Where space equipment loads indicate a need for mechanical cooling, an independent dedicated air conditioning system will be provided. Either a split system with refrigerant or 2-pipe fan coil type units will condition the space. Fan coil units shall be shared between back-to-back Electrical / IT space where applicable while locating temperature control within the more dynamic space. Entire system shall be placed on emergency power.
7. Stairway and Elevator Pressurization
    a. Stairwell and elevator pressurization is required per the International Building Code based on the structure height. Each stairwell shall have a dedicated supply fan with the discharge ducted down to various floor levels. The elevator shaft shall have a dedicated supply fan with ductwork terminating at the top of the shaft. All fans shall be provided with motorized isolation dampers.
    b. The stairwell pressurization units will provide heating and cooling to the stairwell and operate based on control from the BMS with override from the fire alarm system.
    c. Elevator pressurization fans shall receive their run signal from the fire alarm system and subsequently use the building automation system to modulate to maintain Code required pressure via input from pressure sensors mounted in the stairwells/elevators.

8. Ventilation of Public Entry Vestibules
    a. A hot water heated air curtain will be provided at all exterior vestibule entrances.

Building Automated System (BAS)

The BAS will be designed to provide monitoring and controls for new the HVAC systems and will comply with ASHRAE BACNet open protocol BAS Standards. The BAS will incorporate the latest technology as required to monitor and meter the building's energy usage.

1. Controls will have the capability of trend logging specific parameters in order to commission systems and track energy consumption as required. An energy "Dashboard" will be provided in the lobby of the facility for the building managers to monitor both real time and historical energy usage.
2. Electrical power for air terminal controls and other field devices requiring 24 VAC will be provided from transformer panels centrally located adjacent to control panels. The system connections shall include 24 VAC wiring to field mounted air terminal controllers and other devices from transformer panels. Number of transformers and number of field devices to be connected to each 24 VAC branch circuit shall be determined by BAS provided.
3. All BAS equipment including network controllers, unitary controllers, routers, gateways, operator workstation, etc. will be provided with backup power from local Uninterruptible Power Supplies (UPS) as needed to ensure vital control functions are not interrupted during loss of primary power.
4. DDC controllers will utilize distributed architecture and will not rely on "front-end" or higher-level controller to perform required control sequences.
5. Each DDC controller will have a minimum of 10% spare points of each type (DI, DO, AI, and AO) at each panel. For universal points, the spares will be divided evenly between the analog and digital types of points.
6. Major equipment controllers (air handling units, chillers, boilers, pumps, etc.) will be arranged such that multiple components in the same system are not served by the same controller.
7. All control panels and DDC controllers will be served by standby power.
8. All DDC system primary LAN controllers, PC's, communications equipment and local controllers that monitor and control life safety and critical points (biocontainment, fire alarm, elevator emergency, etc.) will be supported by emergency generators and UPS for minimum of 2 hrs.

ELECTRICAL

General

The following systems will meet or exceed the requirements of the latest editions of the National Electrical Code, NFPA Standards and the WSU Design and Construction Standards.

- Primary distribution systems
- Pad-mounted oil-filled transformers
- Switchboards
- Emergency standby generators
- Normal power distribution
- Emergency power distribution
- Fire Alarm system
- Lightning protection system
- Grounding
- Electric Vehicle Chargers
- Telecommunications system
- Lighting systems
- Security

Primary Distribution

The incoming electrical service for the new facility will emanate from the Detroit Edison (DTE) primary 13.2 kV distribution system. The two (2) service feeds in concrete encased ductbanks shall be extended to the site by DTE and extended to the main electric 13.2 KV outdoor rated service entrance equipment located in the generator yard. Conductors will be provided by DTE. Conduit by electrical contractor.

The primary 13.2 kV service will terminate at a new 15 kV outdoor switchgear designed to DTE standards with main-main and ATO which feeds 4-15 kV fused switches. Two main breakers shall be for the incoming primary service with DTE metering included with Automatic Throw-Over (ATO), and four fused switches shall provide power to the two switchboards. The switchgear shall be arc-resistant, metal clad construction with DTE metering cubicles including CT's, PT's and utility meters per DTE requirements. The main 15KV switchgear will be located outdoors in the generator yard in NEMA 4X enclosure with integral heaters and lights.

The switchgear will be tapped to feed a 15KV fire pump switch and 300KVA pad mounted transformer to supply the fire pump with 480V power.

Feeders from outdoor switchgear to building to be in concrete encased ductbanks

with a spare conduit in each run.

Estimated anticipated building load is as follows:

Utility Power Consumption		
Building Square Footage	165,000	sq. ft.
Connected Load	4,125950	kVA
Demand Load	3,094	kVA

Pad mounted Transformers

Outdoor 13.2KV to 277/480V 3PH 4W pad mounted transformers will provide power to the switchboards located in the facility. The transformers will be dead front and have a temperature rise of 55 degree C, FR3 fluid, 95BIL, copper windings, drain valve, liquid level gauge, UL listed, lockable door.

Switchboards

A double ended, secondary selective, switchboard shall be provided for miscellaneous facility power and mechanical equipment.

Double ended switchboard, 277/480V, 3-phase, 4-wire, 60 Hz shall be provided for the facility normal loads. It shall have Main-Tie-Main with automatic throw-over. The switchboard shall include the following:

1. The switchboard will have a main, feeder and tie circuit breakers. The main breakers shall be insulated case and all other circuit breakers shall be fixed circuit breakers with solid-state trip device with LSI adjustability and ground fault protection.

2. Customer power metering, digital type and pulse initiator for kW demand monitored by the BAS system.

Emergency Standby Generator

Two 1500 KW 277/480V 3PH 4W standby emergency diesel engine-generators shall be provided to supply electrical power to life safety and essential laboratory and building power equipment in the event of loss of normal power.

The unit shall be capable of picking up its rated capacity in two steps. (1) provide a

transition time for the life safety loads and legally required loads within (10) seconds or less from instant failure of the normal power source to the emergency generator source. Optional standby loads can be transferred up to one minute after generators have reached steady state.

The generators shall be 480/277V, 3-phase, 4-wire, 60 Hz. The generators shall be a permanent magnet generator (PMG) with brushless construction using full wave 3-phase rotating rectifier assembly.

Automatic transfer switches shall be provided with closed transition, bypass isolation type switch. The bypass isolation switch shall provide a safe and convenient means for manually bypassing and isolating the automatic transfer switch regardless of the condition or position of the switch. Each automatic transfer switch shall be double throw, actuated by (2) electric operators. Each transfer switch shall have an inherent "off' position for shedding the load in the event of an engine-generator failure. Separate transfer switches shall be provided to separate emergency systems (life safety) from legally required and optional standby power loads.

Uninterruptable Power Supplies (UPS)

The Uninterruptable Power Supplies will be double conversation type UPS with transformers and distribution panels to supply circuits as required for each space. The UPS will have a run time of 30 minutes at full load to allow the standby generators to stabilize.

One 50KVA UPS located in ups room will be supplied to support the HUB/ main server room and panels in IT rooms on various floors. PDU will transform from 480V to 120/208V 3 PH 4W. The PDU will supply power to the IT racks and feeder breakers will supply power to the satellite IT rooms. Sub panels fed from the main floor panel will supply the second IT rooms on the upper floors.

A 300KVA UPS will be provided to supply the CORE lab area panels on the first floor. A PDU will transform 480V power from the UPS to 120/208V power for use in the CORE lab.

Normal Power Distribution

Vertical busways, fed from the unit substations, shall be provided to distribute power to each floor. At each floor, (1) plug-in circuit breaker will be provided on the bus way for a 480V to 208/ 120V step down transformer for receptacle loads. Each panel will have circuit level load metering for LEED EAc3 Advanced Metering credit.

The step-down transformer shall be K-13 rated and service a 208/120V distribution panel which will in turn, service local receptacle panels, laboratory panels (located at laboratory modules) and laboratory support panels. Transformers shall meet NEMA TP-1 standards.

Emergency Power Distribution

The emergency generator and unit substations shall provide power to support the entire facility in case of an emergency and the power sources from the utility are lost. The whole building transfer switch shall be service rated to supply the main paralleling switchgear and downstream unit substations. The emergency generators shall be capable of supplying code required emergency loads (Life Safety, legally required) and well as other optional building loads. Automatic transfer switches will be provided for the following:

a. Life Safety (Emergency) – Bypass Isolation, Closed Transition to serve egress lighting, fire alarm, elevator cab lighting, and emergency responder radio system.
b. Legally Required (Emergency) – Bypass Isolation, Closed Transition to serve legally required loads.
c. Critical #1 (Optional Standby Loads) – Bypass Isolation, Closed Transition to serve critical operation loads.
d. Critical #2 (Optional Standby Loads) – Bypass Isolation, Closed Transition to serve critical operation loads.
e. Equipment #1 (Optional Standby Loads) – Bypass Isolation, Closed Transition to serve AHU's, exhaust fans, sump pumps, lab vacuum pumps, lab air compressor, stairwell pressurization fans, selected elevators, boilers, heating pumps, water heaters, chilled water pumps.

f. Equipment #2 (Optional Standby Loads) – Bypass Isolation, Closed Transition to serve AHU's, exhaust fans, sump pumps, lab vacuum pumps, lab air compressor, stairwell pressurization fans, selected elevators, boilers, heating pumps, water heaters, chilled water pumps.
g. Fire Pump ATS/Controller – Furnished with fire pump.

Vertical busways, fed from optional standby ATS shall be provided to distribute power to the labs on each floor. At each floor, a busway plug-in circuit breaker will be provided for a 480V to 208/120V stepdown transformer. The step-down transformer shall service a 120/208 3PH 4W distribution panel which will, in turn, service local emergency panels and provide power to environmental rooms.

Major equipment such as vacuum system, compressed air systems, elevators, etc. shall be fed via equipment distribution panels.

Life Safety distribution panels will provide service to life safety lighting panels on every third floor. The lighting panels shall service the floor they are located on, the floor above and the floor below. The lighting panels will also serve a dry-type transformer, 480V to 208/120V for incidental 120V life safety power at selected locations.

Raceways, Feeder and Branch Circuits

Raceways for feeders and branch circuits shall be metallic, rigid metal conduit, intermediate metal conduit (IMC) or electrical metallic tubing (EMT) subject to the

restrictions of the National Electrical Code, minimum size 3/4". EMT shall not be used in concrete construction or where subjected to mechanical damage.

Exterior ductbanks shall be comprised of PVC Schedule 40 conduit encased in concrete. Concrete ductbanks shall be formed of plywood and reinforced. Where ductbanks penetrate foundation walls or manholes, rigid galvanized steel (RGS) conduit shall be used.

Site lighting will be installed in Schedule 40 PVC.

Raceways shall not be allowed in concrete floor slabs.

Feeders

15 kV feeders medium voltage cables (< 15000V) shall be UL type MV-105 with compact stranded Copper conductors and 133 percent level Ethylene Propylene Rubber insulation. Strand and insulation screen shall be black extruded semi-conducting thermoset. Shielding shall be helical wound copper tape or six copper drain wires and outer jacket of Chlorinated Polyethylene (CPE).

All low voltage (120 - 600V) conductors shall be copper with 600 V, THHN/THWN insulation. Feeder and branch circuit conductors shall have color code throughout.

1. Type MI (Mineral-Insulated), fire resistant cable shall be used for fire pump feeders.
2. TYPE TC-ER, VFD cable shall be used for connections from variable frequency drives to motors.
3. All wiring will be in conduit.
4. All wiring shall be in rigid steel conduit, IMC or EMT is permitted indoors for sizes 4” or less.
5. Minimum conduit size for power and lighting circuits shall be ¾”.
6. Underground conduits shall utilize schedule 40 PVC.
7. Short lengths of flexible metal conduit shall be used for connection to transformers, motors, and equipment subject to vibration.
8. Use of MC will be permitted in accessible ceiling spaces and stud walls. MC Cable shall NOT be permitted in the following conditions:
    a. Where exposed to physical damage.
    b. For emergency feeders and circuits
    c. For home runs from last junction box to source panelboard.
    d. Exceeding lengths of six feet for connection to recessed luminaires.
    e. Exceeding lengths of twelve feet within stud walls.
    f. “Daisy-chaining” between fixtures or junction points.

ii. Prohibited Materials:
1. Aluminum Wire.
2. ENT (“Blue Tube”)

WIRING DEVICES

1. Wiring devices shall be Specification grade type as manufactured by Hubbell, Leviton, Legrand (Pass & Seymour), or Eaton (Arrow-Hart) Wiring Devices.
   a. Outlet boxes shall be galvanized steel and shall not be mounted back-to-back.
   b. GFCI type receptacles will be installed per NEC requirements.
   c. Cover plates will be satin-finished Type 302 stainless steel.
   d. Exterior covers shall be clear, “weatherproof-in-use” type.
2. Minimum requirements for devices will be as follows:
   a. Receptacles – NEMA WD6, 5-20R configuration, duplex.
   b. Switches – quiet type, single or three-way, 20A, 120V/277V.
   c. Low Voltage Lighting Control – engraved pushbutton type, 0-10V dimming and/or occupancy sensors where required.
3. Branch circuit design will be based on the following:
   a. 20A, 120V branch circuit – 1500W maximum.
   b. 20A, 277V branch circuit – 4200W maximum.
   c. An individual neutral conductor will be provided for all branch circuits.
4. Location/quantity of receptacles shall be as follows:
   a. Laboratories – one (1) duplex for every 24” of counter space, alternate normal and emergency power.
   b. Offices – one (1) double duplex at workstation and one (1) duplex per other walls.
   c. Conference rooms – one (1) double duplex at presentation wall, one (1) duplex per wall, and (1) floor box for every 215 square feet of floor space. One (1) ceiling mounted duplex for projector and/or one (1) double duplex for display monitors.
   d. Corridors – one (1) duplex located 35’ on centers.
   e. Toilet rooms – one (1) GFCI duplex.
   f. Electrical / Mechanical rooms – one (1) double duplex per wall, minimum one (1) on emergency. Do not locate behind equipment.
   g. Telephone/Data rooms – one (1) dedicated duplex per wall, 208V receptacles as required by technology equipment requirements.
   h. Exterior doors – one (1) GFCI duplex (weatherproof) within 6’ of door.
   i. Rooftop equipment – one (1) GFCI duplex (weatherproof) within 25’.
   j. Library, media center, open offices, and similar spaces – provide receptacles in accordance with furniture and equipment layouts provided by Owner, but not less than one (1) duplex per wall on 12’ centers.
   k. Dedicated circuits shall be provided for the following:
      i. Microwaves, coffee makers, ice makers, and other kitchen/break room equipment.
      ii. Equipment requiring an outlet rating of 20 amps or above.
      iii. Vending machines.
      iv. Refrigerators, Freezers.
      v. Copiers

Fire Alarm

The building will be equipped throughout with an emergency voice alarm fire alarm system installed in accordance with 2013 Michigan Fire Code and NFPA 72 (2016

edition). Fire alarm control panel (FACP), Voice Communications Panel (VCP) and Firefighter's smoke control panel (FSCP) located in the fire command center. Fire alarm initiating and notification zoning shall be coordinated with sprinkler zones and smoke zones.

Initiation

1. Manual pull stations will be installed at building exits, stairwells, all nurse's stations, and locations greater than 200 feet from Exits/stairwells. Smoke detection at stairwells for pressurized stairwells for initiation of smoke proof enclosures.
2. Smoke detection (UL 268) shall be provided in areas open to corridors. Smoke detection will be provided in elevator rooms, elevator shaft and pit depending on type of elevator and elevator lobbies for recall and shunt trip. Smoke detection will also be provided in locations of all fire alarm control panels, notification appliance battery supplies, and transmitting equipment, including the fire command center.
3. Carbon monoxide detectors will be provided in accordance with 2015 Michigan Building Code section 915. Smoke detectors shall be provided at smoke zone boundaries, elevator lobbies and other compartment boundary doors on release service and throughout areas with special locking arrangements.
4. Duct detectors will be installed in all air handling units on the supply and return in accordance with Michigan Mechanical Code and NFPA 90A, including discharge side of stairwell pressurization fans. Where qualifying spot detectors are not located at smoke barriers, duct smoke detectors shall be provided in ductwork at smoke damper and combination fire/smoke damper locations. All valves controlling fire protection water supplies shall be supervised by the fire alarm system.
5. An area of refuge scheme is anticipated, with relocation from one smoke compartment to another. Therefore, a survivability level of 2 is required throughout the building in accordance with NFPA 72, which requires metal raceways for all signaling line circuits and a 2-hour rating for the main fire alarm network including all FACPs, NACs and other equipment required to deliver notification messages to a smoke zone shall be protected until it reaches the smoke zone served.

Notification

1. Notification shall be provided throughout with speaker strobes in all public and common spaces. Strobes will be provided in shared offices.
2. Private alarm, building evacuation signal, and carbon monoxide alarms shall all be distinctive.
3. Stairs, elevators, elevator lobbies, and areas of refuge shall be on separate paging circuits for delivery of manual emergency voice alarm messages only. All emergency voice alarm messages shall be intelligible per STI (speech transmission index) in accordance with NFPA 72. The VCP shall provide automated pre-recorded evacuation, private mode, and mass notification messages along with manual paging over-ride for all fire alarm notification zones. The voice communications system shall be capable of simultaneous automated messaging and paging to separate notification

zones.

Controls

1. The fire alarm system will also be used for control of smoke dampers, combination fire/smoke dampers, stair pressurization, any smoke exhaust system, including initiation of fans, opening of doors, and control of all equipment required for operation of the smoke control system. The fire alarm system must monitor the status of all smoke control equipment. The fire alarm system and all ancillary control systems must be listed for smoke control (UUKL) including the Firefighter's Smoke Control Panel in the Fire Command Center with over-ride capability for all automatically controlled smoke control equipment.
2. The fire alarm system will also release all magnetic door hold opens and mag locks in the affected smoke zone. Special locking arrangements will comply with NFPA 101. All elevators will be equipped with elevator recall, fire hat and shunt trip (excluding any fire service elevators), which will be initiated by the fire alarm system. Emergency Responder Fire Fighter Radio Coverage shall be provided in accordance with MBC Section 918 and coordinated with the local responding fire department. All generators shall be monitored by the fire alarm system in accordance with NFPA 101.
3. SLC circuits shall be Class X in accordance with NFPA 72. Notification circuits shall be Class B. Supervision shall include voltage to elevator shunt trip circuits. Circuits supplying fire alarm panels and notification appliance battery supplies must be dedicated circuits, locked with red breakers labeled "Fire Alarm". All wiring shall be installed in conduit. Head end equipment wiring ratings shall comply with survivability level 3 in accordance with NFPA 72. Fire Alarm Panels will be in a 2-hour fire rated room. Fire alarm circuits and power serving stairwell pressurization equipment shall be 2-hr FRR cabling systems, concrete encased, or enclosed in 2-hr rated FRR construction wherever located interior of the building envelope.

Lightning Protection System

A complete Master Labeled Lightning Protection System meeting requirements of NFPA 780 and UL shall be provided, complete with all terminals on the roof, bonding of all mechanical equipment and stacks, bonding of structure and all metal parts, ground conductors, ground rods, connectors, straps, etc. Separate concealed down conductors will be provided from the roof lighting conductors to the ground ring at ground level.

Grounding

A complete equipment grounding system shall be provided such that all metallic structures, enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, metal fences, and all other conductive items operate continuously at ground potential and provide a low impedance path to ground for possible fault currents.

The main equipment electric room shall be provided with a copper ground bus for properly bonding and grounding all main switchgear. The ground bus shall be bonded to the exterior ground ring system and ground rods.

A grounding network for the main service equipment and lightning protection system shall be provided consisting of a buried ground loop around the perimeter of the building, bonding to building steel, copper ground rods, etc.

A separate insulated green grounding conductor shall be provided for each single and 3-phase feeder and branch circuit. Grounding conductor shall be run with the related phase and neutral conductors. Panel feeders installed in more than (1) raceway shall have individual, full sized, green grounding conductor in each raceway. The equipment grounding system shall not rely on the metallic raceways for grounding continuity.

Grounding Bus Bars shall be provided in electrical and telephone equipment rooms, in rooms housing service equipment, and elsewhere as required. Provide ground risers of not less than #2/0 Copper to bond all ground busses to the main electrical ground point.

Electric Vehicle Chargers

Provide Electric Vehicle chargers for 5% of parking spaces. Chargers to be level 2 charging capacity (208 – 240 volts) or greater for each required space.

The charger will have regionally standard EV connectors and meet ENGERY STAR criteria and have features such as load management and flexible pricing to meet LEED V4 Credit 8 Electric Vehicle credit.

Telecommunications

System

Telecommunication systems will consist of fiber backbone and Cat 6A copper horizontal cabling for systems such as data network, video surveillance, VoIP, and paging. Support of cabling will be accomplished by basket tray and/or j-hooks in the ceiling depending on cable density. Ladder rack and vertical cable management will be incorporated into Entrance Facility (EF), Telecommunication Equipment Room (TER), and Technology Rooms (TR). In-wall support will be provided by minimum 1” conduit stubbed to nearest accessible ceiling and the above ceiling support system.

The Scott Hall Fiber Hub will be relocated to the new Heath Sciences building fed from Kresge and old Main.

Incoming Telecommunications Service (TER)

6-4" PVC Schedule 40 conduits encased in concrete shall be run from designated

manholes on the site to the main telecommunications room in the facility. Wall surfaces in the IT rooms will be covered in ¾" 4'x8' fire rated plywood backboard to allow equipment mounting.

Technology Rooms (TR)

Satellite telecommunication closets up through the facility shall be stacked for the convenience of running wiring and cables from one floor to the next through sleeves. Each satellite closet shall have (4) 4" sleeves from the main telecommunications room as follows:

Each telecommunication outlet shall consist of a 4" square 2-gang outlet box with single-gang adapter and blank cover plate. l" Conduit shall run from the outlet to the telecommunications room.

Telecommunications backboards shall consist of the appropriate number of 8' by 4' by 3/4" fire rated plywood backboards.

Lighting

All lighting shall be hung from the building structure independently of ceiling support system. All lighting fixtures shall be LED with 90 CRI for the Indoor Environmental Quality LEED EQc6 credit, electronic drivers. Lighting, in general, shall be LED. Lighting levels shall be as in accordance with the recommendations of the Illuminating Engineering Society and current Michigan Energy Code.

Average lighting levels will be per IESNA handbook and proposed for various areas at the facility are as follows:

Laboratories	70-80 fc
Laboratory support	50-60 fc
Offices	30-50 fc
Corridors	15-30 fc
Conference Rooms	30-50 fc
Toilets	20-30 fc
Lobbies/Reception	20-30 fc
Storage rooms	15 fc
Docks	20-30 fc
Mech/Electrical rooms	20-30 fc
IT rooms	50 fc

All luminaires will be 277V unless a specialty luminaire requires another voltage.

Lighting controls will be networked based lighting control system meeting ASHRAE 90.1-2013.

Stair lighting will reduce lighting levels to 50% when occupancy isn't detected.

Areas with high daylight availability will have daylighting harvesting controls to provide automatic dimming thru local photo sensors.

Typical offices will operate as manual on/ automatic off (vacancy) control scheme. Exterior lighting will be controlled via the BMS to include photocell and time clock along with exterior lighting control requirements per ASHRAE 90.1-2013 9.4.1.7 as required.

Exterior lighting will be controlled via a wireless mesh network to allow for lighting power reduction after hours.

Security

The security management system (SMS) will integrate the access control system (ACS) and video surveillance system (VSS) into a single interoperable system. Alarm events from ACS and VSS can result in alerts and automatic display of camera view. Panic buttons shall be provided at as needed administration locations, and any other locations deemed necessary by WSU.

Access Control (ACS)

Access control card readers will be contactless type smart cards. Doors at the following locations will be equipped with card readers, electrified door hardware, door position contacts, and request to exit sensors where we required to allow authorized entry after business hours:

1. Exterior entrances to the building, except where the exterior doors are equipped for emergency exit only.
2. EF, TER, and TR Rooms
3. Electrical rooms
4. Mechanical rooms
5. Any security offices
6. Loading dock offices
7. Equipment storage rooms
8. Entrances to clinical areas
9. Lab rooms

Video Surveillance System (VSS)

1. The VSS will provide networked IP video surveillance using POE for power to monitor the following locations: building's main entrances and exits, loading docks, public corridors, medication rooms, exterior building perimeter, point of sale locations, and other priority locations. Storage will be provided to record or archive all cameras upon motion for 30 days of retention or as specified by site specific requirements.
2. The following security system components will be provided with power from

circuits that are backed-up from an onsite engine-generator:
   a. Security equipment cabinets located in the Communications Rooms.
3. The following security system components will be provided with uninterruptable power supply systems:
   a. Security system servers (including those for the intercom, ACS, and VSS systems).
   b. Security system workstations (including those for the ACS, and VSS systems).
   c. Security network switches.
   d. Access control system (ACS) controllers, card reader modules, and input/output boards, and network interface boards.

EMERGENCY RESPONDER RADIO COVERAGE SYSTEM (ERRCS)

The Emergency Responder Radio Coverage System design will be provided as required by 2015 Michigan Building Code section 916.

Emergency Blue Light Phone

Emergency blue light phones will be provided per WSU standards and requirements.

Testing

All high voltage equipment, cable and transformers shall be high pot tested per NETA standards.

All low voltage 600V equipment, cable, motors, dry type transformers, etc., shall be field tested per NETA Standards.

Short Circuit and Coordination Study/Arc Flash
A short circuit and coordination study of the entire electrical distribution system will be provided by the supplier/ contractor when equipment is selected. Arc flash labels will be applied to all electrical distribution equipment.

Fire Protection

Index

Design Standards

Wayne State is constructing a new School of Medicine Health Sciences Building to create a world class, nationally recognized, regional destination as a Detroit-centered facility where the collaboration of research and academics leads to excellent outcomes, financial stewardship, and compassion.

Applicable Codes & Standards

1. ASHRAE
    a. 90.1 (2013) – Energy
2. Illuminating Engineering Society (IES)
    a. The Lighting Handbook, 10th Edition
3. International Code Council
    a. ICC A117.1 (2017) – Accessible & Usable Building & Facilities
4. NFPA
    a. 70 (2023) – NEC, with part 8 State Amendments
    b. 72 (2016) – National Fire Alarm & Signaling Code
    c. 101 (2012) – Life Safety
    d. 110 (2019) – Emergency & Standby Power Systems
    e. 111 (2019) – Stored Electrical Energy Emergency & Standby Power Systems
5. ICC A117.1 (2017) – Accessible & Usable Building & Facilities
6. Michigan Building Code – 2015
7. Michigan Mechanical Code – 2021
8. Michigan Plumbing Code – 2021
9. Michigan Energy Code – 2015

Source of Water

1. The fire protection systems shall be fed from the local water utility system. The fire water supply shall be equipped with the appropriate backflow prevention devices as required by local water purveyor and/or applicable codes.
2. At the time of this document, the flow and pressure capabilities of the water utility have not been determined. A flow test shall be performed prior to system design to be used as the basis for all required hydraulic calculations. Given the height of the building, it is assumed that the available pressure will not be sufficient to supply the automatic sprinkler system in the building without the aid of a fire pump. The fire suppression system will need to be aided by the installation of a fire pump.

3. The fire pump shall be a vertical in-line electric fire pump installed in accordance with NFPA 20. The fire pump shall be controlled by a soft-start/soft- stop controller. The fire pump shall be located in a dedicated room separated from all other areas of the building by a 2-hour fire barrier. The fire pump room location shall be pre-planned with the local fire department and be in accordance with Section 4.13.2.1 of NFPA 20. The standpipe system supplied from the fire pump is to be a manual wet system so while the pump supplies water, it is not intended to supply the minimum pressure required in NFPA 14.
4. The building will be supplied with its own dedicated fire department connection(s) and shall be located and provided with the appropriate threads per the requirements of the Authority Having Jurisdiction.

Standpipes

1. The building will have occupiable floors located greater than 30 feet above the lowest level of fire department vehicle access. Accordingly, the building shall be equipped with Class I standpipes with fire department hose connections located in accordance with the applicable codes. The standpipes systems are permitted to be manual wet systems in which the system contains water at all times but relies exclusively on the fire department connection to supply system demand.
2. Class I manual wet standpipes shall be provided with 2-1/2" fire hose connections located in accordance with NFPA 14.

Sprinkler System

1. The building shall be fully sprinkled throughout with a hydraulically calculated wet pipe automatic sprinkler system designed and installed per NFPA 13. The building spaces will be classified as Light Hazard (0.10 gpm/sq. ft. over a remote area of 1500 sq. ft.) or Ordinary Hazard Group 1 (0.15 gpm/sq. ft. over a remote area of 1500 sq. ft.) hazard occupancies, per NFPA 13 Chapter 5, and will be designed based on the density/area method using section 11.2.3.2 of NFPA 13.
2. The sprinkler systems shall be, in general, zoned per floor or split into 2 depending on square footage.
3. All automatic fire suppression systems shall be monitored by the fire alarm system including supervisory switches on all valves which, when closed, can affect flow to any sprinkler and all sprinkler zone flow switches.

Fire Suppression and Standpipe Materials

1. Above Ground Piping Materials shall be as follows:
    a. NPS 2 and smaller: ASTM A53, standard weight, black steel pipe with threaded ends; uncoated, gray iron threaded fittings; and threaded joints.
    b. NPS 2-1/2 and larger: ASTM A53, standard weight, black steel pipe with cut or roll grooved ends; uncoated, grooved end fittings for steel piping; grooved end pipe couplings for steel piping; and grooved joints.
    c. Sprinkler piping within imaging areas requiring nonferrous pipe shall be copper Type L with wrought copper solder joints for all sizes.
    d. Galvanized piping will not be an acceptable alternate to these aforementioned piping materials.
2. Sprinkler types shall be as follows:
    a. Public Areas – Concealed pendent sprinklers (concealed sidewall where required).
    b. Back of House areas with ceilings – Concealed or semi-recessed pendent sprinklers.
    c. Areas without Ceilings – Upright sprinklers with guards as necessary.

d. All sprinklers shall be quick response type with an ordinary temperature classification unless otherwise required by code.

Plumbing

Index

Design Standards

Wayne State is constructing a new School of Medicine Health Sciences Building to create a world class, nationally recognized, regional destination as a Detroit-centered facility where the collaboration of research and academics leads to excellent outcomes, financial stewardship, and compassion.

Applicable Codes & Standards

1. ASHRAE
    a. 90.1 (2013) – Energy
2. Illuminating Engineering Society (IES)
    a. The Lighting Handbook, 10th Edition
3. International Code Council
    a. ICC A117.1 (2017) – Accessible & Usable Building & Facilities
4. NFPA
    a. 70 (2023) – NEC, with part 8 State Amendments
    b. 72 (2016) – National Fire Alarm & Signaling Code
    c. 101 (2012) – Life Safety
    d. 110 (2019) – Emergency & Standby Power Systems
    e. 111 (2019) – Stored Electrical Energy Emergency & Standby Power Systems
5. ICC A117.1 (2017) – Accessible & Usable Building & Facilities
6. Michigan Building Code – 2015
7. Michigan Mechanical Code – 2021
8. Michigan Plumbing Code – 2021
9. Michigan Energy Code – 2015

Sanitary Sewer

1. The building will be provided with sanitary and vent systems, stacks, branches, and connections to new sewers. The sewer connection will be coordinated with the Civil Engineer for all required sewer connections.
    a. Building shall be connected to sanitary city sewer. The drainage load is 560 DFU’s and main size is 6”.

b. Unless determined by the Civil Engineer that there is insufficient invert elevation at the point of connection, the plumbing fixtures and drains are to exit the building via gravity system.
c. All sanitary and vent piping above and below slab shall be cast-iron pipe and fittings (excepting hot water discharges in mechanical rooms, central sterile processing department drainage and other where appropriate). Pumped discharge piping will be constructed of galvanized steel piping with grooved mechanical joint fittings.
d. A simplex sump pump will be required in each new elevator. Hydraulic elevators requiring either an oil separator or factory sensor package are anticipated at this time.

2. All fixtures will be vented to protect trap seals in accordance with the plumbing code. The main vent stacks shall extend through the roof.

3. Floor Drains will be provided to collect drainage from pieces of equipment. For equipment with large discharges, such as water softener system, floor sinks will be provided. Floor drains will also be required in all toilet rooms with more than one water closet and in front of each ADA shower and shower for staff use. Each of these drains will require an automatic trap primer.

Storm Water

1. New roof storm drainage will be collected from each level of roof and directed to locations outside of the building where it is collected and routed to existing underground storm piping in the street.
    a. Each roof drain shall be provided with an emergency overflow drain connecting to a separate drainage system.
    b. Emergency overflow system shall discharge to grade, exposed to view per Michigan Plumbing Code. Storm water from the roofs will be collected via a system of conventional roof drains), gutters, leaders, and horizontal piping. Horizontal storm drain piping will have a minimum of 1” insulation covering to protect building ceilings.
    c. The building storm drainage system piping shall be cast iron drainage pipe and fittings. All storm water piping above and below slab shall be cast iron drainage pipe and fittings.
    d. Overall roof square footage is TBD.A maximum rainfall rate of 3” per hour will be used. Storm connection required to meet the capacity of the roof drainage at peak rainfall rates is (2) 8” storm drains.

Domestic Cold Water

1. Demand required across all building potable water services is 587 C.W.S.F.U. A single 8” water services will be provided for the facility prior to splitting to domestic and fire service. The water meter will be in a vault outside. The backflow preventer will be at the ground level mechanical room.
    a. The domestic water distribution system will provide a minimum of 40 psi at all floors for plumbing fixtures and will not exceed 80 psi. A new triplex booster pump system will be designed to provide the pressure required at all future fixtures. Total GPM required for the system is approximately 173 GPM.
2. Domestic hot and cold water will be provided for the base building systems. The piping in the system will be sized to provide a maximum velocity of 5 feet per second (fps) in the mains, and 4 fps in all branch piping. Pressure reducing valves will be installed on the risers wherever the water pressure exceeds 80 psi.
    a. All domestic water piping will be type “L” copper and insulated with a minimum of ½” of insulation.

    b. Cold water hose bibs will be installed in each large group restroom and mechanical room. Frost-proof hose bibs will be on several faces of the exterior walls.
3. Reverse Osmosis (RO) and Deionized (DI) water are expected to be required to serve various pieces of medical equipment in the Central Sterile department. Dedicated rooms will be required locally to house equipment.
4. Backflow preventors will be provided as required for all RO and DI systems.

Domestic Hot Water

1. Sinks, lavatories and showers throughout the new build which will require domestic hot water supply. The design intent is to use gas fire water heater with storage tank manifolded together as required to meet demand.
    a. The hot water heaters will be located here in a mechanical room on the first floor.
2. A circulator, duplex pump shall be provided between the water heaters and storage tanks to maintain storage hot water temperature at 140°F.
3. A total of two main electronic ASSE 1017 thermostatic mixing valves will be provided to maintain appropriate loop water temperature while maintaining hot water tank temperatures at 140°F to avoid legionella issues.
4. A hot water recirculation system will maintain the temperature in the domestic hot water piping loops and sub-loops. The second pump will serve as a backup to the primary pump and the primary pump will run continuously without stopping. Automatic balancing valves will be installed in each of the circulating loops and sub-loops. Each valve will be permanently sized to maintain minimum supply temperature setpoint to maintain the proper flow within the hot water recirculation system.
5. The domestic hot water distribution system will provide a minimum of 40 psi at all floors to serve plumbing fixtures and will not exceed 80 psi. Pressure reducing valves will be installed on the risers wherever the water pressure exceeds 80 psi. The piping in the system will be sized to provide a maximum velocity of 5 feet per second (fps) in the mains, and 4 fps in all branch piping. All domestic hot water and hot water return piping shall be type “L” copper and insulated with a minimum of 1” of insulation.
    a. Public hand washing facilities will be equipped with a local thermostatic mixing valve that limits the temperature at the individual fixture.

Plumbing Fixtures

1. All fixtures shall be provided with individual stop valves. Water closets shall be furnished with flush valves and lavatories will be provided with faucets.
    a. Plumbing fixtures shall be provided as indicated on the architectural plans and meet Plumbing Code requirements. Plumbing fixture accessibility clearances, installation and accessories shall be compliant with the Americans with Disabilities Act, where determined by the architect.
2. Plumbing fixtures shall be low-flow water conserving fixtures, faucets and valves designed to exceed the minimum required by the Energy Policy Act of 1992 (EPAct). The current baseline is:
    a. Floor-mounted water closets (1.6 gpf), lavatories (0.5 gpm at 60 psi), shower heads (2.5 gpm at 80 psi) and urinals (1.0 gpf).
    b. Water closet flush valves will be automatic flush with hard-wire sensor.
    c. Lavatories shall incorporate automatic flush with hard-wire sensor. All faucets will include sloped faucet heads.
    d. Sinks in work areas shall be stainless steel with manual wrist blade faucets. Faucets will incorporate manual wrist blades with 2.2 gpm laminar flow rate.

e. Specialty fixtures such as clinical sinks and mop sinks will be installed, where required. These fixtures will not have flow restrictors but will include a laminar flow outlet and a threaded hose end.
f. All Mechanical rooms and the water service room will be provided with floor drains, with trap seals protected with trap primers.
g. Showers will include a pressure balancing valve with a removable hose with a shower head.
h. Electric water coolers with recessed chiller units shall be dual, bi-level to meet ADA requirements. Bottle fillers shall be provided as necessary.

3. Fixtures shall be of the best quality available by major manufacturers. All fixtures shall be ADA approved except the water closets in the non-handicapped public toilet stalls. Staff Toilets will meet ADA requirements.

Piped Services

1. Vacuum: A new medical vacuum system shall be provided in the penthouse and the first floor. The vacuum skid will consist of modular pumps with one vacuum pump. The unit installed in the penthouse will serve the support labs on floors 2 – 5. The unit installed on the first floor will serve the lab on the first floor. The units shall meet all NFPA requirements for medical vacuum. Outlets in the spaces shall be per needs, whichever is more stringent. The vacuum system shall have the capacity to provide all vacuum and WAGD flows as required by space functions.
2. Air: An air compressor system shall be provided in the penthouse and the first floor. The unit installed in the penthouse will serve the support labs on floors 2 – 5. The unit installed on the first floor will serve the lab on the first floor. The units shall meet all NFPA requirements for medical air. Outlets in the spaces shall be per the owner needs.
3. RO water reservoir and generator will be located in the penthouse and piped to the required locations on floors 2 - 5.
4. RO water reservoir and generator and high purity DI generator will be installed on the first floor to serve the lab on the first floor.
5. Nitrogen generator system will be located on the first floor and piped to the required locations on the first floor.
6. Argon and Nitrogen cylinder gas bottles with a manifold will be located locally. Capacity for 2x2-cylinder banks will be provided. Each manifold will monitor the gases and switch from one bank to the other when the cylinders are near empty. The number of cylinders on each bank will be based on a scheduled delivery period. Floors 2-5.
7. Outlets shall be provided by specific owner requests.
    a. Zone Valve Boxes will be located in common spaces to isolate a room or group of rooms, as required by NFPA-99. In addition, locked valves will be located at main intersections to minimize a shutdown in case of failure of the piping system or due to future renovations of the system.
8. All gas distribution piping shall be brazed copper and wrought fitting including any interior vacuum exhaust discharge.
    a. NFPA 99 gases sources and distribution shall be design and sized for future capacities required for service of future building needs.

Natural Gas

1. A 2 psi natural gas service will be sized based decisions made based on requirements to serve potential domestic hot water heating and building comfort space heating. Gas main size and building required load is to be determined.

INDEX OF DRAWINGS

Sheet Number	SHEET NAME	20250131_SCHEMATIC DESIGN
GENERAL		
A0.00	COVER	X
A0.02	PROJECT INFORMATION	X
A0.03	SHEET INDEX	X
A0.04	ARCHITECTURAL SITE PLAN	X
CIVIL		
C-000	COVER SHEET	X
C-100	EXISTING CONDITIONS	X
C-101	UTILITY TABLE	X
C-110	DEMOLITION PLAN	X
C-120	SITE PLAN	X
C-130	UTILITY PLAN	X
C-520	PAVING DETAILS AND NOTES	X
C-530	UTILITY DETAILS	X
ARCHITECTURAL		
ALS.01	LEVEL 01 & 02 LIFE SAFETY PLANS	X
ALS.03	LEVEL 03 & 04 LIFE SAFETY PLANS	X
ALS.05	LEVEL 05 & PH LIFE SAFETY PLANS	X
A2.01	LEVEL 01 FLOOR PLAN - COMPOSITE	X
A2.01.1	LEVEL 01 FLOOR PLAN - SECTOR 01	X
A2.01.2	LEVEL 01 FLOOR PLAN - SECTOR 02	X
A2.02	LEVEL 02 FLOOR PLAN	X
A2.03	LEVEL 03 FLOOR PLAN - COMPOSITE	X
A2.03.1	LEVEL 03 FLOOR PLAN - SECTOR 01	X
A2.03.3	LEVEL 03 FLOOR PLAN - SECTOR 03	X
A2.04	LEVEL 04 FLOOR PLAN	X
A2.05	LEVEL 05 FLOOR PLAN	X
A2.06	LEVEL 06 - PENTHOUSE FLOOR PLAN	X
A2.07	LEVEL 07 - PENTHOUSE ROOF PLAN	X
A2.11	LEVEL 01 FINISH PLAN	X
A2.12	LEVEL 02 FINISH PLAN	X
A2.13	LEVEL 03 FINISH PLAN	X
A2.14	LEVEL 04 FINISH PLAN	X
A2.15	LEVEL 05 FINISH PLAN	X
A2.16	LEVEL 06 PENTHOUSE FINISH PLAN	X
A4.01.1	LEVEL 01 REFLECTED CEILING PLAN - SECTOR 01	X
A4.03.1	TYPICAL LAB FLOOR REFLECTED CEILING PLAN	X
A3.41	INTERIOR FINISH INFORMATION	X
A3.81	DESIGN INTENT - INTERIOR PERSPECTIVES	X
A5.00	EXTERIOR 3D ILLUSTRATIONS	X
A5.01	DESIGN INTENT - EXTERIOR PERSPECTIVES	X
A5.02	EXTERIOR ELEVATION - SOUTH	X
A5.03	EXTERIOR ELEVATION - WEST	X
A5.04	EXTERIOR ELEVATIONS - NORTH	X
A5.05	EXTERIOR ELEVATION - EAST	X
A6.01	WALL SECTIONS	X
A6.02	WALL SECTIONS	X
LF0.02	LAB FURNISHINGS TYPICAL ELEVATIONS	X
LF2.01	LAB FURNISHINGS LEVEL 01 FLOOR PLAN	X
LF2.02	LAB FURNISHINGS LEVEL 02 FLOOR PLAN	X
LF2.03	LAB FURNISHINGS LEVEL 03 FLOOR PLAN	X
LF2.04	LAB FURNISHINGS LEVEL 04 FLOOR PLAN	X
LF2.05	LAB FURNISHINGS LEVEL 05 FLOOR PLAN	X
STRUCTURAL		
S0.01	ABBREVIATIONS AND SYMBOLS	X
S0.02	GENERAL NOTES	X
S0.04	SPECIAL INSPECTIONS	X
S0.05	SPECIAL INSPECTIONS	X
S1.01	FOUNDATION PLAN	X
S1.02	SECOND FLOOR FRAMING PLAN	X
S1.03	TYPICAL FLOOR FRAMING PLAN	X
S1.06	PENTHOUSE FRAMING PLAN	X
S1.07	ROOF FRAMING PLAN	X
S2.00	ELEVATIONS	X
S2.01	ELEVATIONS	X
S2.05	TYPICAL FRAME ELEVATIONS	X
S2.50	ENLARGED BRIDGE PLAN AND DETAILS	X
MECHANICAL		
M-001	MECHANICAL SYMBOL LEGEND AND NOTES	X
M-106	PENTHOUSE MECHANICAL PLAN	X
M-107	ROOF MECHANICAL PLAN	X
M-503	PIPING DIAGRAM	X
M-504	AIR HANDLING DIAGRAM	X
PLUMBING		
P-001	PLUMBING SYMBOL LEGEND AND NOTES	X
P-201	LEVEL 1 DOMESTIC WATER PLAN	X
P-206	PENTHOUSE DOMESTIC WATER PLAN	X
ELECTRICAL		
E-001	ELECTRICAL SYMBOL LEGEND	x
E-200	SITE ELECTRICAL PLAN	X
E-201	LEVEL 1 POWER PLAN	X
E-203	LEVEL 2 THRU 5 POWER PLAN	X
E-206	PENTHOUSE POWER PLAN	X
E-601	ELECTRICAL ONE LINE DIAGRAM	X
E-602	SWBDH1 ONE-LINE DIAGRAM	X
E-603	SWBDH2 ONE-LINE DIAGRAM	X
E-604	ESSENTIAL SYSTEM ONE-LINE DIAGRAM	X
E-605	EQUIPMENT ONE-LINE DIAGRAM	X
E-606	ESSENTIAL SYSTEM ONE-LINE DIAGRAM	X
TECHNOLOGY		
T-001	TECHNOLOGY SYMBOL LEGEND AND NOTES	X
T-101	TECHNOLOGY PATHWAY PLAN - LEVEL 01	X
T-102	TECHNOLOGY PATHWAY PLAN - LEVEL 02	X
T-103	TECHNOLOGY PATHWAY PLAN - LEVEL 03	X
T-104	TECHNOLOGY PATHWAY PLAN - LEVEL 04	X
T-105	TECHNOLOGY PATHWAY PLAN - LEVEL 05	X
T-106	TECHNOLOGY PATHWAY PLAN - PENTHOUSE	X
T-107	TECHNOLOGY PATHWAY PLAN - ROOF	X
T-201	TECHNOLOGY FLOOR PLAN - LEVEL 01	X
T-202	TECHNOLOGY FLOOR PLAN - LEVEL 02	X
T-203	TECHNOLOGY FLOOR PLAN - LEVEL 03	X
T-204	TECHNOLOGY FLOOR PLAN - LEVEL 04	X
T-205	TECHNOLOGY FLOOR PLAN - LEVEL 05	X
T-206	TECHNOLOGY FLOOR PLAN - PENTHOUSE	X
T-207	TECHNOLOGY FLOOR PLAN - ROOF	X
T-300	TECHNOLOGY ELEVATION PLANS - LEVEL 01	X
T-301	TECHNOLOGY ELEVATION PLANS - LEVEL 02	X
T-302	TECHNOLOGY ELEVATION PLANS - LEVEL 03	X
T-303	TECHNOLOGY ELEVATION PLANS - LEVEL 04	X
T-304	TECHNOLOGY ELEVATION PLANS - LEVEL 05	X
T-400	TECHNOLOGY ENLARGED PLANS - IT	X
T-401	TECHNOLOGY ENLARGED PLANS - IDF	X
T-402	TECHNOLOGY ENLARGED PLANS - IDF	X
T-403	TECHNOLOGY ENLARGED PLANS - IDF	X
T-404	TECHNOLOGY ENLARGED PLANS - IDF	X
T-405	TECHNOLOGY ENLARGED PLANS - IDF	X
T-406	TECHNOLOGY ENLARGED PLANS - IDF	X
T-407	TECHNOLOGY ENLARGED PLANS - IDF	X
T-408	TECHNOLOGY ENLARGED PLANS - IDF	X
T-409	TECHNOLOGY ENLARGED PLANS - IDF	X
T-601	TECHNOLOGY RISER DIAGRAMS	X
TS-100	TECHNOLOGY SITE PLAN	X

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000

DATE
31 JANUARY 2025

ISSUE
SCHEMATIC DESIGN

SHEET TITLE
SHEET INDEX

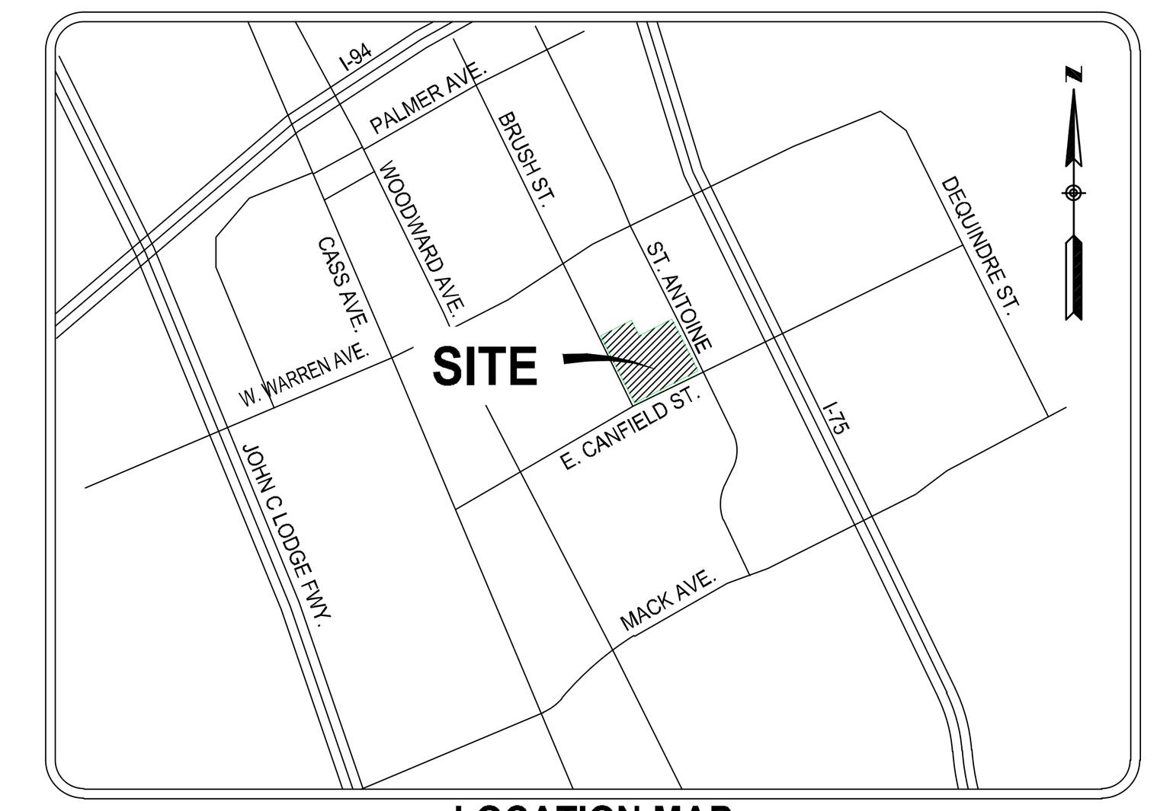
SHEET NO.
A0.03

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:34:57 PM
TEMPLATE VERSION: 23.0.4

SCHEMATIC DESIGN

WAYNE STATE UNIVERSITY
HEALTH SCIENCES BUILDING



LOCATION MAP

SHEET INDEX

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

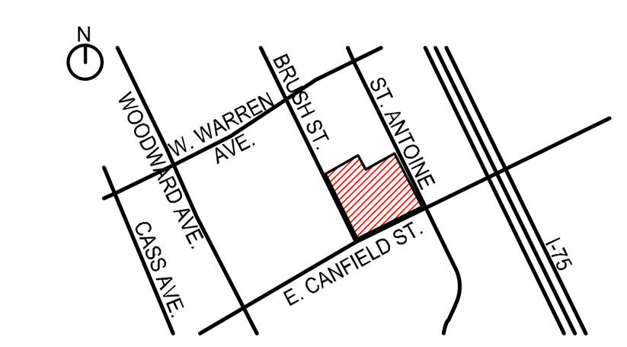
OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY

These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

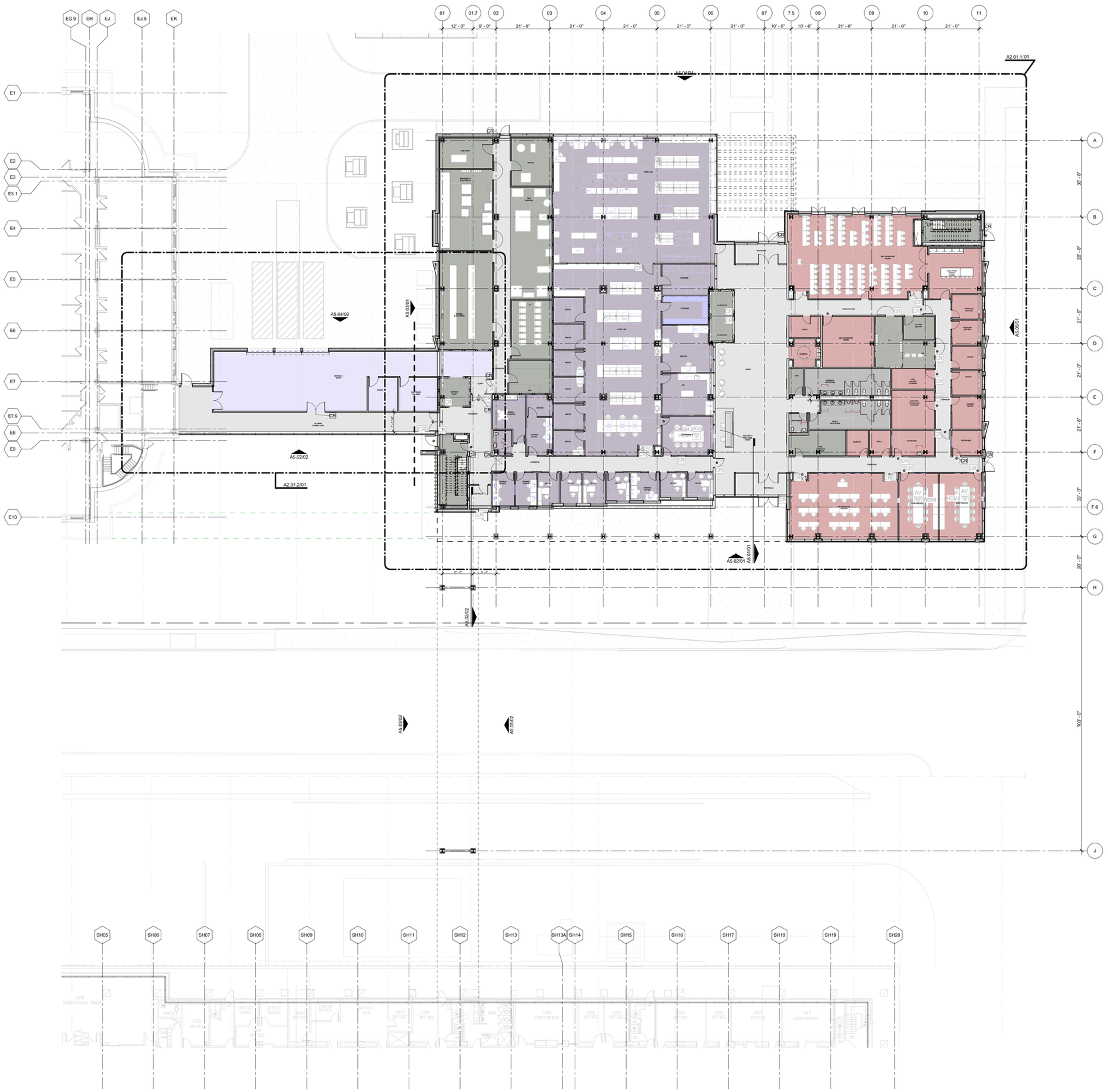
HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
COVER SHEET

Know what's below. Call before you dig.

SHEET NO.
C-000

NOT FOR CONSTRUCTION

Plotted: Jan 30, 2025, 2:46 PM by user: 9134 – Saved: 1/30/2025 by user: 9134
I:\ud projects\ud24011 – wayne state university – health sciences building\DWG\UD24011CVR_2025-01-30.dwg
TEMPLATE VERSION:



01 LEVEL 01 FLOOR PLAN - COMPOSITE

1/16" = 1'-0"

- Building Services
- Building Support
- Circulation
- Collaboration/Conference
- Community
- Connector
- Core
- Cores
- Lab
- Lab Building Support
- Lab Support
- MEP
- Office Support
- Offices
- Restrooms
- Staff Amenities
- Vertical Circulation/Shaft

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

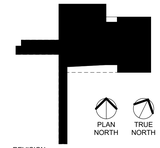
WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN



REVISION NO. | DESCRIPTION | DATE

HKS PROJECT NUMBER
26234.000

DATE
31 JANUARY 2025

ISSUE
SCHEMATIC DESIGN

SHEET TITLE
LEVEL 01 FLOOR PLAN - COMPOSITE

SHEET NO.
A2.01

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:35:49 PM
TEMPLATE VERSION: 23.0.4

GENERAL NOTES - FLOOR PLAN

1. REFER TO SHEET A0.02 FOR ABBREVIATION AND DRAWING LEGENDS.
2. REFER TO SHEETS AX.XX, AX.XX AND AX.XX FOR PARTITION TYPES, GRAPHIC AND SYMBOLIC DESIGNATIONS, NOTES, AND DETAILS.
3. ALL WALLS TO BE TYPE A3 (WITH SOUND ATTENUATION), U.N.O.
4. ALL COLUMNS ENCLOSURES TO BE TYPE K1 (NO SOUND ATTENUATION) U.N.O. TYPICAL DIMENSION FROM CENTERLINE OF COLUMN TO FACE OF FINISHED WALL IS 1'-3", U.N.O.
5. WALL TYPE O3 (NO SOUND ATTENUATION) TYPICAL AT FREESTANDING WALLS, U.N.O.
6. PARTITIONS ARE TYPICALLY DIMENSIONED FROM FACE OF PARTITION TYPE TO COLUMN CENTER LINE OR FROM FACE OF PARTITION TYPE TO FACE OF PARTITION TYPE U.N.O.
7. MASONRY DIMENSIONS ARE NOMINAL, U.N.O
8. WHERE PARTITION SYSTEMS ARE INDICATED, THE PARTITION SYSTEM IS CONTINUOUS UNTIL THE PARTITION SYSTEM CHANGES DIRECTION OR A DIFFERENT PARTITION SYSTEM IS INDICATED.
9. INSTALL 3/4" FIRE RETARDANT TREATED PLYWOOD FROM FLOOR TO DECK ABOVE, PER PARTITION TYPES PA, PB, PC AND PD. TYPICAL ALL FOUR WALLS OF ELECTRICAL ROOMS.
10. AT ALL WALLS WITH CERAMIC OR PORCELAIN WALL TILE FINISH PROVIDE 5/8" TILE BACKER BOARD IN LIEU OF 5/8" GYPSUM BOARD. REFER TO FINISH SCHEDULE A3.40 FOR LOCATIONS AND EXTENT OF CERAMIC AND PORCELAIN WALL TILE.
11. COORDINATE LOCATIONS OF ALL WALL MOUNTED DEVICES (ELECTRICAL RECEPTACLES, THERMOSTATS, SWITCHES, ECT.) IN WALL FINISHED WITH CERAMIC, PORCELAIN TILE, OR ANY OTHER FEATURE WALL WITH THE ARCHITECT.
12. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH TRADES REQUIRING THE SAME. MINIMUM SIZE 24" X 24" U.N.O.
13. PROVIDE POSITIVE SLOPE TO ALL FLOOR DRAINS WHILE KEEPING FLOOR LEVEL AT BASE WALL CONDITIONS.
14. COORDINATE SIZE AND LOCATION OF ALL HOUSE-KEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH THE APPROPRIATE EQUIPMENT MANUFACTURER.
15. REFER TO SHEETS AX.XX FOR PARTITION TYPES.
16. REFER TO SHEETS AX.XX AND AX.XX FOR FRAMING AND GYP BD. DETAILS.
17. REFER TO SHEETS AX.XX AND AX.XX FOR MOUNTING DETAILS.
18. REFER TO SHEETS AX.XX FOR TYPICAL TOILET LAYOUTS, TOILET ACCESSORY MOUNTING DIAGRAMS, LAVATORY DETAILS, LOCKER TYPE SCHEDULE AND MOUNTING DETAILS.
19. REFER TO SHEETS AX.XX DOOR INFORMATION, SCHEDULES DETAILS AND BORROWED LITE SCHEDULE.
20. REFER TO SHEET A3.40 FOR FINISH INFORMATION AND SCHEDULES, WALL PROTECTION TYPE AND DETAILS, AND FLOORING TRANSITIONS.
21. REFER TO SHEET AX.XX FOR CASEWORK DETAILS AND INFORMATION.
22. REFER TO SHEETS A2.11 - A2.16 FOR FINISH PLANS.

- Building Services
- Building Support
- Circulation
- Collaboration/Conference
- Community
- Connector
- Core
- Cores
- Lab
- Lab Building Support
- Lab Support
- MEP
- Office Support
- Offices
- Restrooms
- Staff Amenities
- Vertical Circulation/Shaft

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 2:36:01 PM TEMPLATE VERSION: 23.0.4

01 LEVEL 01 FLOOR PLAN - SECTOR 01
1/8" = 1'-0"

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

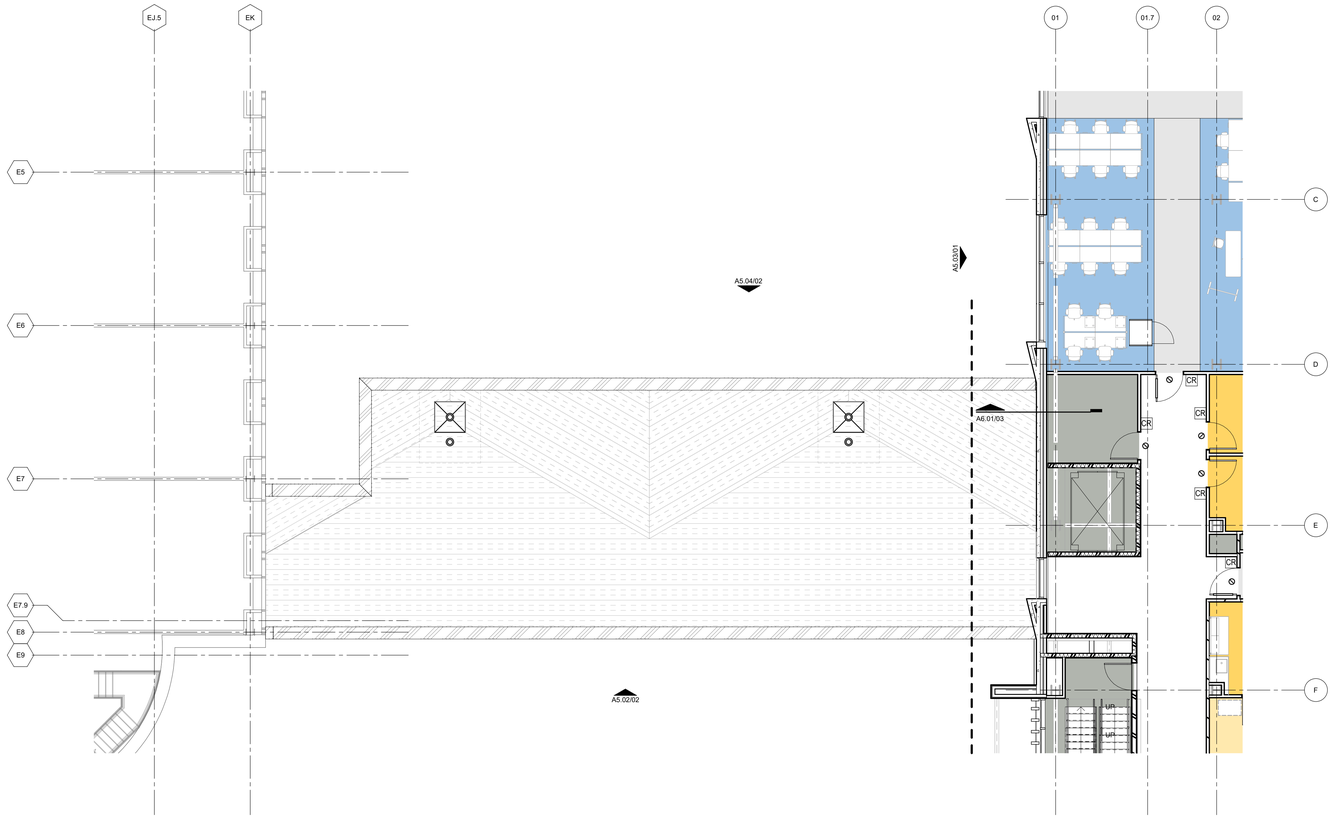
KEY PLAN

PLAN NORTH / TRUE NORTH

REVISION NO. | DESCRIPTION | DATE

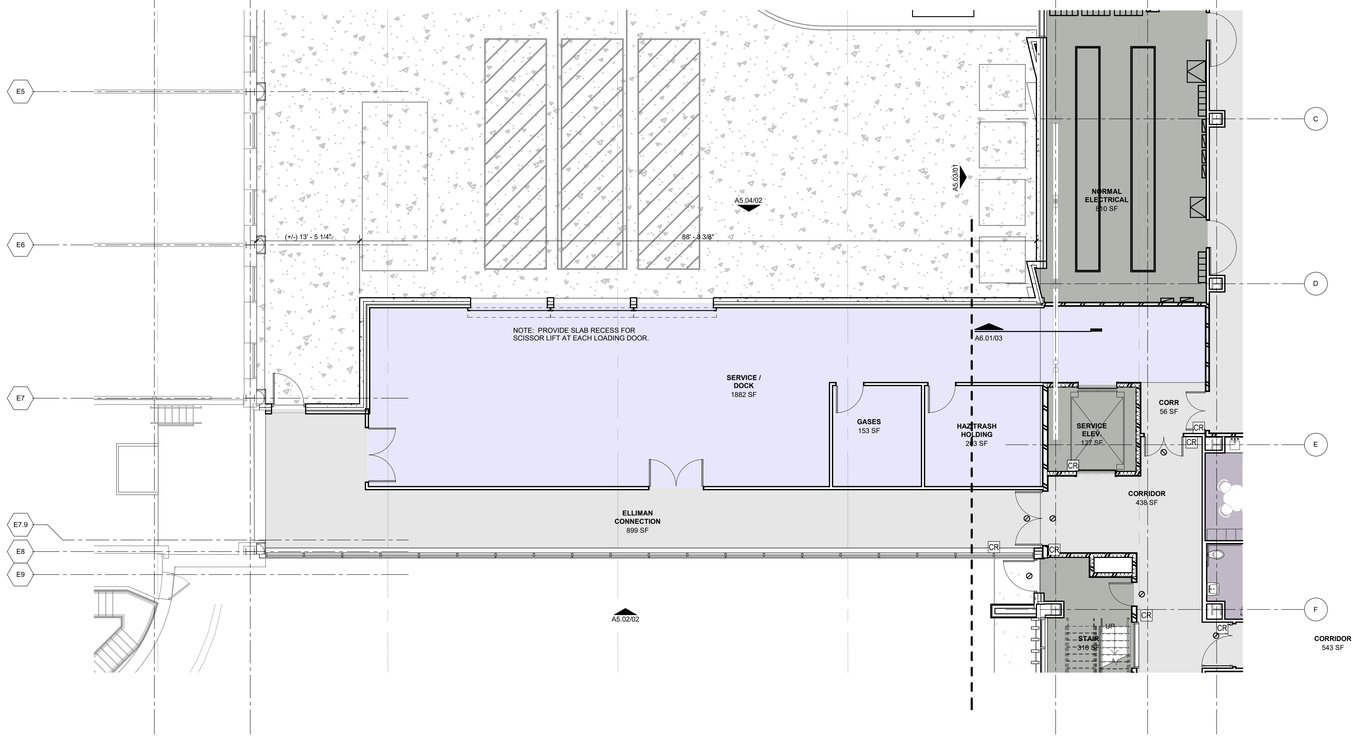
HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
LEVEL 01 FLOOR PLAN - SECTOR 01

SHEET NO.
A2.01.1



02 LEVEL 02 ROOF PLAN - SECTOR 02

1/8" = 1'-0"



01 LEVEL 01 FLOOR PLAN - SECTOR 02

1/8" = 1'-0"

GENERAL NOTES - FLOOR PLAN

1. REFER TO SHEET A0.02 FOR ABBREVIATION AND DRAWING LEGENDS.
2. REFER TO SHEETS AX.XX, AX.XX AND AX.XX FOR PARTITION TYPES, GRAPHIC AND SYMBOLIC DESIGNATIONS, NOTES, AND DETAILS.
3. ALL WALLS TO BE TYPE A3 (WITH SOUND ATTENUATION), U.N.O.
4. ALL COLUMNS ENCLOSURES TO BE TYPE K1 (NO SOUND ATTENUATION) U.N.O. TYPICAL DIMENSION FROM CENTERLINE OF COLUMN TO FACE OF FINISHED WALL IS 1'-0", U.N.O.
5. WALL TYPE O3 (NO SOUND ATTENUATION) TYPICAL AT FREESTANDING WALLS, U.N.O.
6. PARTITIONS ARE TYPICALLY DIMENSIONED FROM FACE OF PARTITION TYPE TO COLUMN CENTER LINE OR FROM FACE OF PARTITION TYPE TO FACE OF PARTITION TYPE U.N.O.
7. MASONRY DIMENSIONS ARE NOMINAL, U.N.O
8. WHERE PARTITION SYSTEMS ARE INDICATED, THE PARTITION SYSTEM IS CONTINUOUS UNTIL THE PARTITION SYSTEM CHANGES DIRECTION OR A DIFFERENT PARTITION SYSTEM IS INDICATED.
9. INSTALL 3/4" FIRE RETARDANT TREATED PLYWOOD FROM FLOOR TO DECK ABOVE, PER PARTITION TYPES PA, PB, PC AND PD. TYPICAL ALL FOUR WALLS OF ELECTRICAL ROOMS.
10. AT ALL WALLS WITH CERAMIC OR PORCELAIN WALL TILE FINISH PROVIDE 5/8" TILE BACKER BOARD IN LIEU OF 5/8" GYPSUM BOARD. REFER TO FINISH SCHEDULE A3.40 FOR LOCATIONS AND EXTENT OF CERAMIC AND PORCELAIN WALL TILE.
11. COORDINATE LOCATIONS OF ALL WALL MOUNTED DEVICES (ELECTRICAL RECEPTACLES, THERMOSTATS, SWITCHES, ECT.) IN WALL FINISHED WITH CERAMIC, PORCELAIN TILE, OR ANY OTHER FEATURE WALL WITH THE ARCHITECT.
12. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH TRADES REQUIRING THE SAME. MINIMUM SIZE 24" X 24" U.N.O.
13. PROVIDE POSITIVE SLOPE TO ALL FLOOR DRAINS WHILE KEEPING FLOOR LEVEL AT BASE WALL CONDITIONS.
14. COORDINATE SIZE AND LOCATION OF ALL HOUSE-KEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH THE APPROPRIATE EQUIPMENT MANUFACTURER.
15. REFER TO SHEETS AX.XX FOR PARTITION TYPES.
16. REFER TO SHEETS AX.XX AND AX.XX FOR FRAMING AND GYP BD. DETAILS.
17. REFER TO SHEETS AX.XX AND AX.XX FOR MOUNTING DETAILS.
18. REFER TO SHEETS AX.XX FOR TYPICAL TOILET LAYOUTS, TOILET ACCESSORY MOUNTING DIAGRAMS, LAVATORY DETAILS, LOCKER TYPE SCHEDULE AND MOUNTING DETAILS.
19. REFER TO SHEETS AX.XX DOOR INFORMATION, SCHEDULES DETAILS AND BORROWED LITE SCHEDULE.
20. REFER TO SHEET A3.40 FOR FINISH INFORMATION AND SCHEDULES, WALL PROTECTION TYPE AND DETAILS, AND FLOORING TRANSITIONS.
21. REFER TO SHEET AX.XX FOR CASEWORK DETAILS AND INFORMATION.
22. REFER TO SHEETS A2.11 - A2.16 FOR FINISH PLANS.

- Building Services
- Building Support
- Circulation
- Collaboration/Conference
- Community
- Connector
- Core
- Cores
- Lab
- Lab Building Support
- Lab Support
- MEP
- Office Support
- Offices
- Restrooms
- Staff Amenities
- Vertical Circulation/Shaft

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:36:05 PM TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

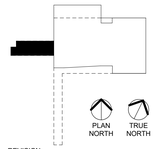
WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000

DATE
31 JANUARY 2025

ISSUE
SCHEMATIC DESIGN

SHEET TITLE
LEVEL 01 FLOOR PLAN - SECTOR 02

SHEET NO.
A2.01.2

01 LEVEL 02 FLOOR PLAN

1/8" = 1'-0"

GENERAL NOTES - FLOOR PLAN

1. REFER TO SHEET A0.02 FOR ABBREVIATION AND DRAWING LEGENDS.
2. REFER TO SHEETS AX.XX, AX.XX AND AX.XX FOR PARTITION TYPES, GRAPHIC AND SYMBOLIC DESIGNATIONS, NOTES, AND DETAILS.
3. ALL WALLS TO BE TYPE A3 (WITH SOUND ATTENUATION), U.N.O.
4. ALL COLUMNS ENCLOSURES TO BE TYPE K1 (NO SOUND ATTENUATION) U.N.O. TYPICAL DIMENSION FROM CENTERLINE OF COLUMN TO FACE OF FINISHED WALL IS 1'-0", U.N.O.
5. WALL TYPE O3 (NO SOUND ATTENUATION) TYPICAL AT FREESTANDING WALLS, U.N.O.
6. PARTITIONS ARE TYPICALLY DIMENSIONED FROM FACE OF PARTITION TYPE TO COLUMN CENTER LINE OR FROM FACE OF PARTITION TYPE TO FACE OF PARTITION TYPE U.N.O.
7. MASONRY DIMENSIONS ARE NOMINAL, U.N.O
8. WHERE PARTITION SYSTEMS ARE INDICATED, THE PARTITION SYSTEM IS CONTINUOUS UNTIL THE PARTITION SYSTEM CHANGES DIRECTION OR A DIFFERENT PARTITION SYSTEM IS INDICATED.
9. INSTALL 3/4" FIRE RETARDANT TREATED PLYWOOD FROM FLOOR TO DECK ABOVE, PER PARTITION TYPES PA, PB, PC AND PD. TYPICAL ALL FOUR WALLS OF ELECTRICAL ROOMS.
10. AT ALL WALLS WITH CERAMIC OR PORCELAIN WALL TILE FINISH PROVIDE 5/8" TILE BACKER BOARD IN LIEU OF 5/8" GYPSUM BOARD. REFER TO FINISH SCHEDULE A3.40 FOR LOCATIONS AND EXTENT OF CERAMIC AND PORCELAIN WALL TILE.
11. COORDINATE LOCATIONS OF ALL WALL MOUNTED DEVICES (ELECTRICAL RECEPTACLES, THERMOSTATS, SWITCHES, ECT.) IN WALL FINISHED WITH CERAMIC, PORCELAIN TILE, OR ANY OTHER FEATURE WALL WITH THE ARCHITECT.
12. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH TRADES REQUIRING THE SAME. MINIMUM SIZE 24" X 24" U.N.O.
13. PROVIDE POSITIVE SLOPE TO ALL FLOOR DRAINS WHILE KEEPING FLOOR LEVEL AT BASE WALL CONDITIONS.
14. COORDINATE SIZE AND LOCATION OF ALL HOUSE-KEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH THE APPROPRIATE EQUIPMENT MANUFACTURER.
15. REFER TO SHEETS AX.XX FOR PARTITION TYPES.
16. REFER TO SHEETS AX.XX AND AX.XX FOR FRAMING AND GYP BD. DETAILS.
17. REFER TO SHEETS AX.XX AND AX.XX FOR MOUNTING DETAILS.
18. REFER TO SHEETS AX.XX FOR TYPICAL TOILET LAYOUTS, TOILET ACCESSORY MOUNTING DIAGRAMS, LAVATORY DETAILS, LOCKER TYPE SCHEDULE AND MOUNTING DETAILS.
19. REFER TO SHEETS AX.XX DOOR INFORMATION, SCHEDULES DETAILS AND BORROVED LITE SCHEDULE.
20. REFER TO SHEET A3.40 FOR FINISH INFORMATION AND SCHEDULES, WALL PROTECTION TYPE AND DETAILS, AND FLOORING TRANSITIONS.
21. REFER TO SHEET AX.XX FOR CASEWORK DETAILS AND INFORMATION.
22. REFER TO SHEETS A2.11 - A2.16 FOR FINISH PLANS.

- Building Services
- Building Support
- Circulation
- Collaboration/Conference
- Community
- Connector
- Core
- Cores
- Lab
- Lab Building Support
- Lab Support
- MEP
- Office Support
- Offices
- Restrooms
- Staff Amenities
- Vertical Circulation/Shaft

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

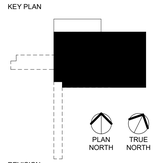
WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000

DATE
31 JANUARY 2025

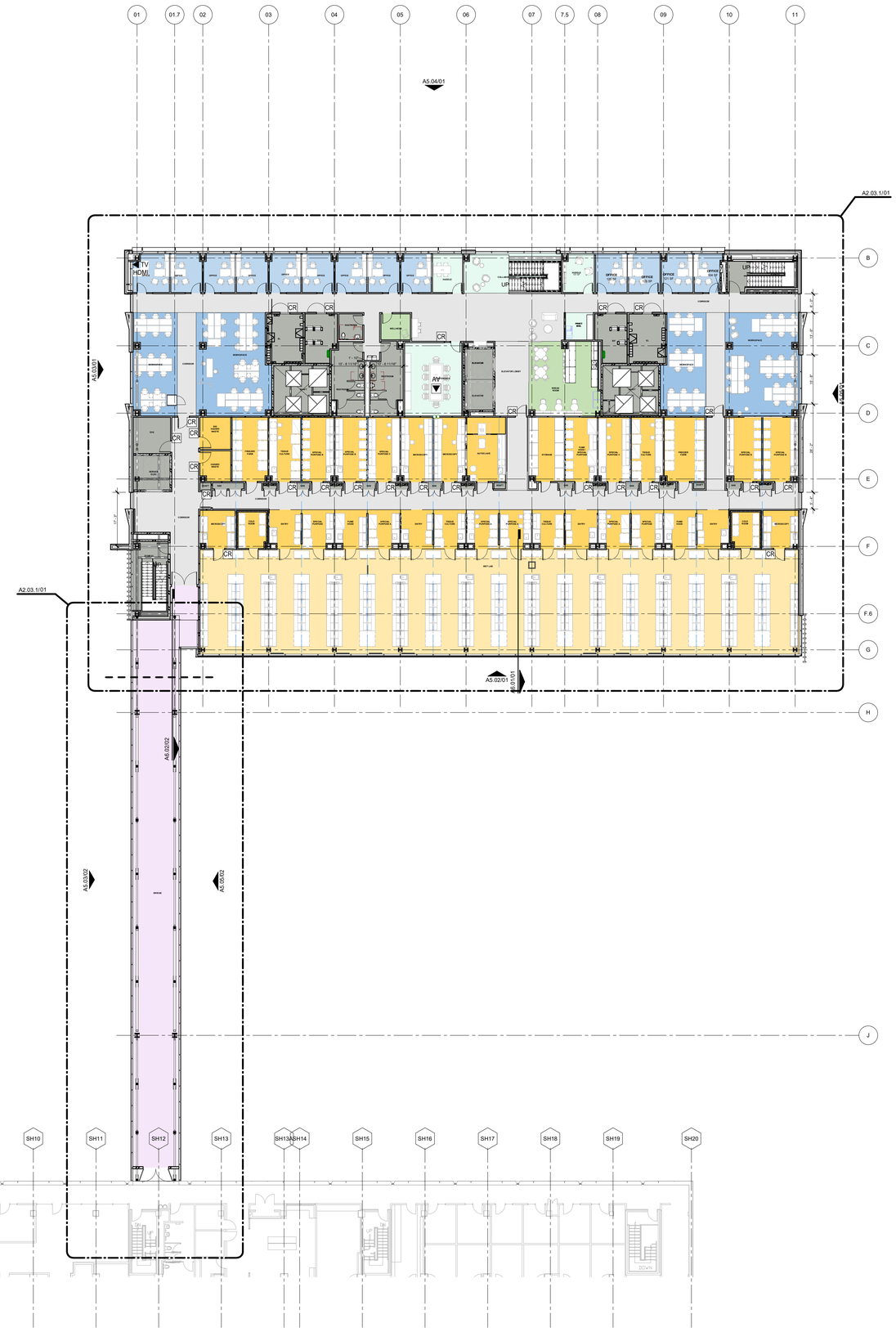
ISSUE
SCHEMATIC DESIGN

SHEET TITLE
LEVEL 02 FLOOR PLAN

SHEET NO.
A2.02

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:36:17 PM TEMPLATE VERSION: 23.0.4



01 LEVEL 03 FLOOR PLAN - COMPOSITE

1/16" = 1'-0"

- Building Services
- Building Support
- Circulation
- Collaboration/Conference
- Community
- Connector
- Core
- Cores
- Lab
- Lab Building Support
- Lab Support
- MEP
- Office Support
- Offices
- Restrooms
- Staff Amenities
- Vertical Circulation/Shaft

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN

REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000

DATE
31 JANUARY 2025

ISSUE
SCHEMATIC DESIGN

SHEET TITLE
LEVEL 03 FLOOR PLAN - COMPOSITE

SHEET NO.
A2.03

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:26:25 PM
TEMPLATE VERSION: 23.0.4

GENERAL NOTES - FLOOR PLAN

1. REFER TO SHEET A0.02 FOR ABBREVIATION AND DRAWING LEGENDS.
2. REFER TO SHEETS AX.XX, AX.XX AND AX.XX FOR PARTITION TYPES, GRAPHIC AND SYMBOLIC DESIGNATIONS, NOTES, AND DETAILS.
3. ALL WALLS TO BE TYPE A3 (WITH SOUND ATTENUATION), U.N.O.
4. ALL COLUMNS ENCLOSURES TO BE TYPE K1 (NO SOUND ATTENUATION) U.N.O. TYPICAL DIMENSION FROM CENTERLINE OF COLUMN TO FACE OF FINISHED WALL IS 1'-3", U.N.O.
5. WALL TYPE O3 (NO SOUND ATTENUATION) TYPICAL AT FREESTANDING WALLS, U.N.O.
6. PARTITIONS ARE TYPICALLY DIMENSIONED FROM FACE OF PARTITION TYPE TO COLUMN CENTER LINE OR FROM FACE OF PARTITION TYPE TO FACE OF PARTITION TYPE U.N.O.
7. MASONRY DIMENSIONS ARE NOMINAL, U.N.O
8. WHERE PARTITION SYSTEMS ARE INDICATED, THE PARTITION SYSTEM IS CONTINUOUS UNTIL THE PARTITION SYSTEM CHANGES DIRECTION OR A DIFFERENT PARTITION SYSTEM IS INDICATED.
9. INSTALL 3/4" FIRE RETARDANT TREATED PLYWOOD FROM FLOOR TO DECK ABOVE, PER PARTITION TYPES PA, PB, PC AND PD. TYPICAL ALL FOUR WALLS OF ELECTRICAL ROOMS.
10. AT ALL WALLS WITH CERAMIC OR PORCELAIN WALL TILE FINISH PROVIDE 5/8" TILE BACKER BOARD IN LIEU OF 5/8" GYPSUM BOARD. REFER TO FINISH SCHEDULE A3.40 FOR LOCATIONS AND EXTENT OF CERAMIC AND PORCELAIN WALL TILE.
11. COORDINATE LOCATIONS OF ALL WALL MOUNTED DEVICES (ELECTRICAL RECEPTACLES, THERMOSTATS, SWITCHES, ECT.) IN WALL FINISHED WITH CERAMIC, PORCELAIN TILE, OR ANY OTHER FEATURE WALL WITH THE ARCHITECT.
12. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH TRADES REQUIRING THE SAME. MINIMUM SIZE 24" X 24" U.N.O.
13. PROVIDE POSITIVE SLOPE TO ALL FLOOR DRAINS WHILE KEEPING FLOOR LEVEL AT BASE WALL CONDITIONS.
14. COORDINATE SIZE AND LOCATION OF ALL HOUSE-KEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH THE APPROPRIATE EQUIPMENT MANUFACTURER.
15. REFER TO SHEETS AX.XX FOR PARTITION TYPES.
16. REFER TO SHEETS AX.XX AND AX.XX FOR FRAMING AND GYP BD. DETAILS.
17. REFER TO SHEETS AX.XX AND AX.XX FOR MOUNTING DETAILS.
18. REFER TO SHEETS AX.XX FOR TYPICAL TOILET LAYOUTS, TOILET ACCESSORY MOUNTING DIAGRAMS, LAVATORY DETAILS, LOCKER TYPE SCHEDULE AND MOUNTING DETAILS.
19. REFER TO SHEETS AX.XX DOOR INFORMATION, SCHEDULES DETAILS AND BORROVED LITE SCHEDULE.
20. REFER TO SHEET A3.40 FOR FINISH INFORMATION AND SCHEDULES, WALL PROTECTION TYPE AND DETAILS, AND FLOORING TRANSITIONS.
21. REFER TO SHEET AX.XX FOR CASEWORK DETAILS AND INFORMATION.
22. REFER TO SHEETS A2.11 - A2.16 FOR FINISH PLANS.

- Building Services
- Building Support
- Circulation
- Collaboration/Conference
- Community
- Connector
- Core
- Cores
- Lab
- Lab Building Support
- Lab Support
- MEP
- Office Support
- Offices
- Restrooms
- Staff Amenities
- Vertical Circulation/Shaft

01 LEVEL 03 FLOOR PLAN - SECTOR 01
1/8" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:36:06 PM TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

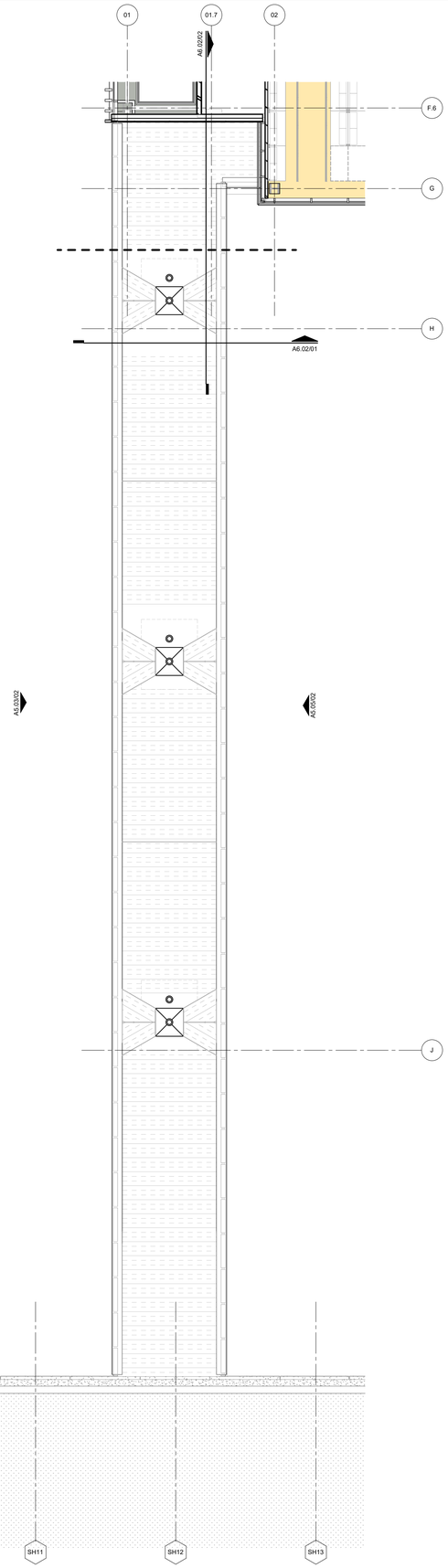
KEY PLAN

PLAN NORTH TRUE NORTH

REVISION NO.	DESCRIPTION	DATE

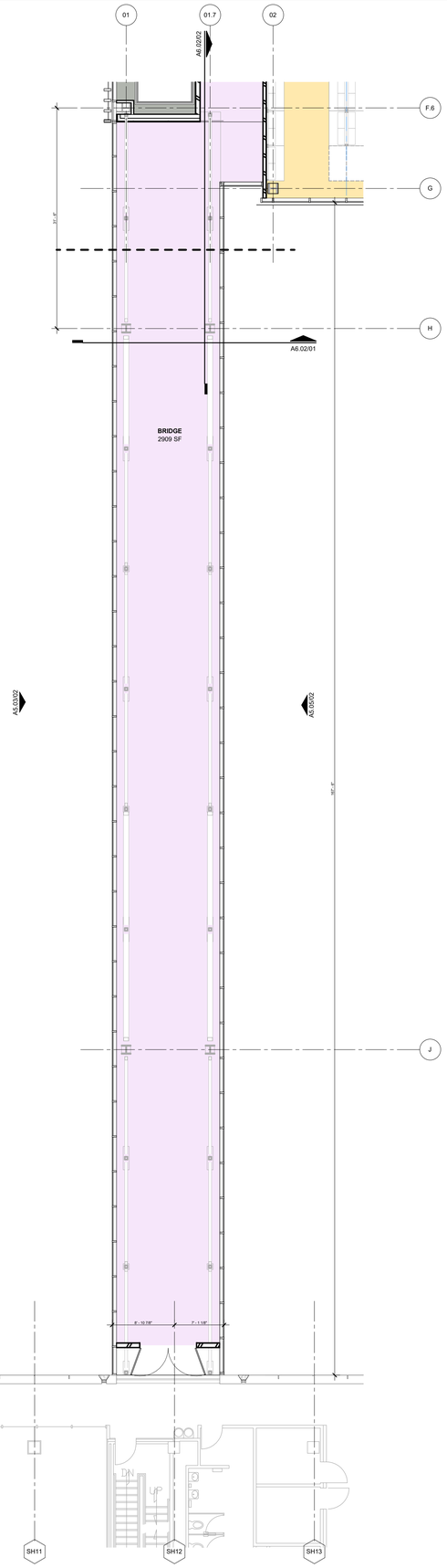
HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
LEVEL 03 FLOOR PLAN - SECTOR 01

SHEET NO.
A2.03.1



02 LEVEL 04 ROOF PLAN - SECTOR 03

1/8" = 1'-0"



01 LEVEL 03 FLOOR PLAN - SECTOR 03

1/8" = 1'-0"

GENERAL NOTES - FLOOR PLAN

1. REFER TO SHEET A0.02 FOR ABBREVIATION AND DRAWING LEGENDS.
2. REFER TO SHEETS AX.XX, AX.XX AND AX.XX FOR PARTITION TYPES, GRAPHIC AND SYMBOLIC DESIGNATIONS, NOTES, AND DETAILS.
3. ALL WALLS TO BE TYPE A3 (WITH SOUND ATTENUATION), U.N.O.
4. ALL COLUMNS ENCLOSURES TO BE TYPE K1 (NO SOUND ATTENUATION) U.N.O. TYPICAL DIMENSION FROM CENTERLINE OF COLUMN TO FACE OF FINISHED WALL IS 1'-0", U.N.O.
5. WALL TYPE O3 (NO SOUND ATTENUATION) TYPICAL AT FREESTANDING WALLS, U.N.O.
6. PARTITIONS ARE TYPICALLY DIMENSIONED FROM FACE OF PARTITION TYPE TO COLUMN CENTER LINE OR FROM FACE OF PARTITION TYPE TO FACE OF PARTITION TYPE U.N.O.
7. MASONRY DIMENSIONS ARE NOMINAL, U.N.O
8. WHERE PARTITION SYSTEMS ARE INDICATED, THE PARTITION SYSTEM IS CONTINUOUS UNTIL THE PARTITION SYSTEM CHANGES DIRECTION OR A DIFFERENT PARTITION SYSTEM IS INDICATED.
9. INSTALL 3/4" FIRE RETARDANT TREATED PLYWOOD FROM FLOOR TO DECK ABOVE, PER PARTITION TYPES PA, PB, PC AND PD. TYPICAL ALL FOUR WALLS OF ELECTRICAL ROOMS.
10. AT ALL WALLS WITH CERAMIC OR PORCELAIN WALL TILE FINISH PROVIDE 5/8" TILE BACKER BOARD IN LIEU OF 5/8" GYPSUM BOARD. REFER TO FINISH SCHEDULE A3.40 FOR LOCATIONS AND EXTENT OF CERAMIC AND PORCELAIN WALL TILE.
11. COORDINATE LOCATIONS OF ALL WALL MOUNTED DEVICES (ELECTRICAL RECEPTACLES, THERMOSTATS, SWITCHES, ECT.) IN WALL FINISHED WITH CERAMIC, PORCELAIN TILE, OR ANY OTHER FEATURE WALL WITH THE ARCHITECT.
12. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH TRADES REQUIRING THE SAME. MINIMUM SIZE 24" X 24" U.N.O.
13. PROVIDE POSITIVE SLOPE TO ALL FLOOR DRAINS WHILE KEEPING FLOOR LEVEL AT BASE WALL CONDITIONS.
14. COORDINATE SIZE AND LOCATION OF ALL HOUSE-KEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH THE APPROPRIATE EQUIPMENT MANUFACTURER.
15. REFER TO SHEETS AX.XX FOR PARTITION TYPES.
16. REFER TO SHEETS AX.XX AND AX.XX FOR FRAMING AND GYP BD. DETAILS.
17. REFER TO SHEETS AX.XX AND AX.XX FOR MOUNTING DETAILS.
18. REFER TO SHEETS AX.XX FOR TYPICAL TOILET LAYOUTS, TOILET ACCESSORY MOUNTING DIAGRAMS, LAVATORY DETAILS, LOCKER TYPE SCHEDULE AND MOUNTING DETAILS.
19. REFER TO SHEETS AX.XX DOOR INFORMATION, SCHEDULES DETAILS AND BORROWED LITE SCHEDULE.
20. REFER TO SHEET A3.40 FOR FINISH INFORMATION AND SCHEDULES, WALL PROTECTION TYPE AND DETAILS, AND FLOORING TRANSITIONS.
21. REFER TO SHEET AX.XX FOR CASEWORK DETAILS AND INFORMATION.
22. REFER TO SHEETS A2.11 - A2.16 FOR FINISH PLANS.

- Building Services
- Building Support
- Circulation
- Collaboration/Conference
- Community
- Connector
- Core
- Cores
- Lab
- Lab Building Support
- Lab Support
- MEP
- Office Support
- Offices
- Restrooms
- Staff Amenities
- Vertical Circulation/Shaft

NOT FOR CONSTRUCTION

PLOT DATE:
7/31/2025 5:36:49 PM TEMPLATE VERSION 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

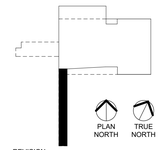
WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN



REVISION NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
LEVEL 03 FLOOR PLAN - SECTOR 03

SHEET NO.
A2.03.3

GENERAL NOTES - FLOOR PLAN

1. REFER TO SHEET A0.02 FOR ABBREVIATION AND DRAWING LEGENDS.
2. REFER TO SHEETS AX.XX, AX.XX AND AX.XX FOR PARTITION TYPES, GRAPHIC AND SYMBOLIC DESIGNATIONS, NOTES, AND DETAILS.
3. ALL WALLS TO BE TYPE A3 (WITH SOUND ATTENUATION), U.N.O.
4. ALL COLUMNS ENCLOSURES TO BE TYPE K1 (NO SOUND ATTENUATION) U.N.O. TYPICAL DIMENSION FROM CENTERLINE OF COLUMN TO FACE OF FINISHED WALL IS 1'-3", U.N.O.
5. WALL TYPE O3 (NO SOUND ATTENUATION) TYPICAL AT FREESTANDING WALLS, U.N.O.
6. PARTITIONS ARE TYPICALLY DIMENSIONED FROM FACE OF PARTITION TYPE TO COLUMN CENTER LINE OR FROM FACE OF PARTITION TYPE TO FACE OF PARTITION TYPE U.N.O.
7. MASONRY DIMENSIONS ARE NOMINAL, U.N.O
8. WHERE PARTITION SYSTEMS ARE INDICATED, THE PARTITION SYSTEM IS CONTINUOUS UNTIL THE PARTITION SYSTEM CHANGES DIRECTION OR A DIFFERENT PARTITION SYSTEM IS INDICATED.
9. INSTALL 3/4" FIRE RETARDANT TREATED PLYWOOD FROM FLOOR TO DECK ABOVE, PER PARTITION TYPES PA, PB, PC AND PD. TYPICAL ALL FOUR WALLS OF ELECTRICAL ROOMS.
10. AT ALL WALLS WITH CERAMIC OR PORCELAIN WALL TILE FINISH PROVIDE 5/8" TILE BACKER BOARD IN LIEU OF 5/8" GYPSUM BOARD. REFER TO FINISH SCHEDULE A3.40 FOR LOCATIONS AND EXTENT OF CERAMIC AND PORCELAIN WALL TILE.
11. COORDINATE LOCATIONS OF ALL WALL MOUNTED DEVICES (ELECTRICAL RECEPTACLES, THERMOSTATS, SWITCHES, ECT.) IN WALL FINISHED WITH CERAMIC, PORCELAIN TILE, OR ANY OTHER FEATURE WALL WITH THE ARCHITECT.
12. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH TRADES REQUIRING THE SAME. MINIMUM SIZE 24" X 24" U.N.O.
13. PROVIDE POSITIVE SLOPE TO ALL FLOOR DRAINS WHILE KEEPING FLOOR LEVEL AT BASE WALL CONDITIONS.
14. COORDINATE SIZE AND LOCATION OF ALL HOUSE-KEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH THE APPROPRIATE EQUIPMENT MANUFACTURER.
15. REFER TO SHEETS AX.XX FOR PARTITION TYPES.
16. REFER TO SHEETS AX.XX AND AX.XX FOR FRAMING AND GYP BD. DETAILS.
17. REFER TO SHEETS AX.XX AND AX.XX FOR MOUNTING DETAILS.
18. REFER TO SHEETS AX.XX FOR TYPICAL TOILET LAYOUTS, TOILET ACCESSORY MOUNTING DIAGRAMS, LAVATORY DETAILS, LOCKER TYPE SCHEDULE AND MOUNTING DETAILS.
19. REFER TO SHEETS AX.XX DOOR INFORMATION, SCHEDULES DETAILS AND BORROVED LITE SCHEDULE.
20. REFER TO SHEET A3.40 FOR FINISH INFORMATION AND SCHEDULES, WALL PROTECTION TYPE AND DETAILS, AND FLOORING TRANSITIONS.
21. REFER TO SHEET AX.XX FOR CASEWORK DETAILS AND INFORMATION.
22. REFER TO SHEETS A2.11 - A2.16 FOR FINISH PLANS.

- Building Services
- Building Support
- Circulation
- Collaboration/Conference
- Community
- Connector
- Core
- Cores
- Lab
- Lab Building Support
- Lab Support
- MEP
- Office Support
- Offices
- Restrooms
- Staff Amenities
- Vertical Circulation/Shaft

01 LEVEL 04 FLOOR PLAN
1/8" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:36:02 PM TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

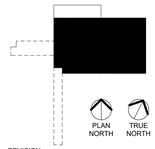
WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN



REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
LEVEL 04 FLOOR PLAN

SHEET NO.
A2.04

GENERAL NOTES - FLOOR PLAN

1. REFER TO SHEET A0.02 FOR ABBREVIATION AND DRAWING LEGENDS.
2. REFER TO SHEETS AX.XX, AX.XX AND AX.XX FOR PARTITION TYPES, GRAPHIC AND SYMBOLIC DESIGNATIONS, NOTES, AND DETAILS.
3. ALL WALLS TO BE TYPE A3 (WITH SOUND ATTENUATION), U.N.O.
4. ALL COLUMNS ENCLOSURES TO BE TYPE K1 (NO SOUND ATTENUATION) U.N.O. TYPICAL DIMENSION FROM CENTERLINE OF COLUMN TO FACE OF FINISHED WALL IS 1'-3", U.N.O.
5. WALL TYPE O3 (NO SOUND ATTENUATION) TYPICAL AT FREESTANDING WALLS, U.N.O.
6. PARTITIONS ARE TYPICALLY DIMENSIONED FROM FACE OF PARTITION TYPE TO COLUMN CENTER LINE OR FROM FACE OF PARTITION TYPE TO FACE OF PARTITION TYPE U.N.O.
7. MASONRY DIMENSIONS ARE NOMINAL, U.N.O
8. WHERE PARTITION SYSTEMS ARE INDICATED, THE PARTITION SYSTEM IS CONTINUOUS UNTIL THE PARTITION SYSTEM CHANGES DIRECTION OR A DIFFERENT PARTITION SYSTEM IS INDICATED.
9. INSTALL 3/4" FIRE RETARDANT TREATED PLYWOOD FROM FLOOR TO DECK ABOVE, PER PARTITION TYPES PA, PB, PC AND PD. TYPICAL ALL FOUR WALLS OF ELECTRICAL ROOMS.
10. AT ALL WALLS WITH CERAMIC OR PORCELAIN WALL TILE FINISH PROVIDE 5/8" TILE BACKER BOARD IN LIEU OF 5/8" GYPSUM BOARD. REFER TO FINISH SCHEDULE A3.40 FOR LOCATIONS AND EXTENT OF CERAMIC AND PORCELAIN WALL TILE.
11. COORDINATE LOCATIONS OF ALL WALL MOUNTED DEVICES (ELECTRICAL RECEPTACLES, THERMOSTATS, SWITCHES, ECT.) IN WALL FINISHED WITH CERAMIC, PORCELAIN TILE, OR ANY OTHER FEATURE WALL WITH THE ARCHITECT.
12. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH TRADES REQUIRING THE SAME. MINIMUM SIZE 24" X 24" U.N.O.
13. PROVIDE POSITIVE SLOPE TO ALL FLOOR DRAINS WHILE KEEPING FLOOR LEVEL AT BASE WALL CONDITIONS.
14. COORDINATE SIZE AND LOCATION OF ALL HOUSE-KEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH THE APPROPRIATE EQUIPMENT MANUFACTURER.
15. REFER TO SHEETS AX.XX FOR PARTITION TYPES.
16. REFER TO SHEETS AX.XX AND AX.XX FOR FRAMING AND GYP BD. DETAILS.
17. REFER TO SHEETS AX.XX AND AX.XX FOR MOUNTING DETAILS.
18. REFER TO SHEETS AX.XX FOR TYPICAL TOILET LAYOUTS, TOILET ACCESSORY MOUNTING DIAGRAMS, LAVATORY DETAILS, LOCKER TYPE SCHEDULE AND MOUNTING DETAILS.
19. REFER TO SHEETS AX.XX DOOR INFORMATION, SCHEDULES DETAILS AND BORROVED LITE SCHEDULE.
20. REFER TO SHEET A3.40 FOR FINISH INFORMATION AND SCHEDULES, WALL PROTECTION TYPE AND DETAILS, AND FLOORING TRANSITIONS.
21. REFER TO SHEET AX.XX FOR CASEWORK DETAILS AND INFORMATION.
22. REFER TO SHEETS A2.11 - A2.16 FOR FINISH PLANS.

- Building Services
- Building Support
- Circulation
- Collaboration/Conference
- Community
- Connector
- Core
- Cores
- Lab
- Lab Building Support
- Lab Support
- MEP
- Office Support
- Offices
- Restrooms
- Staff Amenities
- Vertical Circulation/Shaft

01 LEVEL 05 FLOOR PLAN
1/8" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:37:04 PM TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

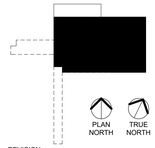
WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN



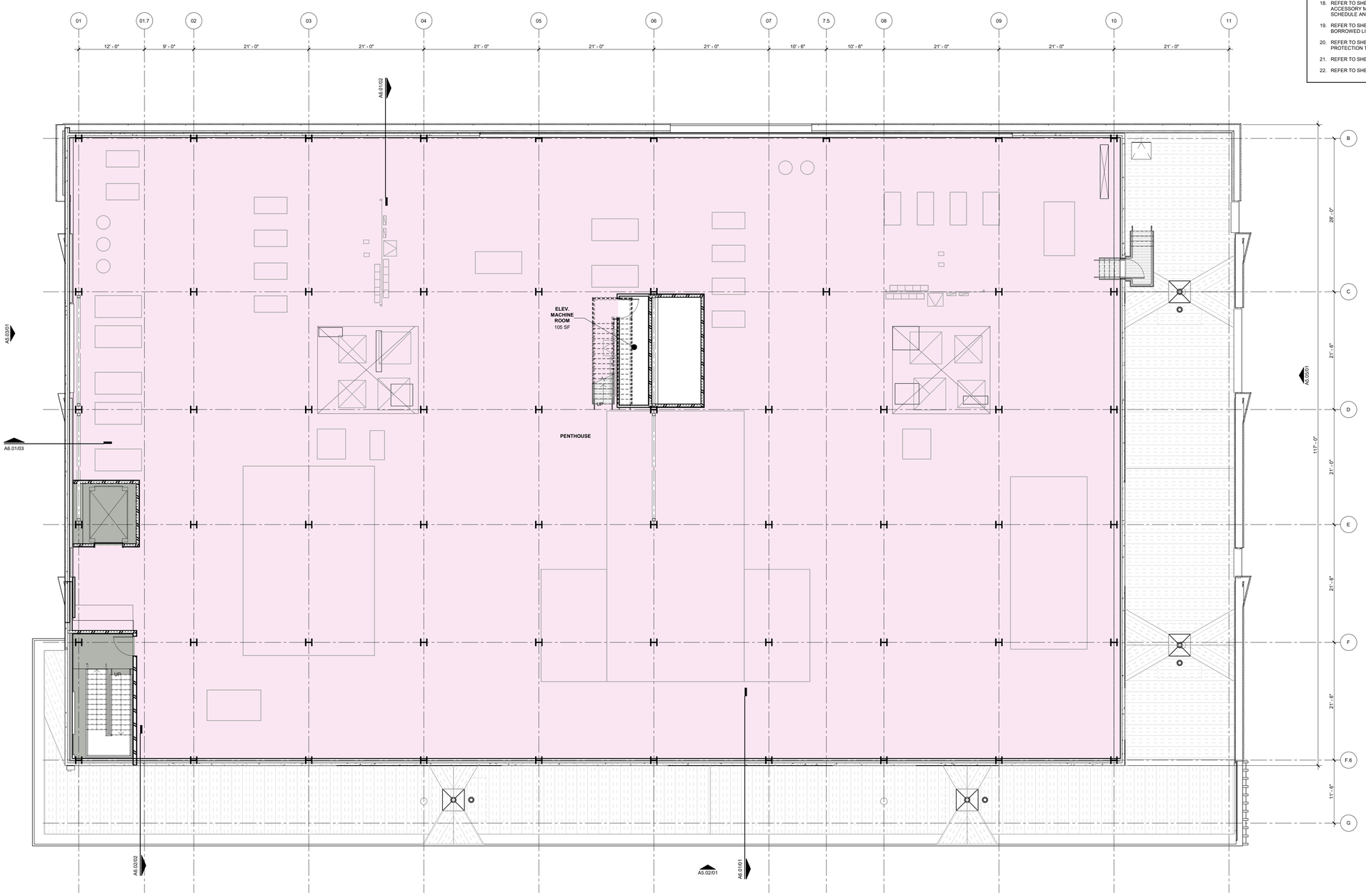
REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
LEVEL 05 FLOOR PLAN

SHEET NO.
A2.05

GENERAL NOTES - FLOOR PLAN

1. REFER TO SHEET A0.02 FOR ABBREVIATION AND DRAWING LEGENDS.
2. REFER TO SHEETS AX.XX, AX.XX AND AX.XX FOR PARTITION TYPES, GRAPHIC AND SYMBOLIC DESIGNATIONS, NOTES, AND DETAILS.
3. ALL WALLS TO BE TYPE A3 (WITH SOUND ATTENUATION), U.N.O.
4. ALL COLUMNS ENCLOSURES TO BE TYPE K1 (NO SOUND ATTENUATION) U.N.O. TYPICAL DIMENSION FROM CENTERLINE OF COLUMN TO FACE OF FINISHED WALL IS 1'-3", U.N.O.
5. WALL TYPE O3 (NO SOUND ATTENUATION) TYPICAL AT FREESTANDING WALLS, U.N.O.
6. PARTITIONS ARE TYPICALLY DIMENSIONED FROM FACE OF PARTITION TYPE TO COLUMN CENTER LINE OR FROM FACE OF PARTITION TYPE TO FACE OF PARTITION TYPE U.N.O.
7. MASONRY DIMENSIONS ARE NOMINAL, U.N.O
8. WHERE PARTITION SYSTEMS ARE INDICATED, THE PARTITION SYSTEM IS CONTINUOUS UNTIL THE PARTITION SYSTEM CHANGES DIRECTION OR A DIFFERENT PARTITION SYSTEM IS INDICATED.
9. INSTALL 3/4" FIRE RETARDANT TREATED PLYWOOD FROM FLOOR TO DECK ABOVE, PER PARTITION TYPES PA, PB, PC AND PD. TYPICAL ALL FOUR WALLS OF ELECTRICAL ROOMS.
10. AT ALL WALLS WITH CERAMIC OR PORCELAIN WALL TILE FINISH PROVIDE 5/8" TILE BACKER BOARD IN LIEU OF 5/8" GYPSUM BOARD. REFER TO FINISH SCHEDULE A3.40 FOR LOCATIONS AND EXTENT OF CERAMIC AND PORCELAIN WALL TILE.
11. COORDINATE LOCATIONS OF ALL WALL MOUNTED DEVICES (ELECTRICAL RECEPTACLES, THERMOSTATS, SWITCHES, ECT.) IN WALL FINISHED WITH CERAMIC, PORCELAIN TILE, OR ANY OTHER FEATURE WALL WITH THE ARCHITECT.
12. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH TRADES REQUIRING THE SAME. MINIMUM SIZE 24" X 24" U.N.O.
13. PROVIDE POSITIVE SLOPE TO ALL FLOOR DRAINS WHILE KEEPING FLOOR LEVEL AT BASE WALL CONDITIONS.
14. COORDINATE SIZE AND LOCATION OF ALL HOUSE-KEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH THE APPROPRIATE EQUIPMENT MANUFACTURER.
15. REFER TO SHEETS AX.XX FOR PARTITION TYPES.
16. REFER TO SHEETS AX.XX AND AX.XX FOR FRAMING AND GYP BD. DETAILS.
17. REFER TO SHEETS AX.XX AND AX.XX FOR MOUNTING DETAILS.
18. REFER TO SHEETS AX.XX FOR TYPICAL TOILET LAYOUTS, TOILET ACCESSORY MOUNTING DIAGRAMS, LAVATORY DETAILS, LOCKER TYPE SCHEDULE AND MOUNTING DETAILS.
19. REFER TO SHEETS AX.XX DOOR INFORMATION, SCHEDULES DETAILS AND BORROWED LITE SCHEDULE.
20. REFER TO SHEET A3.40 FOR FINISH INFORMATION AND SCHEDULES, WALL PROTECTION TYPE AND DETAILS, AND FLOORING TRANSITIONS.
21. REFER TO SHEET AX.XX FOR CASEWORK DETAILS AND INFORMATION.
22. REFER TO SHEETS A2.11 - A2.16 FOR FINISH PLANS.



01 LEVEL 06 - PENTHOUSE FLOOR PLAN

1/8" = 1'-0"

- Building Services
- Building Support
- Circulation
- Collaboration/Conference
- Community
- Connector
- Core
- Cores
- Lab
- Lab Building Support
- Lab Support
- MEP
- Office Support
- Offices
- Restrooms
- Staff Amenities
- Vertical Circulation/Shaft

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:37:06 PM TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

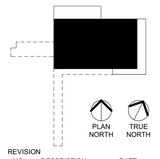
WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

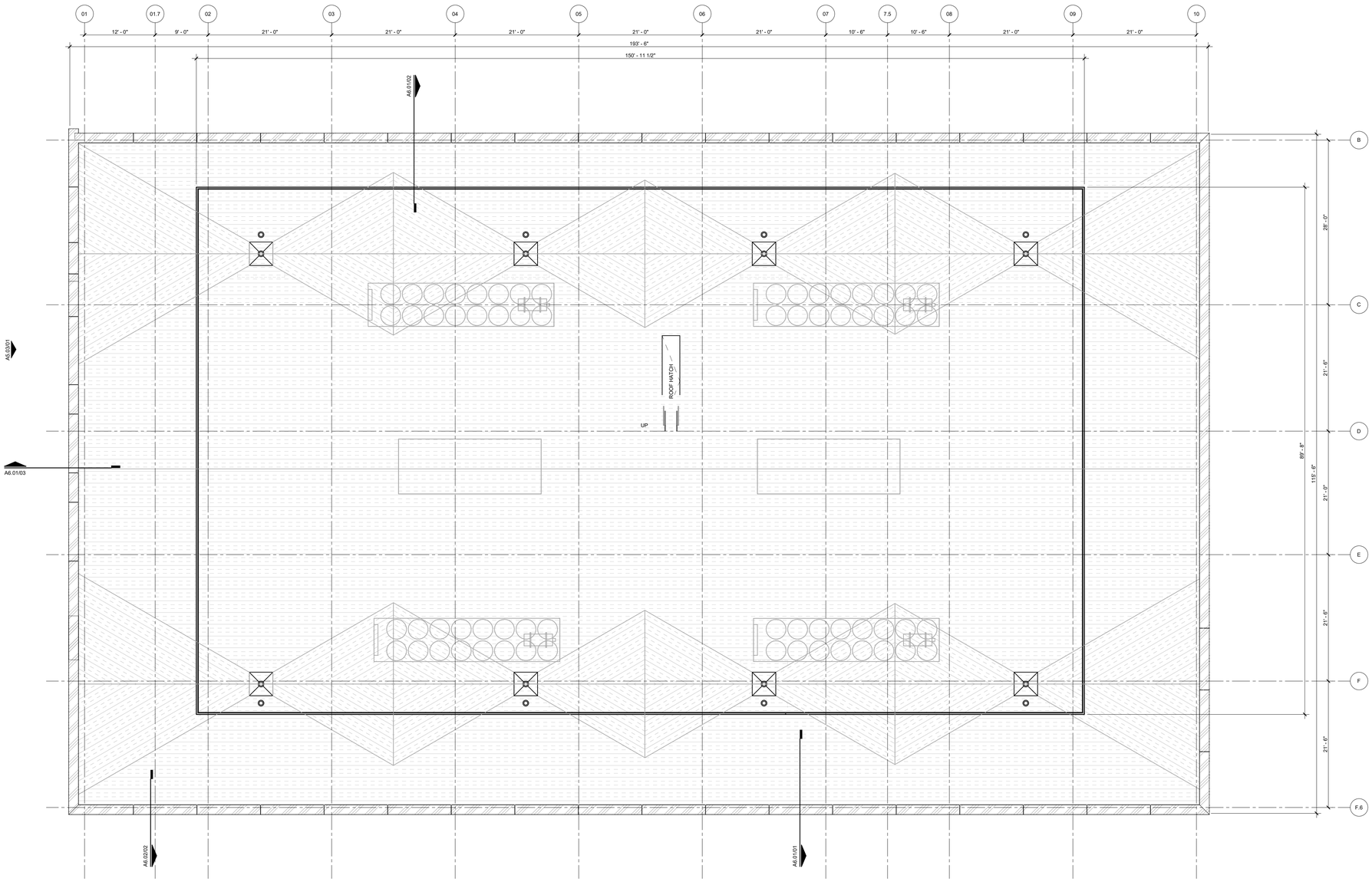
INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN



REVISION NO. | DESCRIPTION | DATE

HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
LEVEL 06 - PENTHOUSE FLOOR PLAN
SHEET NO.
A2.06



GENERAL NOTES - FLOOR PLAN

1. REFER TO SHEET A0.02 FOR ABBREVIATION AND DRAWING LEGENDS.
2. REFER TO SHEETS AX.XX, AX.XX AND AX.XX FOR PARTITION TYPES, GRAPHIC AND SYMBOLIC DESIGNATIONS, NOTES, AND DETAILS.
3. ALL WALLS TO BE TYPE A3 (WITH SOUND ATTENUATION), U.N.O.
4. ALL COLUMNS ENCLOSURES TO BE TYPE K1 (NO SOUND ATTENUATION) U.N.O. TYPICAL DIMENSION FROM CENTERLINE OF COLUMN TO FACE OF FINISHED WALL IS 1'-3", U.N.O.
5. WALL TYPE O3 (NO SOUND ATTENUATION) TYPICAL AT FREESTANDING WALLS, U.N.O.
6. PARTITIONS ARE TYPICALLY DIMENSIONED FROM FACE OF PARTITION TYPE TO COLUMN CENTER LINE OR FROM FACE OF PARTITION TYPE TO FACE OF PARTITION TYPE U.N.O.
7. MASONRY DIMENSIONS ARE NOMINAL, U.N.O
8. WHERE PARTITION SYSTEMS ARE INDICATED, THE PARTITION SYSTEM IS CONTINUOUS UNTIL THE PARTITION SYSTEM CHANGES DIRECTION OR A DIFFERENT PARTITION SYSTEM IS INDICATED.
9. INSTALL 3/4" FIRE RETARDANT TREATED PLYWOOD FROM FLOOR TO DECK ABOVE, PER PARTITION TYPES PA, PB, PC AND PD. TYPICAL ALL FOUR WALLS OF ELECTRICAL ROOMS.
10. AT ALL WALLS WITH CERAMIC OR PORCELAIN WALL TILE FINISH PROVIDE 5/8" TILE BACKER BOARD IN LIEU OF 5/8" GYPSUM BOARD. REFER TO FINISH SCHEDULE A3.40 FOR LOCATIONS AND EXTENT OF CERAMIC AND PORCELAIN WALL TILE.
11. COORDINATE LOCATIONS OF ALL WALL MOUNTED DEVICES (ELECTRICAL RECEPTACLES, THERMOSTATS, SWITCHES, ECT.) IN WALL FINISHED WITH CERAMIC, PORCELAIN TILE, OR ANY OTHER FEATURE WALL WITH THE ARCHITECT.
12. COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH TRADES REQUIRING THE SAME. MINIMUM SIZE 24" X 24" U.N.O.
13. PROVIDE POSITIVE SLOPE TO ALL FLOOR DRAINS WHILE KEEPING FLOOR LEVEL AT BASE WALL CONDITIONS.
14. COORDINATE SIZE AND LOCATION OF ALL HOUSE-KEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH THE APPROPRIATE EQUIPMENT MANUFACTURER.
15. REFER TO SHEETS AX.XX FOR PARTITION TYPES.
16. REFER TO SHEETS AX.XX AND AX.XX FOR FRAMING AND GYP BD. DETAILS.
17. REFER TO SHEETS AX.XX AND AX.XX FOR MOUNTING DETAILS.
18. REFER TO SHEETS AX.XX FOR TYPICAL TOILET LAYOUTS, TOILET ACCESSORY MOUNTING DIAGRAMS, LAVATORY DETAILS, LOCKER TYPE SCHEDULE AND MOUNTING DETAILS.
19. REFER TO SHEETS AX.XX DOOR INFORMATION, SCHEDULES DETAILS AND BORROWED LITE SCHEDULE.
20. REFER TO SHEET A3.40 FOR FINISH INFORMATION AND SCHEDULES, WALL PROTECTION TYPE AND DETAILS, AND FLOORING TRANSITIONS.
21. REFER TO SHEET AX.XX FOR CASEWORK DETAILS AND INFORMATION.
22. REFER TO SHEETS A2.11 - A2.16 FOR FINISH PLANS.

01 LEVEL 07 - PENTHOUSE ROOF PLAN
1/8" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:37:09 PM TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

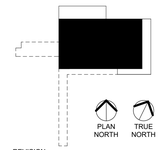
WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

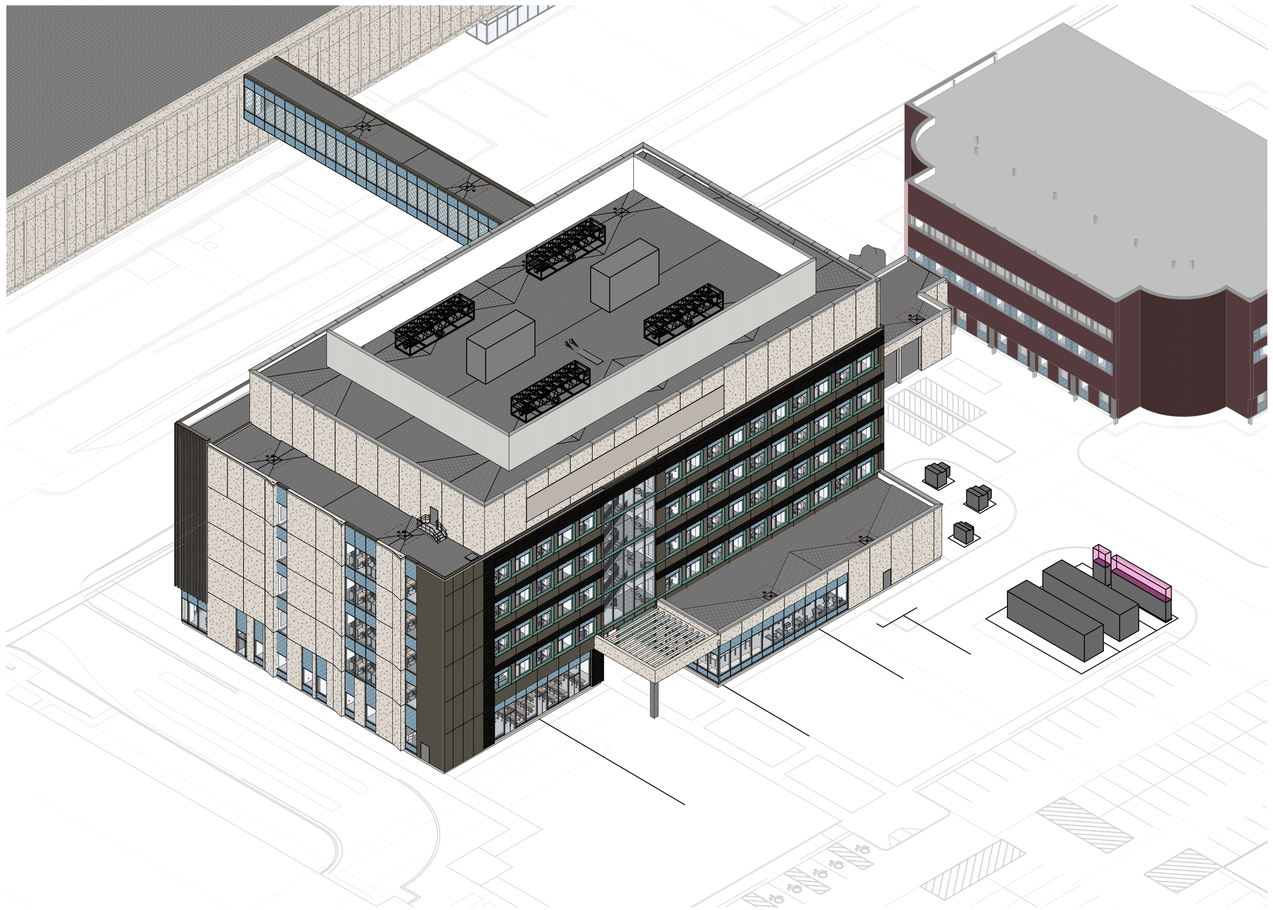
INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN

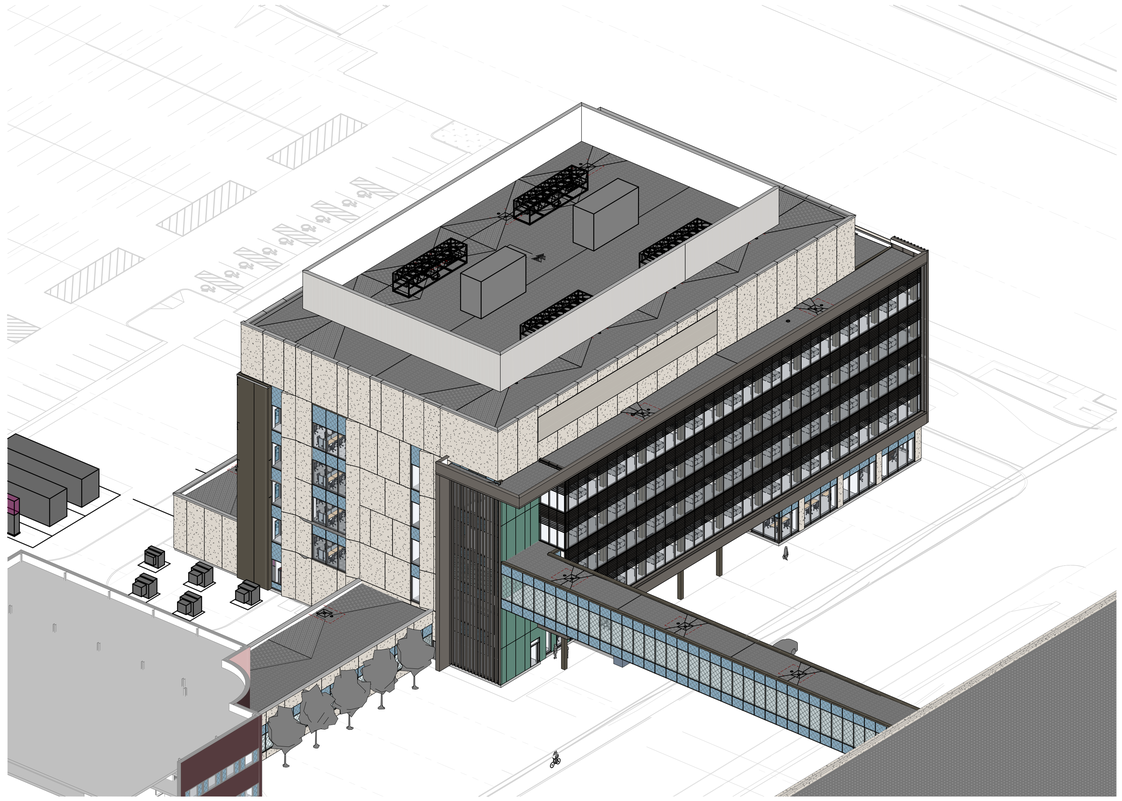


REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
LEVEL 07 - PENTHOUSE ROOF PLAN
SHEET NO.
A2.07



02 3D AXON VIEW = NORTH EAST



01 3D AXON VIEW = SOUTH WEST

NOT FOR CONSTRUCTION

PLOT DATE:
1/31/2025 5:51:06 PM
TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
EXTERIOR 3D ILLUSTRATIONS

SHEET NO.
A5.00

NORTH WINDOW DETAIL

02 PERSPECITVE FROM NORTH
12" = 1'-0"

01 PERSEPECTIVE FROM SOUTH WEST
12" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE:
1/31/2025 5:38:44 PM TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

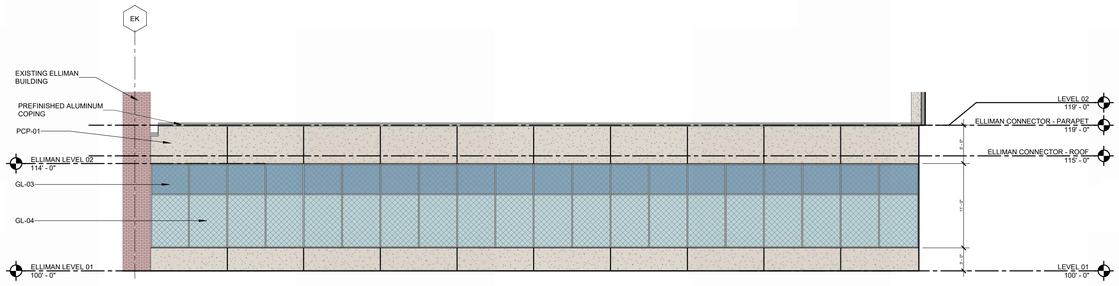
OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
DESIGN INTENT - EXTERIOR PERSPECTIVES
SHEET NO.
A5.01



02 EXTERIOR ELEVATION - SOUTH ELLIMAN CONNECTOR
1/8" = 1'-0"

EXTERIOR MATERIAL LEGEND

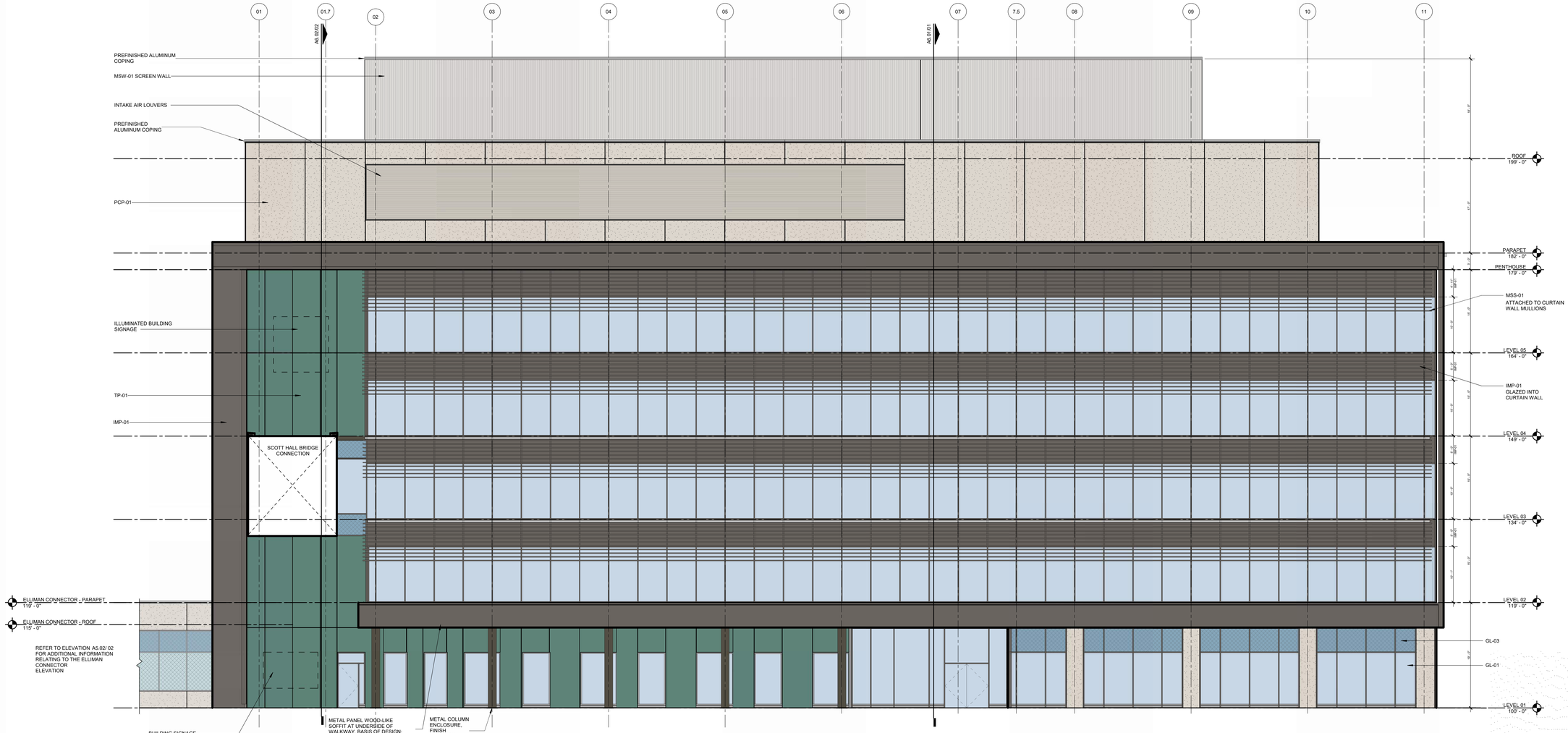
- **TP-01** TERRACOTTA RAINSCREEN PANELS
  BASIS OF DESIGN: SHILDAN SMALL FORMAT ALPHATON
- **TP-02** TERRACOTTA FIN
  BASIS OF DESIGN: SHILDAN
- **IMP-01** INSULATED PANEL - TEXTURE A
  BASIS OF DESIGN: CENTRIA FORMAWALL
- **IMP-02** INSULATED PANEL - TEXTURE B
  BASIS OF DESIGN: CENTRIA FORMAWALL
- **MSS-01** METAL SUN SHADE
  BASIS OF DESIGN: KAWNEER VERSOLEIL SUNSHADE
- **MSW-01** METAL SCREEN WALL
  BASIS OF DESIGN: CENTRIA
- **PC-01** ARCHITECTURAL PRECAST CONCRETE PANEL - TEXTURE A
  BASIS OF DESIGN: KERKSTRA FABCON
- **PC-02** ARCHITECTURAL PRECAST CONCRETE PANEL - TEXTURE B
  BASIS OF DESIGN: KARKSTRA FABCON
- **GL-01** INSULATED VISION GLASS
  BASIS OF DESIGN: XXX XXX
- **GL-02** INSULATED VISION GLASS WITH GRADIENT FRIT PATTERN
  BASIS OF DESIGN: XXX XXX
- **GL-03** INSULATED SPANDREL GLASS
  BASIS OF DESIGN: XXX XXX

South - Wall Schedule

Area	Wall Material
South	
1913 SF	IMP-01
2259 SF	MSW-01 SCREEN WALL
4732 SF	PCP-01
2410 SF	TP-01
11315 SF	

South - Panel Schedule

Area	Panel Material
South	
8729 SF	GL-01
746 SF	GL-03 - SPANDREL
653 SF	GL-04 - GLAZED WITH FRIT
3529 SF	IMP-01
13657 SF	



01 EXTERIOR ELEVATION - SOUTH
1/8" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:38:57 PM TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

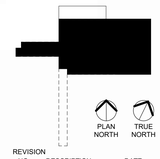
WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

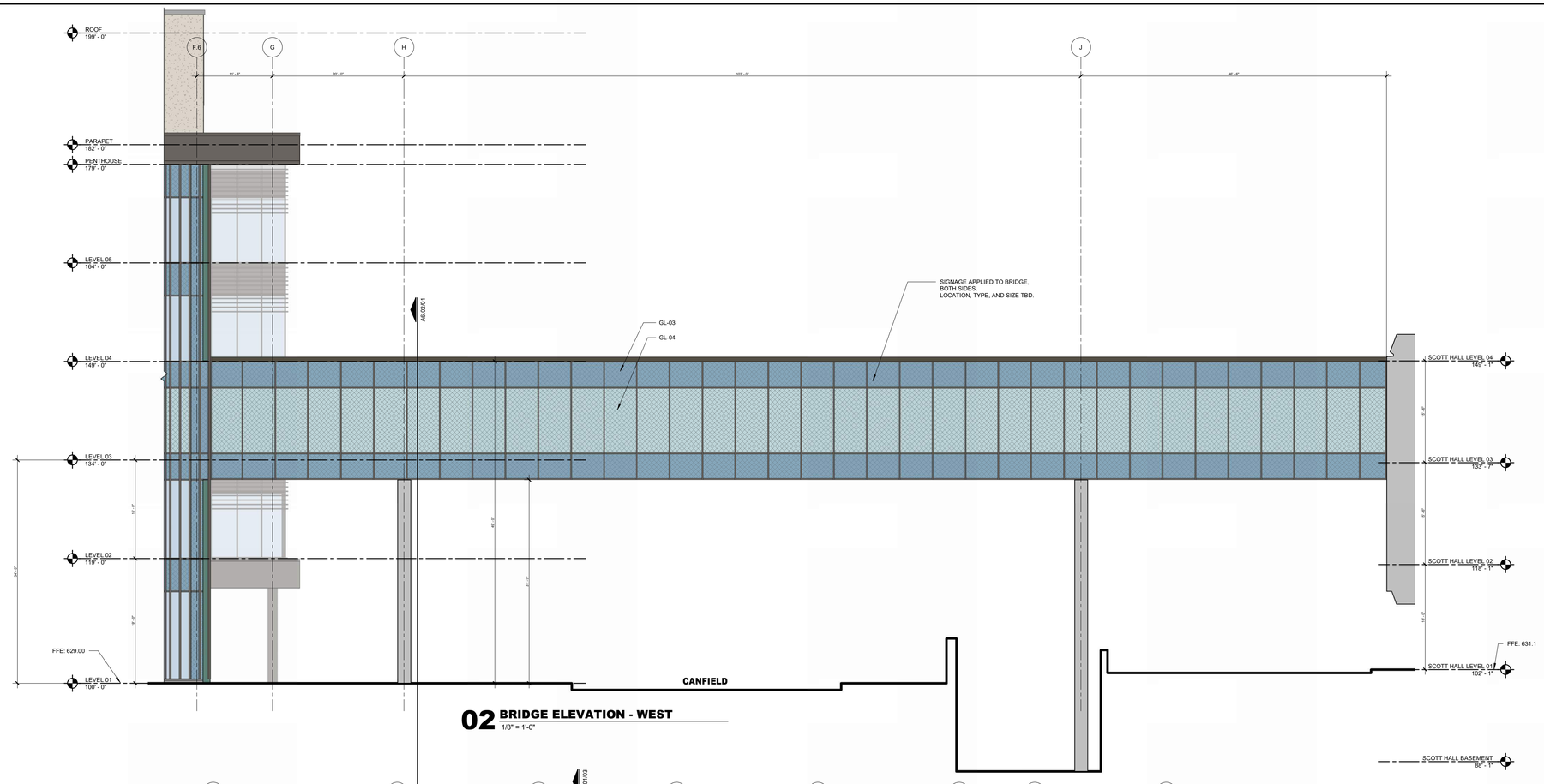
KEY PLAN



REVISION
NO. DESCRIPTION DATE

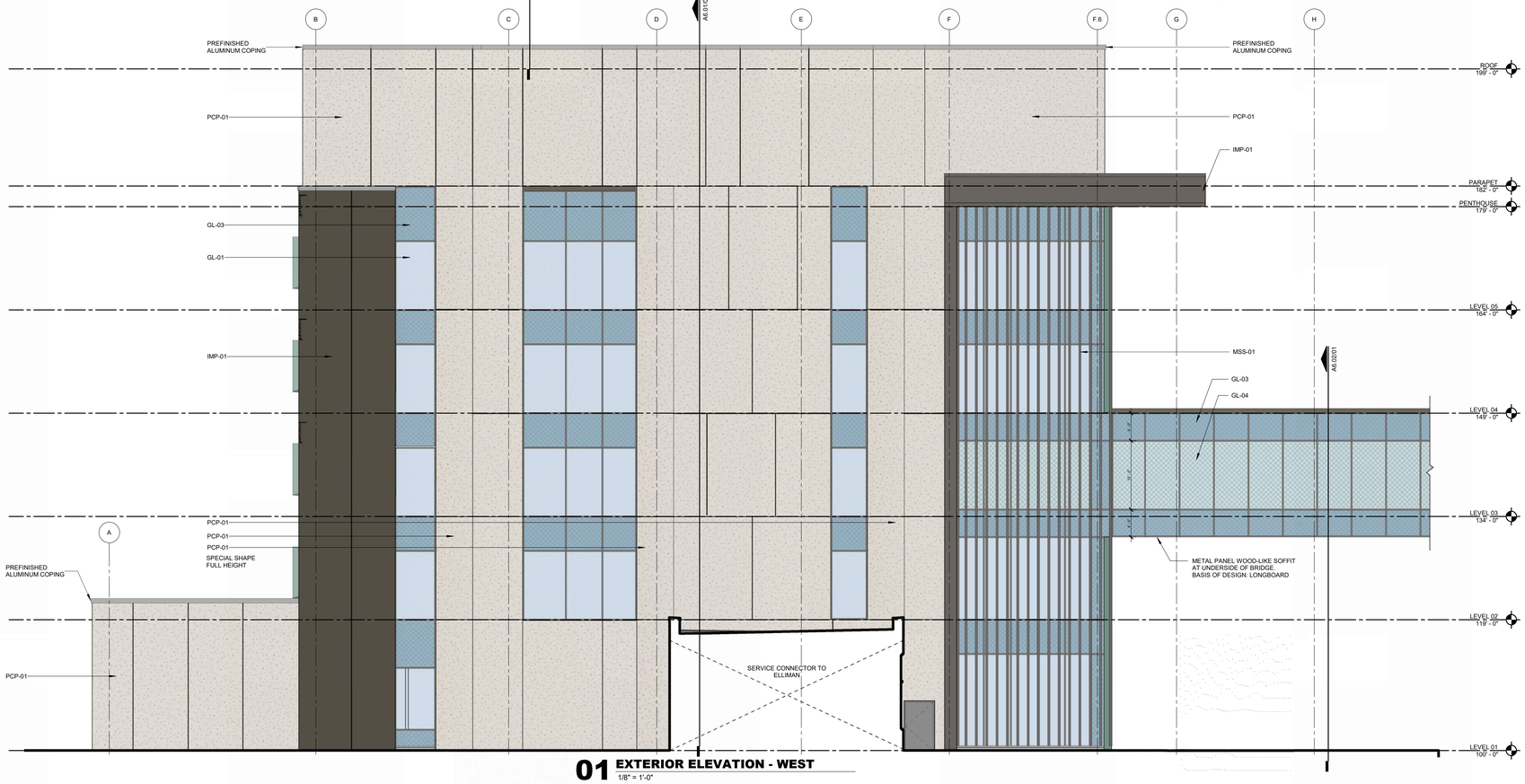
HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
EXTERIOR ELEVATION - SOUTH

SHEET NO.
A5.02



02 BRIDGE ELEVATION - WEST

1/8" = 1'-0"



01 EXTERIOR ELEVATION - WEST

1/8" = 1'-0"

EXTERIOR MATERIAL LEGEND

- **TP-01** TERRACOTTA RAINSCREEN PANELS
  BASIS OF DESIGN: SHILDAN SMALL FORMAT ALPHATON
- **TP-02** TERRACOTTA FIN
  BASIS OF DESIGN: SHILDAN
- **IMP-01** INSULATED PANEL - TEXTURE A
  BASIS OF DESIGN: CENTRIA FORMAWALL
- **IMP-02** INSULATED PANEL - TEXTURE B
  BASIS OF DESIGN: CENTRIA FORMAWALL
- **MSS-01** METAL SUN SHADE
  BASIS OF DESIGN: KAWNEER VERSOLEIL SUNSHADE
- **MSW-01** METAL SCREEN WALL
  BASIS OF DESIGN: CENTRIA
- **PC-01** ARCHITECTURAL PRECAST CONCRETE PANEL - TEXTURE A
  BASIS OF DESIGN: KERKSTRA FABCON
- **PC-02** ARCHITECTURAL PRECAST CONCRETE PANEL - TEXTURE B
  BASIS OF DESIGN: KARKSTRA FABCON
- **GL-01** INSULATED VISION GLASS
  BASIS OF DESIGN: XXX XXX
- **GL-02** INSULATED VISION GLASS WITH GRADIENT FRIT PATTERN
  BASIS OF DESIGN: XXX XXX
- **GL-03** INSULATED SPANDREL GLASS
  BASIS OF DESIGN: XXX XXX

West - Wall Schedule

Area	Wall Material
West	
1925 SF	IMP-01
1340 SF	MSW-01 SCREEN WALL
8353 SF	PCP-01
11618 SF	

West - Panel Schedule

Area	Panel Material
West	
313 SF	PCP-01
1617 SF	GL-01
733 SF	GL-03 - SPANDREL
35 SF	GL-04 - GLAZED WITH FRIT
222 SF	IMP-01
West - Bridge	
1283 SF	GL-03 - SPANDREL
1677 SF	GL-04 - GLAZED WITH FRIT
5880 SF	

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:39:03 PM TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

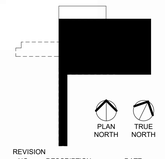
WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE, SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.
Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

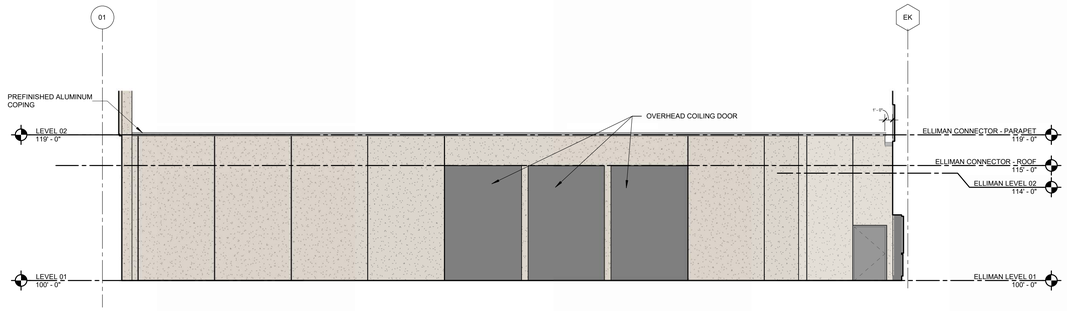
KEY PLAN



REVISION NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
EXTERIOR ELEVATION - WEST

SHEET NO.
A5.03



02 EXTERIOR ELEVATION - NORTH ELLIMAN CONNECTOR
1/8" = 1'-0"

EXTERIOR MATERIAL LEGEND

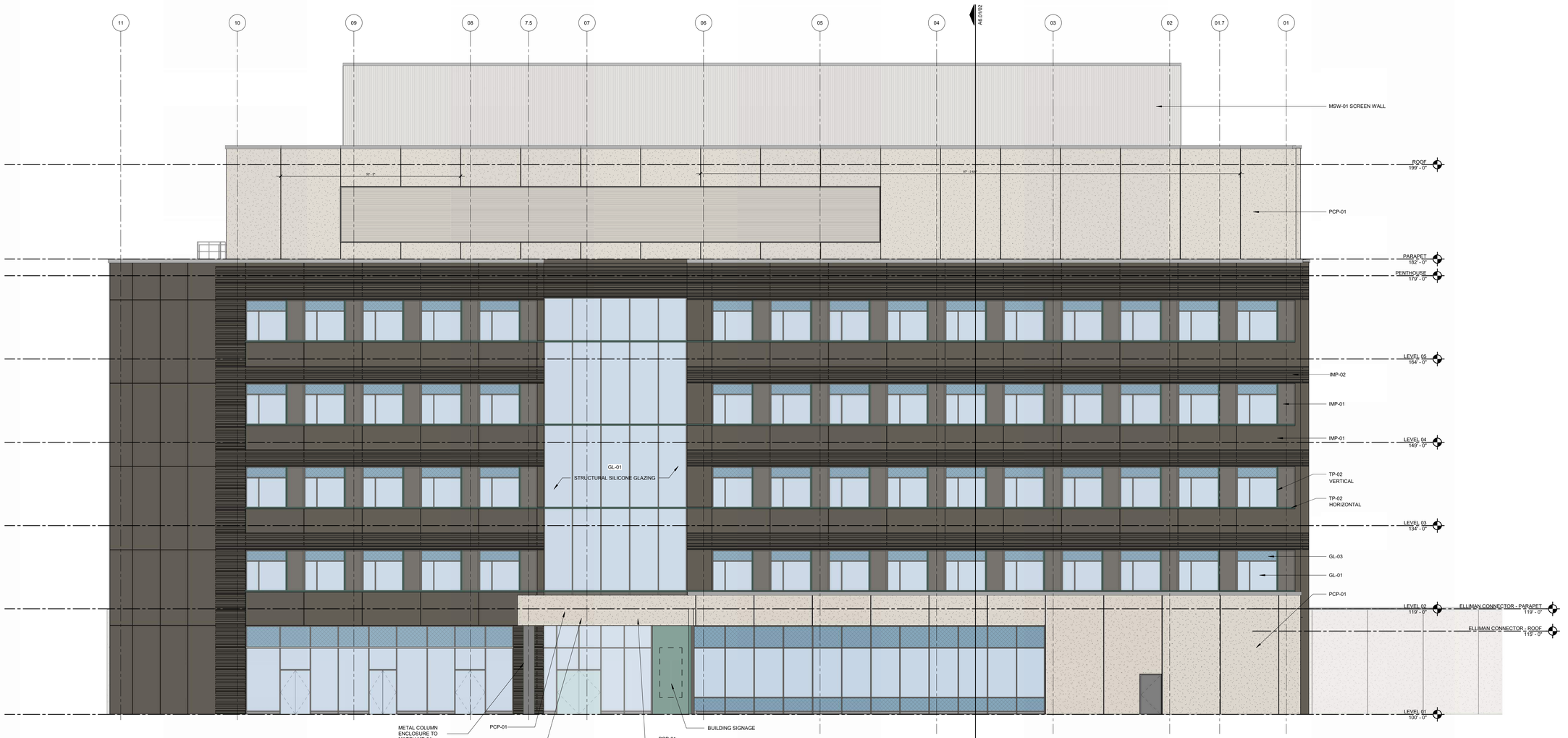
- **TP-01** TERRACOTTA RAINSCREEN PANELS
  BASIS OF DESIGN: SHILDAN SMALL FORMAT ALPHATON
- **TP-02** TERRACOTTA FIN
  BASIS OF DESIGN: SHILDAN
- **IMP-01** INSULATED PANEL - TEXTURE A
  BASIS OF DESIGN: CENTRIA FORMAWALL
- **IMP-02** INSULATED PANEL - TEXTURE B
  BASIS OF DESIGN: CENTRIA FORMAWALL
- **MSS-01** METAL SUN SHADE
  BASIS OF DESIGN: KAWNEER VERSOLEIL SUNSHADE
- **MSW-01** METAL SCREEN WALL
  BASIS OF DESIGN: CENTRIA
- **PC-01** ARCHITECTURAL PRECAST CONCRETE PANEL - TEXTURE A
  BASIS OF DESIGN: KERKSTRA FABCON
- **PC-02** ARCHITECTURAL PRECAST CONCRETE PANEL - TEXTURE B
  BASIS OF DESIGN: KARKSTRA FABCON
- **GL-01** INSULATED VISION GLASS
  BASIS OF DESIGN: XXX XXX
- **GL-02** INSULATED VISION GLASS WITH GRADIENT FRIT PATTERN
  BASIS OF DESIGN: XXX XXX
- **GL-03** INSULATED SPANDREL GLASS
  BASIS OF DESIGN: XXX XXX

North - Wall Schedule

Area	Wall Material
North	
8102 SF	IMP-01
2264 SF	MSW-01 SCREEN WALL
7365 SF	PCP-01
376 SF	TP-01
18108 SF	

North - Panel Schedule

Area	Panel Material
North	
3248 SF	GL-01
1234 SF	GL-03 - SPANDREL
1166 SF	IMP-01
5648 SF	



01 EXTERIOR ELEVATION - NORTH
1/8" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE: 1/31/2025 5:38:11 PM
TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

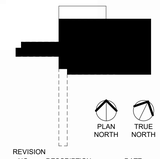
WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN



REVISION
NO. DESCRIPTION DATE

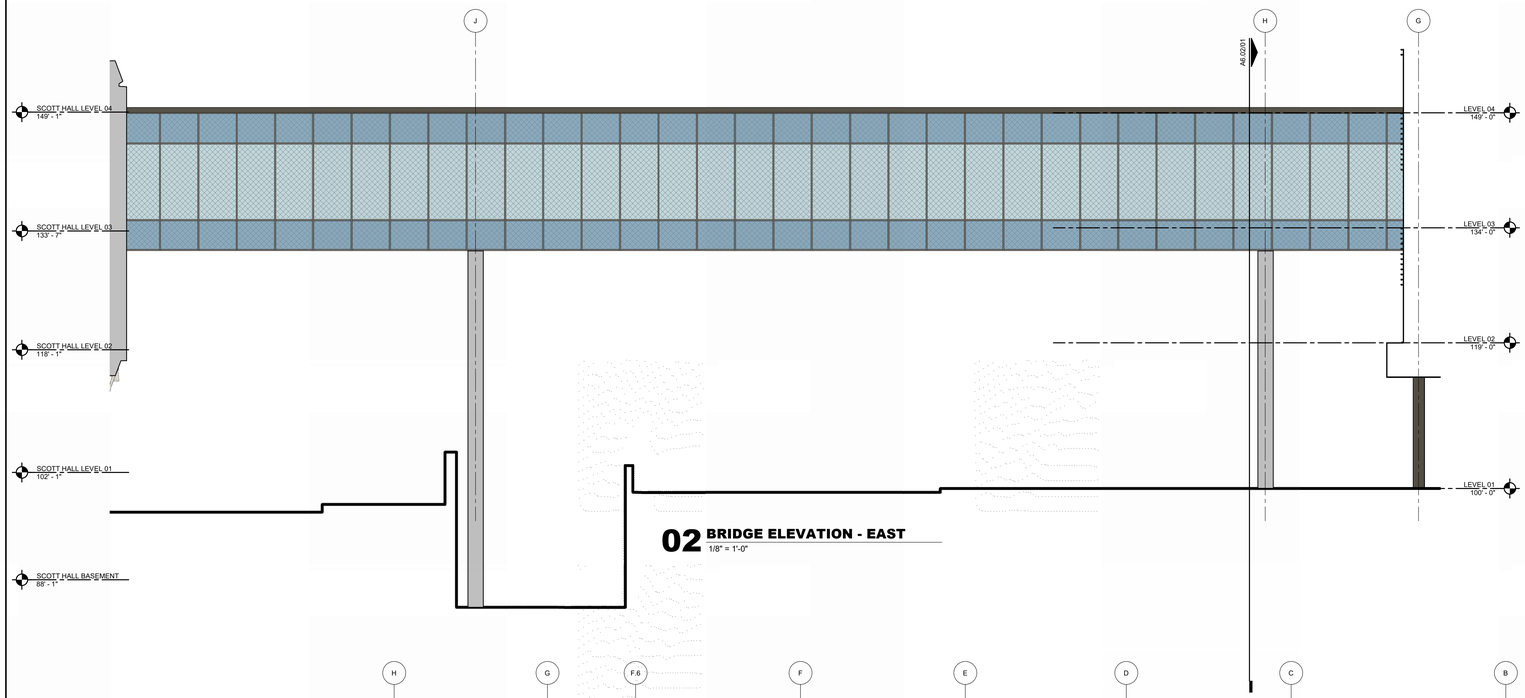
HKS PROJECT NUMBER
26234.000

DATE
31 JANUARY 2025

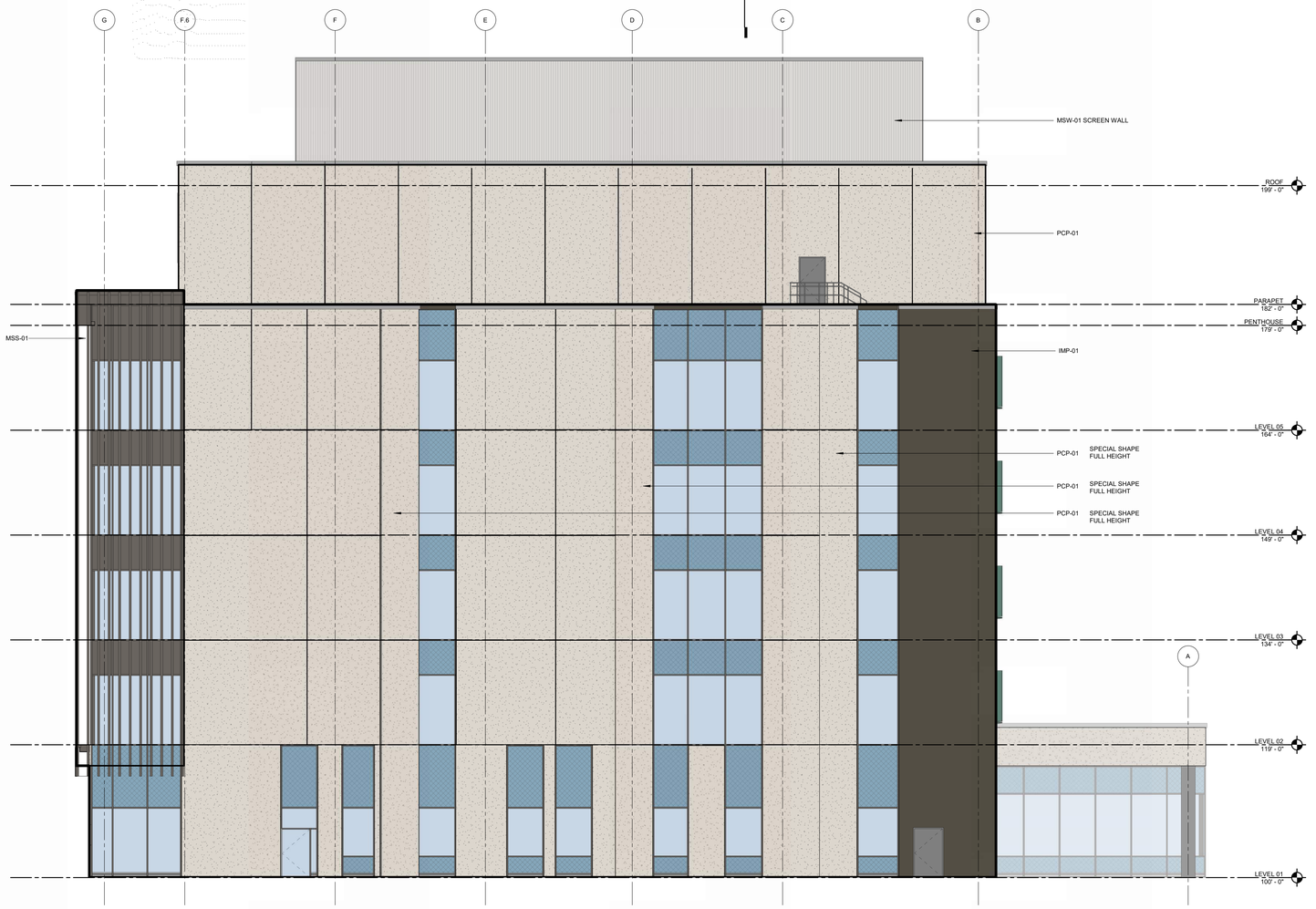
ISSUE
SCHEMATIC DESIGN

SHEET TITLE
EXTERIOR ELEVATIONS - NORTH

SHEET NO.
A5.04



02 BRIDGE ELEVATION - EAST
1/8" = 1'-0"



01 COMPOSITE EXTERIOR ELEVATION - EAST
1/8" = 1'-0"

EXTERIOR MATERIAL LEGEND

- **TP-01** TERRACOTTA RAINSCREEN PANELS
  BASIS OF DESIGN: SHILDAN SMALL FORMAT ALPHATON
- **TP-02** TERRACOTTA FIN
  BASIS OF DESIGN: SHILDAN
- **IMP-01** INSULATED PANEL - TEXTURE A
  BASIS OF DESIGN: CENTRIA FORMAWALL
- **IMP-02** INSULATED PANEL - TEXTURE B
  BASIS OF DESIGN: CENTRIA FORMAWALL
- **MSS-01** METAL SUN SHADE
  BASIS OF DESIGN: KAWNEER VERSOLEIL SUNSHADE
- **MSW-01** METAL SCREEN WALL
  BASIS OF DESIGN: CENTRIA
- **PC-01** ARCHITECTURAL PRECAST CONCRETE PANEL - TEXTURE A
  BASIS OF DESIGN: KERKSTRA FABCON
- **PC-02** ARCHITECTURAL PRECAST CONCRETE PANEL - TEXTURE B
  BASIS OF DESIGN: KARKSTRA FABCON
- **GL-01** INSULATED VISION GLASS
  BASIS OF DESIGN: XXX XXX
- **GL-02** INSULATED VISION GLASS WITH GRADIENT FRIT PATTERN
  BASIS OF DESIGN: XXX XXX
- **GL-03** INSULATED SPANDREL GLASS
  BASIS OF DESIGN: XXX XXX

East - Wall Schedule

Area	Wall Material
East	
1021 SF	IMP-01
1335 SF	MSW-01 SCREEN WALL
9996 SF	PCP-01
12352 SF	

East - Panel Schedule

Area	Panel Material
East	
97 SF	PCP-01
2089 SF	GL-01
1254 SF	GL-03 - SPANDREL
267 SF	IMP-01
East - Bridge	
1220 SF	GL-03 - SPANDREL
1595 SF	GL-04 - GLAZED WITH FRIT
6521 SF	

NOT FOR CONSTRUCTION

PLOT DATE:
1/31/2025 5:39:23 PM
TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

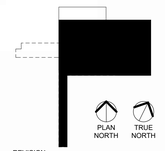
WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

KEY PLAN



REVISION
NO. DESCRIPTION DATE

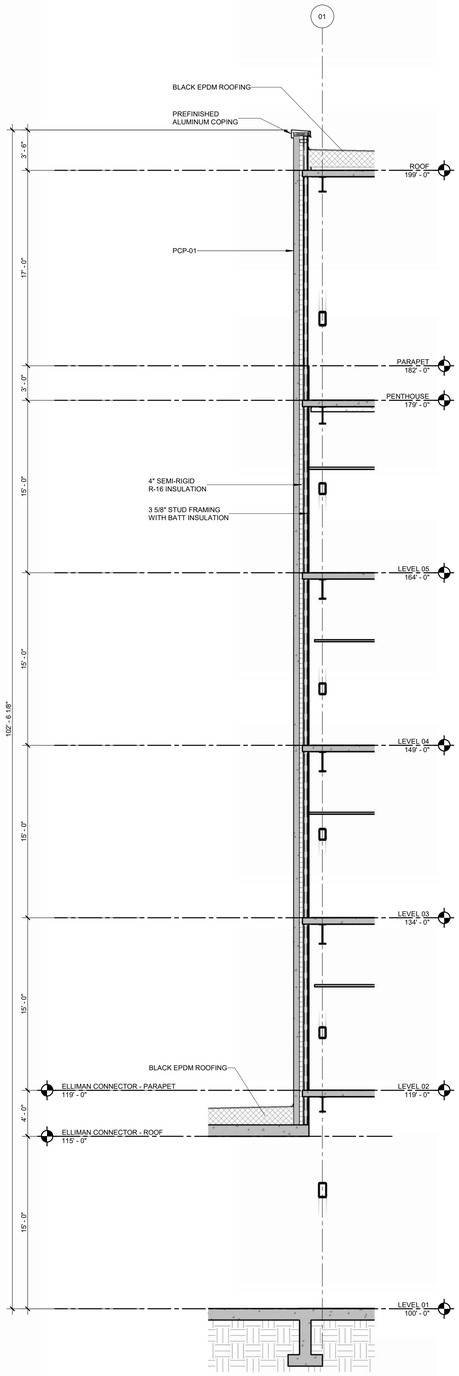
HKS PROJECT NUMBER
26234.000

DATE
31 JANUARY 2025

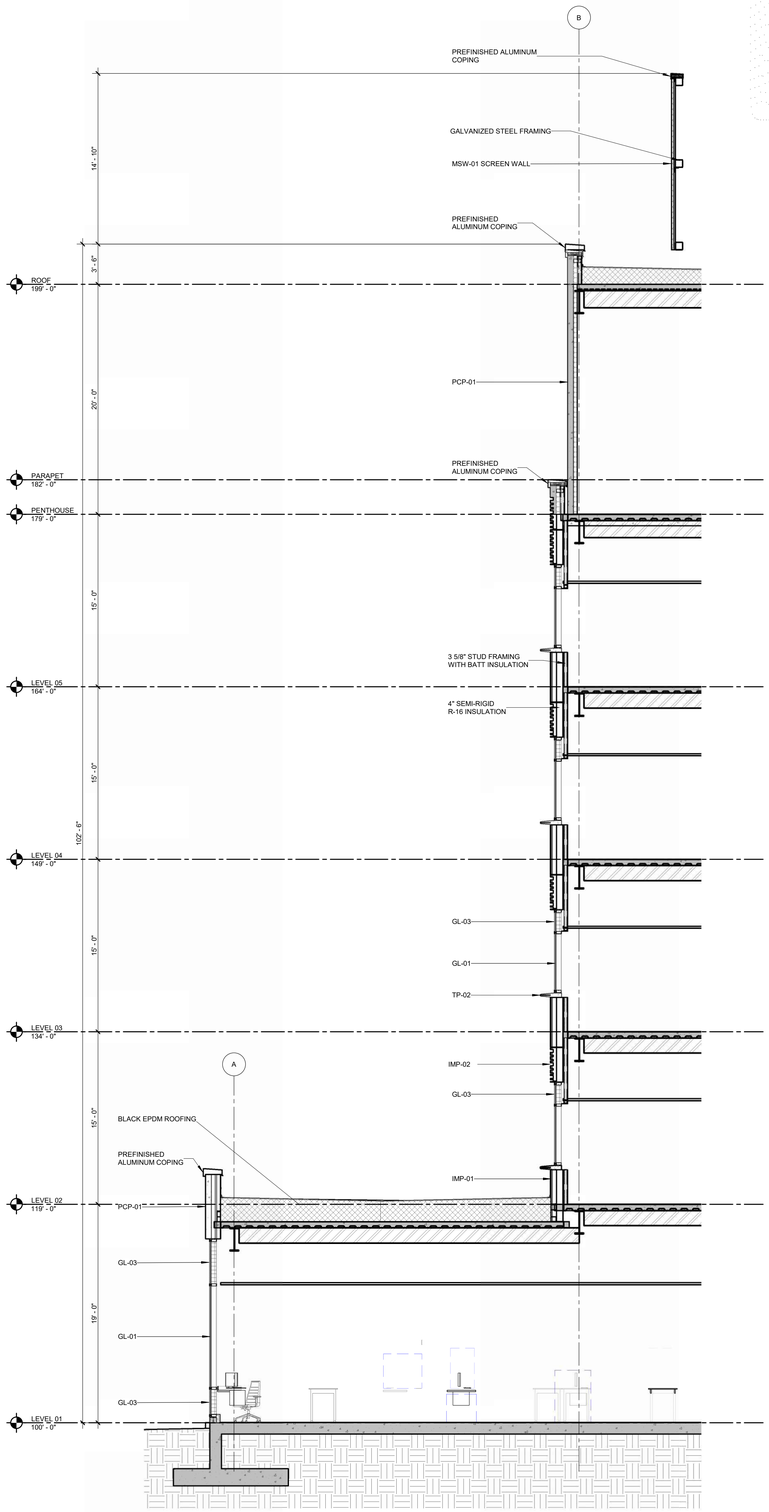
ISSUE
SCHEMATIC DESIGN

SHEET TITLE
EXTERIOR ELEVATION - EAST

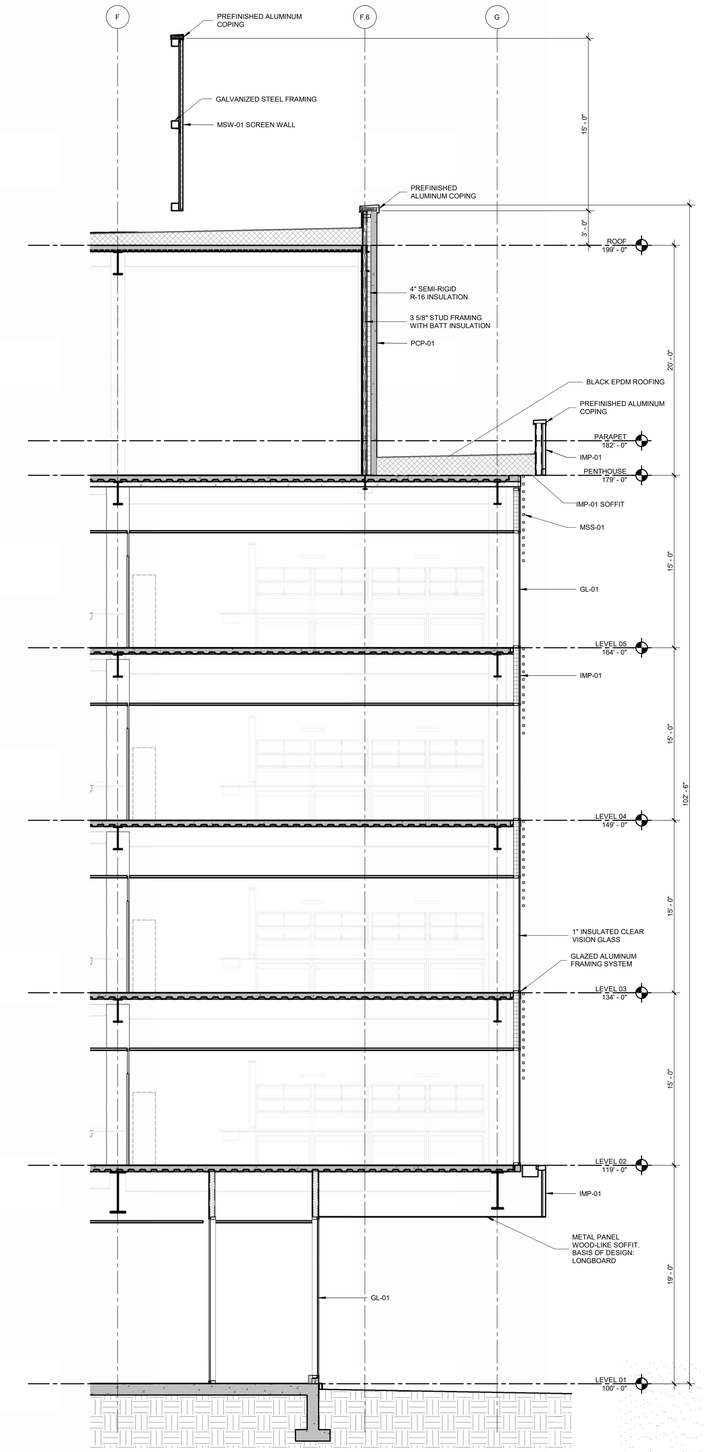
SHEET NO.
A5.05



03 **WALL SECTION AT WEST FACADE**
3/16" = 1'-0"



02 **WALL SECTION AT NORTH FACADE**
3/16" = 1'-0"



01 **WALL SECTION AT SOUTH FACADE**
3/16" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE:
1/31/2025 5:39:30 PM
TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

[redacted]

REVISION
NO. DESCRIPTION DATE

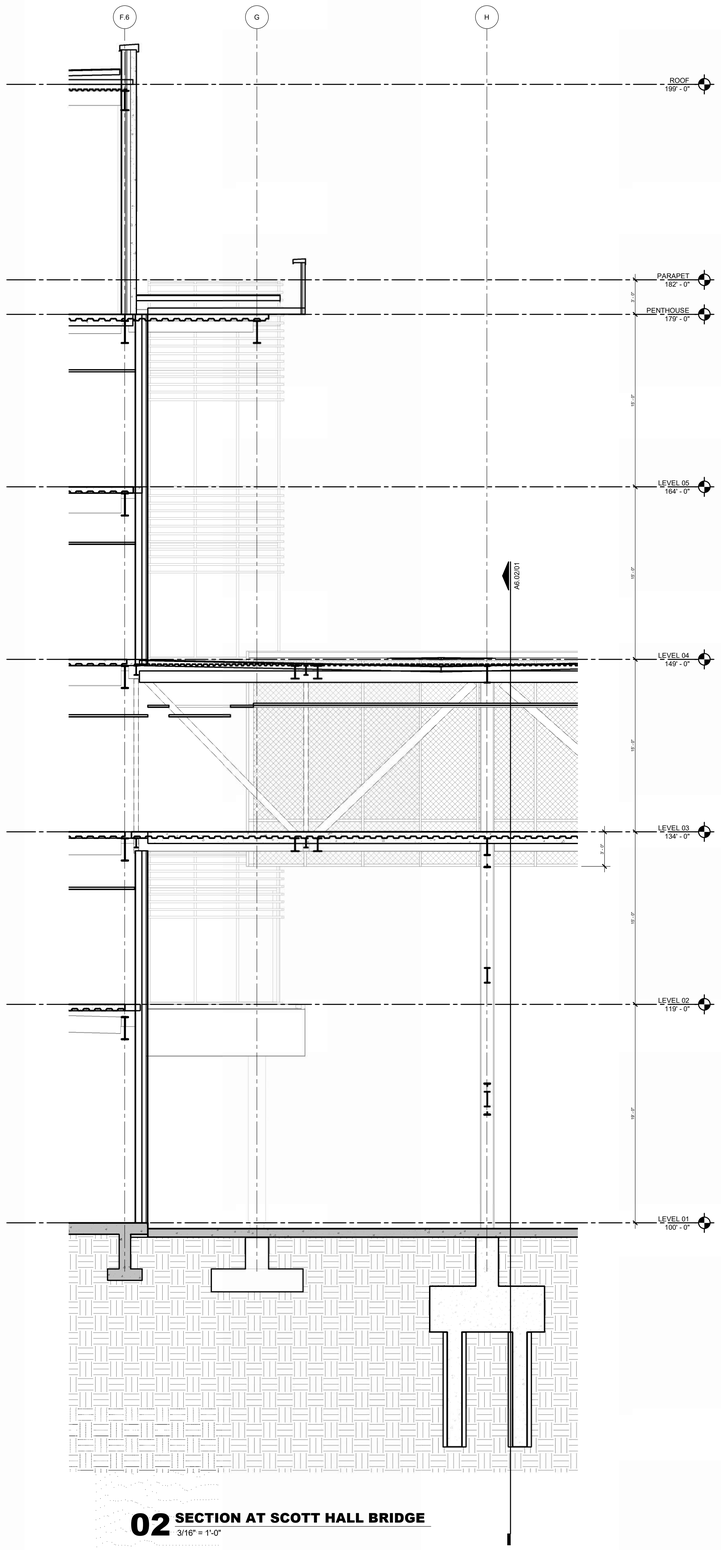
HKS PROJECT NUMBER
26234.000

DATE
31 JANUARY 2025

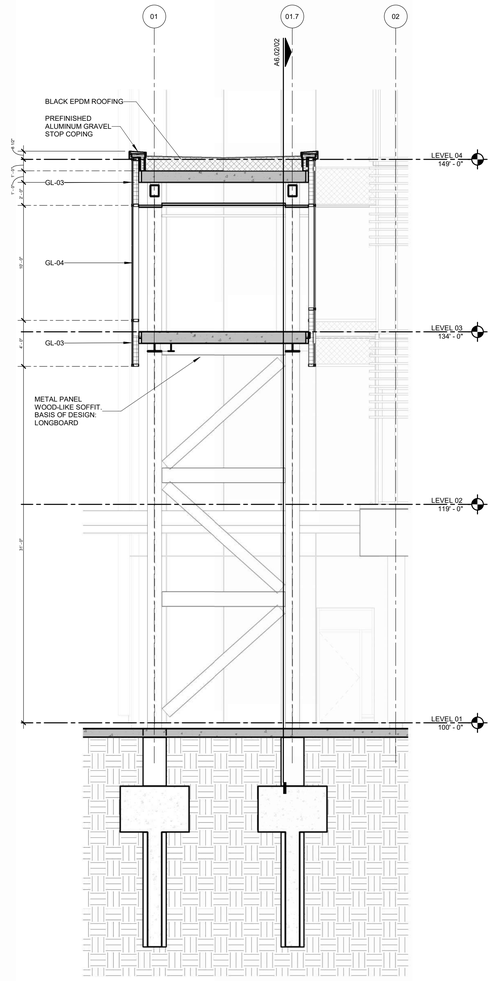
ISSUE
SCHEMATIC DESIGN

SHEET TITLE
WALL SECTIONS

SHEET NO.
A6.01



02 SECTION AT SCOTT HALL BRIDGE
3/16" = 1'-0"



01 SECTION AT SCOTT HALL BRIDGE
3/16" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE:
1/31/2025 5:39:34 PM
TEMPLATE VERSION: 23.0.4

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORNE ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

INTERIM REVIEW ONLY
These documents are incomplete, and are released for interim review only and are not intended for regulatory approval, permit, or construction purposes.

Architect: XXXXXX
Arch. Reg. No.: XXXX
Date: XX/XX/XXXX

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
31 JANUARY 2025
ISSUE
SCHEMATIC DESIGN
SHEET TITLE
WALL SECTIONS

SHEET NO.
A6.02

CERTAIN ITEMS IN THE LEGEND BELOW MAY NOT APPLY TO THIS PROJECT.
DARK PIPING INDICATES NEW PIPING AND LIGHT INDICATES EXISTING.

HVAC PIPING & VALVE LEGEND

	GATE VALVE OR GENERAL ISOLATION VALVE
	GLOBE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	NEEDLE VALVE
	CHECK VALVE
	WYE STRAINER
	THREE-WAY VALVE
	MODULATING CONTROL VALVE
	TWO POSITION CONTROL VALVE
	THREE-WAY MODULATING CONTROL VALVE
	THREE-WAY TWO POSITION CONTROL VALVE
	MOTOR OPERATED VALVE
	SOLENOID VALVE
	PRESSURE REGULATING VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	BACK FLOW PREVENTOR
	FLEXIBLE CONNECTION
	WATER BALANCE VALVE/CIRCUIT SETTER
	UNION
	FLANGED CONNECTION FOR EQUIPMENT REMOVAL
	BLIND FLANGE
	CAP OR PLUG
	QUICK CONNECTOR
	ELBOW - TURNED DOWN
	ELBOW - TURNED UP
	TEE - DOWN
	TEE - UP
	TOP CONNECTION
	BOTTOM CONNECTION
	REDUCER
	THERMOMETER WITH THERMOWELL
	PRESSURE GAUGE VALVE SHUTOFF
	DRAIN - 3/4 INCH BALL VALVE WITH HOSE END CONNECTION WITH BRASS CAP
	VENT - 1/2 INCH BALL VALVE WITH HOSE END CONNECTION WITH BRASS CAP
	VENT THRU ROOF
	TEST PLUG
	SAFETY RELIEF VALVE
	PIPE BREAK
	AUTOMATIC FLOW CONTROLLER
M	WATER OR NATURAL GAS METER
	CONNECT TO EXISTING
	LIMIT OF DEMOLITION
FM	FLOW METER
FS	FLOW SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSMITTER

CERTAIN ITEMS IN THE LEGEND BELOW MAY NOT APPLY TO THIS PROJECT.
DARK PIPING INDICATES NEW PIPING AND LIGHT INDICATES EXISTING.

HVAC DUCTWORK LEGEND

	SUPPLY AIR DUCT OR OUTSIDE AIR DUCT
	RETURN DUCT
	EXHAUST AIR DUCT
	4-WAY CEILING DIFFUSER
	DUCT TRANSITION
	BALANCED DAMPER
FD	FIRE DAMPER
SD	SMOKE DAMPER
FSD	FIRE/SMOKE DAMPER
M	MOTORIZED DAMPER
S	DUCT SENSOR
DP	DIFFERENTIAL PRESSURE SWITCH
DD	DUCT SMOKE DETECTOR
	STATIC PRESSURE SENSOR
SW	MANUAL TIMER ON/OFF SWITCH
CO2	C02 SENSOR
S	TEMPERATURE SENSOR
	THERMOSTAT
T1 XXX	ROOM TEMPERATURE SENSOR (ADJUSTABLE) "XXX" = VAV BOX SERVED
T2 XXX	ROOM TEMPERATURE & CO2 SENSOR (ADJ) "XXX" = VAV BOX SERVED
T3 XXX	ROOM TEMP. & HUMIDITY SENSOR (ADJ) "XXX" = VAV BOX SERVED
T4 XXX	ROOM TEMP, CO2, & HUMIDITY SENSOR (ADJ) "XXX" = VAV BOX SERVED
T5 XXX	ROOM NON-ADJUSTABLE TEMPERATURE SENSOR "XXX" = VAV BOX SERVED
	AIRFLOW
	RECTANGULAR DUCT BREAK
	EXISTING TO REMAIN
	EXISTING TO BE REMOVED
	NEW
	CONNECT TO EXISTING
	LIMIT OF DEMOLITION

MECHANICAL SYSTEMS SUMMARY TABLE

PROJECT NAME:	FIBERGLASS COATINGS SITE IMPROVEMENTS
PROJECT OWNER:	B&R ENTERPRISES, LLC.
PROJECT ADDRESS:	3110 44TH AVE N ST. PETERSBURG, FL 33714
PROJECT SIZE:	APPROX: 20560 SF
DESIGN CRITERIA	EXISTING
ROOF R-VALUE:	EXISTING
WALL R-VALUE:	EXISTING
WINDOW U-VALUE: SHGC:	EXISTING EXISTING
DOOR U-VALUE: SHGC:	EXISTING EXISTING
SKYLIGHT U-VALUE: SHGC:	EXISTING EXISTING

OUTDOOR SUMMER DESIGN CONDITIONS DB/WB:	91 / 78
OUTDOOR WINTER DESIGN CONDITIONS DB:	40.0
INDOOR SUMMER DESIGN CONDITIONS DB/%RH:	- / -%
INDOOR WINTER DESIGN CONDITIONS DB:	- / -%
HVAC SIZING METHOD: ASHRAE COMPUTER PROGRAM + SUPPLEMENTAL CALCUALTIONS	
TOTAL COOLING REQUIRED WITH VENTILATION AIR:	- MBH
TOTAL SENSIBLE GAIN:	- MBH
TOTAL LATENT GAIN:	- MBH
TOTAL RELATIVE HUMIDITY (%RH)	-%
TOTAL GRAINS/LB DIFFERENCE:	- GRAINS
TOTAL HEATING REQUIRED WITH VENTILATION AIR:	- MBH

CERTAIN ABBREVIATIONS LISTED BELOW MAY NOT APPLY TO THIS PROJECT

HVAC ABBREVIATIONS

Key Name	Abbreviation Description
AC	ALTERNATING CURRENT
ACB	ACTIVE CHILLED BEAM
ACC	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
ACD	AUTOMATIC CONTROLLED DAMPERD DAMPER
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHRI	AIR-CONDITIONING, HEATING, AND REFRIGERATION INSTITUE
AHU	AIR HANDLING UNIT
AMCA	AIR MOVEMENT AND CONTROL ASSOCIATION
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ASJ	ALL SERVICE JACKET
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BAS	BUILDING AUTOMATION SYSTEM
BD	BACK-DRAFT DAMPER
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BHP	BRAKE HORSE POWER
BOD	BOTTOM OF DUCT
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
C	CELSIUS
CD	CEILING DIFFUSER
CF	CUBIC FEET
CFM	CUBIC FEET PER MINUTE
CH	CHILLER (WATER-COOLED)
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CM	CENTIMETERS
CO	CARBON MONOXIDE
COND	CONDENSATE
CONN	CONNECTION
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CWP	CONDESNER WATER PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D	DRAIN
D&R	DISCONNECT & REMOVE
DB	DRY BULD
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DEG, °	DEGREE
DIA, Ø	DIAMETER
DIM	DIMENSION
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DWG(S)	DRAWING(S)
DWH	DOMESTIC WATER HEATER
E	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRCIAL CONTRARACTOR
EF	EXHAUST FAN
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
ER	EXHAUST REGISTER
ERU	ENERGY RECOVER UNIT HEATER
EUH	ELECTRIC UNIT HEATER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
F	FAREINHEIT
F&T	FLOAT & THERMOSTATIC
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FDA	U.S. FOOD AND DRUG ADMINISTRATION
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH EA	FUMEHOOD EXHAUST AIR
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FPB	FAN POWERED BOX
FPM	FEET PER MINUTE
FT, '	FLASH TANK
FTR	FIN TUBE RADIATION
FVAV	FAN POWERED VAV
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GPH	FALLONS PER HOUR
GPM	GALLONS PER MINUTE
HB	HOSE BIB (CONNECTION)
HP	HORSE POWER
HPS	HIGH PRESSURE STEAM
HUM	HUMIDIFER
HVAC	HEATING VENTILATION AND AIR CONDITIONING
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER

CERTAIN ABBREVIATIONS LISTED BELOW MAY NOT APPLY TO THIS PROJECT

HVAC ABBREVIATIONS

Key Name	Abbreviation Description
HZ	HERTZ
I/O	INPUT/OUTPUT
IAQ	INDOOR AIR QUALITY
ID	INSIDE DIAMETER
IFB	INTEGRAL FACE AND BYPASS
IN, "	INCHES
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER
LPS	LOW PRESSURE STEAM
LVR	LOUVER
LWT	LEAVING WATER TEMPERATURE
MA	MAKE-UP AIR UNIT
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BTUH
MC	MECHANICAL CONTRACTOR
MERV	MINIMUM EFFICIENCY REPORTING VALUE
MIN	MINIMUM
MM	MILLIMETERS
MPH	MILES PER HOUR
N	NEW WORK
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPENED
NPS	NOMINAL PIPE SIZE
NPT	NATIONAL PIPE THREAD
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
ODP	OPEN DRIP PROOF
OS&Y	OUTSIDE SCREW AND YOKE
OSHA	OCCUPATIONAL SAFTEY AND HEALTH ADMINISTRATION
PCB	PASSIVE CHILLED BEAM
PCF	POUNDS PER CUBIC FOOT
PD	PRESSURE DROP
PDF	PORTABLE DOCUMENT FORMAT
PRV	PRESSURE REDUCTIN VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINLY CHLORIDE
R	RELOCATED
R&R	REMOVE AND RELOCATE
RA	RETURN AIR
REQ'D	REQUIRED
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
RS	REFRIGERANT SUCTION
RTD	RESISTANCE TEMPERATURE DETECTOR
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SD	SMOKE DAMPER
SEN	SENSIBLE
SF	SUPPLY FAN
SFD	COMBINATION SMOKE AND FIRE DAMPER
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SP	STATIC PRESSURE
SQ	SQAURE
SQ FT	SQUARE FEET
SR	SUPPLY REGISTER
STD	STANDARD
STM	STEAM
T	THERMOSTAT
TCP/IP	TRANSMISSION CONTROL PROTOCOL/INTERNET PROTOCOL
TD	TRANSFER AIR DUCT
TEAO	TOTALLY ENCLOSED AIR OVER
TEFC	TOTALLY ENCLOSED FAN COOLED
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TOD	TOP OF DUCT
TON	12,000 BTU (COOLING CAPACITY)
TYP	TYPICAL
UC	UNDER CONUNTER
UH	UNIT HEATER
UL	UNDERWRITERS LABRATORIES
V	VOLTS
VA	VOLT AMPS
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
VTR	VENT THRU ROOF
VVT	VARIABLE VOLUME AND TEMPERATURE
WB	WET BULB
WC	WATER COLUMN
WFS	WATER FLOW SWITCH
WG	WATER GAUGE
WPD	WATER PRESSURE DROP

GENERAL MECHANICAL NOTES:

1. REFRIGERANT LINES SHOWN ARE DIAGRAMMATIC AND FOR SUGGESTED ROUTING ONLY. THE MECHANICAL CONTRACTOR SHALL PROVIDE REFRIGERANT LINE SIZES, FINAL LAYOUT, AND REQUIRED ACCESSORIES (SUCH AS SIGHT GLASS, EXPANSION VALVES, FILTER-DRIER, LIQUID LINE TRAPS, SUCTION ACCUMULATOR, ETC.) IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. FOR NATURAL GAS PIPING, SEE PLUMBING DRAWINGS.
3. FOR EXACT LOCATION OF DIFFUSERS AND GRILLES, SEE ARCHITECTURAL REFLECTED CEILING PLANS.
4. FOR ROOF PENETRATION DETAILS SEE ARCHITECTURAL AND STRUCTURAL DWGS.
5. FLEX DUCTWORK TO DIFFUSERS SHALL MATCH NECK SIZE OF DIFFUSER WHERE INDICATED.
6. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE HVAC SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED, AND AS REQUIRED BY STATE AND LOCAL CODES.
7. INSTALL ALL NEW WORK IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
8. THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE BEST APPROXIMATES ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.
9. COORDINATE CONSTRUCTION OF ALL HVAC WORK WITH ARCHITECTURAL, STRUCTURAL, PLUMBING, CIVIL, ELECTRICAL, TECHNOLOGY, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
10. ALL HVAC WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO OWNER.
11. MAINTAIN A MINIMUM OF 6'-8" CLEARANCE TO UNDERSIDE OF PIPES AND SUSPENDED EQUIPMENT THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
12. WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
13. ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION SHALL BE FURNISHED AND INSTALLED BY THE HVAC CONTRACTOR.
14. COORDINATE ACCESS PANEL LOCATIONS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE VALVES, FIRE DAMPERS, VAV BOXES, AND OTHER CONCEALED HVAC EQUIPMENT.
15. ALL EQUIPMENT, PIPING, ETC. SHALL BE SUPPORTED AS REQUIRED TO PROVIDE A VIBRATION FREE INSTALLATION.
16. PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING SYSTEMS CONNECTED TO PUMPS AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AS CLOSE TO THE EQUIPMENT AS POSSIBLE OR AS INDICATED ON THE DRAWINGS.
17. ALL PIPING AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH GENERAL CONTRACTOR. ALL ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS SHALL BE AT PANEL POINTS. SEE STRUCTURAL NOTES ON SHEET SF-001 AND SPECIFICATION SECTION 22 05 29 FOR REQUIRED PRODUCTS AND INSTALLATION OF HANGARS AND SUPPORTS. HVAC EQUIPMENT AND PIPING SHALL NOT BE SUPPORTED FROM METAL DECK.
18. CONTRACTOR TO INFORM THE STRUCTURAL ENGINEER IN WRITING OF ANY SUSPENDED LOAD IN EXCESS OF 400 POUNDS.
19. PROVIDE SHUTOFF VALVES IN ALL HEATING WATER PIPING SYSTEM BRANCHES BETWEEN FLOOR LEVELS AND AT BRANCHES SERVING THREE OR MORE PIECES OF EQUIPMENT IN ADDITION TO ANY AREAS SHOWN ON PLANS.
20. INSTALL PIPING SO THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES, AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
21. WATER AND DRAIN PIPING SHALL NOT BE RUN THROUGH OR ABOVE ELECTRICAL SWITCH GEAR OR ROOMS, TECHNOLOGY ROOMS, OR TELEPHONE ROOMS.
22. IF THERE IS ANY DEVIATION BETWEEN THE SPECIFICATIONS AND DRAWINGS THE CONTRACTOR SHALL ADHERE TO THE MORE STRINGENT CONDITION.
23. CONCRETE HOUSEKEEPING PADS TO SUIT MECHANICAL EQUIPMENT SHALL BE SIZED AND LOCATED BY THE CONTRACTOR. MINIMUM CONCRETE PAD THICKNESS SHALL BE 4 INCHES. PAD SHALL EXTEND BEYOND THE EQUIPMENT A MINIMUM OF 4 INCHES ON EACH SIDE. CONCRETE HOUSEKEEPING PADS SHALL BE PROVIDED BY THE CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE SIZE AND LOCATION OF CONCRETE HOUSEKEEPING PADS.
24. EXHAUST ONLY ROOMS SUCH AS JANITORS CLOSETS, ELECTRICAL CLOSETS, AND STORAGE ROOMS SHALL HAVE DOOR UNDERCUTS OF 5/8" FOR MAKEUP AIR INDICATED WITH FLOW ARROW ON PLANS. COORDINATE WITH ARCHITECTURAL DRAWINGS.

-All Sheet List

Sheet Number	Sheet Name
M-001	MECHANICAL SYMBOL LEGEND AND NOTES
M-101	LEVEL 1 MECHANICAL PLAN
M-103	LEVEL 3 MECHANICAL PLAN
M-106	PENTHOUSE MECHANICAL PLAN
M-107	ROOF MECHANICAL PLAN
M-201	LEVEL 1 MECHANICAL PIPING PLAN
M-203	LEVEL 3 MECHANICAL PIPING PLAN
M-501	MECHANICAL DETAILS
M-502	MECHANICAL DETAILS
M-503	MECHANICAL DETAILS
M-504	MECHANICAL DETAILS
M-505	PIPING SCHEMATIC
M-506	PIPING SCHEMATIC
M-507	PIPING SCHEMATIC
M-508	PIPING SCHEMATIC
M-509	PIPING RISER DIAGRAM
M-510	AIR HANDLING RISER DIAGRAM
M-511	STARWELL AND ELEVATOR PRESSURIZATION RISER DIAGRAM
M-701	MECHANICAL SCHEDULES

NOT FOR CONSTRUCTION

PLOT DATE:
3/7/2025 9:28:23 AM

TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

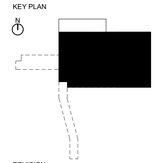
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION
NO. DESCRIPTION DATE

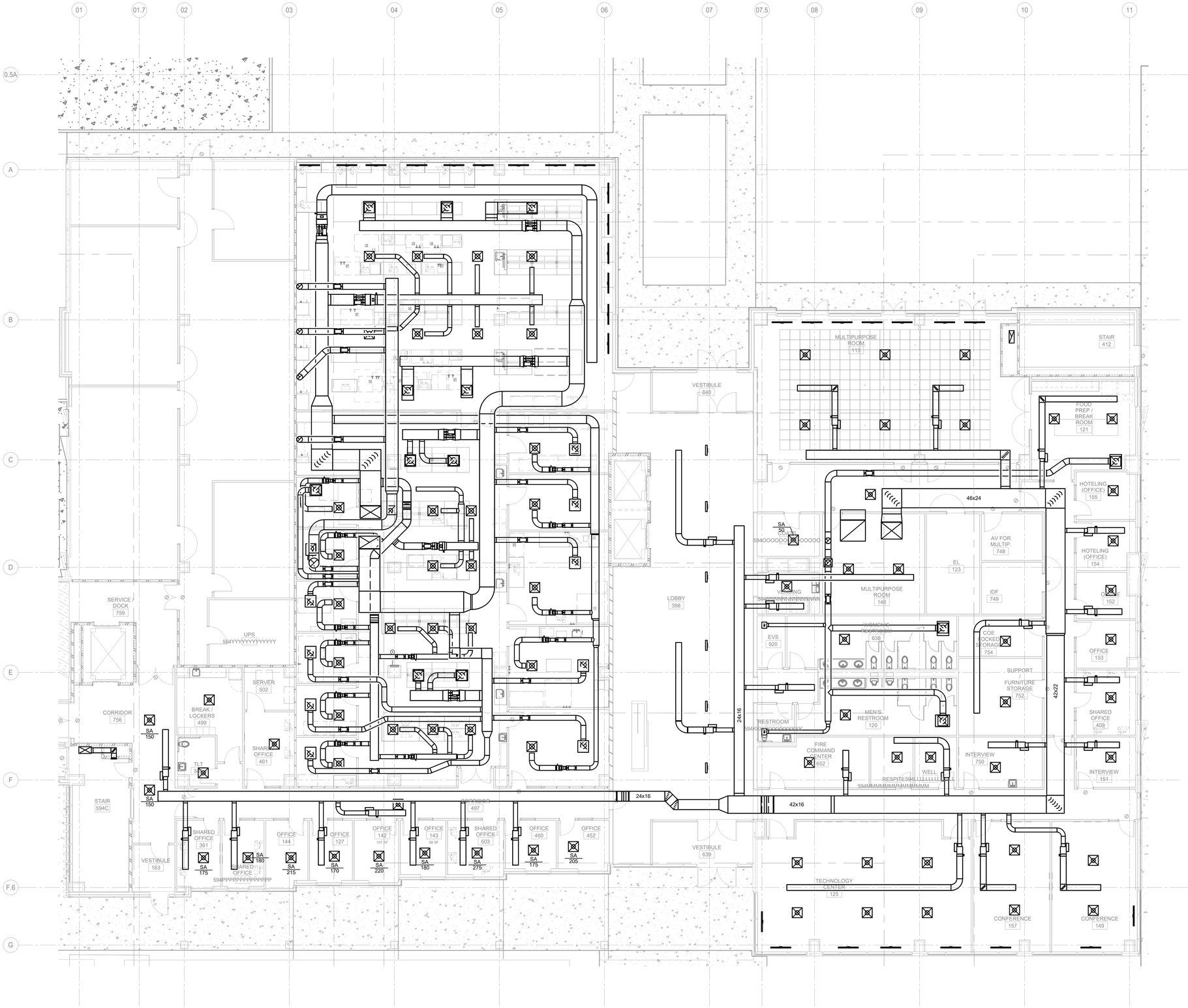
HKS PROJECT NUMBER
26234.000

DATE
7 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
MECHANICAL SYMBOL LEGEND AND NOTES

SHEET NO.
M-001



1 LEVEL 01 HVAC PLAN
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS AND FITTINGS WHICH MAY BE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.
2. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.
3. THE CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF FLOOR, WALL, AND ROOF PENETRATIONS AS WELL AS LOUVER SIZES, ETC. WITH GENERAL TRADES.
4. THE CONTRACTOR SHALL VERIFY ALL CLEARANCES PRIOR TO THE FABRICATION OF ANY WORK.
5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF CEILING GRILLES, REGISTERS, AND DIFFUSERS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.
6. ALL HOT WATER HEATING SUPPLY AND RETURN BRANCH RUN-OUT PIPING SHALL BE 3/4" UNLESS OTHERWISE NOTED ON DRAWING. **[CONFIRM IF APPLICABLE]**
7. DUCTWORK AND PIPING SHALL NOT BE LOCATED OVER THE TOP OF ANY ELECTRICAL PANELS OR EQUIPMENT.
8. THE CONTRACTOR SHALL COORDINATE AND PROVIDE ACCESS DOORS IN HARD CEILINGS FOR ALL EQUIPMENT WHICH REQUIRES ACCESS, SUCH AS: FIRE AND SMOKE DAMPERS, SMOKE DETECTORS, BALANCING DAMPERS, VAV BOXES, ETC. COORDINATE THE RATING OF THE ACCESS PANEL TO MAINTAIN THE OVERALL RATING OF THE ASSEMBLY.
9. ALL MECHANICAL EQUIPMENT, PIPING, VALVES, DAMPERS, SMOKE DETECTORS ETC. WHICH REQUIRE ROUTINE MAINTENANCE OR INSPECTION SHALL BE ACCESSIBLE FOR SERVICE.
10. CONTRACTOR TO COORDINATE AND VERIFY THERMOSTAT LOCATIONS WITH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION.
11. SEAL ALL MECHANICAL PENETRATIONS THROUGH FIRE AND/OR SMOKE BARRIERS.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:26:27 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

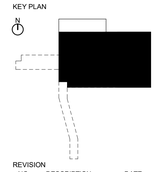
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE, SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

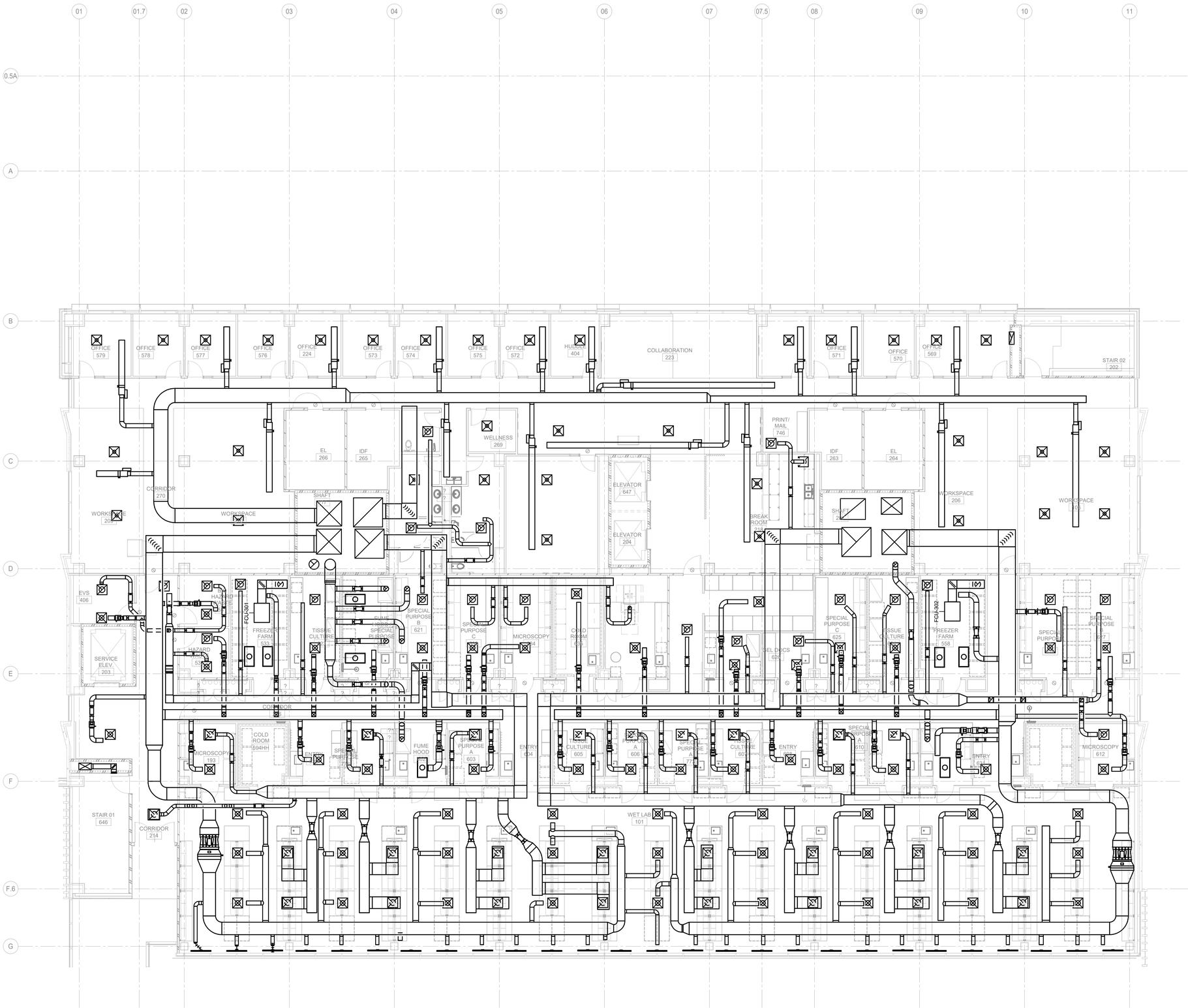
HKS PROJECT NUMBER
26234.000

DATE
7 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 1 MECHANICAL PLAN

SHEET NO.
M-101



1 LEVEL 03 HVAC PLAN
SCALE: 1/8" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:38:32 AM
TEMPLATE VERSION:

GENERAL SHEET NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS AND FITTINGS WHICH MAY BE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.
2. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.
3. THE CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF FLOOR, WALL, AND ROOF PENETRATIONS AS WELL AS LOUVER SIZES, ETC. WITH GENERAL TRADES.
4. THE CONTRACTOR SHALL VERIFY ALL CLEARANCES PRIOR TO THE FABRICATION OF ANY WORK.
5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF CEILING GRILLES, REGISTERS, AND DIFFUSERS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.
6. ALL HOT WATER HEATING SUPPLY AND RETURN BRANCH RUN-OUT PIPING SHALL BE 3/4" UNLESS OTHERWISE NOTED ON DRAWING. **[CONFIRM IF APPLICABLE]**
7. DUCTWORK AND PIPING SHALL NOT BE LOCATED OVER THE TOP OF ANY ELECTRICAL PANELS OR EQUIPMENT.
8. THE CONTRACTOR SHALL COORDINATE AND PROVIDE ACCESS DOORS IN HARD CEILINGS FOR ALL EQUIPMENT WHICH REQUIRES ACCESS, SUCH AS: FIRE AND SMOKE DAMPERS, SMOKE DETECTORS, BALANCING DAMPERS, VAV BOXES, ETC. COORDINATE THE RATING OF THE ACCESS PANEL TO MAINTAIN THE OVERALL RATING OF THE ASSEMBLY.
9. ALL MECHANICAL EQUIPMENT, PIPING, VALVES, DAMPERS, SMOKE DETECTORS ETC. WHICH REQUIRE ROUTINE MAINTENANCE OR INSPECTION SHALL BE ACCESSIBLE FOR SERVICE.
10. CONTRACTOR TO COORDINATE AND VERIFY THERMOSTAT LOCATIONS WITH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION.
11. SEAL ALL MECHANICAL PENETRATIONS THROUGH FIRE AND/OR SMOKE BARRIERS.

(#) SHEET KEY NOTES:

1. CONNECT TO CANOPY. TRANSITION AS REQUIRED.
2.

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

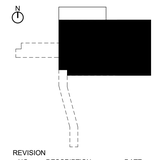
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

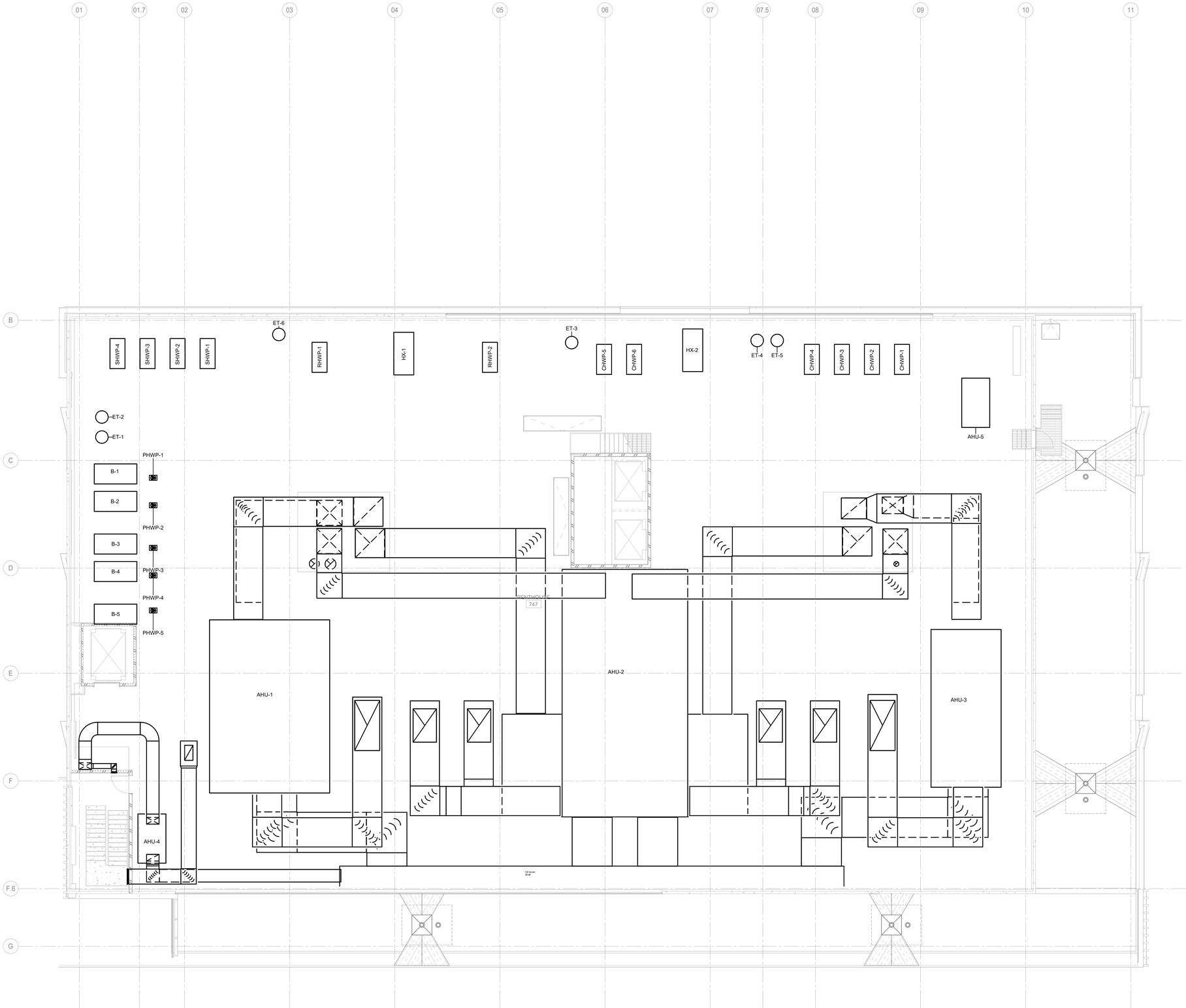
KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000
DATE
7 MARCH 2025
ISSUE
PROGRESS PRINT
SHEET TITLE
LEVEL 3 MECHANICAL PLAN
SHEET NO.
M-103



1 PENTHOUSE HVAC PLAN
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS AND FITTINGS WHICH MAY BE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.
2. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.
3. THE CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF FLOOR, WALL, AND ROOF PENETRATIONS AS WELL AS LOUVER SIZES, ETC. WITH GENERAL TRADES.
4. THE CONTRACTOR SHALL VERIFY ALL CLEARANCES PRIOR TO THE FABRICATION OF ANY WORK.
5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF CEILING GRILLES, REGISTERS, AND DIFFUSERS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.
6. ALL HOT WATER HEATING SUPPLY AND RETURN BRANCH RUN-OUT PIPING SHALL BE 3/4" UNLESS OTHERWISE NOTED ON DRAWING. **[CONFIRM IF APPLICABLE]**
7. DUCTWORK AND PIPING SHALL NOT BE LOCATED OVER THE TOP OF ANY ELECTRICAL PANELS OR EQUIPMENT.
8. THE CONTRACTOR SHALL COORDINATE AND PROVIDE ACCESS DOORS IN HARD CEILINGS FOR ALL EQUIPMENT WHICH REQUIRES ACCESS, SUCH AS: FIRE AND SMOKE DAMPERS, SMOKE DETECTORS, BALANCING DAMPERS, VAV BOXES, ETC. COORDINATE THE RATING OF THE ACCESS PANEL TO MAINTAIN THE OVERALL RATING OF THE ASSEMBLY.
9. ALL MECHANICAL EQUIPMENT, PIPING, VALVES, DAMPERS, SMOKE DETECTORS ETC. WHICH REQUIRE ROUTINE MAINTENANCE OR INSPECTION SHALL BE ACCESSIBLE FOR SERVICE.
10. CONTRACTOR TO COORDINATE AND VERIFY THERMOSTAT LOCATIONS WITH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION.
11. SEAL ALL MECHANICAL PENETRATIONS THROUGH FIRE AND/OR SMOKE BARRIERS.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:28:33 AM
TEMPLATE VERSION

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

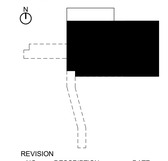
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN

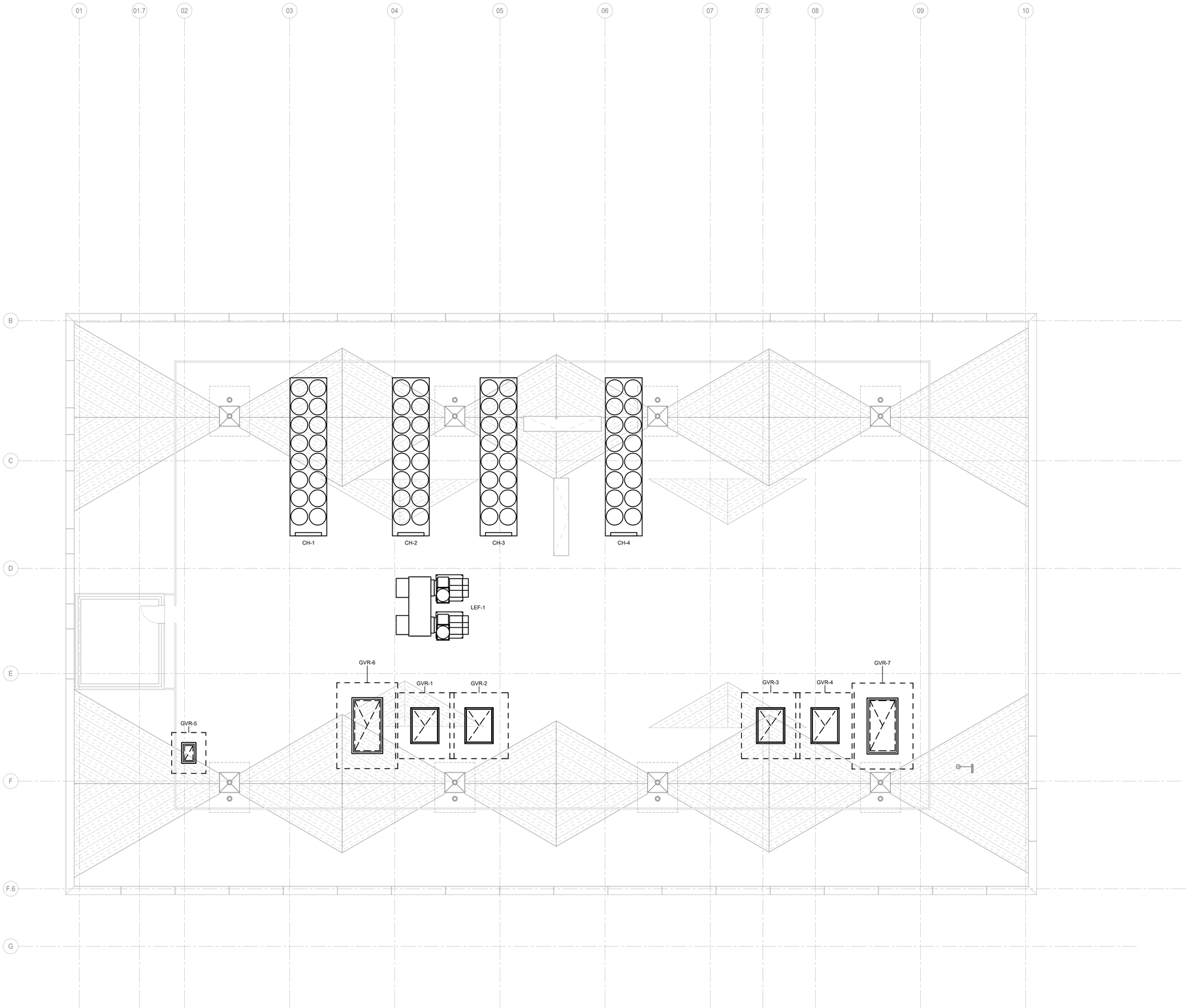


REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
7 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
PENTHOUSE MECHANICAL PLAN

SHEET NO.
M-106



1 ROOF HVAC PLAN
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS AND FITTINGS WHICH MAY BE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.
2. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.
3. THE CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF FLOOR, WALL, AND ROOF PENETRATIONS AS WELL AS LOUVER SIZES, ETC. WITH GENERAL TRADES.
4. THE CONTRACTOR SHALL VERIFY ALL CLEARANCES PRIOR TO THE FABRICATION OF ANY WORK.
5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF CEILING GRILLES, REGISTERS, AND DIFFUSERS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.
6. ALL HOT WATER HEATING SUPPLY AND RETURN BRANCH RUN-OUT PIPING SHALL BE 3/4" UNLESS OTHERWISE NOTED ON DRAWING. **[CONFIRM IF APPLICABLE]**
7. DUCTWORK AND PIPING SHALL NOT BE LOCATED OVER THE TOP OF ANY ELECTRICAL PANELS OR EQUIPMENT.
8. THE CONTRACTOR SHALL COORDINATE AND PROVIDE ACCESS DOORS IN HARD CEILINGS FOR ALL EQUIPMENT WHICH REQUIRES ACCESS, SUCH AS: FIRE AND SMOKE DAMPERS, SMOKE DETECTORS, BALANCING DAMPERS, VAV BOXES, ETC. COORDINATE THE RATING OF THE ACCESS PANEL TO MAINTAIN THE OVERALL RATING OF THE ASSEMBLY.
9. ALL MECHANICAL EQUIPMENT, PIPING, VALVES, DAMPERS, SMOKE DETECTORS ETC. WHICH REQUIRE ROUTINE MAINTENANCE OR INSPECTION SHALL BE ACCESSIBLE FOR SERVICE.
10. CONTRACTOR TO COORDINATE AND VERIFY THERMOSTAT LOCATIONS WITH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION.
11. SEAL ALL MECHANICAL PENETRATIONS THROUGH FIRE AND/OR SMOKE BARRIERS.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

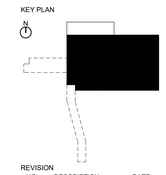
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION
NO. DESCRIPTION DATE

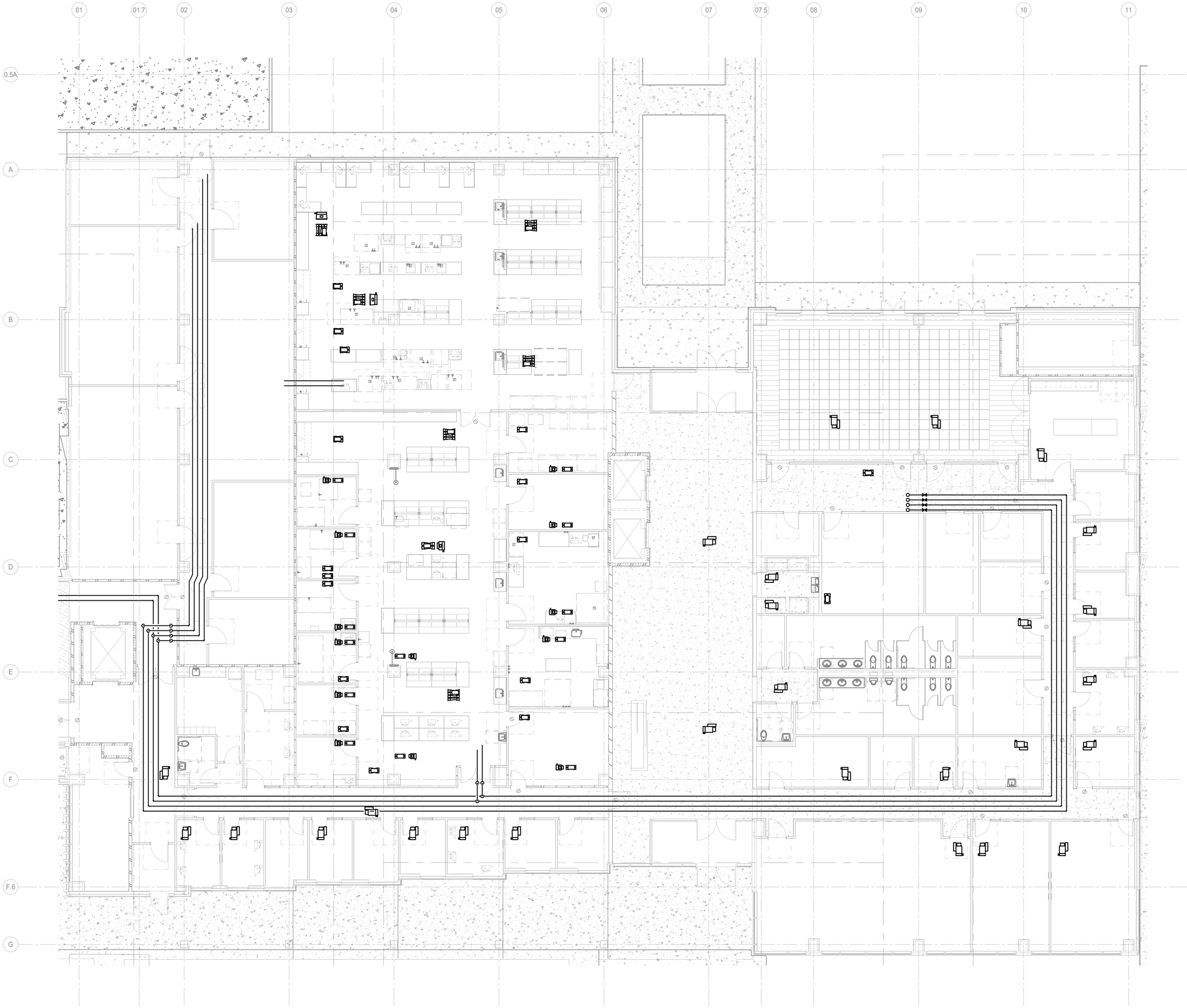
HKS PROJECT NUMBER
26234.000
DATE
7 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
ROOF MECHANICAL PLAN

SHEET NO.
M-107

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:26:34 AM TEMPLATE VERSION:



1 LEVEL 01 MECH PIPING PLAN
SCALE: 1/8" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:28:36 AM
TEMPLATE VERSION:

GENERAL SHEET NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS AND FITTINGS WHICH MAY BE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.
2. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.
3. THE CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF FLOOR, WALL, AND ROOF PENETRATIONS AS WELL AS LOUVER SIZES, ETC. WITH GENERAL TRADES.
4. THE CONTRACTOR SHALL VERIFY ALL CLEARANCES PRIOR TO THE FABRICATION OF ANY WORK.
5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF CEILING GRILLES, REGISTERS, AND DIFFUSERS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.
6. ALL HOT WATER HEATING SUPPLY AND RETURN BRANCH RUN-OUT PIPING SHALL BE 3/4" UNLESS OTHERWISE NOTED ON DRAWING. **[CONFIRM IF APPLICABLE]**
7. DUCTWORK AND PIPING SHALL NOT BE LOCATED OVER THE TOP OF ANY ELECTRICAL PANELS OR EQUIPMENT.
8. THE CONTRACTOR SHALL COORDINATE AND PROVIDE ACCESS DOORS IN HARD CEILINGS FOR ALL EQUIPMENT WHICH REQUIRES ACCESS, SUCH AS: FIRE AND SMOKE DAMPERS, SMOKE DETECTORS, BALANCING DAMPERS, VAV BOXES, ETC. COORDINATE THE RATING OF THE ACCESS PANEL TO MAINTAIN THE OVERALL RATING OF THE ASSEMBLY.
9. ALL MECHANICAL EQUIPMENT, PIPING, VALVES, DAMPERS, SMOKE DETECTORS ETC. WHICH REQUIRE ROUTINE MAINTENANCE OR INSPECTION SHALL BE ACCESSIBLE FOR SERVICE.
10. CONTRACTOR TO COORDINATE AND VERIFY THERMOSTAT LOCATIONS WITH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION.
11. SEAL ALL MECHANICAL PENETRATIONS THROUGH FIRE AND/OR SMOKE BARRIERS.

SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

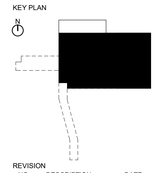
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN

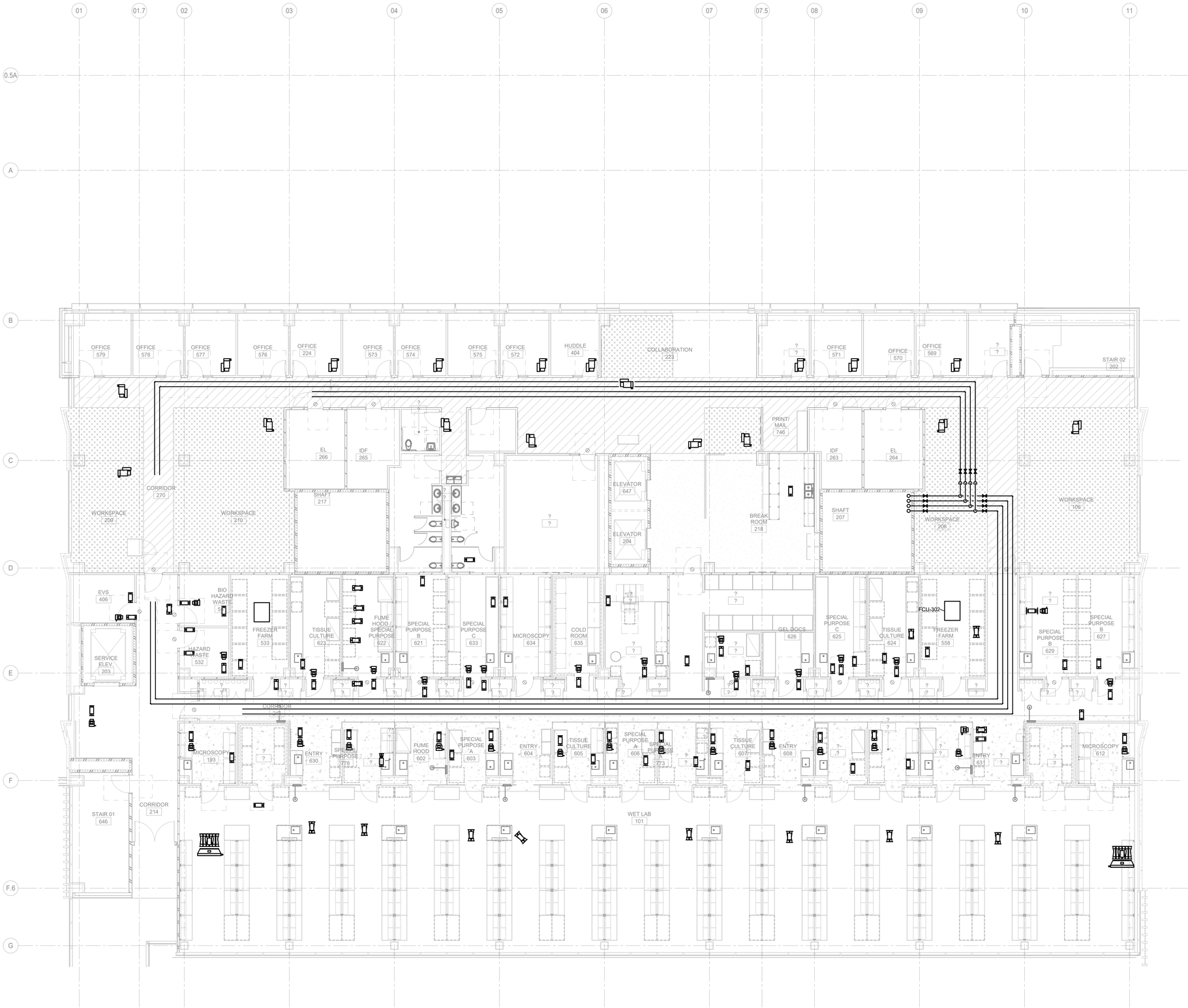


REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000
DATE
7 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 1 MECHANICAL PIPING PLAN
SHEET NO.
M-201



1 LEVEL 03 MECH PIPING PLAN
SCALE: 1/8" = 1'-0"

GENERAL SHEET NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS AND FITTINGS WHICH MAY BE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.
2. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.
3. THE CONTRACTOR SHALL COORDINATE SIZES AND LOCATIONS OF FLOOR, WALL, AND ROOF PENETRATIONS AS WELL AS LOUVER SIZES, ETC. WITH GENERAL TRADES.
4. THE CONTRACTOR SHALL VERIFY ALL CLEARANCES PRIOR TO THE FABRICATION OF ANY WORK.
5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF CEILING GRILLES, REGISTERS, AND DIFFUSERS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.
6. ALL HOT WATER HEATING SUPPLY AND RETURN BRANCH RUN-OUT PIPING SHALL BE 3/4" UNLESS OTHERWISE NOTED ON DRAWING. **[CONFIRM IF APPLICABLE]**
7. DUCTWORK AND PIPING SHALL NOT BE LOCATED OVER THE TOP OF ANY ELECTRICAL PANELS OR EQUIPMENT.
8. THE CONTRACTOR SHALL COORDINATE AND PROVIDE ACCESS DOORS IN HARD CEILINGS FOR ALL EQUIPMENT WHICH REQUIRES ACCESS, SUCH AS: FIRE AND SMOKE DAMPERS, SMOKE DETECTORS, BALANCING DAMPERS, VAV BOXES, ETC. COORDINATE THE RATING OF THE ACCESS PANEL TO MAINTAIN THE OVERALL RATING OF THE ASSEMBLY.
9. ALL MECHANICAL EQUIPMENT, PIPING, VALVES, DAMPERS, SMOKE DETECTORS ETC. WHICH REQUIRE ROUTINE MAINTENANCE OR INSPECTION SHALL BE ACCESSIBLE FOR SERVICE.
10. CONTRACTOR TO COORDINATE AND VERIFY THERMOSTAT LOCATIONS WITH THE GENERAL CONTRACTOR PRIOR TO INSTALLATION.
11. SEAL ALL MECHANICAL PENETRATIONS THROUGH FIRE AND/OR SMOKE BARRIERS.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

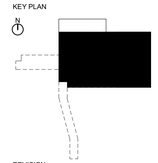
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



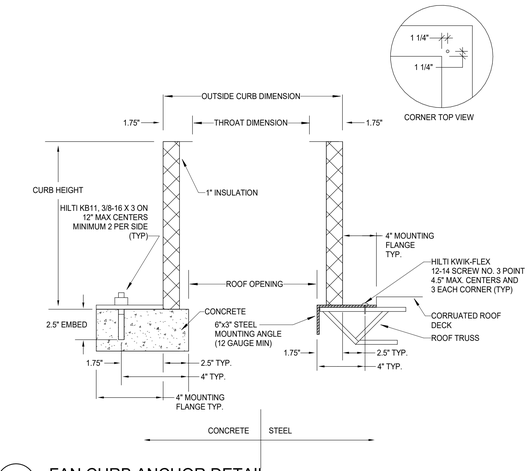
REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
7 MARCH 2025
ISSUE
PROGRESS PRINT

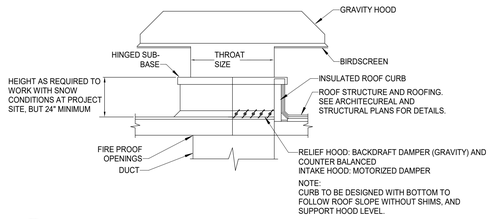
SHEET TITLE
LEVEL 3 MECHANICAL PIPING PLAN
SHEET NO.
M-203

NOT FOR CONSTRUCTION

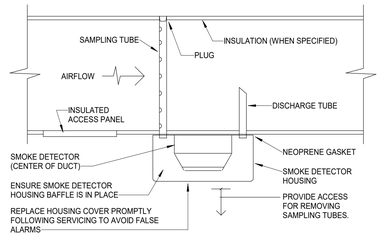
PLOT DATE: 3/7/2025 9:28:37 AM TEMPLATE VERSION:



3 FAN CURB ANCHOR DETAIL
SCALE: NONE

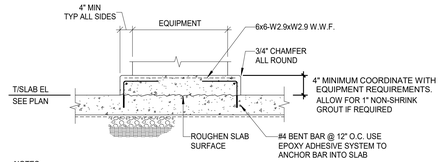


2 GRAVITY INTAKE/RELIEF HOOD
SCALE: NONE



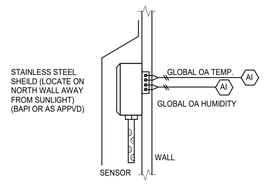
NOTES:
1. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. NEW SMOKE DETECTOR TO BE FURNISHED BY ELECTRICAL (DIVISION 16) AND MOUNTED IN DUCTS BY MECHANICAL (DIVISION 15).
3. SAMPLING TUBE MUST BE INSTALLED ACROSS GREATEST DUCT DIMENSION.
4. WHERE DUCT ASPECT RATIO IS GREATER THAN 3 TO 1, INSTALL SAMPLING AND DISCHARGE TUBES IN THE LONG DIMENSION.
5. PROVIDE WITH WEATHERPROOF COVER FOR EXTERIOR MOUNTING WHERE REQUIRED.

1 DUCT SMOKE DETECTOR DETAIL
SCALE: NONE

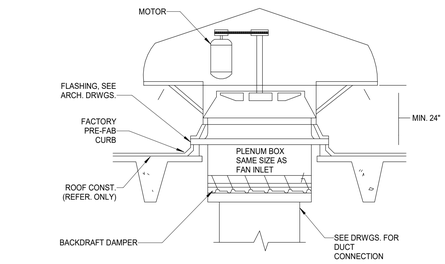


NOTES:
1. ALL CONCRETE SHALL HAVE A MIN. COMPRESSION STRENGTH OF 4000 PSI AT 28 DAYS.
2. ALL CONCRETE & REINFORCING STEEL SHALL BE FURNISHED, FABRICATED AND INSTALLED IN ACCORDANCE WITH THE ACI STANDARD BUILDING CODE REQUIREMENTS FOR REINFORCE CONCRETE (ACI 318-83)

6 INDOOR EQUIPMENT CONCRETE PAD
SCALE: NONE

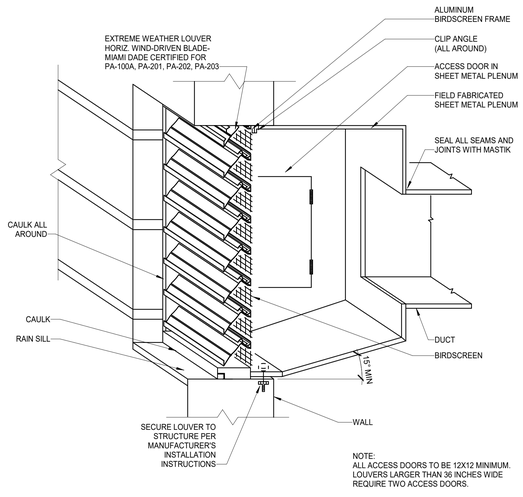


5 GLOBAL OA TEMP & HUMIDITY SENSOR
SCALE: NONE



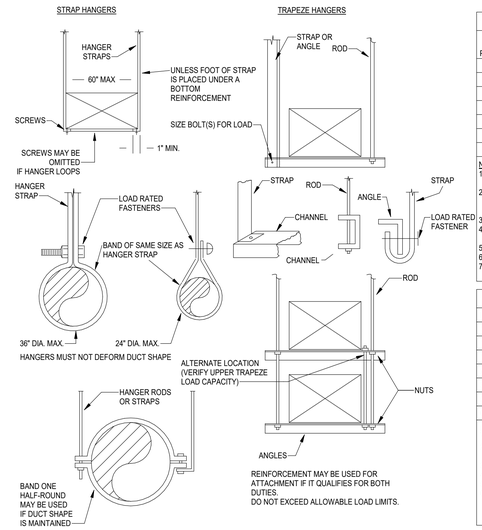
NOTE: ALL ROOF MOUNTED EQUIPMENT MUST ADHERE TO CURRENT HURRICANE CODES REGARDING ROOF TIE-IN AND WIND RESISTANCE.

4 LOW SILHOUETTE EXHAUST FAN
SCALE: NONE



NOTE:
ALL ACCESS DOORS TO BE 12X12 MINIMUM. LOUVERS LARGER THAN 36 INCHES WIDE REQUIRE TWO ACCESS DOORS.

8 EXTREME WEATHER LOUVER
SCALE: NONE



RECTANGULAR DUCT HANGER SCHEDULE

HALF OF DUCT PERIMETER	PAIR AT 10FT SPACING		PAIR AT 8FT SPACING		PAIR AT 5FT SPACING		PAIR AT 4FT SPACING	
	STRAP	ROD	STRAP	ROD	STRAP	ROD	STRAP	ROD
P/2≤30"	1"x22 GA	1/4"	1"x22 GA	1/4"	1"x22 GA	1/4"	1"x22 GA	1/4"
P/2≤72"	1"x18 GA	3/8"	1"x20 GA	1/4"	1"x22 GA	1/4"	1"x22 GA	1/4"
P/2≤96"	1"x16 GA	3/8"	1"x18 GA	3/8"	1"x20 GA	3/8"	1"x22 GA	1/4"
P/2≤120"	1.5"x16 GA	1/2"	1"x16 GA	3/8"	1"x18 GA	3/8"	1"x20 GA	1/4"
P/2≤168"	1.5"x16 GA	1/2"	1.5"x16 GA	1/2"	1"x16 GA	3/8"	1"x18 GA	3/8"
P/2≤192"	N/A	1/2"	1.5"x16 GA	1/2"	1"x16 GA	3/8"	1"x16 GA	3/8"
P/2≥192"	SPECIAL ANALYSIS REQUIRED							

NOTES:
1. SCHEDULE CREATED FROM SMACNA "HVAC DUCT CONSTRUCTION STANDARDS", SECOND EDITION - 1995. SMACNA REQUIREMENTS GOVERN.
2. TABLE ALLOWS FOR TYPICAL DUCT WEIGHT WITH NORMAL REINFORCEMENT AND JOINTS, 1 LB/SF INSULATION WEIGHT, AND TRAPEZE WEIGHT, BUT NO EXTERNAL LOADS. IF HEAVIER DUCTS ARE TO BE INSTALLED (SUCH AS DOUBLE-WALL OR DENSE INSULATIONS), ADJUST HANGER SIZES TO BE WITHIN THEIR LOAD LIMITS.
3. STRAPS ARE TO BE GALVANIZED STEEL.
4. ALLOWABLE LOADS FOR P/2 ASSUME THAT DUCTS ARE 16 GA MAX., EXCEPT THAT WHEN MAXIMUM DUCT DIMENSION (W) IS OVER 60", THEN P/2 MAX. IS 1.25W.
5. WIRE IS NOT AN APPROVED HANGER.
6. STRAP AND ROD SIZES ARE MINIMUM ALLOWABLE.
7. FOR UPPER ATTACHMENTS, LOWER ATTACHMENTS, TRAPEZE SIZES, AND ROD/STRAP ALLOWABLE LOADS, SEE SMACNA MANUAL.

ROUND DUCT HANGER SCHEDULE

DIAMETER	MAX. SPACING	ROD	STRAP	
10" & DN	12'	1/4"	1" x 22" GA.	
11"-18"	12'	1/4"	1" x 22" GA.	
19"-24"	12'	1/4"	1" x 22" GA.	
25"-36"	12'	3/8"	1" x 20" GA.	
37"-50"	12'	TWO(2) 3/8"	TWO(2) 1" x 20 GA.	
51"-60"	12'	TWO(2) 3/8"	TWO(2) 1" x 18 GA.	
61"-84"	12'	TWO(2) 3/8"	TWO(2) 1" x 16 GA.	

NOTES:
1. SCHEDULE CREATED FROM SMACNA "HVAC DUCT CONSTRUCTION STANDARDS", SECOND EDITION - 1995.
2. TALE ALLOWS FOR CONVENTIONAL WALL THICKNESS, AND JOINT SYSTEMS PLUS 1 LB/SF INSULATION WEIGHT. IF HEAVIER DUCTS ARE TO BE INSTALLED, ADJUST HANGER SIZES TO BE WITHIN THEIR LOAD LIMITS.
3. HANGER SPACING MAY BE ADJUSTED BY SPECIAL ANALYSIS.
4. STRAPS ARE TO BE GALVANIZED STEEL. WIRE IS NOT AN APPROVED HANGER.
5. STRAP AND ROD SIZES ARE MINIMUM ALLOWABLE.
6. FOR UPPER ATTACHMENTS, LOWER ATTACHMENTS, TRAPEZE SIZES, AND ROD/STRAP ALLOWABLE LOADS, SEE SMACNA MANUAL.

7 LOWER HANGER ATTACHMENTS
SCALE: 12" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:28:39 AM TEMPLATE VERSION:

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

KEY PLAN

N

REVISION
NO. DESCRIPTION DATE

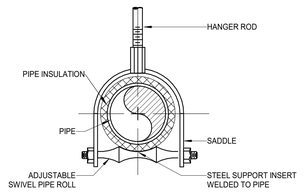
HKS PROJECT NUMBER
26234.000

DATE
7 MARCH 2025

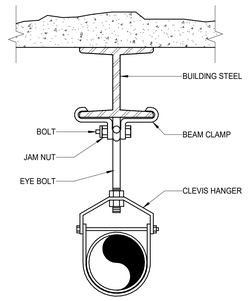
ISSUE
PROGRESS PRINT

SHEET TITLE
MECHANICAL DETAILS

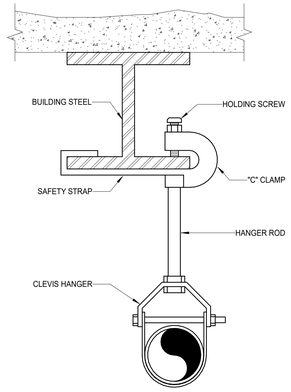
SHEET NO.
M-501



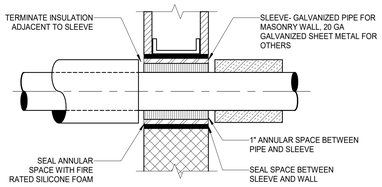
4 INSULATED PIPE HANGER WITH SADDLE
SCALE: NONE



3 HANGER FROM STEEL - PIPES 6" & LARGER
SCALE: NONE

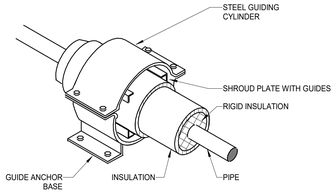


2 HANGER FROM STEEL - PIPES 4" & SMALLER
SCALE: NONE

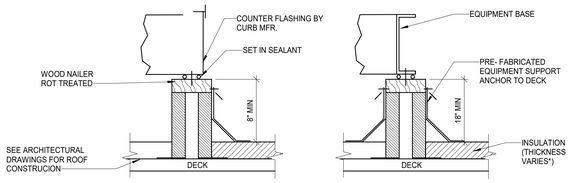


CAST-IN-PLACE - FIRE RATED SILICONE SEALER
CORED HOLES - SILICONE SEALER
EXTERIOR WALLS - ABOVE GRADE: SILICONE SEALER
EXTERIOR WALLS - BELOW GRADE: MODULAR LINK SEAL

1 PIPE WALL SLEEVE
SCALE: NONE

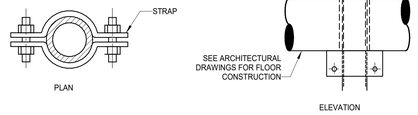


8 PIPE GUIDE FOR INSULATED PIPE
SCALE: NONE



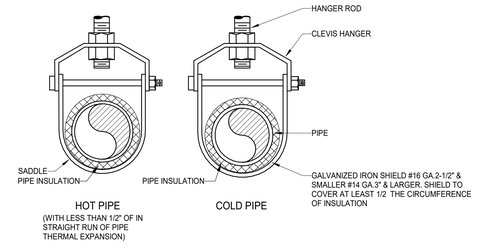
*MECH CONTRACTOR TO VERIFY INSULATION THICKNESS W/ GENERAL CONTRACTOR

10 ROOF MOUNTED EQUIPMENT SUPPORTS
SCALE: NONE

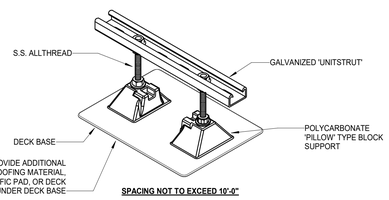


PIPE SIZE	BOLT	STRAP
1/2" THRU 1"	3/8"	1-1/4" X 3/16"
1-1/4" THRU 3"	3/8"	1-1/4" X 1/4"
4"	1/2"	1-1/2" X 1/4"
5" & 6"	1/2"	2" X 1/4"
8"	5/8"	2" X 3/8"
10" THRU 14"	5/8"	2" X 1/2"

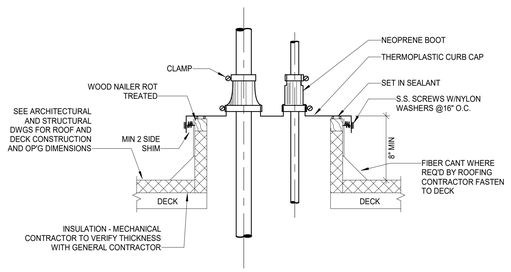
6 PIPE RISER ANCHOR
SCALE: NONE



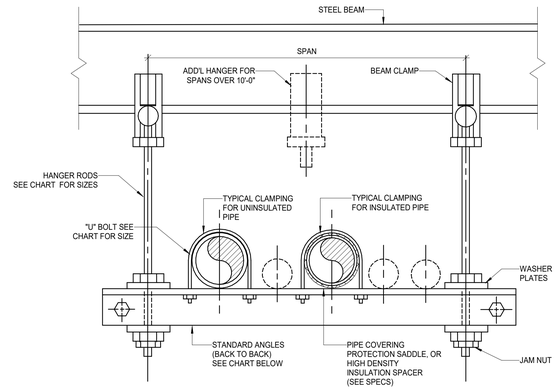
5 INSULATED PIPE CLEVIS HANGER
SCALE: NONE



11 ROOF MOUNTED PIPE SUPPORT
SCALE: NONE



9 ROOF CURB WITH PIPE PENETRATIONS
SCALE: NONE



ANGLE SIZING FOR SPANS UP TO 10' (LOAD EQUALLY DISTRIBUTED)		
LOAD ON TRAPEZE (LB)	ANGLE SIZE (BACK TO BACK)	HANGER ROD SIZE
0-500	1-1/2" X 1-1/2" X 1/4"	3/8"Ø
600-1200	2" X 2" X 1/4"	1/2"Ø
1300-2000	2-1/2" X 2-1/2" X 1/4"	5/8"Ø

PIPE SIZE	"U" BOLT SIZE
UP TO 1"Ø	1/4"Ø
1-1/4"Ø TO 4"Ø	3/8"Ø
6"Ø TO 10"Ø	5/8"Ø
12"Ø	3/4"Ø

NOTE: 1. BOLT ANGLES TOGETHER AT EACH HANGER WITH BOLTS THE SAME SIZE AS THE HANGER RODS.

2. USE ROLLER CHAIR UNDER HOT PIPING WITH MORE THAN 1/2" THERMAL EXPANSION.

7 TRAPEZE PIPE HANGER
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:26:39 AM TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

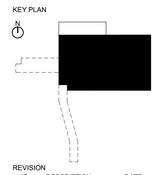
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION
NO. DESCRIPTION DATE

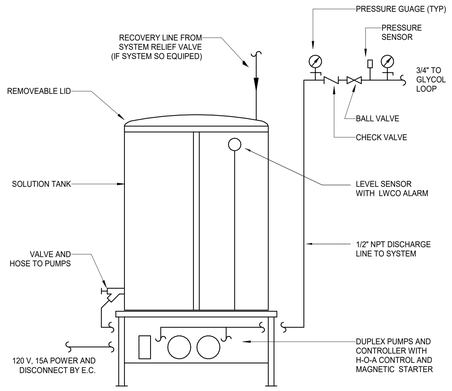
HKS PROJECT NUMBER
26234.000

DATE
7 MARCH 2025

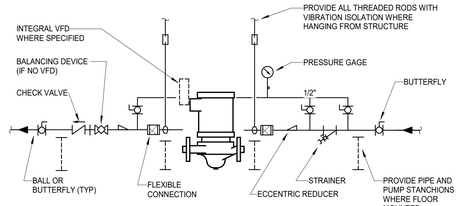
ISSUE
PROGRESS PRINT

SHEET TITLE
MECHANICAL DETAILS

SHEET NO.
M-502

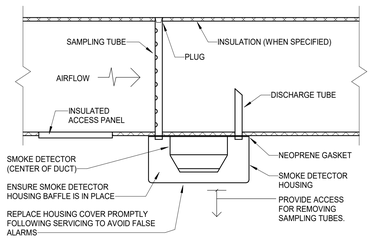


4 GLYCOL PUMP PACKAGE DETAIL
SCALE: NONE



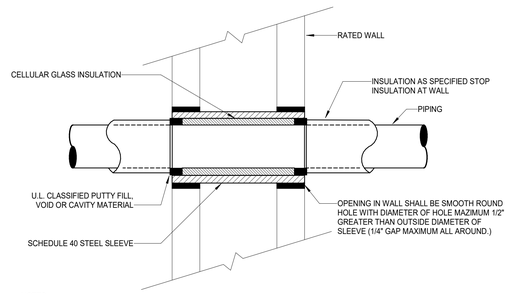
NOTES:
1. SUPPORT PUMP FROM PIPING ONLY. DO NOT SUPPORT PUMP FROM MOTOR.
2. PROVIDE VIBRATION ISOLATION PER PUMP MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.

3 IN-LIINE PUMP
SCALE: NONE



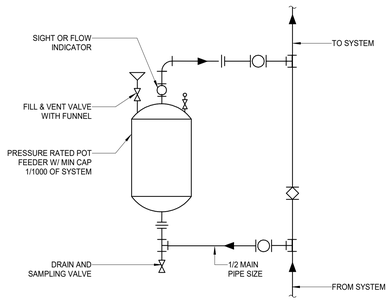
NOTES:
1. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. NEW SMOKE DETECTOR TO BE FURNISHED BY ELECTRICAL (DIVISION 26) AND MOUNTED IN DUCTS BY MECHANICAL (DIVISION 23).
3. SAMPLING TUBE MUST BE INSTALLED ACROSS GREATEST DUCT DIMENSION.
4. WHERE DUCT ASPECT RATIO IS GREATER THAN 3 TO 1, INSTALL SAMPLING AND DISCHARGE TUBES IN THE LONG DIMENSION.
5. PROVIDE WITH WEATHERPROOF COVER FOR EXTERIOR MOUNTING WHERE REQUIRED.

2 DUCT SMOKE DETECTOR
SCALE: NONE

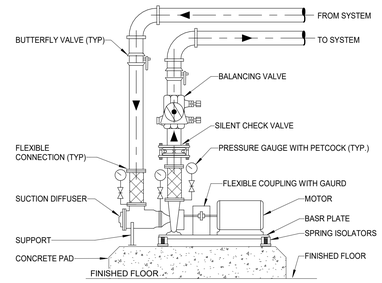


NOTES:
1. SLEEVE NOT REQUIRED FOR EXISTING PIPING.
2. MATERIALS AND METHODS USED IN THE FIRE STOP SYSTEM ARE TO BE INSTALLED IN ACCORDANCE WITH THE UL LISTING.
3. REFER TO UL FIRE RESISTANCE DIRECTORY FOR DETAILED INSTALLATION INSTRUCTIONS.
4. UP TO 3 HOUR RATING.

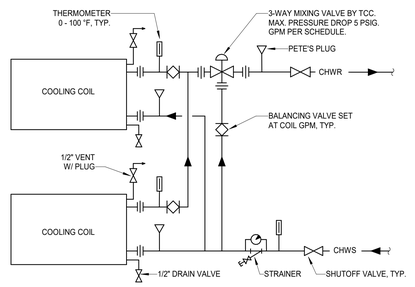
1 PIPE PENETRATION AT RATED WALL
SCALE: NONE



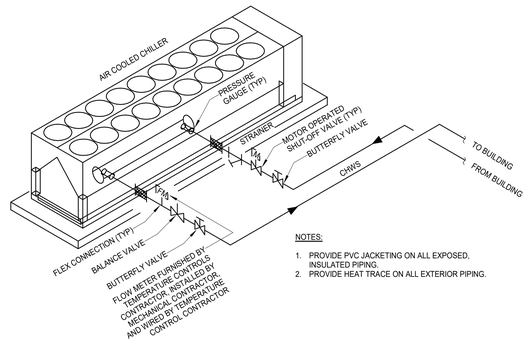
7 CHEMICAL POT FEEDER PIPING
SCALE: NONE



6 END SUCTION PUMP
SCALE: NONE

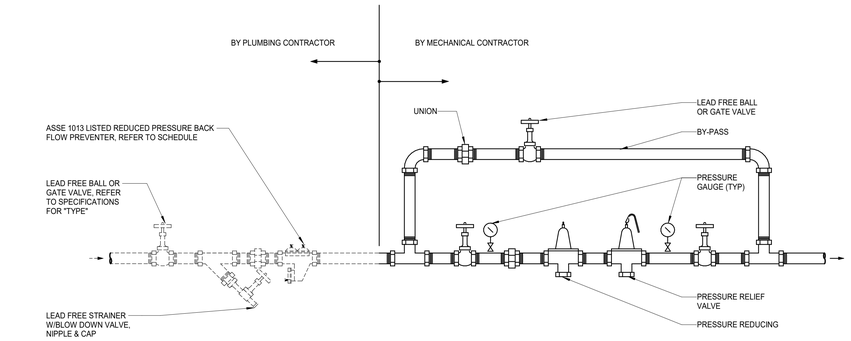


5 3-WAY CHILLED WATER COIL - DUAL COILS
SCALE: NONE



NOTES:
1. PROVIDE PVC JACKETING ON ALL EXPOSED, INSULATED PIPING.
2. PROVIDE HEAT TRACE ON ALL EXTERIOR PIPING.

9 AIR COOLED CHILLER PIPING
SCALE: NONE



8 MECHANICAL MAKE-UP WATER ASSEMBLY
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:26:40 AM TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

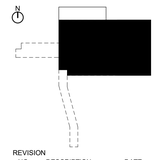
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN

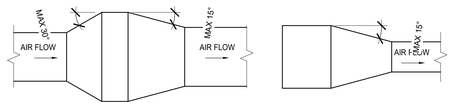


REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
7 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
MECHANICAL DETAILS

SHEET NO.
M-503

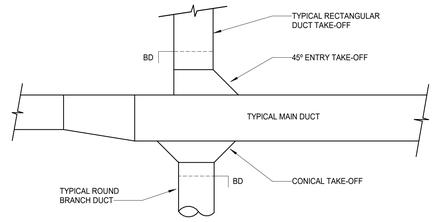


TYPICAL DUCTWORK TRANSITION WITH EQUIPMENT MOUNTED IN DUCT PLAN OR SIDE VIEW

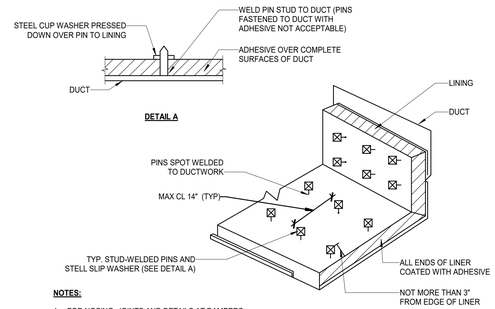
TYPICAL DUCTWORK TRANSITION PLAN OR SIDE VIEW

NOTE:
UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

3 DUCT TRANSITIONS
SCALE: NONE



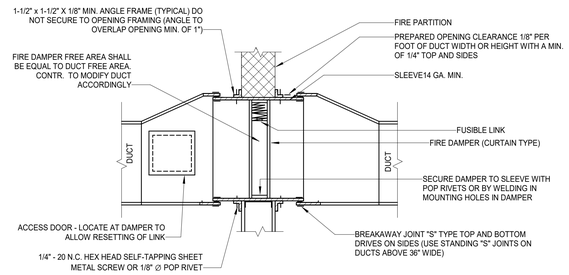
2 TYPICAL BRANCH DUCT TAKE-OFF
SCALE: NONE



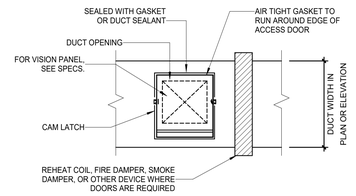
NOTES:

1. FOR NOSING, JOINTS AND DETAILS AT DAMPERS AND TURNING VANES SEE SOUND LINING NOSING DETAILS
2. PROVIDE NOT LESS THAN TWO PINS ON EACH FACE TO DUCT.

1 SOUND LINING INSTALLATION
SCALE: NONE

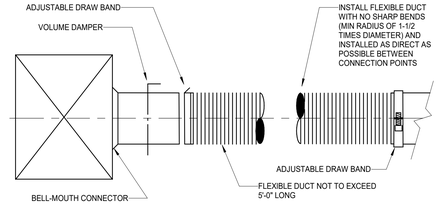


6 HORIZONTAL FIRE DAMPER
SCALE: NONE



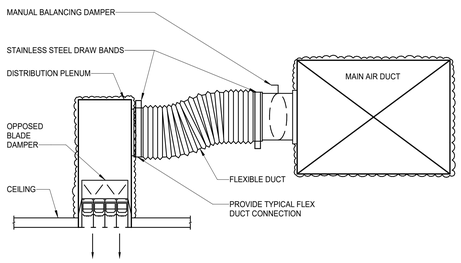
NOTES:
1. REFER TO BOOK SPECIFICATION FOR SIZES
2. DOORS TO BE INSTALLED ON SIDE OR BOTOTM OF DUCT WITH BEST ACCESS

5 DUCT ACCESS DOOR
SCALE: NONE

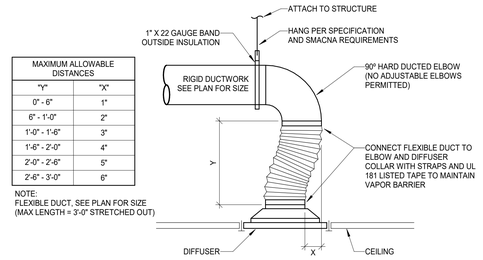


NOTE: FLEXIBLE DUCTS SHALL ONLY BE USED WHERE INDICATED ON PLANS AND MAY NOT BE USED TO REPLACE SHEET METAL DUCTS OR FITTINGS INDICATED ON PLANS

4 FLEXIBLE DUCT
SCALE: NONE



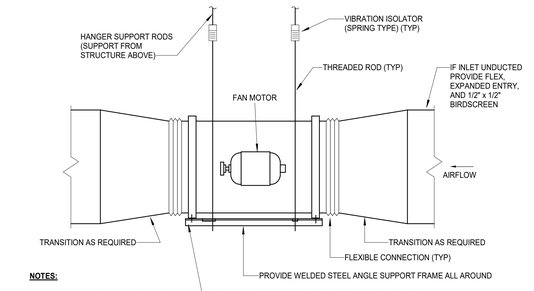
9 LINEAR DIFFUSER - VERTICAL CONFIGURATION
SCALE: NONE



MAXIMUM ALLOWABLE DISTANCES	
"Y"	"X"
0" - 6"	1"
6" - 1'-0"	2"
1'-0" - 1'-6"	3"
1'-6" - 2'-0"	4"
2'-0" - 2'-6"	5"
2'-6" - 3'-0"	6"

NOTE:
FLEXIBLE DUCT, SEE PLAN FOR SIZE (MAX LENGTH = 3'-0" STRETCHED OUT)

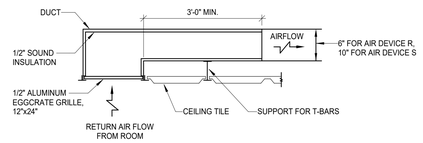
8 ROUND DUCT & DIFFUSER CONNECTION
SCALE: NONE



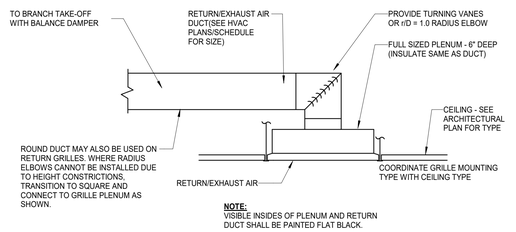
NOTES:

1. PROVIDE ADDITIONAL LATERAL OR AXIAL BRACING IF REQURIED
2. BELT/DRIVE GUARDS NOT SHOWN FOR CLARITY

7 INLINE CENTRIFUGAL FAN
SCALE: NONE



11 RETURN GRILLE SOUND BOOT
SCALE: NONE



NOTE:
VISIBLE INSIDES OF PLENUM AND RETURN DUCT SHALL BE PAINTED FLAT BLACK.

10 RETURN & EXHAUST AIR GRILL
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:26:40 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

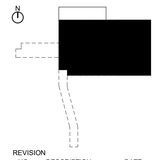
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



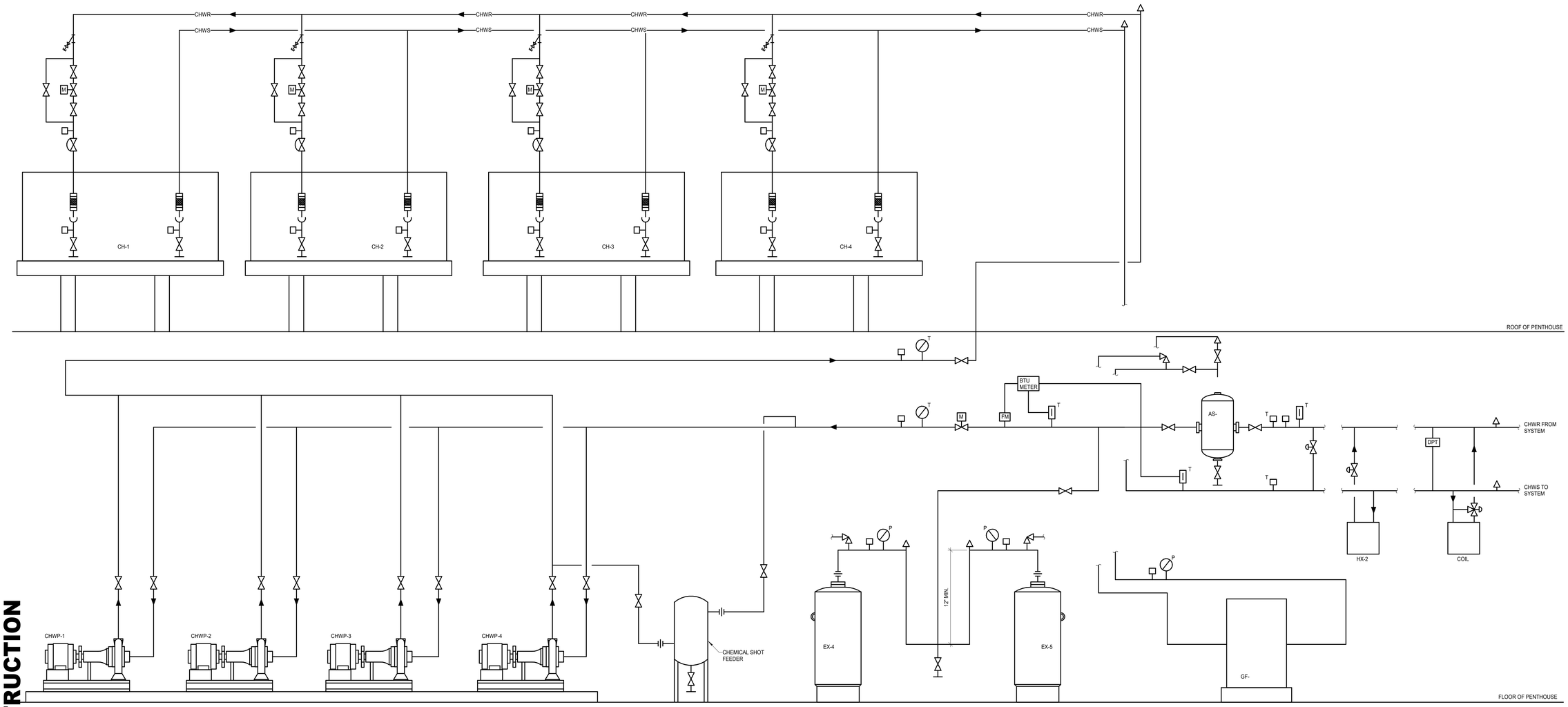
REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000
DATE
7 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
MECHANICAL DETAILS

SHEET NO.
M-504



1 CHILLED WATER SCHEMATIC
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE:
3/7/2025 9:28:41 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

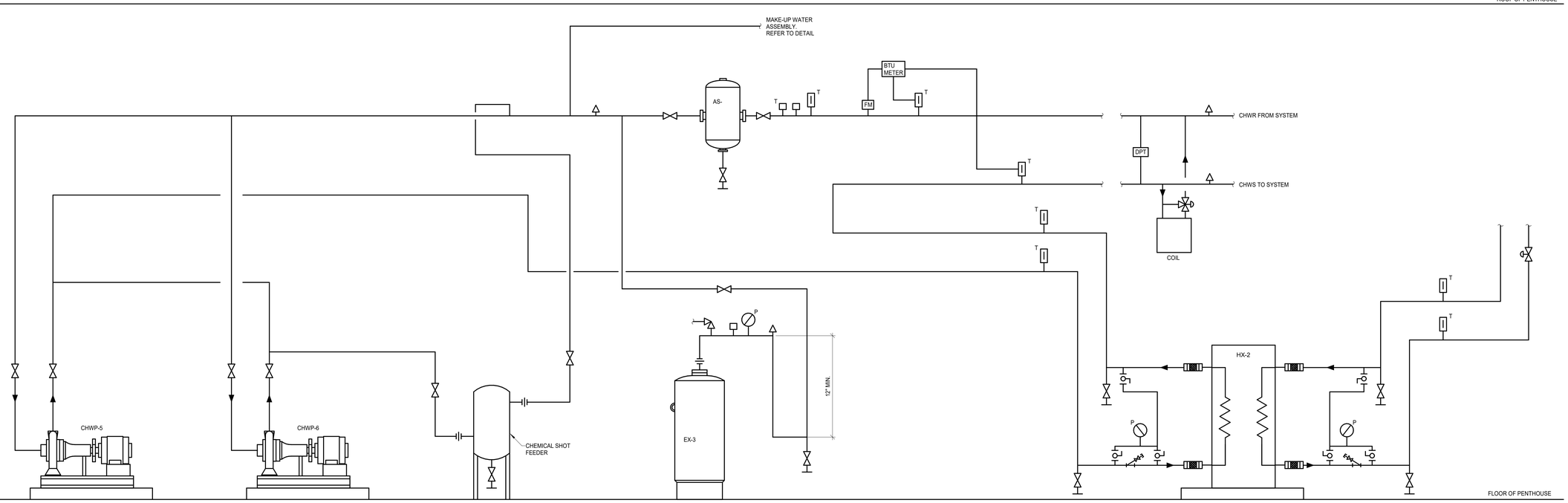
KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
7 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
PIPING SCHEMATIC

SHEET NO.
M-505



1 CHILLED WATER LOOP
SCALE: NONE

CHWR FROM SYSTEM

CHWS TO SYSTEM

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:28:41 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

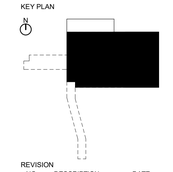
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION
NO. DESCRIPTION DATE

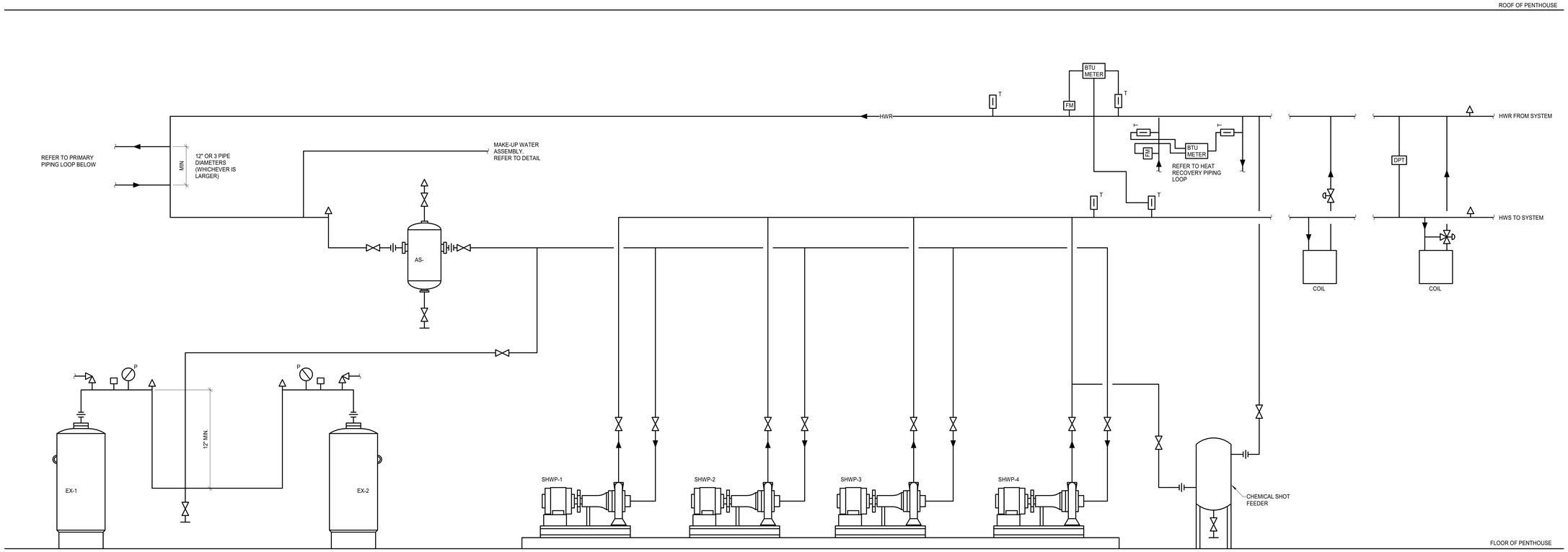
HKS PROJECT NUMBER
26234.000

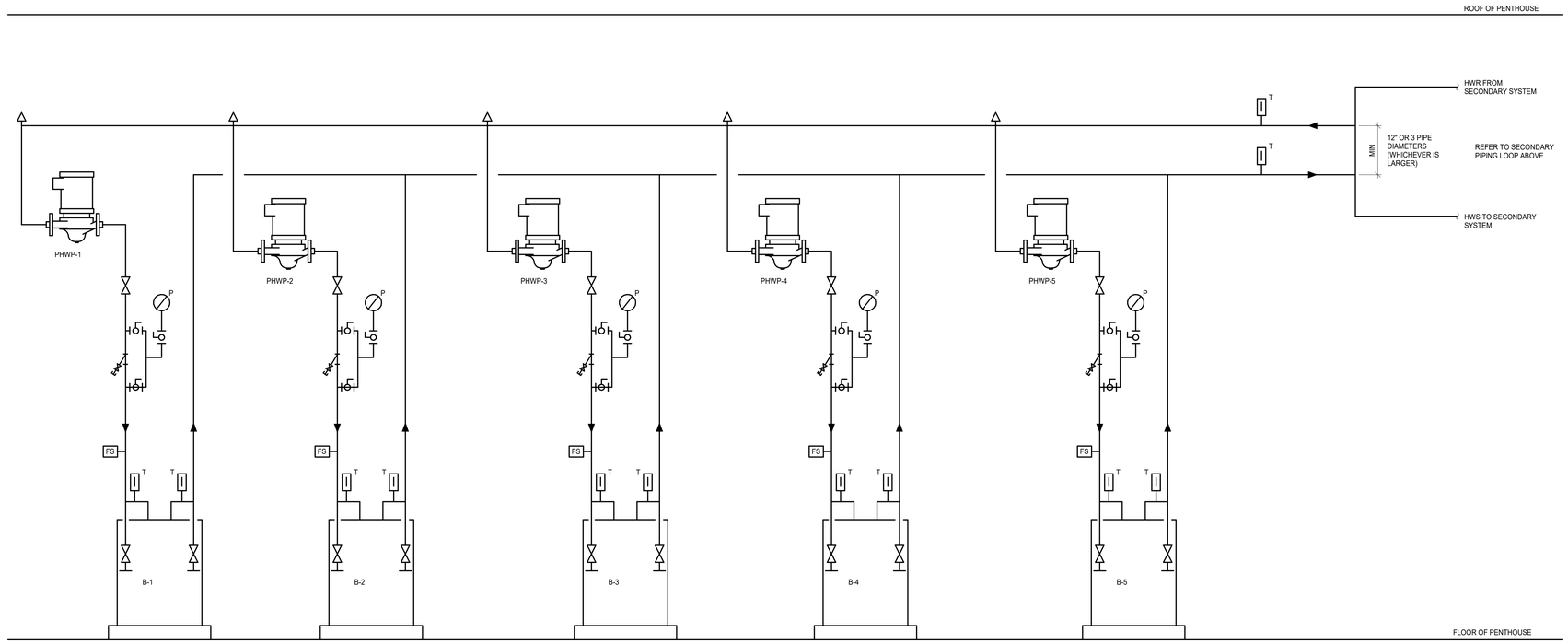
DATE
7 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
PIPING SCHEMATIC

SHEET NO.
M-506





1 HEATING WATER SCHEMATIC
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:28:41 AM TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

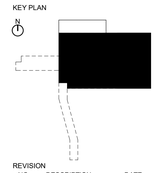
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION
NO. DESCRIPTION DATE

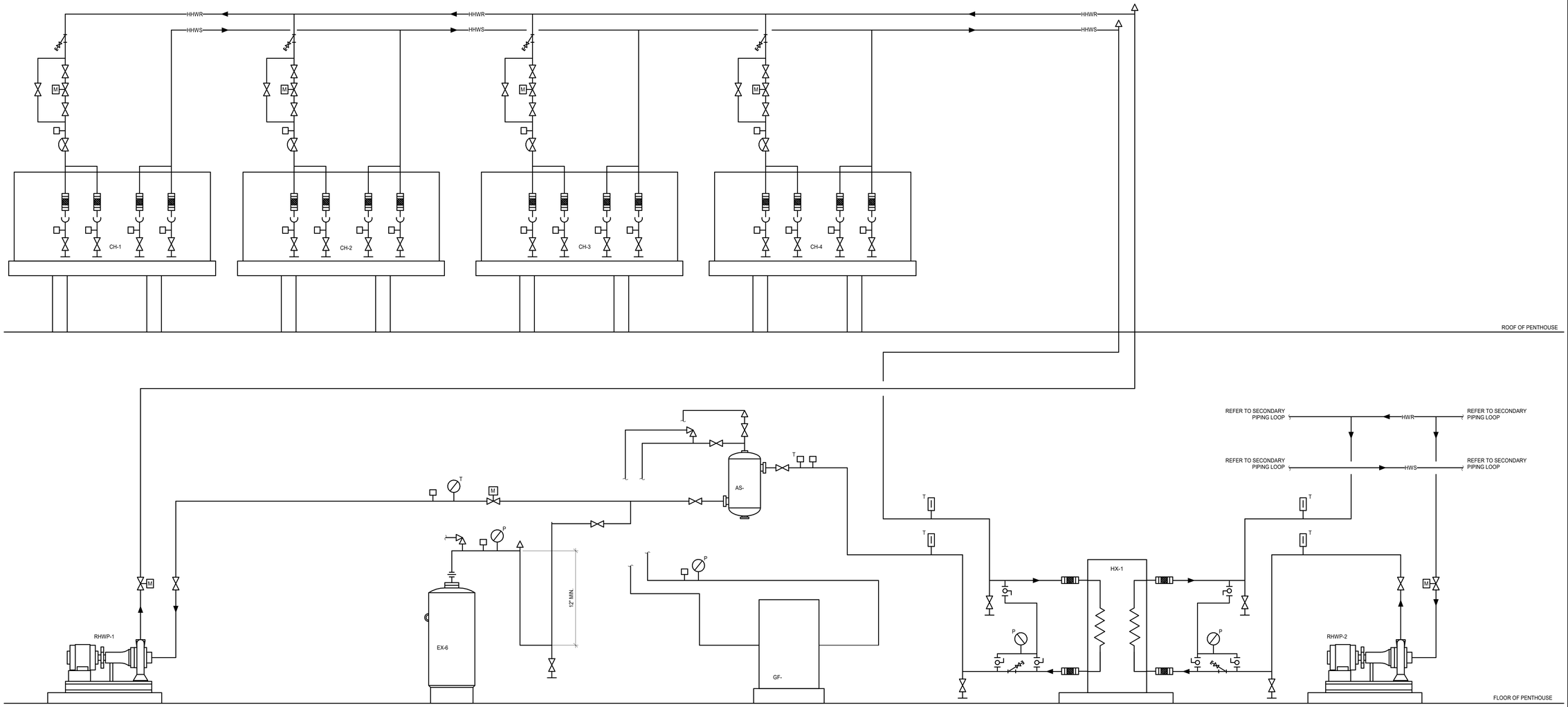
HKS PROJECT NUMBER
26234.000

DATE
7 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
PIPING SCHEMATIC

SHEET NO.
M-507



1 HEAT RECOVERY
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:26:42 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN

REVISION
NO. DESCRIPTION DATE

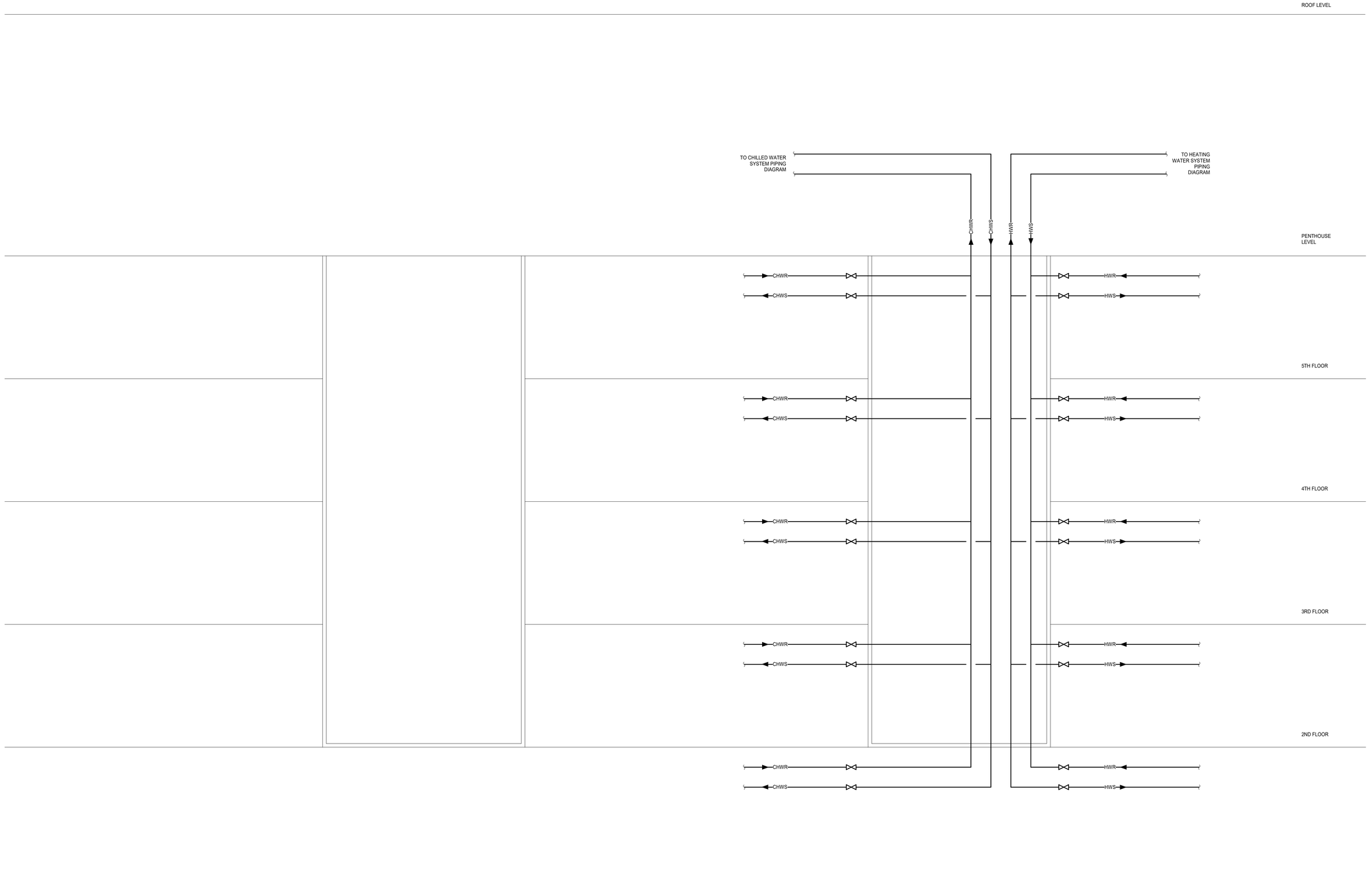
HKS PROJECT NUMBER
26234.000

DATE
7 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
PIPING SCHEMATIC

SHEET NO.
M-508



1 CHILLED WATER AND HEATING WATER RISER DIAGRAM
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:26:42 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

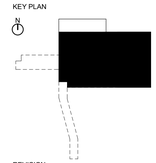
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

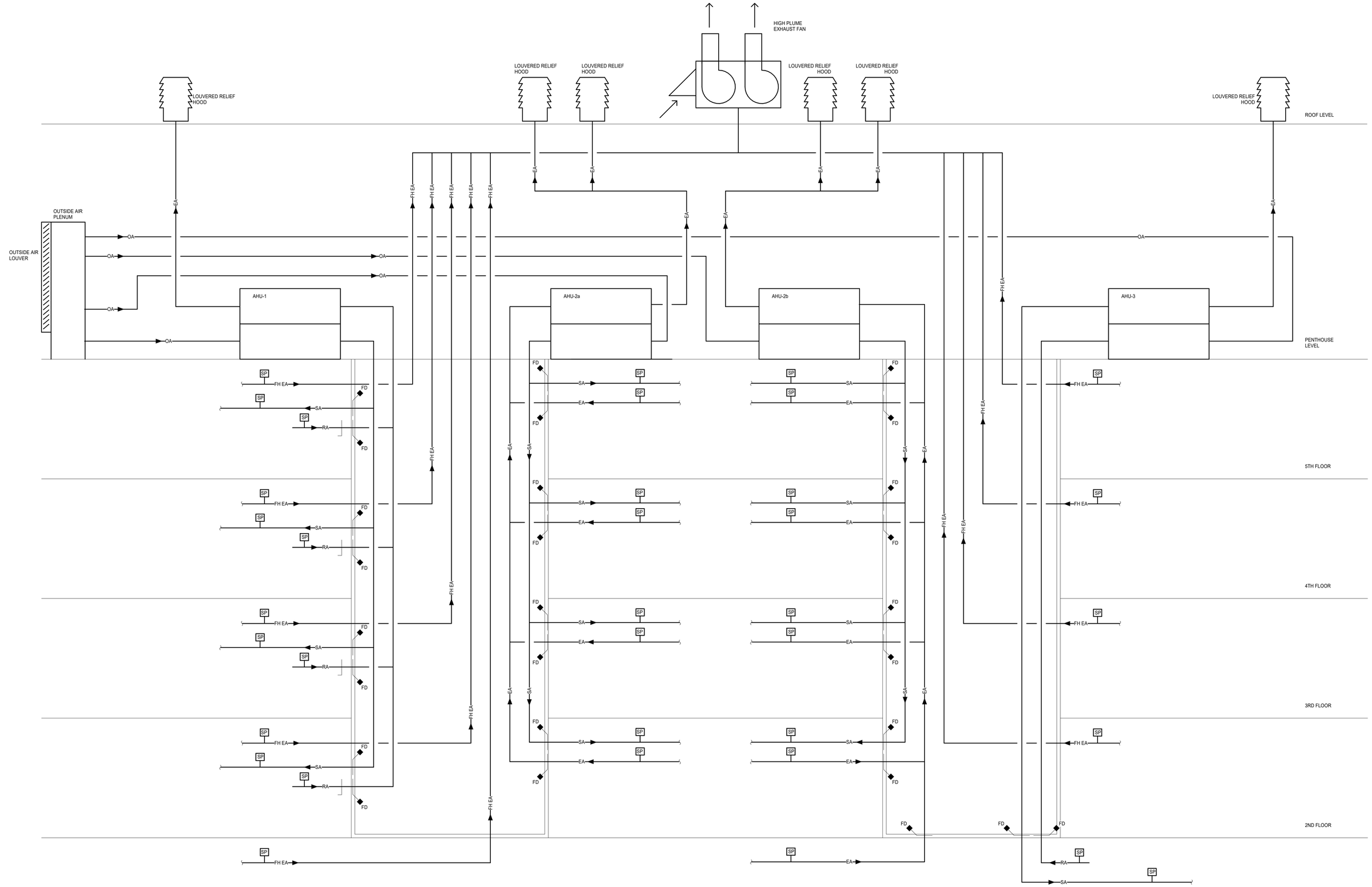
HKS PROJECT NUMBER
26234.000

DATE
7 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
PIPING RISER DIAGRAM

SHEET NO.
M-509



1 AIR HANDLING RISER DIAGRAM
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:26:42 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

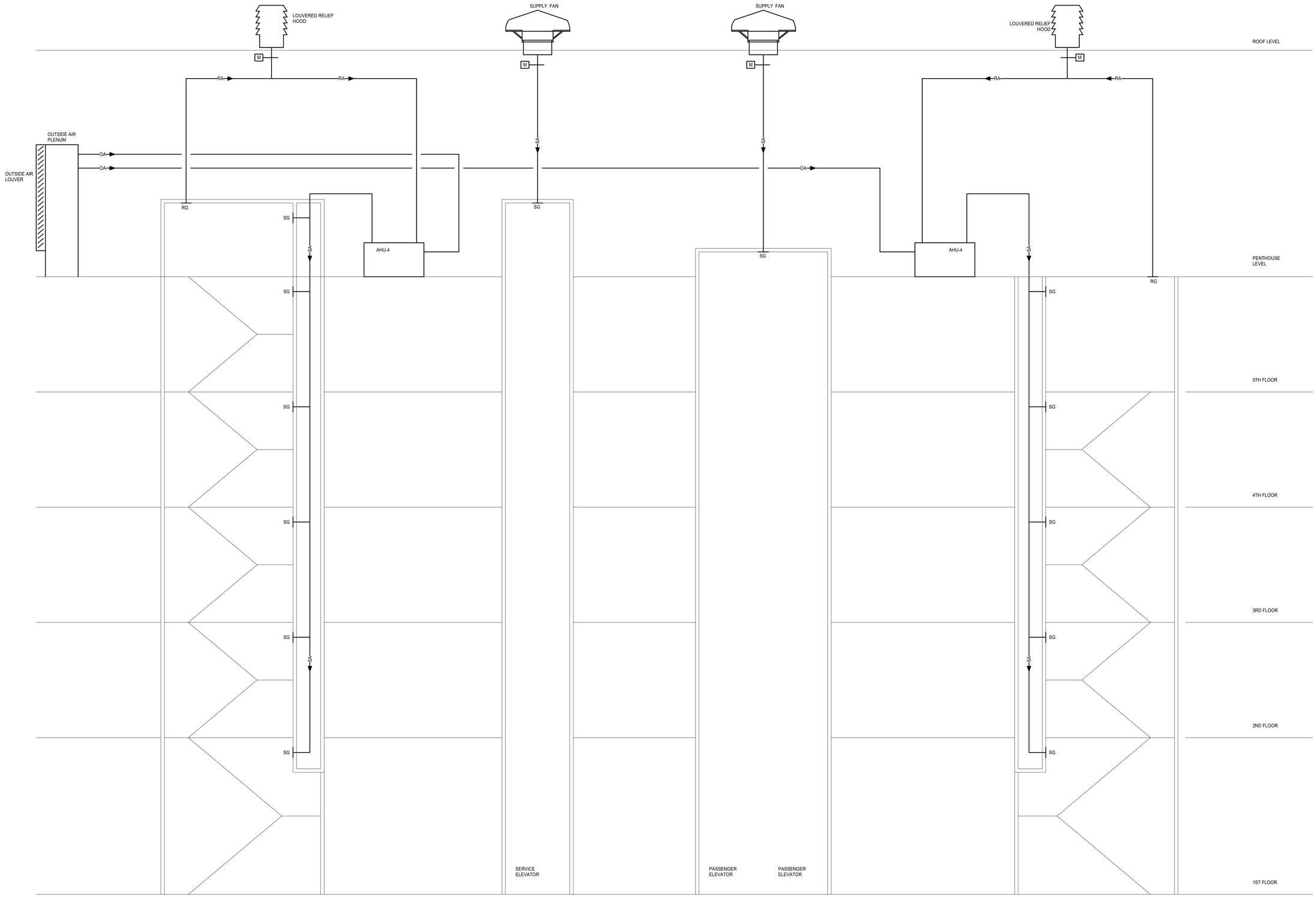
KEY PLAN

REVISION NO. | DESCRIPTION | DATE

HKS PROJECT NUMBER
26234.000
DATE
7 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
AIR HANDLING RISER DIAGRAM

SHEET NO.
M-510



1 AIR HANDLING RISER DIAGRAM
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 9:26:42 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

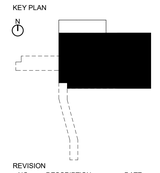
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000

DATE
7 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
STARWELL AND ELEVATOR PRESSURIZATION RISER DIAGRAM

M-511

CHILLERS - AIR COOLED

MARK		NET CAPACITY	CHILLED WATER DATA						ELECTRICAL DATA					SOUND RATING @	SELCTION BASED ON		
TYPE	NO.	(TONS)	EWT °F	LWT °F	GPM	EVAP. WPD (psi)	EER	IPLV	VOLTAGE	PH.	MCA	MAX FUSE (A)	# OF FANS	100% LOAD (LWA)	MANUFACTURER	MODEL	REMARKS
ACC	CH-1	250	57	42	424	16.90	10.3	20.54	460	3	441	600	0	100	JOHNSON CONTROLS	YVAA0153	
ACC	CH-2	250	57	42	424	16.90	10.3	20.54	460	3	441	600	0	100	JOHNSON CONTROLS	YVAA0153	
ACC	CH-3	250	57	42	424	16.90	10.3	20.54	460	3	441	600	0	100	JOHNSON CONTROLS	YVAA0153	
ACC	CH-4	250	57	42	424	16.90	10.3	20.54	460	3	441	600	0	100	JOHNSON CONTROLS	YVAA0153	

EXPANSION TANKS

MARK						SIZE		SELECTION BASED ON		
TYPE	NO.	LOCATION	SYSTEM SERVED	CONFIGURATION	CAPACITY (GAL)	DIA.	HEIGHT	MANUFACTURER	MODEL	REMARKS
ET	ET-1	-	-	-	0.0	2' - 6"	5' - 5"	-	-	-
ET	ET-2	-	-	-	0.0	2' - 6"	5' - 5"	-	-	-
ET	ET-4	-	-	-	0.0	2' - 6"	5' - 5"	-	-	-
ET	ET-5	-	-	-	0.0	2' - 6"	5' - 5"	-	-	-
ET	ET-3	-	-	-	0.0	2' - 6"	5' - 5"	-	-	-
ET	ET-6	-	-	-	0.0	2' - 6"	5' - 5"	-	-	-

HOT WATER BOILERS

MARK	FUEL				HOT WATER						ELECTRICAL			SELECTION BASED ON		
NO.	TYPE	PRESSURE (PSI)	INPUT (MBH)	OUTPUT (MBH)	INLET TEMP.	OUTLET TEMP.	GPM	BURNER TURNDOWN	FLUE SIZE	AIR INLET SIZE	FLA	VOLTAGE	PH.	MANUFACTURER	MODEL	REMARKS
B-1	GAS	7	2500	2420	100	150	118	13:1	8	10	12.0	460	3	FULTON	ENDURA +2500	-
B-2	GAS	7	2500	2420	100	150	118	13:1	8	10	12.0	460	3	FULTON	ENDURA +2500	-
B-3	GAS	7	2500	2420	100	150	118	13:1	8	10	12.0	460	3	FULTON	ENDURA +2500	-
B-4	GAS	7	2500	2420	100	150	118	13:1	8	10	12.0	460	3	FULTON	ENDURA +2500	-
B-5	GAS	7	2500	2420	100	150	118	13:1	8	10	12.0	460	3	FULTON	ENDURA +2500	-

PUMPS

MARK			PIPE CONNECTIONS					ELECTRICAL DATA		SELECTION BASED ON		
NO.	SYSTEM SERVED	DESCRIPTION	SUCT.	DISCH.	GPM	TOTAL HEAD	MAX. PUMP RPM	VOLTAGE	PH.	MANUFACTURER	MODEL	REMARKS
CHWP-1	-	-	0"	0"	0	0.00	0	0	1	-	-	-
CHWP-2	-	-	0"	0"	0	0.00	0	0	1	-	-	-
CHWP-3	-	-	0"	0"	0	0.00	0	0	1	-	-	-
CHWP-4	-	-	0"	0"	0	0.00	0	0	1	-	-	-
CHWP-5	-	-	0"	0"	0	0.00	0	0	1	-	-	-
CHWP-6	-	-	0"	0"	0	0.00	0	0	1	-	-	-
PHWP-1	-	-	0"	0"	0	0.00	0	460	3	-	2.5x2.5x7B	-
PHWP-2	-	-	0"	0"	0	0.00	0	460	3	-	2.5x2.5x7B	-
PHWP-3	-	-	0"	0"	0	0.00	0	460	3	-	2.5x2.5x7B	-
PHWP-4	-	-	0"	0"	0	0.00	0	460	3	-	2.5x2.5x7B	-
PHWP-5	-	-	0"	0"	0	0.00	0	460	3	-	2.5x2.5x7B	-
RHWP-1	-	-	0"	0"	0	0.00	0	0	1	-	-	-
RHWP-2	-	-	0"	0"	0	0.00	0	0	1	-	-	-
SHWP-1	-	-	0"	0"	0	0.00	0	0	1	-	-	-
SHWP-2	-	-	0"	0"	0	0.00	0	0	1	-	-	-
SHWP-3	-	-	0"	0"	0	0.00	0	0	1	-	-	-
SHWP-4	-	-	0"	0"	0	0.00	0	0	1	-	-	-

HEAT EXCHANGERS

TAG			NUMBER		FLUID SIDE 1				FLUID SIDE 2				SIZE				
MARK	SERVICE	TYPE	OF PASSES	CAPACITY (BTU)	TYPE	FLOW (GPM)	EWT	LWT	TYPE	FLOW (GPM)	EWT	LWT	DIAMETER	LENGTH	MANUFACTURER	MODEL	REMARKS
HX-1	HEATING WATER	BRAZED PLATE	0	0.0	WATER				WATER				0' - 0"	8' - 6"	-	-	-
HX-2	CHILLED WATER	BRAZED PLATE	0	0.0	WATER				WATER				0' - 0"	8' - 6"	-	-	-

LABORATORY EXHAUST FAN SCHEDULE

TAG				ACTUAL AIRFLOW, CFM	DESIGN AIRFLOW, CFM	ESP, (IN. WC)		MOTOR DATA						SELECTION BASED ON			
MARK	TYPE	LOCATION	INTERLOCK WITH				RPM	DRIVE	POWER, HP	VOLTAGE	PHASE	FLA, AMPS	SOUND RATING (SONES)	MANUFACTURER	MODEL	WEIGHT	NOTES
LEF-1		ROOF												GREENHECK			

EXHAUST FAN SCHEDULE

TAG					ACTUAL AIRFLOW, CFM	DESIGN AIRFLOW, CFM	ESP, (IN. WC)		MOTOR DATA						SELECTION BASED ON			
EQUIP	MARK	TYPE	LOCATION	INTERLOCK WITH				RPM	DRIVE	POWER, HP	VOLTAGE	PHASE	FLA, AMPS	SOUND RATING (SONES)	MANUFACTURER	MODEL	WEIGHT	NOTES
EF	LEF-1		ROOF												GREENHECK			

NOTES:
1. ALL ALUMINUM CONSTRUCTION.
2. PROVIDE GRAVITY BACKDRAFT DAMPER FROM FACTORY.
3. PROVIDE INTEGRAL DISCONNECT FROM FACTORY.
4. ELECTRICAL CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT TO INTERLOCK FAN WITH ASSOCIATED EQUIPMENT.
5. FLORIDA PRODUCT APPROVAL NUMBER: FL12917.1
6. MIAMI-DADE NOA #: 19-0808.02
7. PROVIDE WITH ROOF CURB BASED ON GREENHECK GPF.

GRAVITY VENTILATOR SCHEDULE

Mark	AIRFLOW (CFM)	SP (IN. WG)	THROAT VELOCITY FT/MIN	THROAT AREA, S.F.	THROAT DIMENSIONS, IN.	SERVICE	WEIGHT	Manufacturer	MODEL	NOTES
GVR-1	25,000	0.1	804	31	56x80	RELIEF	326	GREENHECK	WRH-56x80	
GVR-2	25,000	0.1	804	31	56x80	RELIEF	326	GREENHECK	WRH-56x80	
GVR-3	25,000	0.1	804	31	56x80	RELIEF	326	GREENHECK	WRH-56x80	
GVR-4	25,000	0.1	804	31	56x80	RELIEF	326	GREENHECK	WRH-56x80	
GVR-5	4,000	0.1	800	5	20x36	RELIEF	82	GREENHECK	WRH-20x36	
GVR-6	40,000	0.1	800	50	60x120	RELIEF	470	GREENHECK	WRH-60x120	
GVR-7	40,000	0.1	800	50	60x120	RELIEF	470	GREENHECK	WRH-60x120	

NOTES:
1. PROVIDE WITH ALUMINUM BIRDSCREEN.
2. PROVIDE WITH FACTORY FABRICATED ROOF CURB WITH 1" INSULATION. BASED ON GREENHECK MODEL GPF.
3. PRVIDE WITH TIE DOWN POINTS FROM FACTORY.
4. PROVIDE WITH PERMATECTOR PROTECTIVE COATING FROM FACTORY. CONFIM COLOR WITH ARCHITECT PRIOR TO PURCHASING.
5. FLORIDA PRODUCT APPROVAL NUMBER: FL12917.1.
6. MIAMI-DADE NOA #: 19-0808.02.
7. PROVIDE WITH MOTORIZED DAMPER FROM FACTORY MODEL WD-200.

FAN COIL UNITS

MARK		SUPPLY FAN			COOLING										HEATING									SELECTION BASED ON		
NO.	CONFIGURATION	CFM	ESP	HP	SENSIBLE CAPACITY (BTU)	TOTAL CAPACITY (BTU)	EAT (DB)	EAT (WB)	LAT (DB)	LAT (WB)	EWT	LWT	FLOW (GPM)	PRESSURE DROP (psi)	SENSIBLE CAPACITY (BTU)	TOTAL CAPACITY (BTU)	EAT (DB)	LAT (DB)	EWT	LWT	FLOW (GPM)	PRESSURE DROP (psi)	VOLTAGE	PH.	FILTER	MANUFACTURER	MODEL	REMARKS
FCU-301	HORIZONTAL CONCEALED	1200	0.40	0.00	30268.0	36535.0	76.0	63.0	52.9	52.9	42	57	4.9	4.5	0.0	0.0	0	0	0	0	0.00		115	1	MERV 8	DAIKIN	BCHD0101	-
FCU-302	HORIZONTAL CONCEALED	1200	0.40	0.00	30268.0	36535.0	76.0	63.0	52.9	52.9	42	57	4.9	4.5	0.0	0.0	0	0	0	0	0.00		115	1	MERV 8	DAIKIN	BCHD0101	-

PLOT DATE: 3/7/2025 9:26:46 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

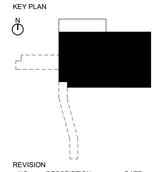
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000

DATE
7 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
MECHANICAL SCHEDULES

SHEET NO.
M-701

POWER & EQUIPMENT SYMBOL LEGEND

SYMBOL	DESCRIPTION
HALF TONE LINES	DENOTES BACKGROUND OR EXISTING TO REMAIN (E).
THIN SOLID LINES	DENOTES DEVICES, EQUIPMENT, ETC. EXISTING TO REMAIN (E).
HEAVY SOLID LINES	DENOTES NEW (N) OR RELOCATED (R) DEVICES, EQUIPMENT, ETC.
DASHED LINES	DENOTES DEVICES, EQUIPMENT, ETC. TO BE DISCONNECTED AND REMOVED (D&R).
HEAVY PHANTOM LINES	DENOTES NEW (N) OR RELOCATED (R) CONDUIT, EQUIPMENT, ETC.UNDERGROUND OR BELOW GRADE.
	BRANCH CKT TURNING UP. BRANCH CKT TURNING DOWN. BRANCH CKT TURNING UP AND DOWN.
UE / UT	UNDERGROUND, UNDER FLOOR/SLAB DUCTBANK, DIRECT BURIED CABLE, CONDUIT/CONDUCTOR: UT = TELECOM; UE = ELECTRICAL
H, G, N, #AWG	HOME RUN. HASH MARKS INDICATE CONDUCTOR QUANTITY. HASH MARKS DEFINED AS SHOWN. "#" INDICATES SIZE OF CONDUCTORS OTHER THAN 12-AWG. ALL UNMARKED HOMERUNS SHALL CONTAIN (2) #12 AWG & (1) #12 AWG GND IN 3/4" CONDUIT, UNLESS OTHERWISE NOTED.
ZZZ / #,#,#	BRANCH CIRCUITING. "ZZZ" INDICATES PANEL DESIGNATION. "#,#,#," INDICATES CIRCUIT NUMBER(S).
	480Y/277 VOLT, 3-PHASE, 4-WIRE ELECTRICAL DISTRIBUTION TYPE PANELBOARD.
	208Y/120 VOLT, 3-PHASE, 4-WIRE ELECTRICAL DISTRIBUTION TYPE PANELBOARD.
	480Y/277 VOLT, 3-PHASE, 4-WIRE, SURFACE MOUNTED ELECTRICAL PANELBOARD.
	208Y/120 VOLT, 3-PHASE, 4-WIRE, SURFACE MOUNTED ELECTRICAL PANELBOARD.
	DRY-TYPE DISTRIBUTION TRANSFORMER.
AS WP	NON-FUSED DISCONNECT SWITCH. "AS" INDICATES SWITCH SIZE. "WP" INDICATES WEATHERPROOF (NEMA 3R) ENCLOSURE.
AF AS WP	FUSED DISCONNECT SWITCH. "AF" INDICATES FUSE SIZE. "AS" INDICATES SWITCH SIZE. "WP" INDICATES WEATHERPROOF (NEMA 3R) ENCLOSURE.
AT AF AS WP	FUSED CIRCUIT BREAKER SWITCH. "AT" INDICATES CIRCUIT BREAKER TRIP RATING. "AF" INDICATES FRAME SIZE. "WP" INDICATES WEATHERPROOF (NEMA 3R) ENCLOSURE.
# WP	MAGNETIC MOTOR STARTER MOUNTED IN A NEMA ENCLOSURE. "#" INDICATES STARTER SIZE. "WP" INDICATES WEATHERPROOF (NEMA 3R) ENCLOSURE.
AF AS #,WP	COMBINATION STARTER & FUSED DISCONNECT SWITCH. "#" INDICATES STARTER SIZE. "AF" INDICATES FUSE SIZE. "AS" INDICATES SWITCH SIZE. "WP" INDICATES WEATHERPROOF (NEMA 3R) ENCLOSURE.
WP	COMBINATION VFD STARTER AND DISCONNECT SWITCH. "WP" INDICATES WEATHERPROOF (NEMA 3R) ENCLOSURE.
XXXX-##	EQUIPMENT PROVIDED BY OTHER DIVISIONS REQUIRING ELECTRICAL CONNECTION(S). COORDINATE EQUIPMENT LOCATION, CONNECTION POINT(S), AND OTHER REQUIREMENTS WITH RESPECTIVE DIVISION'S DRAWINGS, SPECIFICATIONS, AND SHOP DRAWINGS. REFER TO EQUIPMENT CONNECTION SCHEDULES FOR ADDITIONAL REQUIREMENTS. EXAMPLES OF EQUIPMENT REQUIRING ELECTRICAL CONNECTION(S) AS FOLLOWS: "XXXX-##" INDICATES MECHANICAL / PLUMBING / FIRE PROTECTION EQUIPMENT DESIGNATIONS, MATCHING LABELS USED IN THOSE DIVISIONS' CONSTRUCTION DOCUMENTS. "FS-##" INDICATES FOOD SERVICE EQUIPMENT, MATCHING ITEM NUMBER (##) AS SHOWN ON FOOD SERVICE CONSTRUCTION DOCUMENTS. "ELEV-##" INDICATES ELEVATOR, MATCHING DESIGNATION AS SHOWN ON ARCHITECTURAL CONSTRUCTION DOCUMENTS.

OUTLET SYMBOL LEGEND

SYMBOL	DESCRIPTION
+XX" ZZ/##	DUPLEX RECEPTACLE, 20 AMPERE, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TYPE, NEMA 5-20R, MOUNTED 18"A.F.F. UNLESS OTHERWISE NOTED. "+XX" INDICATES MOUNTING HEIGHT OTHER THAN 18". "ZZ / ##" INDICATES BRANCH CIRCUITING.
+XX" ZZ/##	DOUBLE DUPLEX (QUAD) RECEPTACLE, 20 AMPERE, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TYPE, NEMA 5-20R, MOUNTED 18"A.F.F. UNLESS OTHERWISE NOTED. REFER TO ABOVE FOR MOUNTING HEIGHT AND CIRCUITING INFORMATION.
+XX" ZZ/##	SINGLE RECEPTACLE, 20 AMPERE, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TYPE, NEMA 5-20R, MOUNTED 18"A.F.F. UNLESS OTHERWISE NOTED. REFER TO ABOVE FOR MOUNTING HEIGHT AND CIRCUITING INFORMATION.
+XX" ZZ/## X	SPECIAL PURPOSE RECEPTACLE. REFER TO ABOVE FOR MOUNTING HEIGHT AND CIRCUITING INFORMATION. "X" INDICATES THE FOLLOWING: A XX VOLT, X POLE, X WIRE, XX AMP (NEMA X-XXR) COORDINATE EXACT NEMA CONFIGURATION WITH EQUIPMENT PRIOR TO ROUGH-IN.
ZZ/##	CEILING MOUNTED DUPLEX RECEPTACLE, 20 AMPERE, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TYPE, NEMA 5-20R. REFER TO ABOVE FOR CIRCUITING INFORMATION.
ZZ/## X	FLOOR MOUNTED RECEPTACLE, 20 AMPERE, 125 VOLT, 2 POLE, 3 WIRE GROUNDING TYPE, NEMA 5-20R. REFER TO ABOVE FOR CIRCUITING INFORMATION. "X" INDICATES THE FOLLOWING: A1 SINGLE GANG WITH SINGLE DUPLEX. SEE DETAIL FOR ADDITIONAL INFORMATION. A2 2-GANG WITH DOUBLE DUPLEX. SEE DETAIL FOR ADDITIONAL INFORMATION.
ZZ/## X	FLOOR BOX OR POKE-THROUGH POWER AND TELECOM DEVICE. REFER TO ABOVE FOR CIRCUITING INFORMATION. "X" INDICATES THE FOLLOWING: B 2-GANG FLOOR BOX WITH ONE DUPLEX RECEPTACLE AND SINGLE GANG FOR TELECOM. SEE DETAIL FOR ADDITIONAL INFORMATION. C 3-GANG FLOOR BOX WITH ONE DUPLEX RECEPTACLE AND 2-GANGS FOR TELECOM. SEE DETAIL FOR ADDITIONAL INFORMATION. D 6-GANG FLOOR BOX WITH TWO DUPLEX RECEPTACLES AND 4-GANGS FOR TELECOM AND/OR AUDIO-VISUAL. SEE DETAIL FOR ADDITIONAL INFORMATION. E FIRE RATED POKE-THROUGH. SEE DETAIL FOR ADDITIONAL INFORMATION. (PC)
	DEVICE MOUNTED 8" ABOVE COUNTER. REFER TO ABOVE FOR TYPE AND CIRCUITING INFORMATION.
	DEVICE ON EMERGENCY POWER. REFER TO ABOVE FOR TYPE AND CIRCUITING INFORMATION.
	JOB SPECIFIC OPTION. REFER TO ABOVE FOR TYPE AND CIRCUITING INFORMATION.
	RECEPTACLES WITH ADDITIONAL SUBSCRIPT DESIGNATES TYPE OR SPECIFIC REQUIREMENTS AS FOLLOWS: G GROUND FAULT CIRCUIT INTERRUPTER TYPE. AC DEVICE MOUNTED 8" ABOVE COUNTER. AV DEVICE MOUNTED ADJACENT TO TELECOMMUNICATION DEVICE. EWC ELECTRIC WATER COOLER (GFCI TYPE, COORDINATE WITH WATER COOLER). E CIRCUITED TO EMERGENCY POWER. IG ISOLATED GROUND. TR TAMPER RESISTANT TYPE. WP WEATHERPROOF "WHILE-IN-USE" (HUBBELL #WP26E) COVER.
J	JUNCTION BOX (SIZED AS REQUIRED PER N.E.C. ARTICLE 314).
m $	FRACTIONAL HORSEPOWER MOTOR STARTER - 120 VOLT, 20 AMP, 1 POLE, PILOT LIGHT, UNLESS OTHERWISE NOTED.

LIGHTING SYMBOL LEGEND

SYMBOL	DESCRIPTION
ZZZ / #,#,#	ROOM LIGHTING CIRCUIT TAG. ALL FIXTURES IN ROOM/SPACE TO BE CIRCUITED TO PANEL "ZZZ" / CIRCUIT NUMBER(S) "#,#,#" AS INDICATED, UNLESS OTHERWISE NOTED.
X y #	RECESSED LUMINAIRE. "X" INDICATES TYPE; "y" INDICATES SWITCHING; "#" BRANCH CIRCUITING. SEE LUMINAIRE SCHEDULE.
X y #	SURFACE MOUNTED LUMINAIRE. "X" INDICATES TYPE; "y" INDICATES SWITCHING; "#" BRANCH CIRCUITING. SEE LUMINAIRE SCHEDULE.
NL	LUMINAIRE WITH INTEGRAL EMERGENCY BATTERY PACK OR WIRED TO EMERGENCY CIRCUIT (LIFE SAFETY). "NL" DENOTES NIGHT LIGHT WITH 24/7 OPERATION. SEE LUMINAIRE SCHEDULE.
NL	LUMINAIRE WITH INTEGRAL EMERGENCY BATTERY PACK OR WIRED TO EMERGENCY CIRCUIT (CRITICAL BRANCH). "NL" DENOTES NIGHT LIGHT WITH 24/7 OPERATION. SEE LUMINAIRE SCHEDULE.
	RECESSED DOWN LIGHT OR WALL WASH. SEE LUMINAIRE SCHEDULE.
	SURFACE MOUNTED DOWNLIGHT OR WALL WASH. SEE LUMINAIRE SCHEDULE.
	LINEAR PENDANT MOUNTED LUMINAIRE. SEE LUMINAIRE SCHEDULE.
	ROUND PENDANT MOUNTED LUMINAIRE. SEE LUMINAIRE SCHEDULE.
	WALL MOUNTED LUMINAIRE. SEE LUMINAIRE SCHEDULE.
	TRACK LIGHTING LUMINAIRE SYSTEM. SEE LUMINAIRE SCHEDULE.
	ILLUMINATED EXIT SIGNAGE LUMINAIRE - CEILING MOUNTED. REFER TO PLANS FOR FACING AND CHEVRON CONFIGURATION. SEE LUMINAIRE SCHEDULE.
	ILLUMINATED EXIT SIGNAGE LUMINAIRE - WALL MOUNTED. REFER TO PLANS FOR FACING AND CHEVRON CONFIGURATION. SEE LUMINAIRE SCHEDULE.
	ILLUMINATED EXIT SIGN LUMINAIRE WITH INTEGRAL EMERGENCY HEAD(S). REFER TO PLANS FOR FACING AND CHEVRON CONFIGURATION. SEE LUMINAIRE SCHEDULE.
	EMERGENCY LIGHTING BATTERY UNIT WITH HEADS AS INDICATED. SEE LUMINAIRE SCHEDULE.
	REMOTE MOUNTED EMERGENCY LIGHTING HEAD (SINGLE OR DOUBLE AS INDICATED ON PLANS). SEE LUMINAIRE SCHEDULE.
	WALL MOUNTED LUMINAIRE. SEE LUMINAIRE SCHEDULE.
$	LINE VOLTAGE TOGGLE SWITCH. 1-POLE, 120V/277V, UNLESS OTHERWISE INDICATED.
	LINE VOLTAGE DIMMER SWITCH, COMPATIBLE WITH LUMINAIRE DIMMING TYPE. 1-POLE, 120V/277V, UNLESS OTHERWISE INDICATED.
EXAMPLE: X $ X	LINE VOLTAGE CONTROL DEVICES WITH ADDITIONAL CAPITALIZED ANNOTATION INDICATES THE FOLLOWING TYPE OR ADDITIONAL REQUIREMENT(S): 3 = 3-WAY 4 = 4-WAY D = DUAL TECHNOLOGY OCCUPANCY/VACANCY SENSOR E = CONTROLS EMERGENCY LIGHTING CIRCUIT, RED IN COLOR K = KEY SWITCH L = LIGHTED HANDLE MS = MOMENTARY CONTACT P = PASSIVE INFRARED OCCUPANCY/VACANCY SENSOR PL = PILOT LIGHT T = TIMER SWITCH, 12-HOUR PROGRAMMABLE WITH FLASH WARNING U = ULTRASONIC OCCUPANCY/VACANCY SENSOR
	LOW VOLTAGE DIGITAL SWITCH FOR LOAD CONTROLLER / RELAY CONTROL. REFER TO LIGHTING CONTROL DETAILS.
	LOW VOLTAGE DIGITAL DIMMER SWITCH FOR LOAD CONTROLLER / RELAY CONTROL. REFER TO LIGHTING CONTROL DETAILS.
EXAMPLE: X# X#	LOW VOLTAGE DIGITAL CONTROL DEVICES WITH ADDITIONAL CAPITALIZED ANNOTATION INDICATES THE FOLLOWING TYPE OR ADDITIONAL REQUIREMENT(S): X: D = DUAL TECHNOLOGY OCCUPANCY/VACANCY SENSOR E = CONTROLS EMERGENCY LIGHTING CIRCUIT, RED IN COLOR G = TOUCH SCREEN OR GRAPHIC DISPLAY K = KEY SWITCH P = PASSIVE INFRARED OCCUPANCY/VACANCY SENSOR R = MASTER 2-HOUR OVERRIDE SWITCH S = SCENE CONTROL PUSHBUTTON STATION T = TIMER SWITCH, 12-HOUR PROGRAMMABLE WITH FLASH WARNING U = ULTRASONIC OCCUPANCY/VACANCY SENSOR #: 2, 3, 4, ... = QUANTITY OF ZONES / GROUPS CONTROLLED
EXAMPLE: z# $ z# z# z#	CONTROL DEVICES WITH ADDITIONAL LOWERCASE ANNOTATION INDICATES CONTROL ZONE(S) / GROUP(S): a, d, c, ... = LOCAL / STAND-ALONE ZONE IN ROOM / SPACE n# = NETWORKED ZONE / RELAY ON NORMAL SOURCE e# = NETWORKED ZONE / RELAY ON EMERGENCY SOURCE s# = NETWORKED ZONE / RELAY ON STANDBY SOURCE
"X"	CEILING MOUNTED OCCUPANCY/VACANCY SENSOR WITH 20 AMP RATED POWER PACK. "X" DENOTES THE FOLLOWING: DT DUAL TECHNOLOGY. PI PASSIVE INFRARED. US ULTRASONIC. PD COMBINATION PHOTOCELL/DUAL TECHNOLOGY SENSOR
	PHOTOCELL
GTD	EMERGENCY GENERATOR TRANSFER DEVICE. SEE DETAILS FOR ADDITIONAL INFORMATION.
LCP	SURFACE MOUNTED LIGHTING CONTROL RELAY PANEL. REFER TO DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
TC	ASTRONOMICAL DIGITALLY CONTROLLED 4 ZONE LIGHTING CONTROL TIME SWITCH - TORK: 'DLC400BP' WITH PHOTOCELL: 'EPC2' AND TIMED OVERRIDE SWITCH: 'SSA200R-24'. COORDINATE INITIAL PROGRAMMING WITH OWNER. PROVIDE INITIAL PROGRAMMING AS REQUIRED.
C	ELECTRICALLY HELD CONTACTOR. REFER TO WIRING DIAGRAMS FOR ADDITIONAL INFORMATION.

ONE-LINE DIAGRAM SYMBOL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
HEAVY SOLID LINES	DENOTES NEW (N) OR RELOCATED (R) BUSSING, FEEDER, ETC.	MCP / STARTER	COMBINATION STARTER AND MOTOR CIRCUIT PROTECTOR. STARTER AND MOTOR CIRCUIT PROTECTOR SIZES AS NOTED.
	AUTOMATIC TRANSFER SWITCH. NUMBER OF POLES AND AMPERAGE RATING AS NOTED OR SCHEDULED.		
	DRY TYPE TRANSFORMER. kVA, PHASE, PRIMARY AND SECONDARY RATING AS NOTED OR SCHEDULED.		
NAME	PANELBOARD. DESIGNATION AS NOTED. SEE PANELBOARD SCHEDULES FOR ADDITIONAL INFORMATION.	SWITCH / FUSE / STARTER	COMBINATION STARTER AND FUSED DISCONNECT SWITCH. STARTER, FUSE, AND SWITCH SIZES AS NOTED.
TRIP / FRAME	MOLDED CASE CIRCUIT BREAKER. FRAME AND TRIP SIZES AS NOTED.	G	THREE PHASE GENERATOR. SIZE AS NOTED OR SCHEDULED.
TRIP / FRAME / ST	MOLDED CASE CIRCUIT BREAKER WITH SHUNT TRIP OPERATOR. FRAME AND TRIP SIZES AS NOTED.	M / XX	THREE PHASE MOTOR. HORSEPOWER AS NOTED OR SCHEDULED. "XX" INDICATES MOTOR DESIGNATION.
SWITCH / FUSE	LOW VOLTAGE FUSED DISCONNECT SWITCH. FUSE AND DISCONNECT SWITCH SIZES AS NOTED.	SPACE	SPACE IN CIRCUIT BREAKER OR FUSED SWITCH DISTRIBUTION PANELBOARD. FRAME SIZE AS NOTED.
SWITCH	LOW VOLTAGE DISCONNECT SWITCH. DISCONNECT SWITCH SIZE AS NOTED.		DELTA TO WYE CONNECTED WIRING
FUSE	LOW VOLTAGE FUSE. SIZE AS NOTED.		CONTROL POWER TRANSFORMER (CPT) OR POTENTIAL TRANSFORMER (PT).
XX	SPECIALTY EQUIPMENT/DEVICES. "XX" STANDS FOR THE FOLLOWING: SPD SURGE PROTECTIVE DEVICE. GFP GROUND FAULT PROTECTION. C CONTACTOR. M METERING. EPO EMERGENCY POWER OFF PUSHBUTTON. VFD VARIABLE FREQUENCY DRIVE PROVIDED BY DIVISION 23. EC ELEVATOR CONTROLLER PROVIDED BY DIVISON 14.		CURRENT TRANSFORMER. SIZE AS REQUIRED.
		N / G	NEUTRAL BUS TO GROUND BUS BONDING.
		FUSE	MEDIUM VOLTAGE FUSED DISCONNECT SWITCH. FUSE SIZE AS NOTED.
		FUSE	MEDIUM VOLTAGE FUSE. SIZE AS NOTED.
	HAND/OFF/AUTO SWITCH.	SWITCH / FUSE	LOW VOLTAGE BOLTED PRESSURE FUSED SWITCH. FUSE AND DISCONNECT SWITCH SIZES AS NOTED.
###X	FEEDER DESIGNATION. REFER TO FEEDER SCHEDULE(S) FOR FEEDER SIZE.		
ATO	AUTOMATIC TRANSFER SWITCH		CLOSED TRANSITION AUTOMATIC TRANSFER SWITCH. NUMBER OF POLES AND AMPERAGE RATING AS NOTED OR SCHEDULED.

ABBREVIATIONS

GENERAL

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CP	CONTROL PANEL
CR	CRITICAL BRANCH
CT	CURRENT TRANSFORMER
CU	COPPER
EG	EQUIPMENT GROUND
ELEV	ELEVATOR
EM	EMERGENCY
GAP	GENERATOR ANNUNCIATOR PANEL
GEC	GROUNDING ELECTRODE CONDUCTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GND	GROUND
IG	ISOLATED GROUND
IPP	ISOLATED PPOWER PANEL
LCP	LIGHTING CONTROL PANEL
LS	LIFE SAFETY
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MEGB	MAIN ELECTRIC GROUND BUS
MLO	MAIN LUG ONLY
MTGB	MAIN TECHNOLOGY GROUND BUS
MTS	MANUAL TRANSFER SWITCH
(N.I.C.)	NOT IN CONTRACT
NL	NIGHT LIGHT
OS	OCCUPANCY SENSOR
PNL	PANEL
REC	RECEPTACLE
SB	OPTIONAL STAND-BY
SE	SERVICE ENTRANCE
SW	SWITCH
SWBD	SWITCHBOARD
UC	UNDER COUNTER
UG	UNDERGROUND
UPS	UNINTERRUPTIBLE POWER SUPPLY
VFD	VARIABLE FREQUENCY DRIVE
VP	VANDAL PROOF
VT	VOLTAGE TRANSFORMER
W/U	WHILE IN USE
WP	WEATHERPROOF

RACEWAY TYPES

AC	ARMORED CABLE
C	CONDUIT
EMT	ELECTRIC METALIC TUBING
MC	METAL CLAD
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL

MECHANICAL EQUIPMENT

AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CHILLER
AHU	AIR HANDLING UNIT
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
CH	CHILLER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
DDC	DIGITAL DIRECT CONTROL
EF	EXHAUST FAN
EUH	ELECTRIC UNIT HEATER
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
F	FURNACE
FCU	FAN COIL UNIT
FPVAV	FAN-POWERED VARIABLE AIR VOLUME
HP	HEAT PUMP
MAU	MAKE-UP AIR UNIT
P	PUMP
RTU	ROOFTOP UNIT
SAHU	SPLIT SYSTEM AIR HANDLING UNIT
UH	UNIT HEATER
UST	UNDERGROUND STORAGE TANK
VAV	VARIABLE AIR VOLUME

SCOPE OF WORK

(D&R)	DISCONNECT AND REMOVE
(E)	EXISTING (TO REMAIN)
(NIC)	NOT IN CONTRACT
(R)	RELOCATED
(R&R)	REMOVE AND RELOCATE
(REP)	REPLACE
EC	ELECTRICAL CONTRACTOR
GC	GENERAL CONTRACTOR
MC	MECHANICAL CONTRACTOR
TC	TECHNOLOGY CONTRACTOR

GENERAL ELECTRICAL NOTES:

1. ELECTRICAL DRAWINGS ARE GENERALLY DIAGRAMMATIC, ARE INTENDED TO CONVEY THE SCOPE OF WORK, AND INDICATE GENERAL ARRANGEMENT OF LIGHTING FIXTURES, DEVICES, CONTROLS, ELECTRICAL FIXTURES, MOTORS, PANELBOARDS, EQUIPMENT, ETC. THE LOCATIONS OF ALL ITEMS SHOWN ON ELECTRICAL DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT EXPLICITLY FIXED BY DIMENSIONS ARE APPROXIMATE. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED AT THE PROJECT. ALL LOCATIONS OF WORK EXPOSED TO VIEW ARE SUBJECT TO APPROVAL OF THE ARCHITECT PRIOR TO ROUGH-INS.
2. THE ELECTRICAL CONTRACTOR SHALL LAYOUT ALL EQUIPMENT ROOMS TO MAKE SURE THE EQUIPMENT, AS PURCHASED, FITS IN THE ROOM OR SPACE SHOWN. EXACT LOCATION OF ALL EQUIPMENT SHALL BE VERIFIED IN THE FIELD AND ROUTING OF CONDUITS SHALL SUITE FIELD CONDITIONS.
3. THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK TO FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND HIS PROPOSAL SHALL INCLUDE ALL CONTINGENCIES NECESSARY FOR THE COMPLETION OF HIS WORK REGARDING SUCH EXISTING CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL VERIFY EXISTING CONDITIONS TO INSURE THAT ALL NEW WORK WILL FIT INTO THE EXISTING STRUCTURE AND CONDITIONS IN THE MANNER INTENDED AND AS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/OWNERS REPRESENTATIVE PRIOR TO ANY ROUGH-INS. FABRICATIONS, OR PERFORMING ANY WORK IN THE AREA INVOLVING DIFFERENCES. NOTIFICATION SHALL BE IN THE FORM OF A DRAWING OR SKETCH INDICATING FIELD MEASUREMENTS AND NOTES RELATED TO THE AREA.
4. ANY DISCREPANCIES BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE PROMPTLY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION DURING THE BIDDING PERIOD. NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE TO THE CONTRACTOR BY REASON OF HIS FAILURE TO HAVE BROUGHT SAID DISCREPANCIES TO THE ATTENTION OF THE ENGINEER DURING THE BIDDING PERIOD OR OF ANY ERROR ON THE CONTRACTOR'S PART.
5. THERE SHALL BE NO SUBSTITUTIONS UNLESS THE CONTRACTOR HAS OBTAINED WRITTEN APPROVAL FROM THE OWNER AFTER HAVING SUBMITTED AN ALTERNATIVE PROPOSAL COMPLETE WITH A DESCRIPTION OF DEVIATION FROM THE SPECIFICATIONS AND A STATEMENT OF BENEFITS TO BE DERIVED SHOULD SUCH A PROPOSED SUBSTITUTE BE ACCEPTED.
6. ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT, PROFESSIONAL AND WORKMANLIKE MANNER, RECTILINEAR TO FINISHES AND BUILDING STRUCTURE.
7. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST NATIONAL ELECTRICAL CODE, OSHA REQUIREMENTS, AND LOCAL REQUIREMENTS, ALL AS INTERPRETED BY THOSE HAVING JURISDICTION.
8. REFER TO ARCHITECTURAL ELEVATIONS TO DERIVE EXACT LOCATIONS OF ALL RECEPTACLES, OUTLETS/JACKS, SWITCHES, WALL AND PENDANT/CABLE MOUNTED LUMINAIRES, ETC. LUMINAIRES AND CEILING MOUNTED EQUIPMENT SHALL BE COORDINATED WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.
9. BEFORE DOING ANY WORK WHICH MIGHT ENTAIL A FULL OR PARTIAL SHUTDOWN, THE ELECTRICAL CONTRACTOR SHALL INFORM THE OWNER SO THAT A SCHEDULED SHUTDOWN ARRANGEMENT CAN BE MADE, TAKING EVERY PRECAUTION THAT THE ELECTRICAL SYSTEM IS OPERATING SATISFACTORILY.
10. THE ELECTRICAL CONTRACTOR SHALL SECURE ALL PERMITS AND PAY ALL FEES THAT ARE REQUIRED BY THE APPLICABLE LOCAL AND STATE LAWS.
11. CONDUIT HOME RUNS SHOWN ON THE DRAWING WITH MORE THAN THREE (3) CURRENT CARRYING CONDUCTORS ARE SHOWN DIAGRAMMATICALLY. THIS CONTRACTOR SHALL NOT INSTALL MORE THAN THREE (3) CURRENT CARRYING CONDUCTORS IN A RACEWAY UNLESS NATIONAL ELECTRIC CODE (N.E.C), ARTICLE 310.15 DERATING FACTORS ARE APPLIED.
12. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ELECTRICAL SPECIFICATIONS FOR ACCEPTABLE CONDUIT TYPES/LOCATIONS. ALL CONDUIT SIZES ON THE DRAWINGS ARE BASED ON THE LATEST EDITION OF THE N.E.C. CONDUIT FILL TABLES FOR ELECTRICAL METALLIC TUBING (E.M.T). CONDUIT SIZES SHALL BE REVISED TO THE SIZE REQUIRED, RELATIVE TO THE ACTUAL CONDUIT TYPE TO BE INSTALLED.
13. ALL COMPONENTS SHOWN ON THE RISER/ONE-LINE DIAGRAMS, BUT NOT ON THE PLAN OR VICE VERSA, SHALL BE INCLUDED AS IF SHOWN ON BOTH.
14. IT IS NOT INTENDED THAT THE PLANS INDICATE ALL OBSTRUCTIONS, NECESSARY BENDS, OFFSETS, AND PULL BOXES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL HIS WORK TO CONFORM TO N.E.C. REQUIREMENTS, THE STRUCTURE, MAINTAIN HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AS REQUIRED.
15. IT IS NOT INTENDED THAT THE PLANS INDICATE ALL CONDUIT ROUTES, PULL BOXES, (JUNCTION BOXES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ACTUAL CONDUIT ROUTING, QUANTITY AND LOCATION OF PULL BOXES WITHIN ACCESSIBLE LOCATIONS.
16. PROVIDE SCREW-COVER PULL BOXES IN CONDUIT RUNS AS REQUIRED TO LIMIT THE NUMBER OF BENDS TO NO MORE THAN FOUR (4) 90° OR 360° TOTAL. SIZE PULL BOXES IN ACCORDANCE WITH NEC, ARTICLE 314.28. DOCUMENT ON RECORD DRAWINGS, SIZE AND LOCATION OF PULL BOXES USED IN FEEDER CONDUIT RUNS.
17. WHERE MULTIPLE DEVICES OF THE SAME TYPE/STYLE ARE SHOWN NEXT TO EACH OTHER, GANG INTO A SINGLE COVER PLATE.
18. ALL RACEWAYS RUNNING THROUGH BUILDING EXPANSION JOINTS SHALL BE EQUIPPED WITH APPROPRIATE EXPANSION FITTINGS.
19. IDENTIFY WITH LEGIBLE AND DURABLE MARKING, EACH DISCONNECTING MEANS INDICATING ITS PURPOSE.
20. ALL RECEPTACLES, SWITCHES AND DEVICES SHALL HAVE PANEL AND CIRCUIT NUMBER IDENTIFY WITH LEGIBLE AND DURABLE MARKING ON COVER PLATE. OWNER WILL INDICATE IF MARKINGS ARE ON THE FRONT OR BACK OF COVER.
21. ALL LABOR AND MATERIAL FURNISHED BY THE CONTRACTOR AS PART OF THIS CONTRACT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY THE OWNER. ANY DEFECTS WHICH APPEAR WITHIN THE GUARANTEE PERIOD SHALL BE PROMPTLY REPAIRED OR REPLACED AT THE OWNER'S DISCRETION, WITHOUT ADDITIONAL COST TO THE OWNER.
22. ALL EQUIPMENT GROUNDS SHALL BE TERMINATED WITH COMPRESSION FITTINGS AND STAINLESS STEEL BOLTS OR IN PANEL GROUND BAR.
23. BEFORE DRILLING ANY HOLES IN WALLS OR FLOORS THE AREA MUST BE CHECKED FOR EXISTING EMBEDDED CONDUITS AND WIRE. IF ANY EXISTING CONDUITS OR WIRING ARE DAMAGED BY THIS CONTRACTOR IT IS THIS CONTRACTORS RESPONSIBILITY TO MAKE ALL REPAIRS TO CONDUITS, WIRE, FLOORS AND BUILDING FINISHES IN KIND AT NO COST TO OWNER.
24. PROVIDE UL LISTED FIRE STOP ASSEMBLY AT ALL NEW AND EXISTING PENETRATIONS IN FIRE RATED STRUCTURES.
25. ALL 120 VOLT, SINGLE PHASE 15 AND 20 AMPERE RECEPTACLE OUTLETS USED BY THE WORKMEN SHALL BE PROTECTED BY A "GROUND FAULT INTERRUPTER".

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:53:31 AM TEMPLATE VERSION:

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

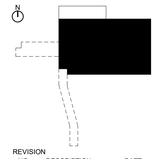
MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

KEY PLAN



REVISION NO. DESCRIPTION DATE

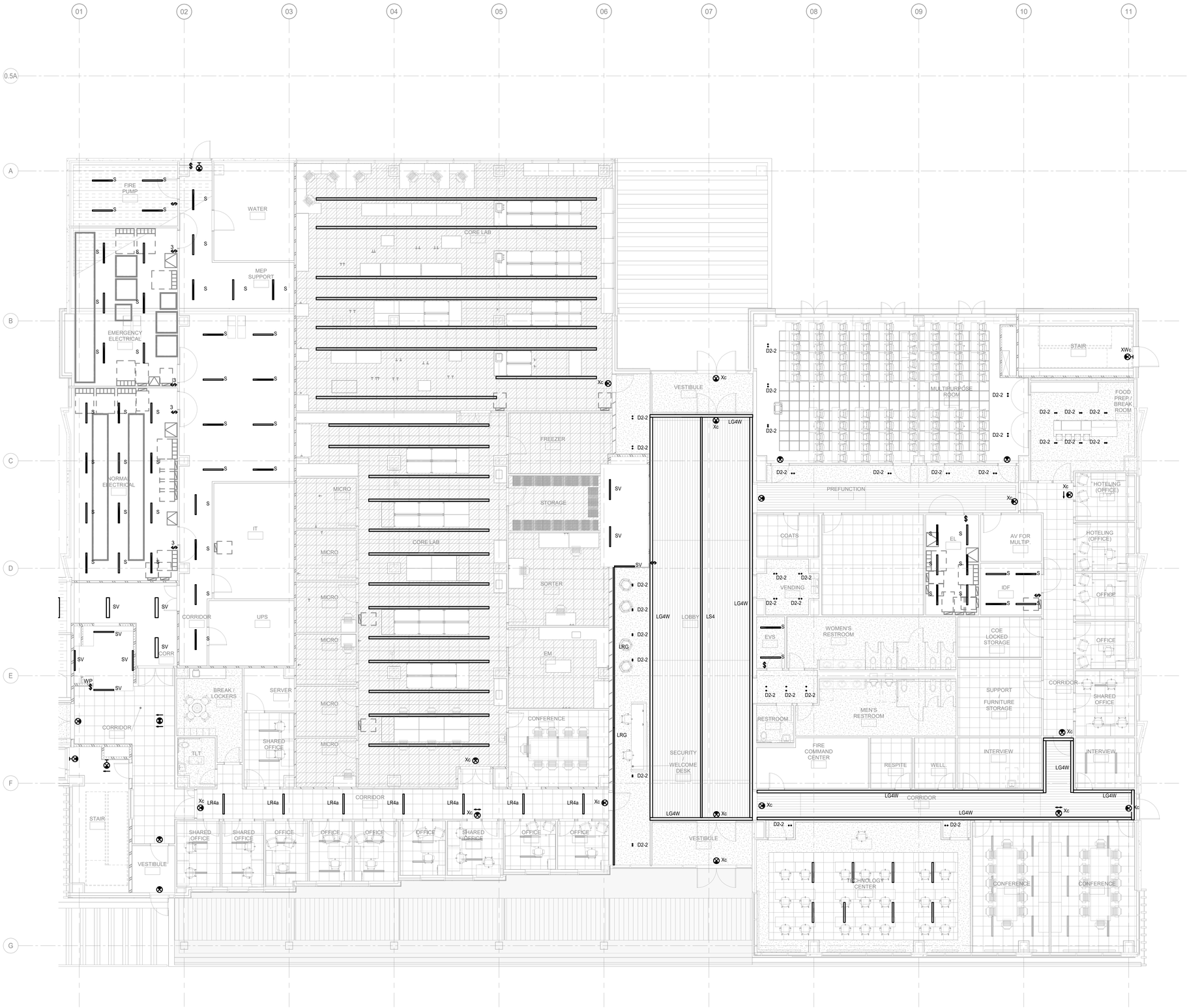
HKS PROJECT NUMBER
26234.000

DATE
07 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
ELECTRICAL SYMBOL LEGEND

SHEET NO.
E-001



1 LEVEL 1 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

LIGHTING SHEET GENERAL NOTES:

1. ALL EXIT SIGNS, EMERGENCY LIGHTING BATTERY PACKS, EMERGENCY LUMINAIRES (ON GENERATOR OR EMERGENCY LIGHTING BATTERY PACKS INTEGRAL TO LUMINAIRE), AND NIGHT LIGHTS (DENOTED 'NL') SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS SUCH AS: SWITCHES, OCCUPANCY SENSORS AND/OR RELAY CONTROLS.
2. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE #12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
3. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
5. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES. PER N.E.C. 404.2(C) THE NEUTRAL WIRE SHALL BE EXTENDED TO ALL SWITCHING LOCATIONS.
6. LIGHTING BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.
7. REFER TO E-500's SERIES FOR LIGHTING CONTROL WIRING DIAGRAMS. CONTRACTOR TO VERIFY ALL SENSOR LOCATIONS PER MANUFACTURERS SPECIFICATIONS.
8. EXACT LOCATION OF ALL LUMINAIRES, AND EXACT MOUNTING HEIGHT OF ALL PENDANT MOUNTED LUMINAIRES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO ANY ROUGH-INS.
9. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
10. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
11. FIXTURES WITH EM TAG ARE TO HAVE 1 EMERGENCY CIRCUIT AND 1 NORMAL CIRCUIT THROUGH A GTD DEVICE. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:33:37 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

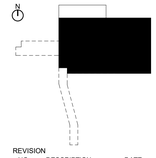
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN

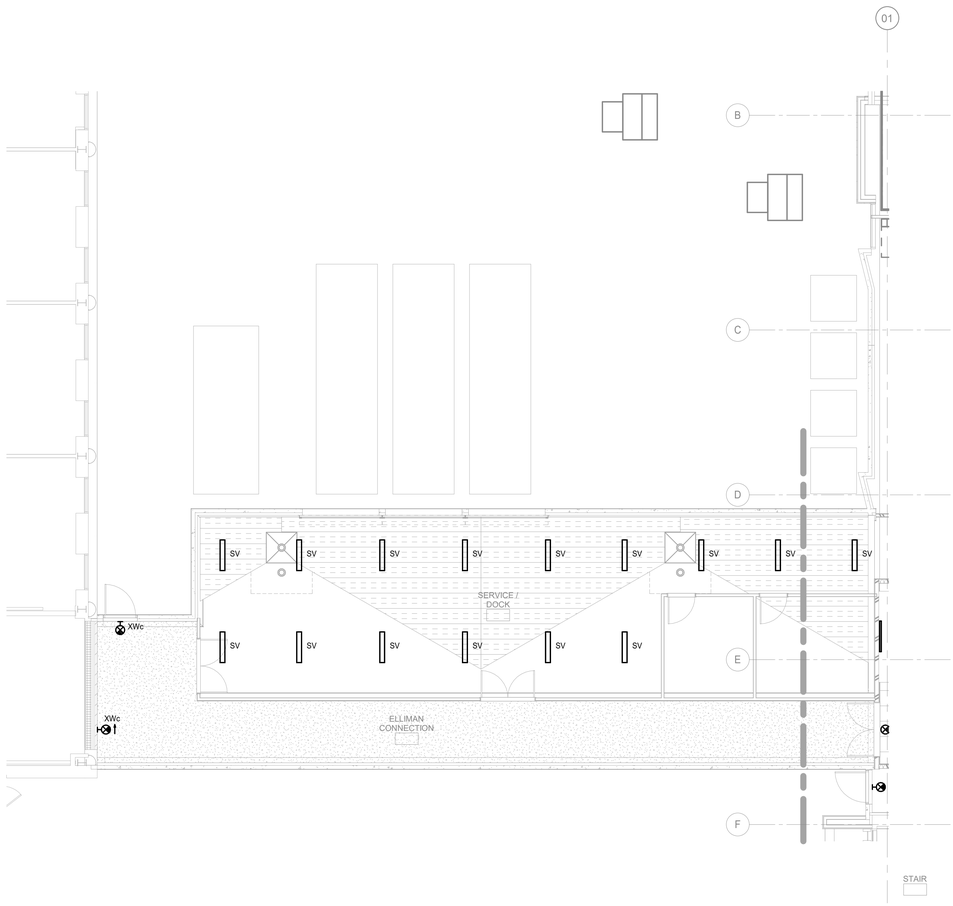


REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 1 LIGHTING PLAN

SHEET NO.
E-101



1 LEVEL 1 LIGHTING PLAN - SERVICE DOCK
SCALE: 1/8" = 1'-0"

LIGHTING SHEET GENERAL NOTES:

1. ALL EXIT SIGNS, EMERGENCY LIGHTING BATTERY PACKS, EMERGENCY LUMINAIRES (ON GENERATOR OR EMERGENCY LIGHTING BATTERY PACKS INTEGRAL TO LUMINAIRE), AND NIGHT LIGHTS (DENOTED 'NL') SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS SUCH AS: SWITCHES, OCCUPANCY SENSORS AND/OR RELAY CONTROLS.
2. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE #12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
3. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
5. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES. PER N.E.C. 404.2(C) THE NEUTRAL WIRE SHALL BE EXTENDED TO ALL SWITCHING LOCATIONS.
6. LIGHTING BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.
7. REFER TO E-500's SERIES FOR LIGHTING CONTROL WIRING DIAGRAMS. CONTRACTOR TO VERIFY ALL SENSOR LOCATIONS PER MANUFACTURERS SPECIFICATIONS.
8. EXACT LOCATION OF ALL LUMINAIRES, AND EXACT MOUNTING HEIGHT OF ALL PENDANT MOUNTED LUMINAIRES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO ANY ROUGH-INS.
9. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
10. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
11. FIXTURES WITH EM TAG ARE TO HAVE 1 EMERGENCY CIRCUIT AND 1 NORMAL CIRCUIT THROUGH A GTD DEVICE. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:53:37 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

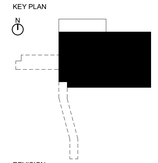
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 1 LIGHTING PLAN - SERVICE DOCK
SHEET NO.
E-101.1

1 LEVEL 2 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

LIGHTING SHEET GENERAL NOTES:

1. ALL EXIT SIGNS, EMERGENCY LIGHTING BATTERY PACKS, EMERGENCY LUMINAIRES (ON GENERATOR OR EMERGENCY LIGHTING BATTERY PACKS INTEGRAL TO LUMINAIRE), AND NIGHT LIGHTS (DENOTED 'NL') SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS SUCH AS: SWITCHES, OCCUPANCY SENSORS AND/OR RELAY CONTROLS.
2. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE #12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
3. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
5. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES. PER N.E.C. 404.2(C) THE NEUTRAL WIRE SHALL BE EXTENDED TO ALL SWITCHING LOCATIONS.
6. LIGHTING BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.
7. REFER TO E-500's SERIES FOR LIGHTING CONTROL WIRING DIAGRAMS. CONTRACTOR TO VERIFY ALL SENSOR LOCATIONS PER MANUFACTURERS SPECIFICATIONS.
8. EXACT LOCATION OF ALL LUMINAIRES, AND EXACT MOUNTING HEIGHT OF ALL PENDANT MOUNTED LUMINAIRES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO ANY ROUGH-INS.
9. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
10. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
11. FIXTURES WITH EM TAG ARE TO HAVE 1 EMERGENCY CIRCUIT AND 1 NORMAL CIRCUIT THROUGH A GTD DEVICE. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION.

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:33:42 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

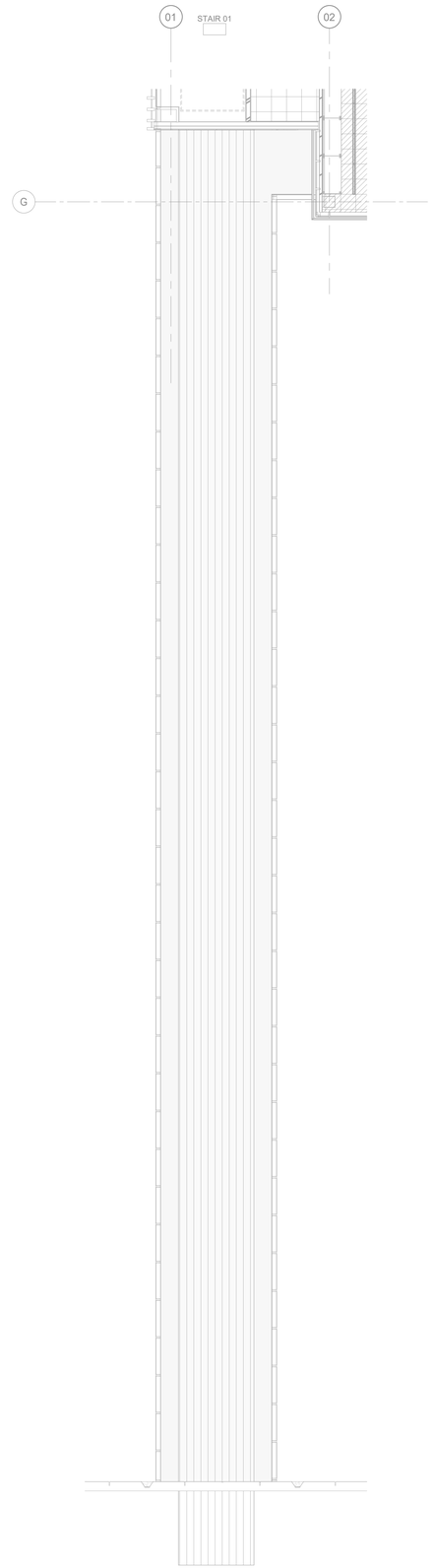
KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 2 LIGHTING PLAN

SHEET NO.
E-102



1 LEVEL 2 LIGHTING PLAN - BRIDGE
SCALE: 1/8" = 1'-0"

LIGHTING SHEET GENERAL NOTES:

1. ALL EXIT SIGNS, EMERGENCY LIGHTING BATTERY PACKS, EMERGENCY LUMINAIRES (ON GENERATOR OR EMERGENCY LIGHTING BATTERY PACKS INTEGRAL TO LUMINAIRE), AND NIGHT LIGHTS (DENOTED 'NL') SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS SUCH AS: SWITCHES, OCCUPANCY SENSORS AND/OR RELAY CONTROLS.
2. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE #12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
3. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
5. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES. PER N.E.C. 404.2(C) THE NEUTRAL WIRE SHALL BE EXTENDED TO ALL SWITCHING LOCATIONS.
6. LIGHTING BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.
7. REFER TO E-500's SERIES FOR LIGHTING CONTROL WIRING DIAGRAMS. CONTRACTOR TO VERIFY ALL SENSOR LOCATIONS PER MANUFACTURERS SPECIFICATIONS.
8. EXACT LOCATION OF ALL LUMINAIRES, AND EXACT MOUNTING HEIGHT OF ALL PENDANT MOUNTED LUMINAIRES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO ANY ROUGH-INS.
9. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
10. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
11. FIXTURES WITH EM TAG ARE TO HAVE 1 EMERGENCY CIRCUIT AND 1 NORMAL CIRCUIT THROUGH A GTD DEVICE. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION.

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

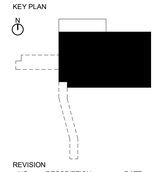
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION
NO. DESCRIPTION DATE

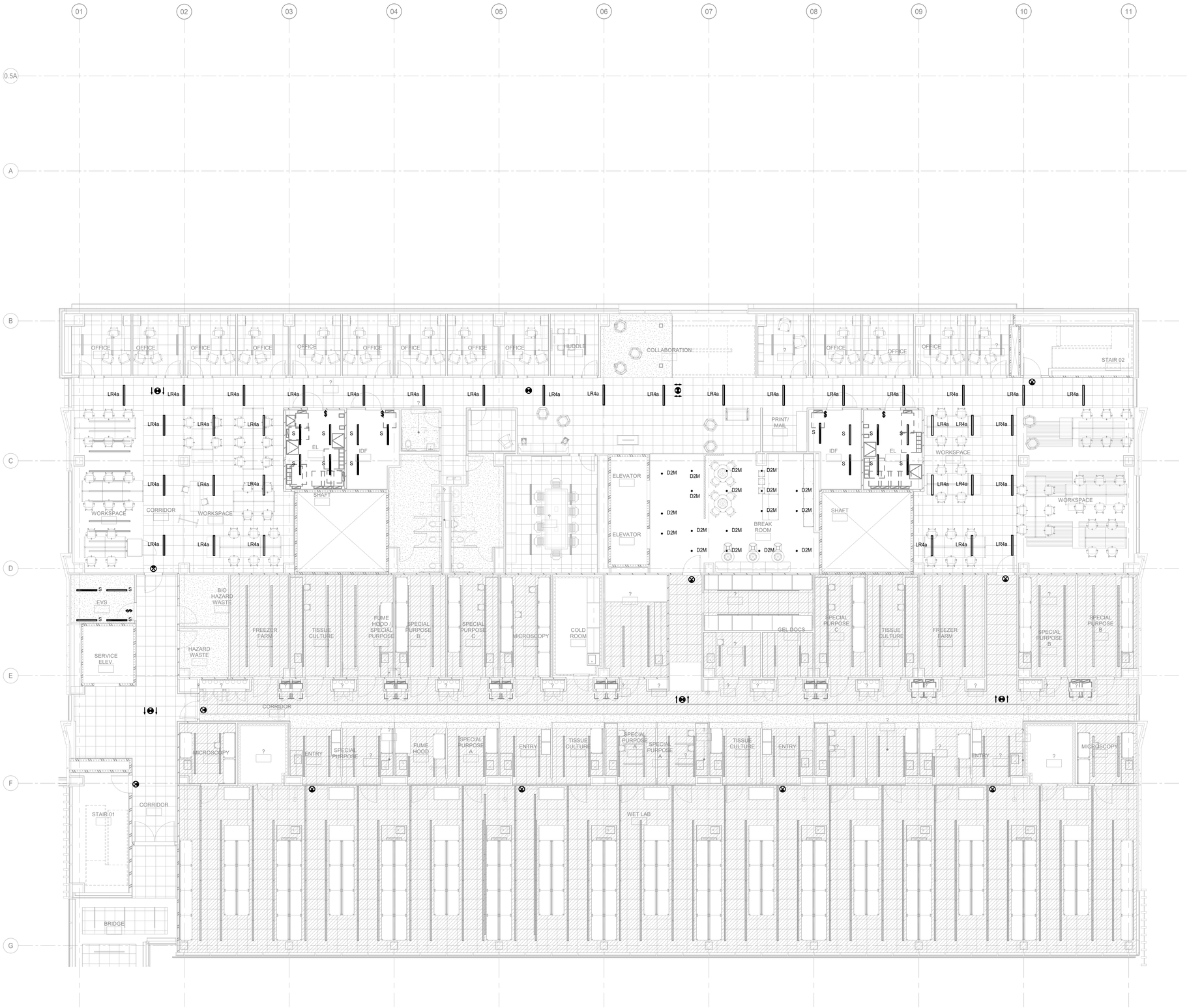
HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 2 LIGHTING PLAN - BRIDGE

SHEET NO.
E-102.1

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:53:42 AM
TEMPLATE VERSION:



1 LEVEL 3 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

LIGHTING SHEET GENERAL NOTES:

1. ALL EXIT SIGNS, EMERGENCY LIGHTING BATTERY PACKS, EMERGENCY LUMINAIRES (ON GENERATOR OR EMERGENCY LIGHTING BATTERY PACKS INTEGRAL TO LUMINAIRE), AND NIGHT LIGHTS (DENOTED 'NL') SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS SUCH AS: SWITCHES, OCCUPANCY SENSORS AND/OR RELAY CONTROLS.
2. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE #12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
3. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
5. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES. PER N.E.C. 404.2(C) THE NEUTRAL WIRE SHALL BE EXTENDED TO ALL SWITCHING LOCATIONS.
6. LIGHTING BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.
7. REFER TO E-500's SERIES FOR LIGHTING CONTROL WIRING DIAGRAMS. CONTRACTOR TO VERIFY ALL SENSOR LOCATIONS PER MANUFACTURERS SPECIFICATIONS.
8. EXACT LOCATION OF ALL LUMINAIRES, AND EXACT MOUNTING HEIGHT OF ALL PENDANT MOUNTED LUMINAIRES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO ANY ROUGH-INS.
9. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
10. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
11. FIXTURES WITH EM TAG ARE TO HAVE 1 EMERGENCY CIRCUIT AND 1 NORMAL CIRCUIT THROUGH A GTD DEVICE. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION.

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:53:50 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

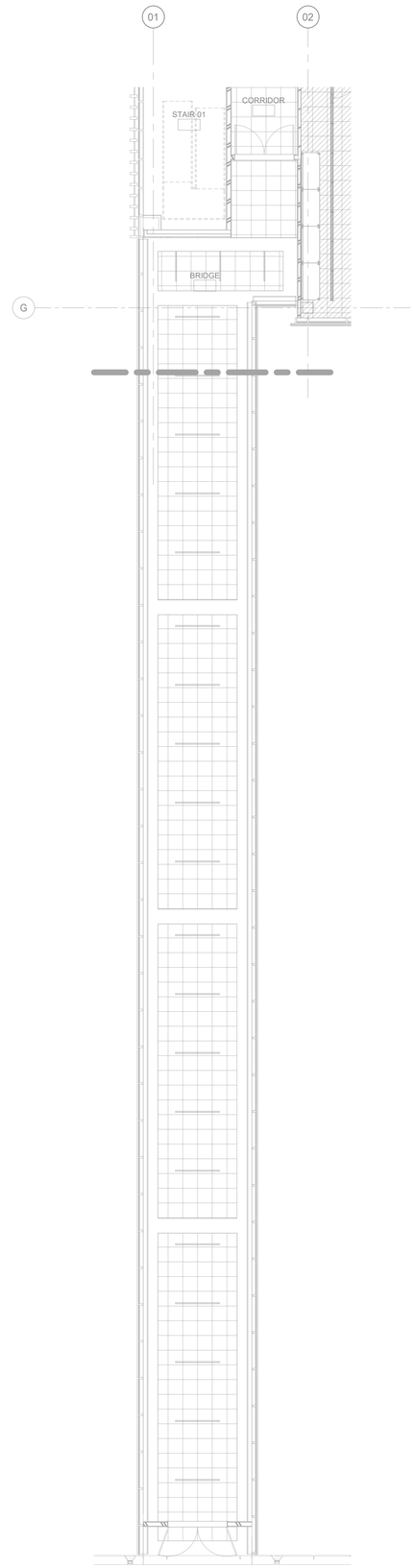
KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 3 LIGHTING PLAN

SHEET NO.
E-103



1 LEVEL 3 LIGHTING PLAN - BRIDGE
SCALE: 1/8" = 1'-0"

LIGHTING SHEET GENERAL NOTES:

1. ALL EXIT SIGNS, EMERGENCY LIGHTING BATTERY PACKS, EMERGENCY LUMINAIRES (ON GENERATOR OR EMERGENCY LIGHTING BATTERY PACKS INTEGRAL TO LUMINAIRE), AND NIGHT LIGHTS (DENOTED 'NL') SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS SUCH AS: SWITCHES, OCCUPANCY SENSORS AND/OR RELAY CONTROLS.
2. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE #12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
3. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
5. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES. PER N.E.C. 404.2(C) THE NEUTRAL WIRE SHALL BE EXTENDED TO ALL SWITCHING LOCATIONS.
6. LIGHTING BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.
7. REFER TO E-500's SERIES FOR LIGHTING CONTROL WIRING DIAGRAMS. CONTRACTOR TO VERIFY ALL SENSOR LOCATIONS PER MANUFACTURERS SPECIFICATIONS.
8. EXACT LOCATION OF ALL LUMINAIRES, AND EXACT MOUNTING HEIGHT OF ALL PENDANT MOUNTED LUMINAIRES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO ANY ROUGH-INS.
9. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
10. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
11. FIXTURES WITH EM TAG ARE TO HAVE 1 EMERGENCY CIRCUIT AND 1 NORMAL CIRCUIT THROUGH A GTD DEVICE. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION.

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:53:50 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

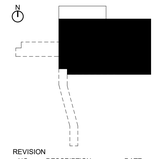
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



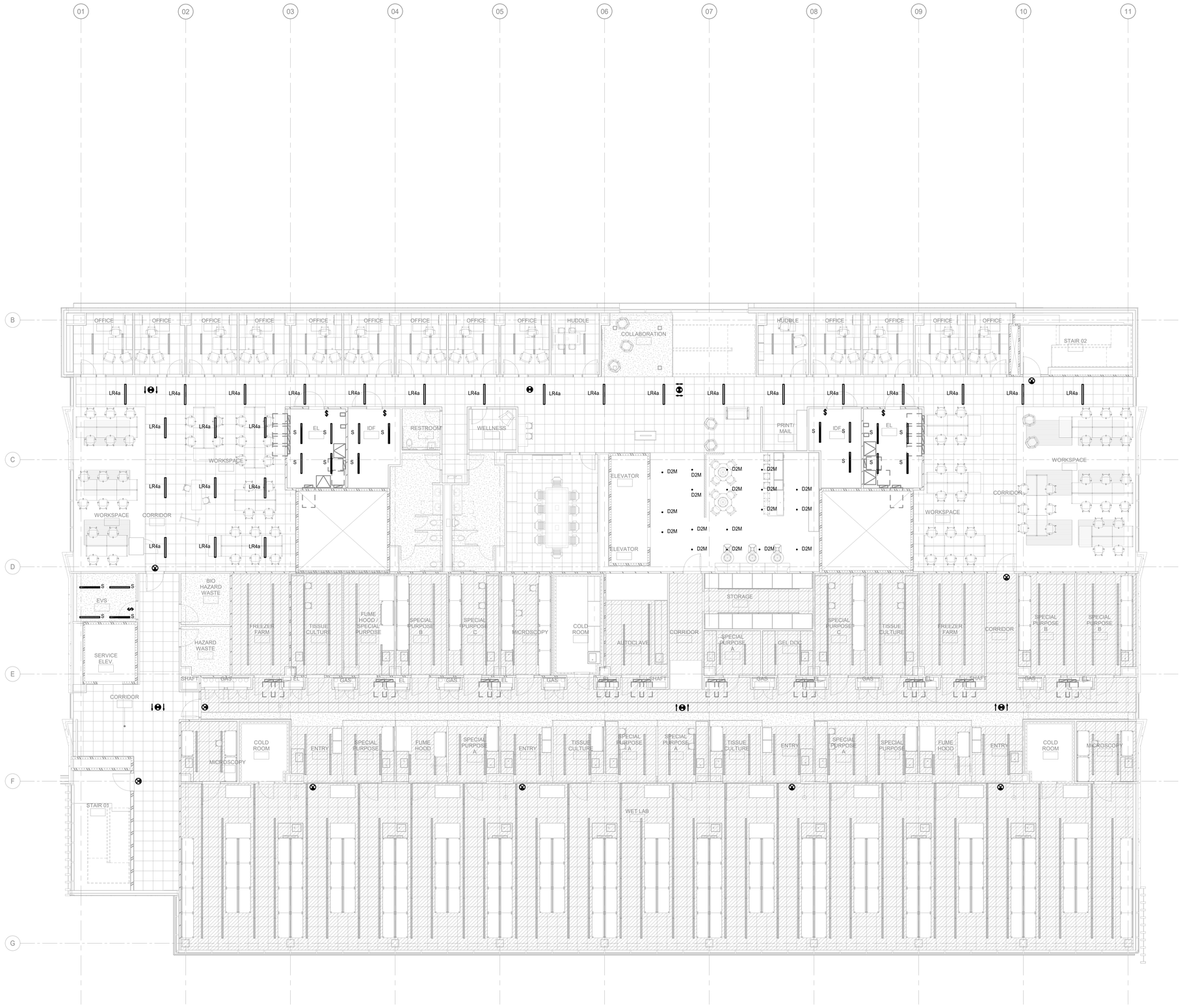
REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 3 LIGHTING PLAN - BRIDGE

SHEET NO.
E-103.1



1 LEVEL 4 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

LIGHTING SHEET GENERAL NOTES:

1. ALL EXIT SIGNS, EMERGENCY LIGHTING BATTERY PACKS, EMERGENCY LUMINAIRES (ON GENERATOR OR EMERGENCY LIGHTING BATTERY PACKS INTEGRAL TO LUMINAIRE), AND NIGHT LIGHTS (DENOTED 'NL') SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS SUCH AS: SWITCHES, OCCUPANCY SENSORS AND/OR RELAY CONTROLS.
2. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE #12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
3. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
5. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES. PER N.E.C. 404.2(C) THE NEUTRAL WIRE SHALL BE EXTENDED TO ALL SWITCHING LOCATIONS.
6. LIGHTING BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.
7. REFER TO E-500's SERIES FOR LIGHTING CONTROL WIRING DIAGRAMS. CONTRACTOR TO VERIFY ALL SENSOR LOCATIONS PER MANUFACTURERS SPECIFICATIONS.
8. EXACT LOCATION OF ALL LUMINAIRES, AND EXACT MOUNTING HEIGHT OF ALL PENDANT MOUNTED LUMINAIRES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO ANY ROUGH-INS.
9. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
10. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
11. FIXTURES WITH EM TAG ARE TO HAVE 1 EMERGENCY CIRCUIT AND 1 NORMAL CIRCUIT THROUGH A GTD DEVICE. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION.

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 4 LIGHTING PLAN

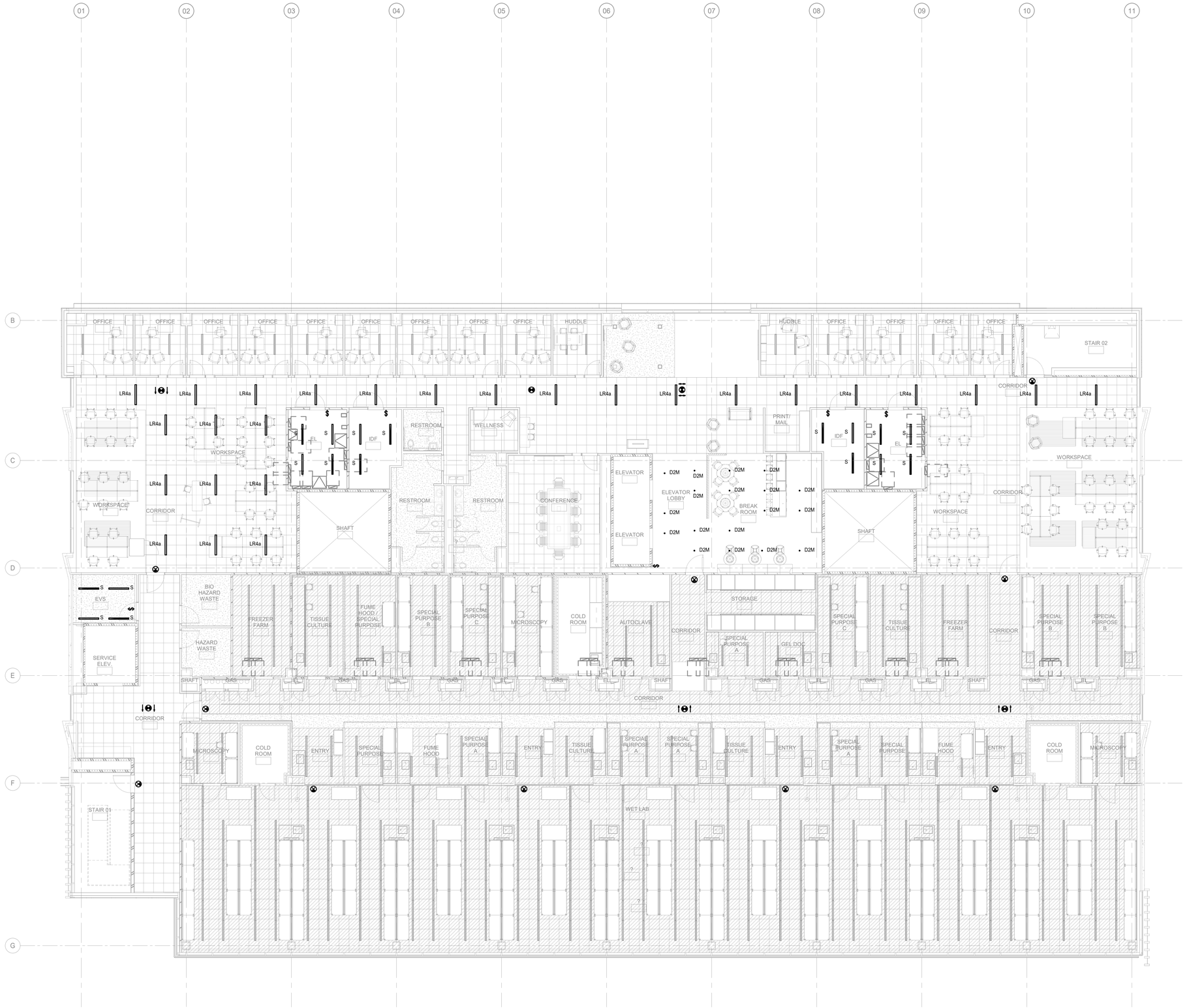
SHEET NO.
E-104

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:33:35 AM
TEMPLATE VERSION:

LIGHTING SHEET GENERAL NOTES:

1. ALL EXIT SIGNS, EMERGENCY LIGHTING BATTERY PACKS, EMERGENCY LUMINAIRES (ON GENERATOR OR EMERGENCY LIGHTING BATTERY PACKS INTEGRAL TO LUMINAIRE), AND NIGHT LIGHTS (DENOTED 'NL') SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS SUCH AS: SWITCHES, OCCUPANCY SENSORS AND/OR RELAY CONTROLS.
2. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE #12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
3. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
5. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES. PER N.E.C. 404.2(C) THE NEUTRAL WIRE SHALL BE EXTENDED TO ALL SWITCHING LOCATIONS.
6. LIGHTING BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.
7. REFER TO E-500's SERIES FOR LIGHTING CONTROL WIRING DIAGRAMS. CONTRACTOR TO VERIFY ALL SENSOR LOCATIONS PER MANUFACTURERS SPECIFICATIONS.
8. EXACT LOCATION OF ALL LUMINAIRES, AND EXACT MOUNTING HEIGHT OF ALL PENDANT MOUNTED LUMINAIRES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO ANY ROUGH-INS.
9. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
10. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
11. FIXTURES WITH EM TAG ARE TO HAVE 1 EMERGENCY CIRCUIT AND 1 NORMAL CIRCUIT THROUGH A GTD DEVICE. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION.



1 LEVEL 5 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:54:09 AM
TEMPLATE VERSION:

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

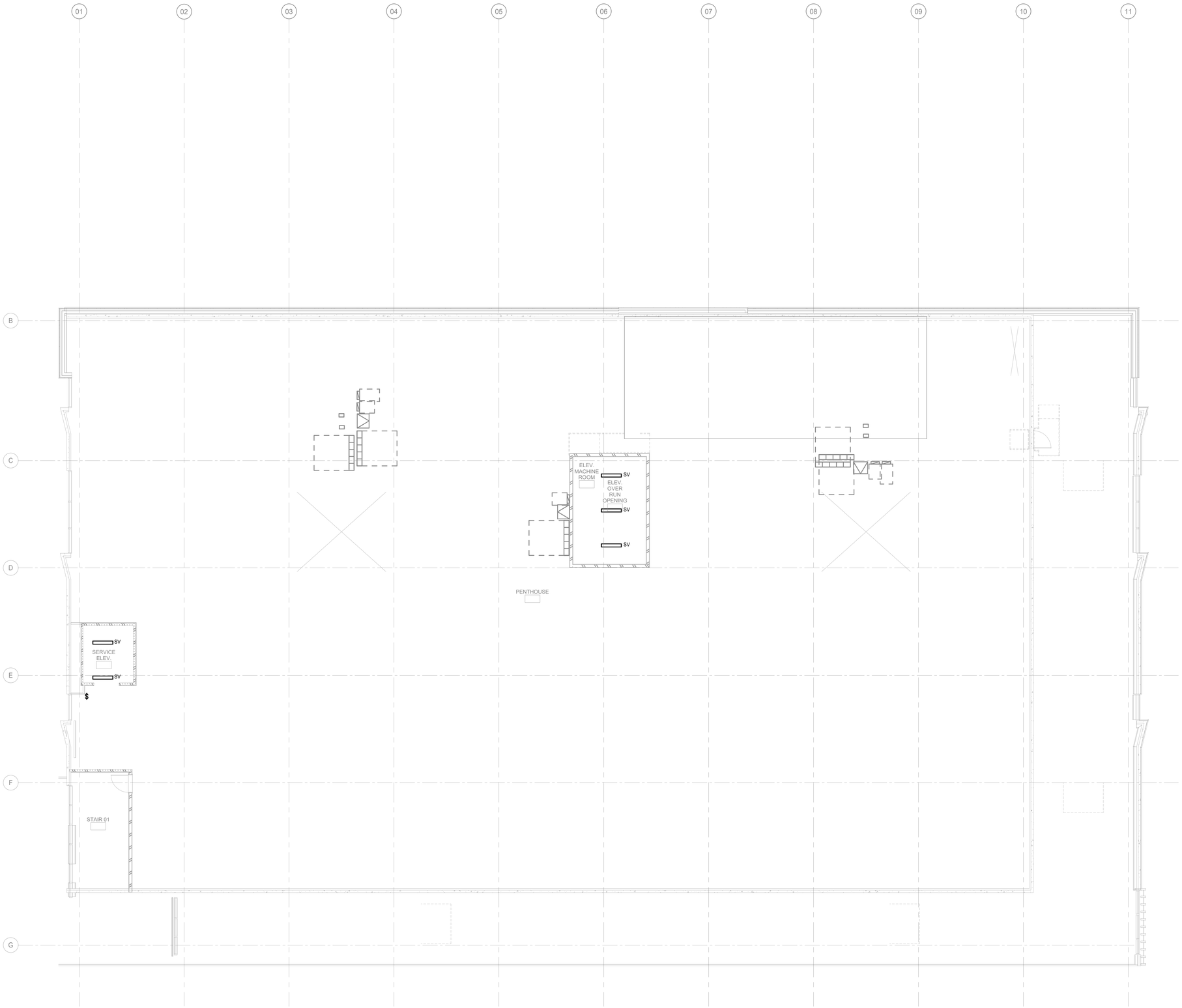
KEY PLAN

REVISION NO. | DESCRIPTION | DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 5 LIGHTING PLAN

SHEET NO.
E-105



1 PENTHOUSE LIGHTING PLAN
SCALE: 1/8" = 1'-0"

LIGHTING SHEET GENERAL NOTES:

1. ALL EXIT SIGNS, EMERGENCY LIGHTING BATTERY PACKS, EMERGENCY LUMINAIRES (ON GENERATOR OR EMERGENCY LIGHTING BATTERY PACKS INTEGRAL TO LUMINAIRE), AND NIGHT LIGHTS (DENOTED 'NL') SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS SUCH AS: SWITCHES, OCCUPANCY SENSORS AND/OR RELAY CONTROLS.
2. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE #12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
3. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
5. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES. PER N.E.C. 404.2(C) THE NEUTRAL WIRE SHALL BE EXTENDED TO ALL SWITCHING LOCATIONS.
6. LIGHTING BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.
7. REFER TO E-500's SERIES FOR LIGHTING CONTROL WIRING DIAGRAMS. CONTRACTOR TO VERIFY ALL SENSOR LOCATIONS PER MANUFACTURERS SPECIFICATIONS.
8. EXACT LOCATION OF ALL LUMINAIRES, AND EXACT MOUNTING HEIGHT OF ALL PENDANT MOUNTED LUMINAIRES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO ANY ROUGH-INS.
9. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
10. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
11. FIXTURES WITH EM TAG ARE TO HAVE 1 EMERGENCY CIRCUIT AND 1 NORMAL CIRCUIT THROUGH A GTD DEVICE. REFER TO LIGHTING CONTROL DETAILS FOR ADDITIONAL INFORMATION.

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:34:00 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

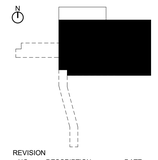
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

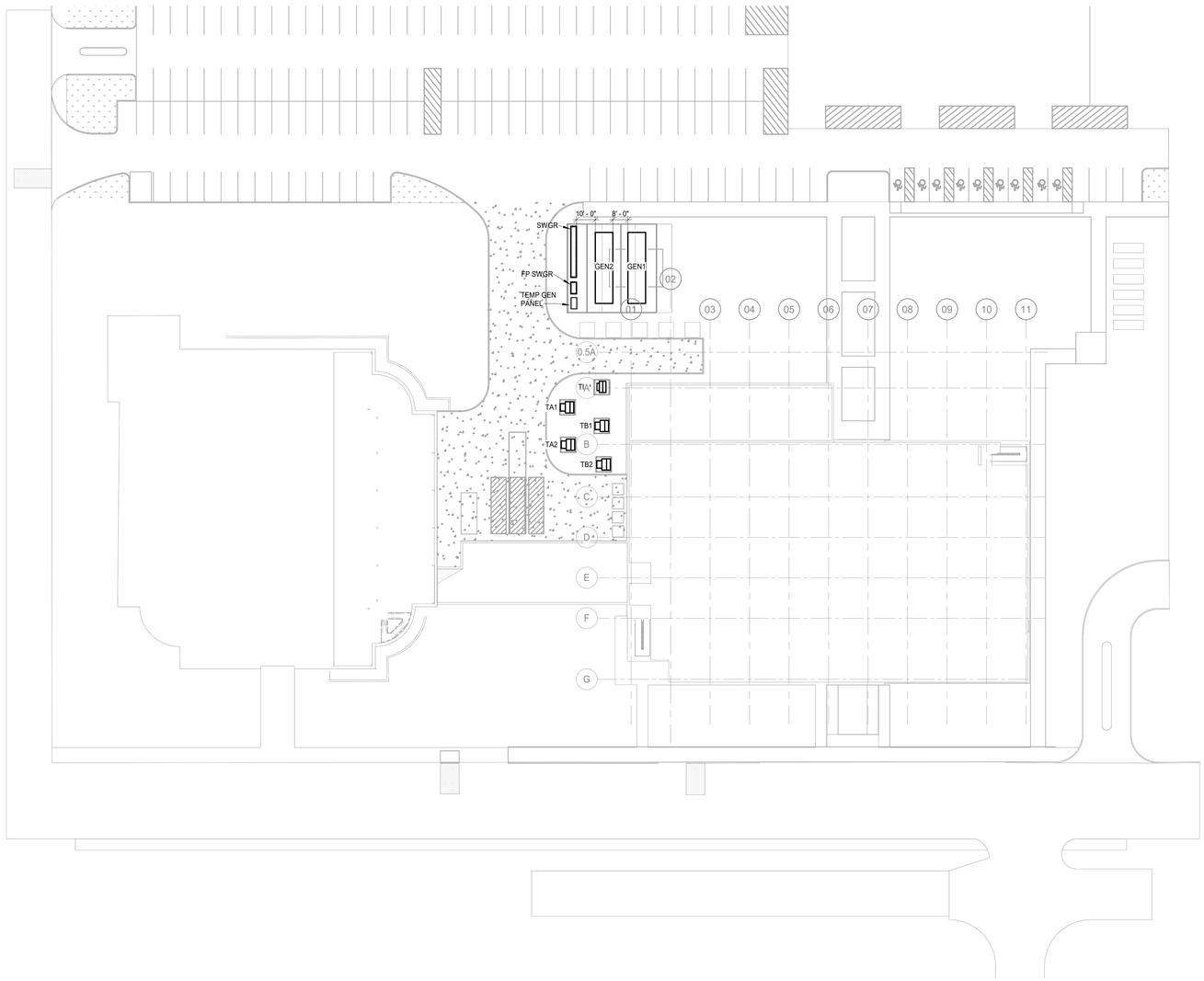
HKS PROJECT NUMBER
26234.000

DATE
07 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
PENTHOUSE LIGHTING PLAN

SHEET NO.
E-106



1 ELECTRICAL SITE PLAN
SCALE: 1" = 30'-0"

GENERAL SHEET NOTES:

1. ROCK AND/OR ADVERSE SOIL CONDITIONS MAY BE PRESENT ON SITE. THE ELECTRICAL CONTRACTOR SHALL COORDINATE INSTALLATION REQUIREMENTS FOR ALL BELOW GRADE WORK WITH GEOTECHNICAL REPORT, AND SHALL INCLUDE IN HIS BID ANY WORK RELATED TO GEOTECHNICAL CONSIDERATIONS AS IT MAY PERTAIN TO THE INSTALLATION OF ALL SITE ELECTRICAL WORK INCLUDING, BUT NOT LIMITED TO: DUCTBANKS, FOUNDATIONS, FOOTERS, CONCRETE SLABS AND PADS, VAULTS, DIRECT BURIED CABLES OR CONDUITS, SITE LIGHTING POLE BASES, ETC.
2. COORDINATE EXACT LOCATION OF ALL UNDERGROUND ELECTRICAL WORK WITH CIVIL ENGINEERING DRAWINGS AND DOCUMENTS, ALL OTHER SITE UTILITIES, AND SITE CONTRACTOR.
3. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 OR SCHEDULE 80. REFER TO **DWG. SERIES E-500's** FOR TYPICAL DIRECT BURIED CONDUIT SECTION.
4. GROUND RODS SHALL BE DRIVEN VERTICALLY. IF ROCK IS ENCOUNTERED, THEN GROUND RODS MAY BE DRIVEN AT A DIAGONAL BUT IN NO CASE SHALL GROUND RODS BE LESS THAN 10'-0" LONG.
5. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID, ALL ELECTRIC UTILITY COMPANY CHARGES FOR PROVIDING SERVICE TO THE BUILDING, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: TRANSFORMERS, CONCRETE PADS/VAULTS, CABLES, DUCTS, TRENCHING, BACKFILL, CONCRETE ENCASEMENT, METERING, GROUNDING, ALL ANCILLARY EQUIPMENT AND DEVICES, ETC., AND ASSOCIATED LABOR FOR A COMPLETE INSTALLATION PER N.E.C. AND ELECTRIC UTILITY COMPANY REQUIREMENTS. ANY LOCAL UTILITY COMPANY CHARGES FOR PROVISION OF ELECTRICAL SERVICE SHALL BE INCLUDED IN THE ELECTRICAL CONTRACTOR'S BASE PRICE. AS A MINIMUM, THE INSTALLATION SHALL MEET THE SERVICE AND INSTALLATION REGULATIONS OF THE LOCAL UTILITY.
   A. CONTACT **XXXX** UTILITY COMPANY REPRESENTATIVE; **MR./MS. XXX XXXX @ XXX-XXX-XXXX**, FOR ALL SERVICE REQUIREMENTS, SPECIFICATIONS, AND EXACT TRANSFORMER AND PAD LOCATION.
   B. ROUTE UNDERGROUND PVC CONDUIT INCLUDING AT LEAST ONE SPARE CONDUIT IN ACCORDANCE WITH LOCAL UTILITY REGULATIONS TO THE LOCAL UTILITY CONNECTION POINT. PROVIDE PRIMARY CONDUCTORS PER THE LOCAL UTILITY UNLESS IT IS REQUIRED THAT CONDUCTORS BE PROVIDED BY THE LOCAL UTILITY. CONDUCTOR SIZE AND TYPE TO BE DETERMINED WITH THE LOCAL UTILITY. REVIEW THE CONNECTION POINT AND ROUTING WITH THE LOCAL UTILITY PRIOR TO START OF WORK. CONFIRM TRENCHING AND BURIAL DETAILS WITH LOCAL UTILITY PRIOR TO START OF WORK.
   C. PROVIDE A TRANSFORMER PAD AND/OR VAULT OF THE PROPER SIZE AND MATERIAL TO MEET TO SERVICE AND INSTALLATION REGULATIONS OF THE LOCAL UTILITY. COORDINATE THE TRANSFORMER LOCATION WITH THE LOCAL UTILITY PRIOR TO START OF WORK. PROVIDE A GROUND LOOP AND GROUNDING RODS AS REQUIRED TO MEET THE SERVICE AND INSTALLATION REGULATIONS OF THE LOCAL UTILITY. ALL GROUNDING CONNECTIONS SHALL BE MADE USING AN EXOTHERMIC WELD PROCESS.
   D. PROVIDE TRENCHING, FOR PRIMARY CABLES, BACKFILL, SAND & CONDUITS FROM EXISTING POWER COMPANY PRIMARY POLE TO TRANSFORMER. CONDUITS SHALL BE RUN VERTICAL UP POLE TO A HEIGHT AS DETERMINED BY THE UTILITY COMPANY. ALL PRIMARY CABLE & TERMINATIONS SHALL BE PROVIDED BY THE UTILITY COMPANY.ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONCRETE WORK, TRENCHING, BACKFILL, ASPHALT PATCHING AND RESEEDING AS PART OF THIS CONTRACT. **ELECTRICAL CONTRACTOR SHALL SAW CUT & PATCH THE EXISTING ASPHALT ROADWAY FOR NEW SERVICE ENTRANCE DUCTBANK.**
   E. PROVIDE ALL SECONDARY SERVICE ENTRANCE TRENCHING, BACKFILL, CONCRETE DUCT BANK, CABLE AND TERMINATIONS FROM UTILITY TRANSFORMER TO SERVICE ENTRANCE EQUIPMENT.
   F. PROVIDE ALL TRANSFORMER SECONDARY CABLE, CABLE LUGS, CONDUIT & DUCTBANK AND MAKE ALL FINAL SECONDARY (**XXXXV**) TERMINATIONS. UTILITY COMPANY SHALL MAKE ALL PRIMARY (**XXXXKV**) CONNECTIONS.
   G. **ELECTRICAL CONTRACTOR SHALL OBTAIN AND INSTALL TRANSFORMER MOUNTED METER SOCKET, AND SHALL PROVIDE ONE 1" RGS CONDUIT AND CONDUIT NIPPLES FROM METER ENCLOSURE TO TRANSFORMER 'CT' COMPARTMENT (VERIFY & COORDINATE WITH UTILITY COMPANY).**
   H. THE UTILITY COMPANY GROUNDING SYSTEM SHALL BE TESTED. THE MAXIMUM ALLOWABLE IMPEDANCE SHALL BE 25 OHMS TO GROUND. ADDITIONAL GROUND RODS SHALL BE PROVIDED, IF REQUIRED, TO ACHIEVE THIS LEVEL.

SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

NOT FOR CONSTRUCTION

PLOT DATE: 1/29/2025 1:56:44 PM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

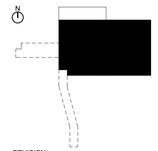
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



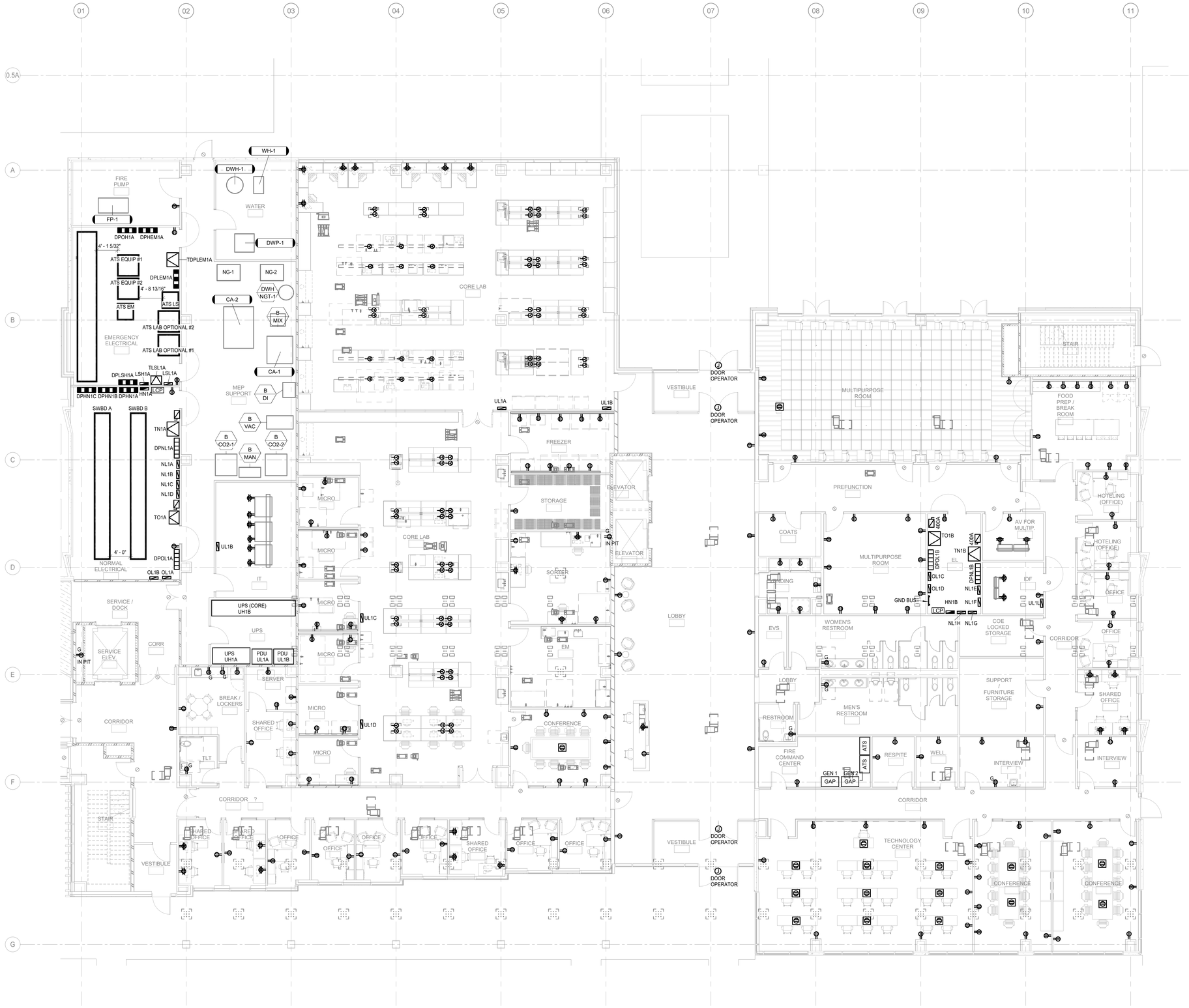
REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
SITE ELECTRICAL PLAN

SHEET NO.
E-200



1 LEVEL 1 POWER PLAN
SCALE: 1/8" = 1'-0"

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:54:05 AM TEMPLATE VERSION:

POWER SHEET GENERAL NOTES:

1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT, ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THEIR RESPECTIVE DISCIPLINE DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.
2. REVIEW AND COORDINATE WITH ALL TRADES' CONTRACT DOCUMENTS AND CONTRACTORS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH THE SPECIFIC TRADE.
3. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE # 12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
5. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
6. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES.
7. RECEPTACLE BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS. ALL SHARED EQUIPMENT GROUND CONDUCTORS SHALL BE #10 AWG MINIMUM.
8. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
9. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
10. REFER TO ALL EQUIPMENT AND PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

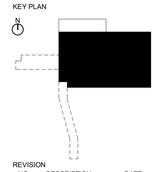
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 1 POWER PLAN

SHEET NO.
E-201

1 LEVEL 2 POWER PLAN
SCALE: 1/8" = 1'-0"

POWER SHEET GENERAL NOTES:

1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT, ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THEIR RESPECTIVE DISCIPLINE DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.
2. REVIEW AND COORDINATE WITH ALL TRADES' CONTRACT DOCUMENTS AND CONTRACTORS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH THE SPECIFIC TRADE.
3. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE # 12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
5. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
6. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES.
7. RECEPTACLE BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS. ALL SHARED EQUIPMENT GROUND CONDUCTORS SHALL BE #10 AWG MINIMUM.
8. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
9. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
10. REFER TO ALL EQUIPMENT AND PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:34:09 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

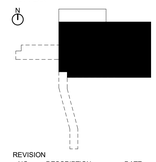
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN

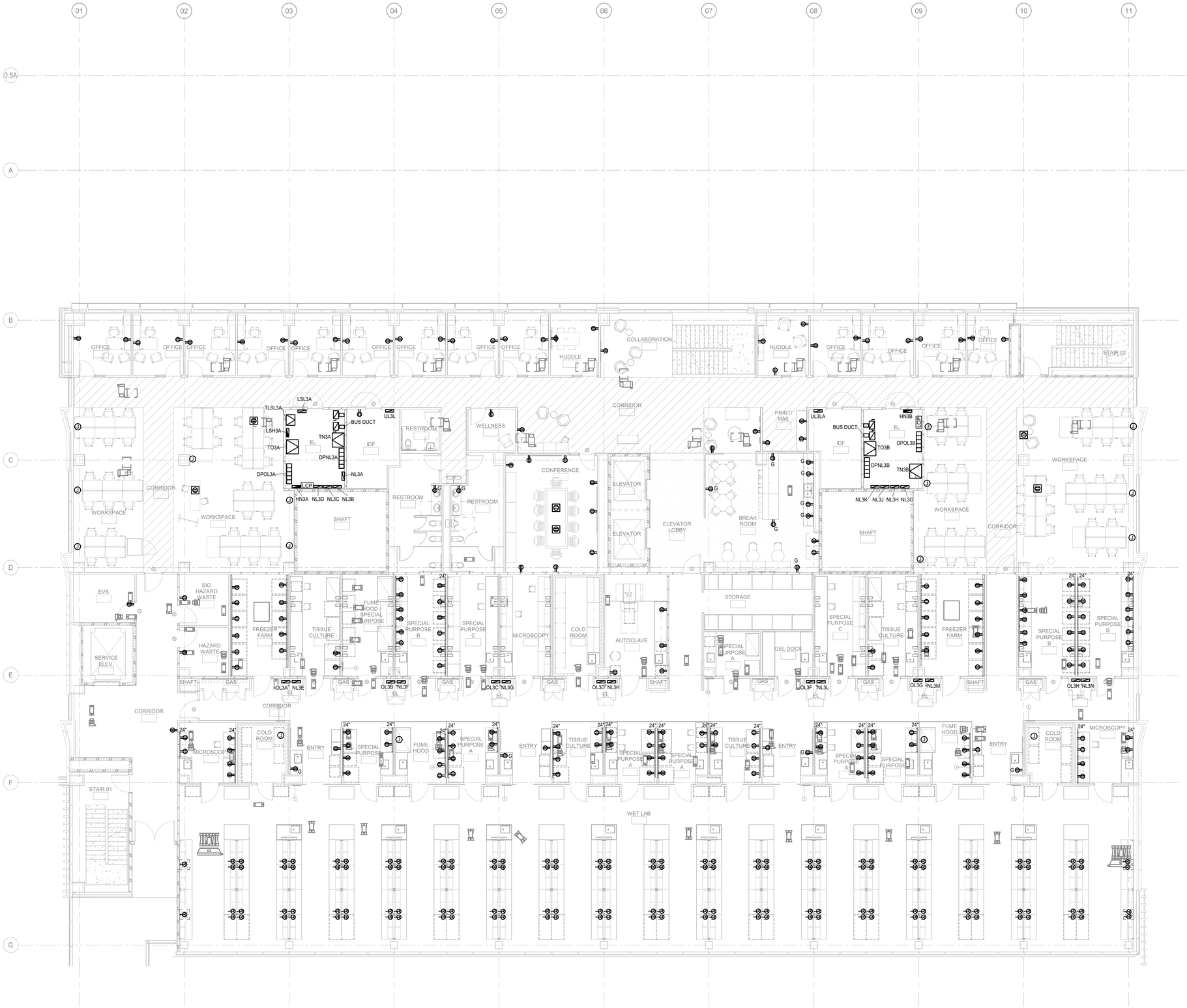


REVISION NO. | DESCRIPTION | DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 2 POWER PLAN

SHEET NO.
E-202



1 LEVEL 3 POWER PLAN
SCALE: 1/8" = 1'-0"

POWER SHEET GENERAL NOTES:

1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT, ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THEIR RESPECTIVE DISCIPLINE DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.
2. REVIEW AND COORDINATE WITH ALL TRADES' CONTRACT DOCUMENTS AND CONTRACTORS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH THE SPECIFIC TRADE.
3. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE # 12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
5. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
6. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES.
7. RECEPTACLE BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS. ALL SHARED EQUIPMENT GROUND CONDUCTORS SHALL BE #10 AWG MINIMUM.
8. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
9. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
10. REFER TO ALL EQUIPMENT AND PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

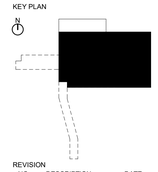
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000

DATE
07 MARCH 2025

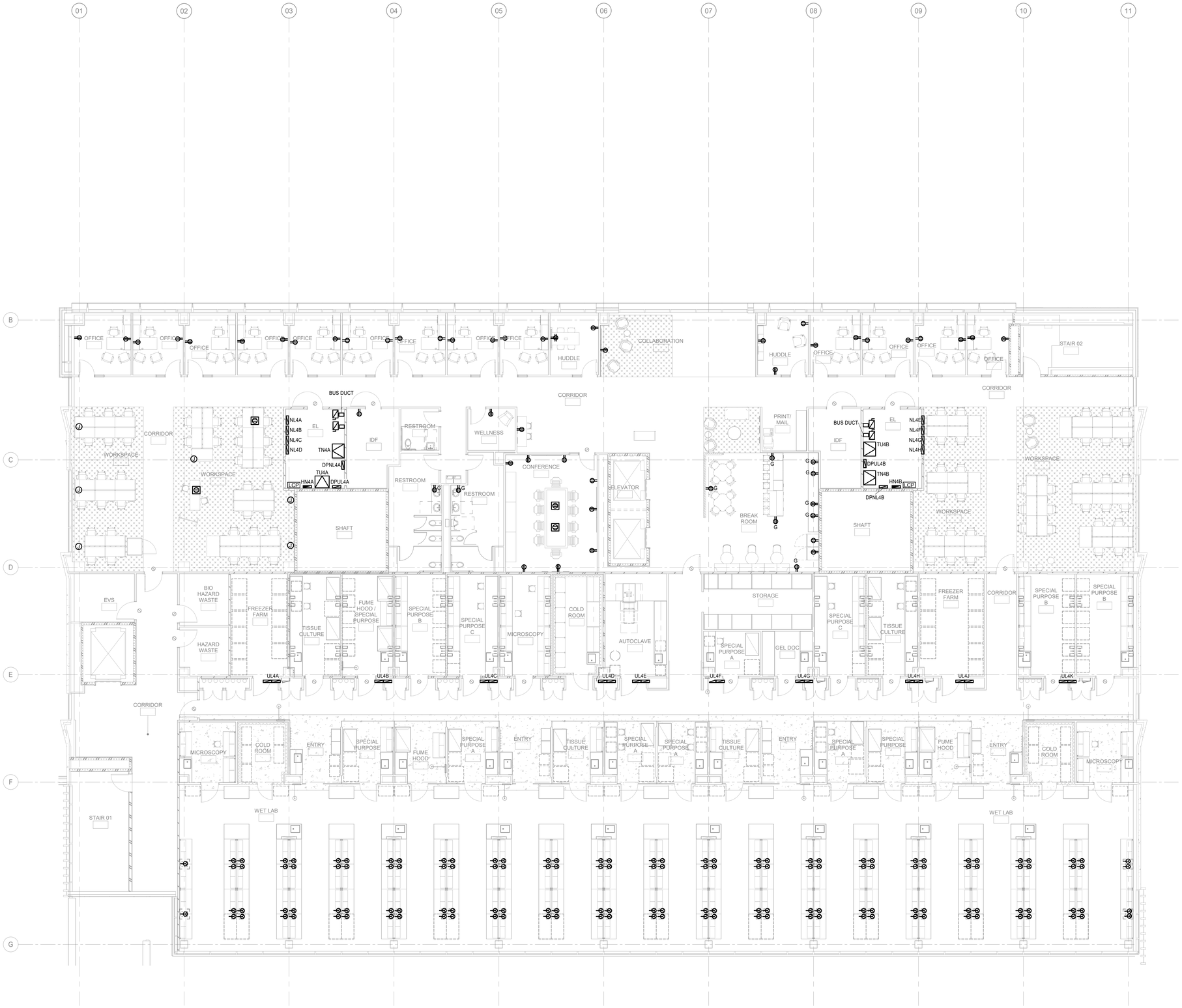
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 3 POWER PLAN

SHEET NO.
E-203

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:13:39 AM
TEMPLATE VERSION:



1 LEVEL 4 POWER PLAN

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

POWER SHEET GENERAL NOTES:

1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT, ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THEIR RESPECTIVE DISCIPLINE DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.
2. REVIEW AND COORDINATE WITH ALL TRADES' CONTRACT DOCUMENTS AND CONTRACTORS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH THE SPECIFIC TRADE.
3. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE # 12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
5. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
6. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES.
7. RECEPTACLE BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS. ALL SHARED EQUIPMENT GROUND CONDUCTORS SHALL BE #10 AWG MINIMUM.
8. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
9. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
10. REFER TO ALL EQUIPMENT AND PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

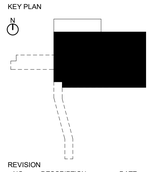
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE, SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000

DATE
07 MARCH 2025

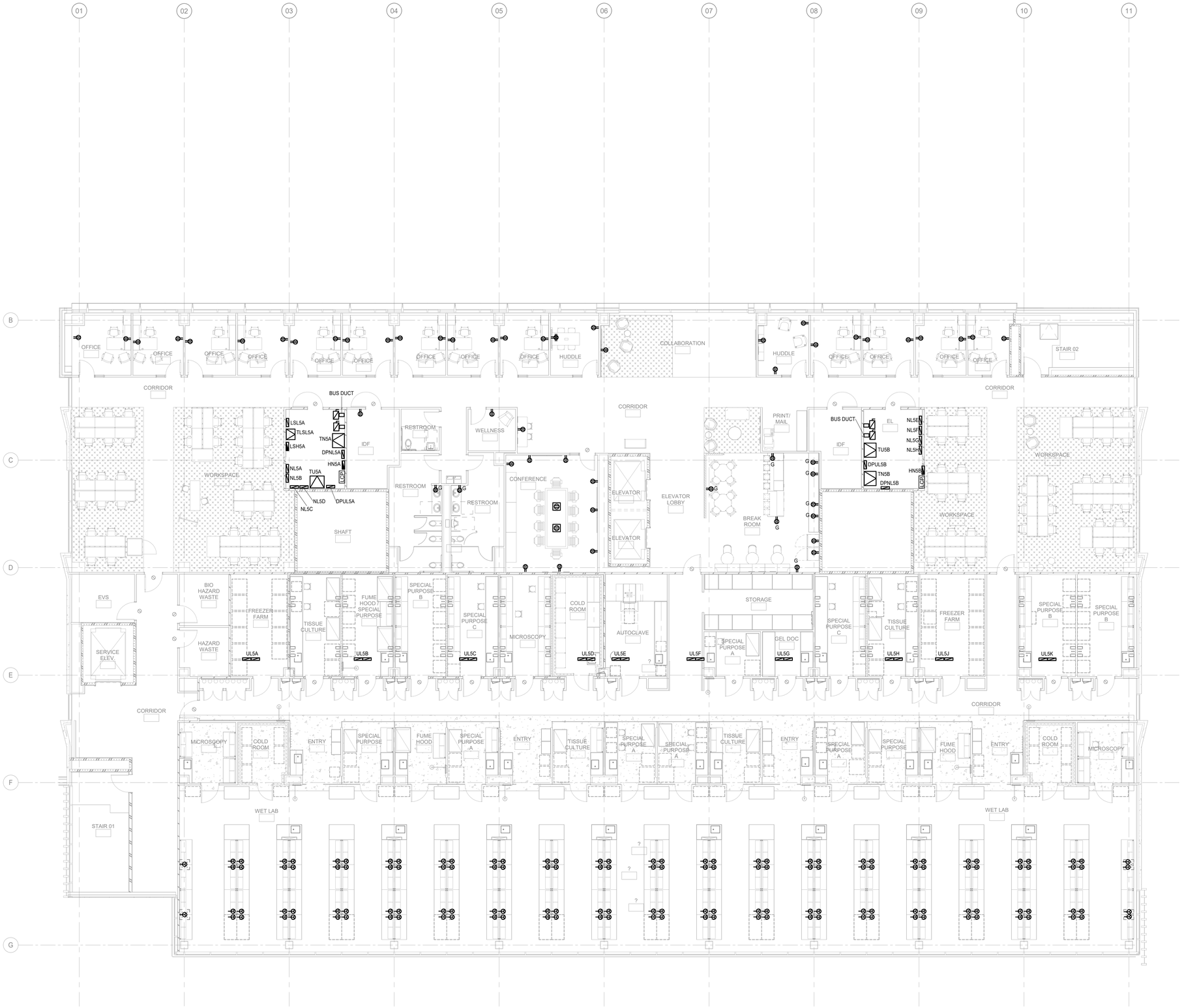
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 4 POWER PLAN

SHEET NO.
E-204

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:54:13 AM
TEMPLATE VERSION:



1 LEVEL 5 POWER PLAN
SCALE: 1/8" = 1'-0"

POWER SHEET GENERAL NOTES:

1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT, ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THEIR RESPECTIVE DISCIPLINE DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.
2. REVIEW AND COORDINATE WITH ALL TRADES' CONTRACT DOCUMENTS AND CONTRACTORS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH THE SPECIFIC TRADE.
3. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE # 12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
5. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
6. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES.
7. RECEPTACLE BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS. ALL SHARED EQUIPMENT GROUND CONDUCTORS SHALL BE #10 AWG MINIMUM.
8. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
9. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
10. REFER TO ALL EQUIPMENT AND PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:54:15 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

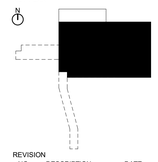
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN

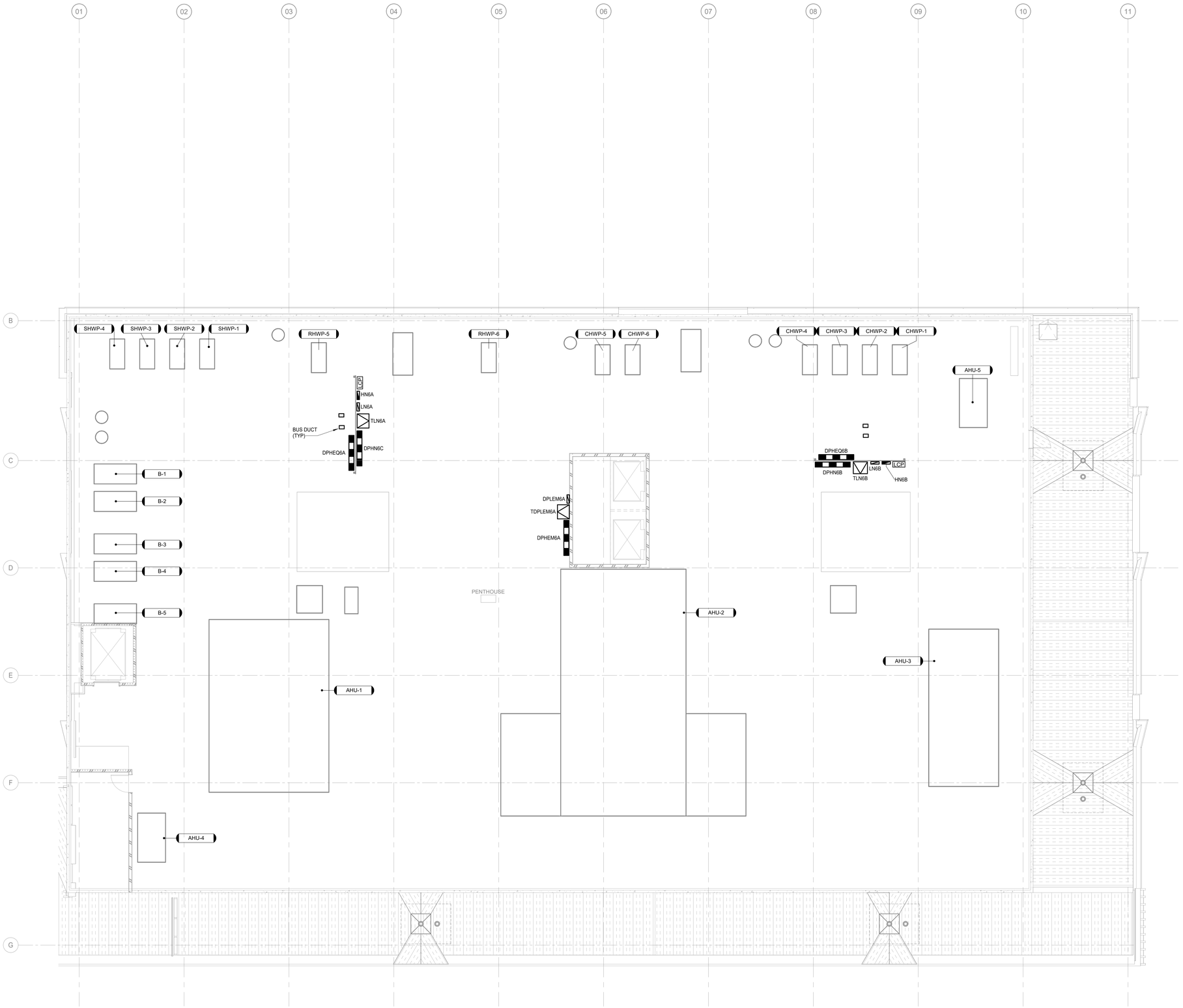


REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LEVEL 5 POWER PLAN

SHEET NO.
E-205



1 PENTHOUSE POWER PLAN
SCALE: 1/8" = 1'-0"

POWER SHEET GENERAL NOTES:

1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT, ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THEIR RESPECTIVE DISCIPLINE DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.
2. REVIEW AND COORDINATE WITH ALL TRADES' CONTRACT DOCUMENTS AND CONTRACTORS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH THE SPECIFIC TRADE.
3. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE # 12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
4. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
5. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN 2#12AWG, #12 EG, 3/4" CONDUIT UNLESS OTHERWISE INDICATED.
6. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES.
7. RECEPTACLE BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS. ALL SHARED EQUIPMENT GROUND CONDUCTORS SHALL BE #10 AWG MINIMUM.
8. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.
9. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
10. REFER TO ALL EQUIPMENT AND PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

(#) SHEET KEY NOTES:

1. INSERT NOTE. CONTROL-ENTER, THEN ENTER TO DOUBLE SPACE.
2.

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:54:16 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

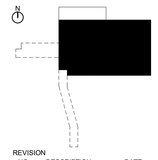
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN

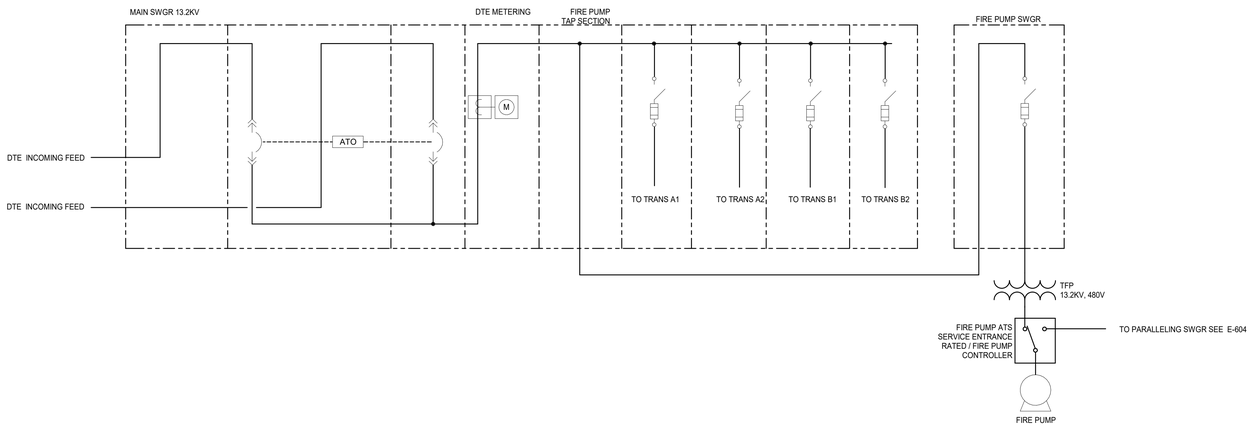


REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
PENTHOUSE POWER PLAN

SHEET NO.
E-206



1 MEDIUM VOLTAGE ELECTRICAL ONE LINE DIAGRAM
SCALE: NONE

ELECTRICAL ONE LINE SHEET GENERAL NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LINE VOLTAGE WIRING BETWEEN CONTROL PANELS AND/OR VFD's AND THEIR CORRESPONDING MOTORS. CONTROL PANELS AND/OR VFD's AND MOTORS ARE PROVIDED BY MECHANICAL HVAC CONTRACTOR. COORDINATE EXACT LOCATION OF ALL CONTROL PANELS, VFD's AND MOTORS AND THEIR REQUIREMENTS WITH MECHANICAL HVAC AND/OR CONTROLS CONTRACTOR PRIOR TO ROUGH-IN.
2. THE **SWITCHBOARD / PANELBOARD LABELED AS XXX ON DRAWINGS** SHALL BE SUITABLE FOR USE AS SERVICE ENTRANCE (SE) EQUIPMENT AND LABELED IN ACCORDANCE WITH ALL U.L. REQUIREMENTS.
3. SEE "GROUNDING ELECTRODE SYSTEM" DETAIL FOR ADDITIONAL GROUNDING AND BONDING REQUIREMENTS.
4. **THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN HIS BID, ALL ELECTRIC UTILITY COMPANY CHARGES FOR PROVIDING SERVICE TO THE BUILDING; INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: TRANSFORMERS, CONCRETE PADS/VAULTS, CABLES, DUCTS, TRENCHING, BACKFILL, CONCRETE ENCASEMENT, METERING, GROUNDING, ALL ANCILLARY EQUIPMENT AND DEVICES, ETC., AND ASSOCIATED LABOR FOR A COMPLETE INSTALLATION PER N.E.C. AND ELECTRIC UTILITY COMPANY REQUIREMENTS. ANY LOCAL UTILITY COMPANY CHARGES FOR PROVISION OF ELECTRICAL SERVICE SHALL BE INCLUDED IN THE ELECTRICAL CONTRACTOR'S BASE PRICE. AS A MINIMUM, THE INSTALLATION SHALL MEET THE SERVICE AND INSTALLATION REGULATIONS OF THE LOCAL UTILITY.**
5. **ROUTE UNDERGROUND PVC CONDUIT INCLUDING AT LEAST ONE SPARE CONDUIT IN ACCORDANCE WITH LOCAL UTILITY REGULATIONS TO THE LOCAL UTILITY CONNECTION POINT. PROVIDE PRIMARY CONDUCTORS PER THE LOCAL UTILITY UNLESS IT IS REQUIRED THAT CONDUCTORS BE PROVIDED BY THE LOCAL UTILITY. CONDUCTOR SIZE AND TYPE TO BE DETERMINED WITH THE LOCAL UTILITY. REVIEW THE CONNECTION POINT AND ROUTING WITH THE LOCAL UTILITY PRIOR TO START OF WORK. CONFIRM TRENCHING AND BURIAL DETAILS WITH LOCAL UTILITY PRIOR TO START OF WORK.**
6. **PROVIDE A TRANSFORMER PAD AND/OR VAULT OF THE PROPER SIZE AND MATERIAL TO MEET TO SERVICE AND INSTALLATION REGULATIONS OF THE LOCAL UTILITY. COORDINATE THE TRANSFORMER LOCATION WITH THE LOCAL UTILITY PRIOR TO START OF WORK. PROVIDE A GROUND LOOP AND GROUNDING RODS AS REQUIRED TO MEET THE SERVICE AND INSTALLATION REGULATIONS OF THE LOCAL UTILITY. ALL GROUNDING CONNECTIONS SHALL BE MADE USING AN EXOTHERMIC WELD PROCESS.**

SHEET KEY NOTES:

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:54:16 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

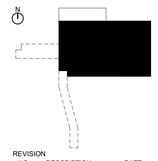
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION
NO. DESCRIPTION DATE

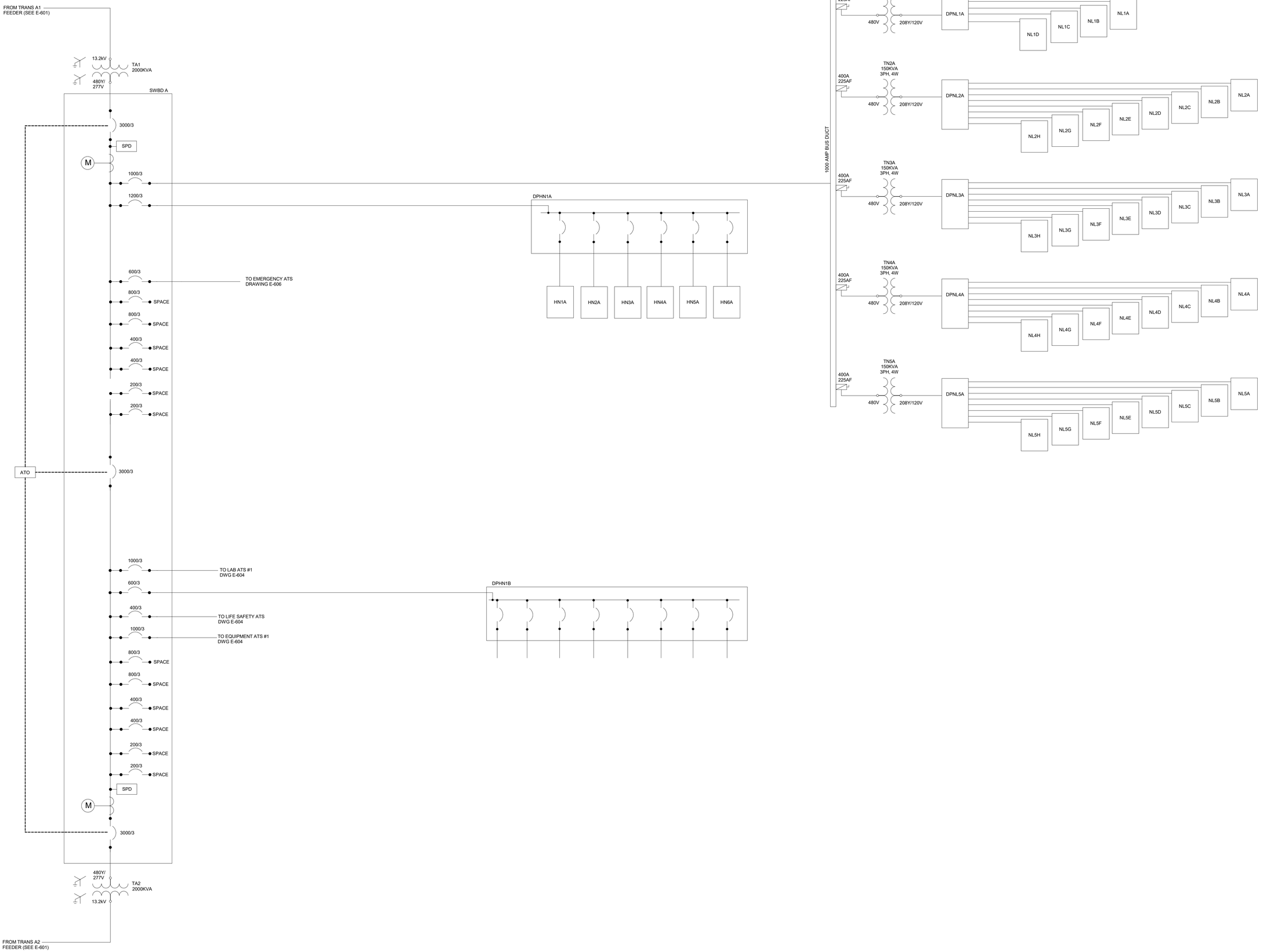
HKS PROJECT NUMBER
26234.000

DATE
07 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
ELECTRICAL ONE LINE DIAGRAM

SHEET NO.
E-601



NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:54:19 AM
TEMPLATE VERSION:

1 SWBD #1 ONE-LINE DIAGRAM
SCALE: NONE

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

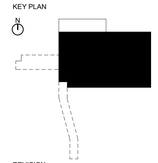
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION
NO. DESCRIPTION DATE

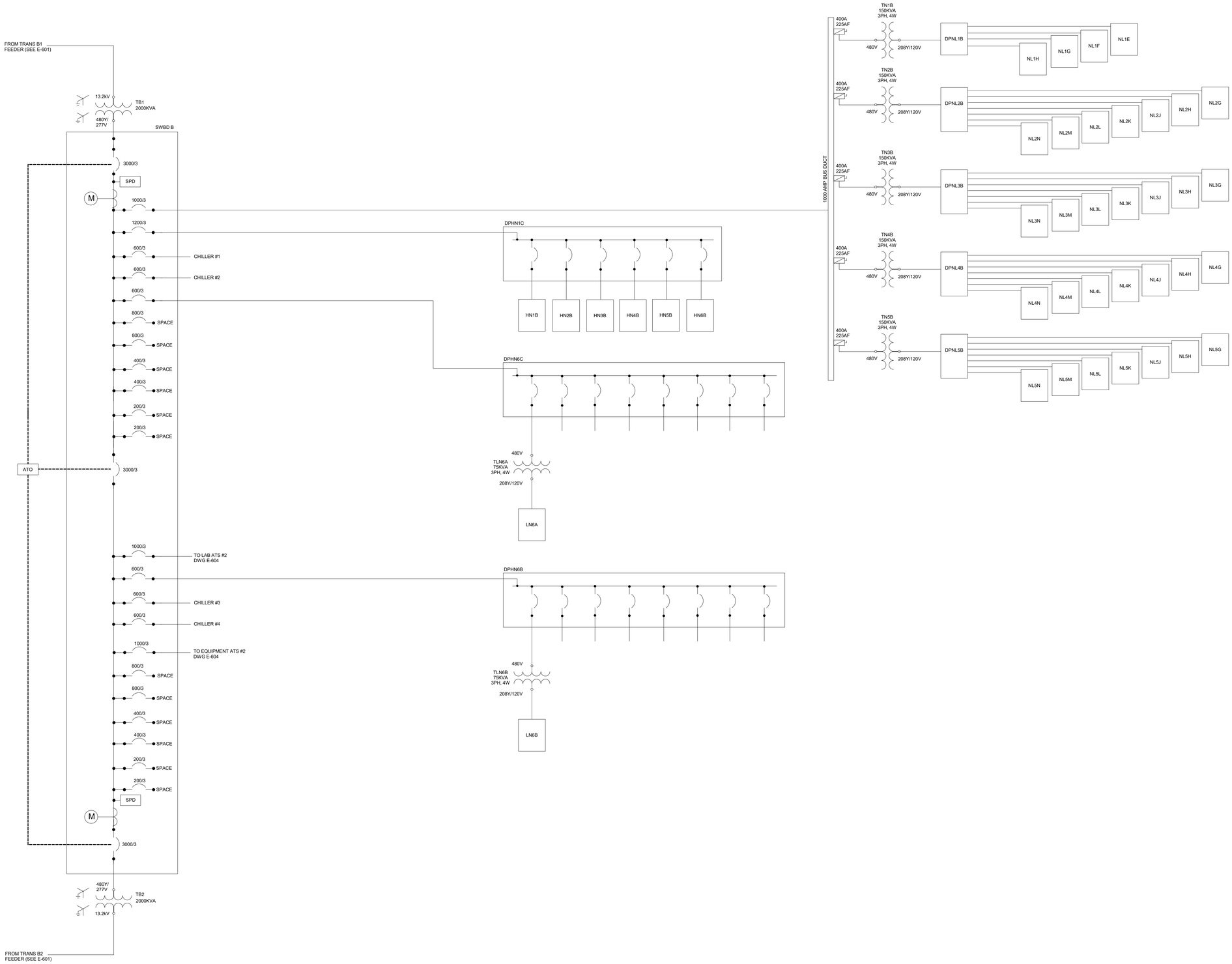
HKS PROJECT NUMBER
26234.000

DATE
07 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
SWBD#1 ONE-LINE DIAGRAM

SHEET NO.
E-602



1 SWBD #2 ONE-LINE DIAGRAM
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:54:16 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

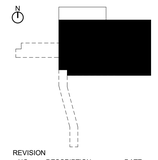
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION
NO. DESCRIPTION DATE

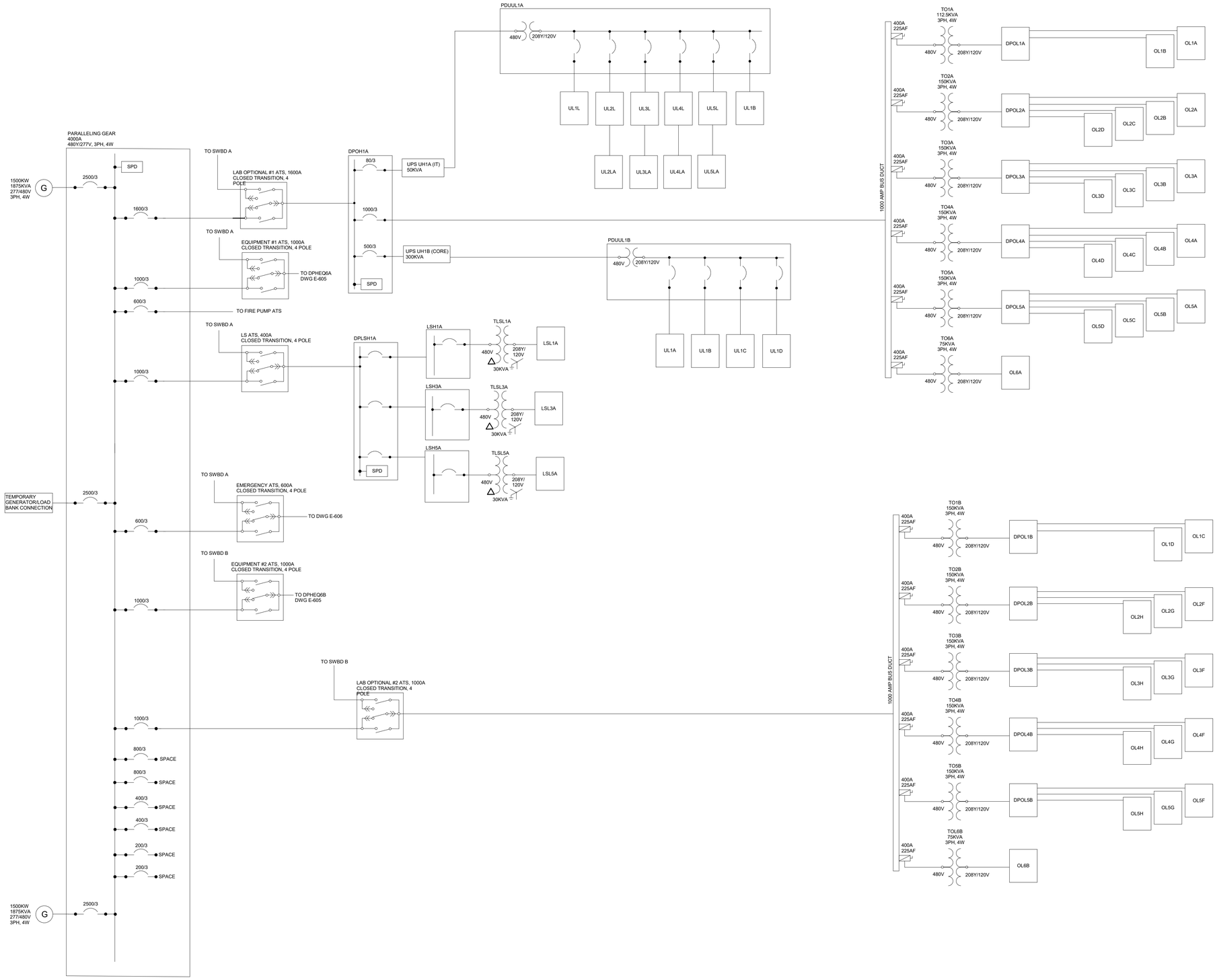
HKS PROJECT NUMBER
26234.000

DATE
07 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
SWBD#2 ONE-LINE DIAGRAM

SHEET NO.
E-603



1 GEN CONNECTIONS
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE:
3/7/2025 8:54:17 AM
TEMPLATE VERSION:

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

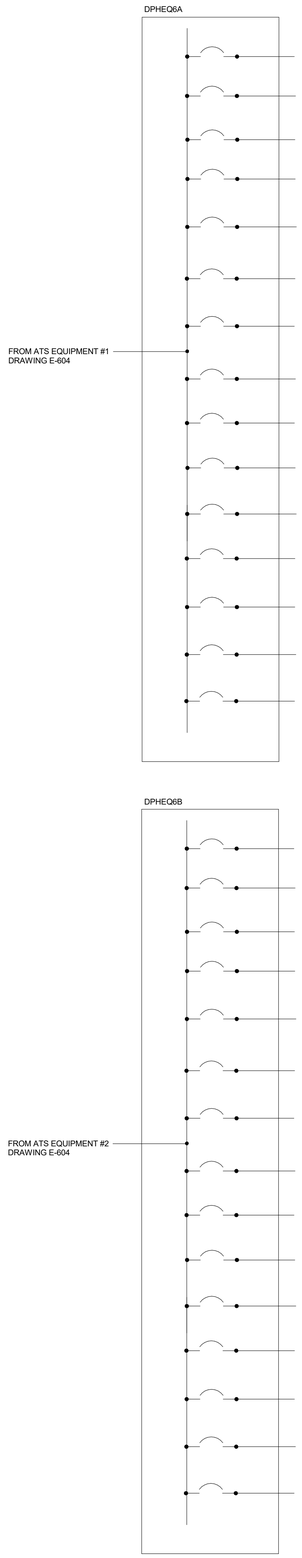
KEY PLAN

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
ESSENTIAL SYSTEM ONE-LINE DIAGRAM

SHEET NO.
E-604



1 EQUIPMENT ONE LINE DIAGRAM
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE:
3/7/2025 8:54:17 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

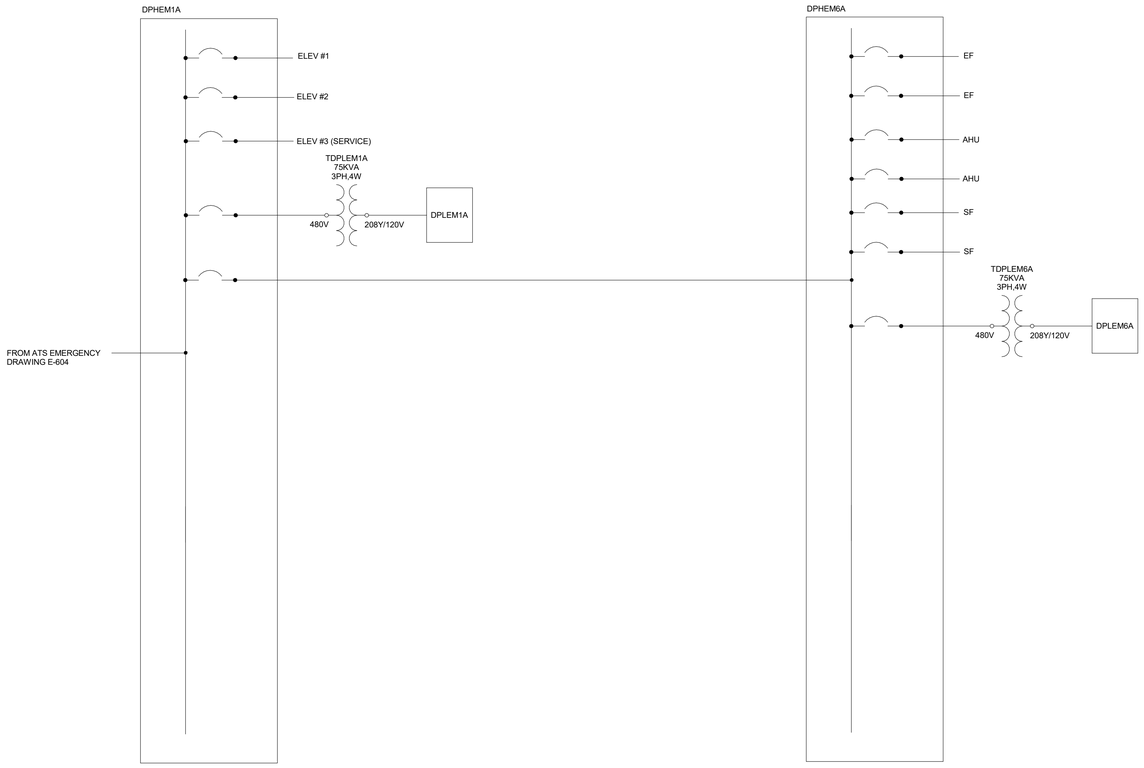
KEY PLAN
N

REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
EQUIPMENT ONE-LINE DIAGRAM

SHEET NO.
E-605



1 ATS EMERGENCY
SCALE: NONE

NOT FOR CONSTRUCTION

PLOT DATE:
3/7/2025 8:54:17 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

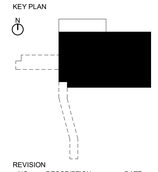
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE
School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000

DATE
07 MARCH 2025

ISSUE
PROGRESS PRINT

SHEET TITLE
ESSENTIAL SYSTEM ONE-LINE DIAGRAM

SHEET NO.
E-606

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	LOAD	DIMMING DRIVER	VOLTAGE	LUMENS	CRI	CCT	BASIS OF DESIGN	EQUIVALENT MANUFACTURER	NOTES
D2-2	2" DIAMETER, 7.5" DEEP DOWNLIGHT WITH SELF-FLANGED, SEMI-DIFFUSE (HAZE) CLEAR, LOW IRIDESCENT ALUMINUM REFLECTOR, FLOOD BEAM DISTRIBUTION, AND WHITE TRIM.	11 W	0-10V,10%	UNV	1000	95	4000	PORTFOLIO LD2B	PRESCOLITE D2LED.MD25 HE WILLIAMS 2DR LIGHTOLIER C2L GOTHAM ICO	MOUNTED IN LAY-IN OR DRYWALL CEILING. CONFIRM CEILING TYPE AND PROVIDE PROPER MOUNTING ACCESSORIES.
D2M	2" DIAMETER, 7.5" DEEP DOWNLIGHT WITH SELF-FLANGED, SEMI-DIFFUSE (HAZE) CLEAR, LOW IRIDESCENT ALUMINUM REFLECTOR, FLOOD BEAM DISTRIBUTION, AND WHITE TRIM.	11 W	0-10V,10%	UNV	1000	95	4000	PORTFOLIO LD2B	PRESCOLITE D2LED.MD25 HE WILLIAMS 2DR LIGHTOLIER C2L GOTHAM ICO	MOUNTED IN LAY-IN OR DRYWALL CEILING. CONFIRM CEILING TYPE AND PROVIDE PROPER MOUNTING ACCESSORIES.
LG4W	4"Wx5.06"Dx4' LONG LUMINAIRE WITH ALUMINUM HOUSING, SATIN SNAP-IN LENS, AND WHITE FINISH.	5 W / FOOT	0-10V	UNV	545 / FOOT	90	3500	PRULITE STREAM PERIMETER 4"	FINELITE HP4-SM AXIS LTG BEAM 2 PINNACLE EX44 FOCAL POINT FSM4LS	
LR4a	3.8"Wx5.5"Dx4' LONG LUMINAIRE WITH ALUMINUM HOUSING, SATIN SNAP-IN LENS, [FLANGED][FLANGELESS][FLANGELESS WITH MUD-IN CAPABILITIES] TRIM AND WHITE FINISH.	7 W / FOOT	0-10V	UNV	515 / FOOT	85	4000	NEO-RAY S124	PRUDENTIAL BIO-STD.FLSH. MO.XX.SAL AXIS LTG BEAM 4 PINNACLE E4 A FOCAL POINT FSM4L	
LR6a	6"Wx5.5"Dx4' LONG LUMINAIRE WITH ALUMINUM HOUSING, SATIN SNAP-IN LENS, [FLANGED][FLANGELESS][FLANGELESS WITH MUD-IN CAPABILITIES] TRIM AND WHITE FINISH.	7 W / FOOT	0-10V	UNV	515 / FOOT	85	4000	NEO-RAY S124	PRUDENTIAL BIO-STD.FLSH. MO.XX.SAL AXIS LTG BEAM 4 PINNACLE E4 A FOCAL POINT FSM4L	
LRG	2.5"Wx3"D RECESSED LINEAR GRAZER LUMINAIRE WITH EXTRUDED ALUMINUM HOUSING, BLACK FINISH.	6 W / FOOT	0-10V	UNV	570 / FOOT	90	3500	BEULUX REGRAZER		
LRP4a	4"Wx5.5"Dx4' LONG LUMINAIRE MOUNTED IN CONTINUOUS RUN AS SHOWN ON DRAWINGS WITH ALUMINUM HOUSING, REGRESSED LENS, AND WHITE FINISH.	7 W / FOOT	0-10V	UNV	500 / FOOT	85	4000	NEO-RAY S124RDRP	PRUDENTIAL P43-PER.REG1. XX.MO.XX.SAL.D1R AXIS LTG BEAM 4 PINNACLE EVL FOCAL POINT FSM4L	
LS4	4"Wx5.06"Dx4' LONG LUMINAIRE WITH ALUMINUM HOUSING, SATIN SNAP-IN LENS, AND WHITE FINISH.	6 W / FOOT	0-10V	UNV	475 / FOOT	90	3500	PRULITE STREAM	FINELITE HP4-SM AXIS LTG BEAM 2 PINNACLE EX44 FOCAL POINT FSM4LS	
RT1Y	1'x1'x7" DEEP RED NARROW SPECTRUM (660nM) LUMINAIRE WITH STEEL HOUSING, .156" PRISMATIC C73 TEMPERED GLASS LENS, AND WHITE FINISH STAINLESS STEEL DOOR.	33 W	0-10V	UNV		NARROW SPECTRUM	660nM RED	KURTZON DKS-F/G-1X1-LED	-	
S	3"Wx3-7/8"Dx4' LONG LUMINAIRE WITH COLD ROLLED STEEL HOUSING, WIDE BEAM DISTRIBUTION, FULL FROST LENS, AND BAKED WHITE ENAMEL FINISH.	6 W	0-10V	UNV	683 / FOOT	85	5000	METALUX SNLED	COLUMBIA MPS DAYBRITE FSS HE WILLIAMS 75R LITHONIA ZL1N	
SV	7"Wx5-7/8"Dx4' LONG GASKETED LUMINAIRE WITH FIBERGLASS HOUSING, FROSTED LENS, WIDE DISTRIBUTION, AND WET LOCATION LISTED.	38 W	0-10V	UNV	4000	85	5000	METALUX 4VT2	COLUMBIA LXEM DAYBRITE VSW HE WILLIAMS 96-4 LITHONIA FEM4	
Xc	EXIT SIGN WITH 6" HIGH RED LETTERS, CLEAR ACRYLIC PANELS, MIRRORED BACKGROUND FOR DOUBLE FACE SIGNS, AND BRUSHED ALUMINUM HOUSING. FACES, ARROWS AND MOUNTING AS INDICATED ON DRAWINGS.	4 W	N/A	UNV	N/A	N/A	N/A	SURE-LITES ELX6	DUAL-LITE LE CHLORIDE 45VL EMERGI-LITE LX LITHONIA LRP	EXIT SIGNS SHALL BE VISIBLE FOR EGRESS INDICATION.
XWc	EXIT SIGN WITH 6" HIGH RED LETTERS, CLEAR ACRYLIC PANELS, MIRRORED BACKGROUND FOR DOUBLE FACE SIGNS, AND BRUSHED ALUMINUM HOUSING. FACES, ARROWS AND MOUNTING AS INDICATED ON DRAWINGS.	4 W	N/A	UNV	N/A	N/A	N/A	SURE-LITES ELX6	DUAL-LITE LE CHLORIDE 45VL EMERGI-LITE LX LITHONIA LRP	WALL MOUNTED EXIT SIGNS SHALL BE ABOVE DOORS, CENTERED BETWEEN DOOR AND CEILING WHERE PRACTICAL, OR AT A SIMILAR HEIGHT IF NOT ABOVE DOORS. EXIT SIGNS SHALL BE VISIBLE FOR EGRESS INDICATION.

LUMINAIRE SCHEDULE NOTES:

1. LUMINAIRE MANUFACTURER AND SERIES INDICATED IN THE "BASIS OF DESIGN" COLUMN IS THE BASIS OF DESIGN. LUMINAIRE MANUFACTURERS AND SERIES INDICATED IN "EQUIVALENT MANUFACTURERS" COLUMN ARE EQUAL PRODUCTS.
2. ANY LUMINAIRES THAT ARE SUBMITTED AND ARE NOT INDICATED ON THE LUMINAIRE SCHEDULE OR WITHIN THE CONTRACT DOCUMENTS WILL BE REJECTED.
   A. VOLUNTARY ALTERNATES AND/OR SUBSTITUTIONS SHALL FOLLOW THE FRONT END DOCUMENTS AND AND BE SUBMITTED WITH THE CONTRACTOR'S PROPOSAL AT TIME OF THE BID.
   B. ALTERNATE AND/OR SUBSTITUTED LUMINAIRES BEING PROPOSED FOR CONSIDERATION SHALL BE ACCOMPANIED BY A POINT-BY-POINT PHOTOMETRIC PLAN. POINT-BY-POINT CALCULATIONS SHALL FOLLOW IESNA RECOMMENDED PRACTICES AND INCLUDE LIGHT LOSS FACTOR (LLF) USED FOR ALL LUMINAIRE TYPES, SURFACE REFLECTANCES, AVERAGE FOOTCANDLE LEVEL, MINIMUM FOOTCANDLE LEVEL(S), AND MAXIMUM-TO-MINIMUM RATIO FOR ALL AREAS WHERE PROPOSED ALTERNATE/SUBSTITUTED LUMINAIRE IS TO BE INSTALLED (ONE CALCULATION EACH FOR TYPICAL ROOMS/SPACES/AREAS IS ACCEPTABLE).
3. ALL LUMINAIRES SHALL BE IN ACCORDANCE WITH THE LUMINAIRE SCHEDULE. THE LUMINAIRE SCHEDULE PROVIDES THE MANUFACTURER AND CATALOG NUMBER. THE LUMINAIRE PROVIDED SHALL CONFORM TO THE DESCRIPTION IN THE LUMINAIRE SCHEDULE. THE MANUFACTURER AND CATALOG NUMBER, AND ALL PROVISIONS OF THE CONTRACT DOCUMENTS.
4. THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL CEILINGS TYPES, LUMINAIRE COLORS, LENGTHS, TRIMS, FINISHES, MOUNTING HARDWARE, CONFIGURATIONS AND HEIGHTS OF SUSPENDED LUMINAIRES, ETC. WITH ARCHITECT PRIOR TO ANY ROUGH-INS AND PLACING FINAL PURCHASE ORDERS.
5. VERIFY FINAL LUMINAIRE LOCATIONS WITH OTHER CEILING MOUNTED EQUIPMENT SUCH AS DIFFUSERS, FIRE ALARM DEVICES, SPEAKERS, ETC. WITH ARCHITECTURAL RCP (REFLECTED CEILING PLANS).
6. VERIFY EXACT HEIGHT AND LOCATIONS OF ALL WALL MOUNTED AND PENDANT/CABLE MOUNTED LUMINAIRES WITH ARCHITECTURAL ELEVATIONS PRIOR TO ANY ROUGH-IN.
7. LUMINAIRES SHALL NOT BE SUPPORTED FROM SUSPENDED CEILING SUPPORTS UNLESS ADDITIONAL CEILING FRAMING AND SUPPORTS ARE ADDED BY THE CEILING CONTRACTOR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, U.L. LISTINGS, AND ANY APPLICABLE STATE OR LOCAL CODES.
8. CONNECTIONS TO RECESSED LUMINAIRES SHALL BE MADE WITH MINIMUM 1/2" FLEXIBLE METAL CONDUIT (FMC) FROM FIXTURE TO OUTLET BOX. LENGTH OF FMC SHALL NOT EXCEED 6'.
9. AT THE CONCLUSION OF THE WORK, EACH LUMINAIRE MUST BE CLEANED PER MANUFACTURER'S INSTRUCTIONS, EQUIPPED WITH THE PROPER TYPE, NUMBER OF LAMPS, INCLUDING KELVIN TEMPERATURE AND WATTAGE, AND ALL IN GOOD OPERATING CONDITION.
10. LIGHT FIXTURE COLOR TEMPERATURE SHALL BE **3500K MINIMUM** UNLESS OTHERWISE NOTED.
11. NOMINAL LUMEN VALUES MAY VARY BETWEEN DIFFERENT MANUFACTURERS OF SAME TYPE OF LUMINAIRE. NOMINAL LUMEN VALUES GIVEN IN SCHEDULE ARE THE VALUES USED FOR DESIGN.
12. FINAL COLOR SELECTION BY ARCHITECT/OWNER AT FIXTURE SUBMITTAL.
13. LENSED FIXTURES SHALL HAVE A MINIMUM OF 0.125" THICK ACRYLIC LENS UNLESS OTHERWISE NOTED.
14. **FOR LUMINAIRES WITH EMERGENCY BATTERY PACK OPTION, PROVIDE ADDITIONAL WIRING AS REQUIRED PER MANUFACTURER'S RECOMMENDATIONS FOR VOLTAGE SENSING OF THE NORMAL SOURCE SERVING THE LUMINAIRE.**

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:54:17 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

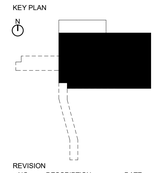
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION

NO.	DESCRIPTION	DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
LUMINAIRE SCHEDULE

SHEET NO.
E-701

EQUIPMENT ELECTRICAL CONNECTION SCHEDULE

MECHANICAL DESIGNATION	EQUIPMENT DESCRIPTION	MOTOR					BRANCH CIRCUIT				REMARKS
		HP	kVA	VOLTAGE	PHASE	LOCATION	OCPD SIZE	CONDUCTORS/CONDUIT	PANEL	CKT. #	
AHU-1	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
AHU-2	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
AHU-3	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
AHU-4	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
AHU-5	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
B-1	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
B-2	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
B-3	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
B-4	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
B-5	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
CA-1	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
CA-2	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
CHWP-1	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
CHWP-2	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
CHWP-3	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
CHWP-4	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
CHWP-5	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
CHWP-6	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
DWH-1	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
DWP-1	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
FP-1	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
RHWP-5	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
RHWP-6	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
SHWP-1	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
SHWP-2	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
SHWP-3	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
SHWP-4	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE
WH-1	ENTER "EQUIPMENT DESCRIPTION" HERE	ENTER "HORSEPOWER" HERE	0 kVA	208 V	3	ENTER MOTOR "LOCATION" HERE	ENTER "OVERCURRENT SIZE" HERE	ENTER "CONDUCTORS/CONDUIT" HERE			ENTER "REMARKS" HERE

EQUIPMENT CONNECTION SCHEDULE GENERAL NOTES:

1. THE CONTRACTOR SHALL COORDINATE OVERCURRENT PROTECTION SIZES WITH FINAL EQUIPMENT SELECTIONS PROVIDED BY MANUFACTURER SHOP DRAWING SUBMITTALS. OVERCURRENT PROTECTIVE DEVICES SHALL MATCH MANUFACTURER'S RECOMMENDED OVERCURRENT PROTECTION SIZE OR MAXIMUM OVERCURRENT PROTECTION (MOCP) SIZE.
2. THE CONTRACTOR SHALL PROVIDE LABELING FOR ALL EQUIPMENT DISCONNECTING MEANS, INCLUDING VFDs, MOTOR CONTROLLERS, DISCONNECT SWITCHES, ETC., INCLUDING THOSE INDICATED ON OTHER DIVISION DOCUMENTS. **REFER TO EQUIPMENT NAMEPLATE DETAILS ON SHEET SERIES E-500's AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.**
3. THE CONTRACTOR SHALL INSTALL LINE VOLTAGE THERMOSTATS, VFDs, AND OTHER LINE VOLTAGE CONTROLLERS INDICATED ON OTHER DIVISION DOCUMENTS AND/OR FURNISHED BY OWNER. **REFER TO VFD WIRING DIAGRAM ON SHEET SERIES E-500'S FOR ADDITIONAL REQUIREMENTS.** COORDINATE EQUIPMENT CONTROL REQUIREMENTS WITH DIVISION 22 EQUIPMENT SCHEDULE(S), DIVISION 23 EQUIPMENT SCHEDULE(S), OWNER FURNISHED EQUIPMENT INSTALLATION INSTRUCTIONS, ETC. COORDINATE CONTROL WIRING REQUIREMENTS WITH SYSTEM INSTALLER.
4. THE CONTRACTOR SHALL PROVIDE NEMA RATED COMBINATION MOTOR STARTERS FOR EQUIPMENT INDICATED ON OTHER DIVISION DOCUMENTS AND/OR FURNISHED BY OWNER REQUIRED TO BE INTERLOCKED WITH BUILDING AUTOMATION SYSTEM(S) AS INDICATED ON CONNECTION SCHEDULE. **REFER TO COMBINATION MOTOR STARTER DETAIL ON SHEET SERIES E-500'S FOR ADDITIONAL REQUIREMENTS.** COORDINATE EQUIPMENT CONTROL REQUIREMENTS WITH DIVISION 22 EQUIPMENT SCHEDULE(S), DIVISION 23 EQUIPMENT SCHEDULE(S), OWNER FURNISHED EQUIPMENT INSTALLATION INSTRUCTIONS, ETC. COORDINATE CONTROL WIRING REQUIREMENTS WITH SYSTEM INSTALLER.

EQUIPMENT CONNECTION SCHEDULE REMARKS:

NOT FOR CONSTRUCTION

PLOT DATE: 3/7/2025 8:54:17 AM
TEMPLATE VERSION:

HKS

ARCHITECT
HKS ARCHITECTS, PC
235 E. MAIN STREET, SUITE 102C
NORTHVILLE, MI 48167

STRUCTURAL ENGINEER
RESURGET ENGINEERING
28 W ADAMS AVE, SUITE 1710
DETROIT, MI 48226

MEP ENGINEER
OSBORN ENGINEERING
1420 WASHINGTON BLVD, SUITE 301
DETROIT, MI 48226

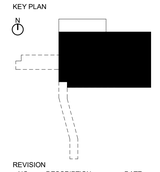
CIVIL ENGINEER
SPALDING DeDECKER
119 STATE ST. SUITE 500
DETROIT, MI 48226

WAYNE STATE UNIVERSITY
SOM RESEARCH BUILDING

WAYNE STATE School of Medicine

OWNER'S MANAGEMENT
KRAMER MANAGEMENT GROUP
1305 S. WASHINGTON AVE. SUITE 101
LANSING, MI 48910

KEY PLAN



REVISION
NO. DESCRIPTION DATE

HKS PROJECT NUMBER
26234.000
DATE
07 MARCH 2025
ISSUE
PROGRESS PRINT

SHEET TITLE
ELECTRICAL EQUIPMENT CONNECTION SCHEDULES

E-721