$16,099,708.00
CONSTRUCTION OFFICE COPY

BID OF **RILEY CONSTRUCTION COMPANY, INC.**

2023

PROPOSAL, CONTRACT, BOND AND SPECIFICATIONS

FOR

METRO TRANSIT HANSON RD. BUS FACILITY REMODEL

CONTRACT NO. 9086

PROJECT NO. 10950

MUNIS NO. 10950

IN

MADISON, DANE COUNTY, WISCONSIN

AWARDED BY THE COMMON COUNCIL
MADISON, WISCONSIN ON **NOVEMBER 21, 2023**

CITY ENGINEERING DIVISION
1600 EMIL STREET
MADISON, WISCONSIN 53713

https://bidexpress.com/login

METRO TRANSIT HANSON RD. BUS FACILITY REMODEL
CONTRACT NO. 9086

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EXHIBITS IN BID EXPRESS:

Exhibit A – Plans Volume 1 Dated September 15, 2023
Exhibit B – Specification Dated September 15, 2023

This Proposal, and Agreement have
been prepared by:

CITY ENGINEERING DIVISION
CITY OF MADISON
MADISON, DANE COUNTY, WISCONSIN

Bryan Cooper For:
James M. Wolfe, P.E., City Engineer

JMW: JW

SECTION A: ADVERTISEMENT FOR BIDS AND INSTRUCTIONS TO BIDDERS

REQUEST FOR BID FOR PUBLIC WORKS CONSTRUCTION
CITY OF MADISON, WISCONSIN

A BEST VALUE CONTRACTING MUNICIPALITY

PROJECT NAME:	METRO TRANSIT HANSON RD. BUS FACILITY REMODEL
CONTRACT NO.:	9086
DBE GOAL	2%
BID BOND	5%
PRE BID BUILDING TOUR (1:30 P.M.)	TUESDAY, SEPTEMBER 26, 2023
PRE BID VIRTUAL BID TALK (1:30 P.M.)	TUESDAY OCTOBER 3, 2023
DBE PRE BID MEETING (2:00 P.M.)	THURSDAY, OCTOBER 19, 2023
DEADLINE FOR BIDDER QUESTIONS, CLARIFICATIONS, AND REQUESTS FOR SUBTITUTIONS (2:00 P.M.)	THURSDAY, OCTOBER 12, 2023
PREQUALIFICATION APPLICATION DUE (2:00 P.M.)	THURSDAY, OCTOBER 19, 2023
BID SUBMISSION (2:00 P.M.)	THURSDAY, OCTOBER 26, 2023
BID OPEN (2:30 P.M.)	THURSDAY, OCTOBER 26, 2023
PUBLISHED IN WSJ	SEPTEMBER 18, 21, 28 & OCTOBER 5, 12, 19

PRE BID BUILDING/SITE TOUR

The City of Madison is conducting one (1) Non mandatory Pre-Bid Walkthrough session at Metro Transit, 3901 Hanson Rd., during the bidding period of this contract. All contractors are invited to attend a short introductory meeting, a short guided tour of the project area, and then will be allowed to more thoroughly review the project area at their own pace. This is the only time contractors shall be provided with guided access to non-public areas in the scope of the project.

PRE BID VIRTUAL BID TALK

The City of Madison Engineering Division is hosting virtual live (and later recording posted) sessions called "Bid Talks." This is an opportunity for you to learn about the project to help with your bid and estimating numbers. During our "Bid Talks" session for this project, the project staff will present information about the project specific to your bidding process. Staff will answer any questions you have. You will also be able to see who is attending. This meeting will be held in a more informal format, where you'll be able to ask questions and have a conversation. Please send your estimators and bidders to these Bid Talks, as they take the place of in-person site visits for specific projects. Registration prior is required. Please register by visiting the Metro Transit Hanson Rd Satellite Bus Facility Remodel project page at https://www.cityofmadison.com/engineering/projects/metro-transit-hanson-road-satellite-bus-facility-remodel.
A recording link will also be posted to the project page after the meeting.

Additional site visits on a case by case basis are not guaranteed and can be scheduled by contacting the City Project Manager. Contractors may also review public areas at any time during normal working hours, but request that you contact the City Project Manager at least one working day prior to the visit, so staff at the building can be notified that visitors may be present.

Staff from Engberg Anderson, City Project Manager (CPM), and City Construction Manager (CCM) will be on hand to take questions related to the plans and specifications. Questions shall be recorded and responded to in the form of a published addendum.

BIDDER QUESTIONS, CLARIFICATIONS, AND REQUESTS FOR SUBSTITUTIONS:
If needed, Engberg Anderson and the CPM shall publish addenda to respond to any questions, clarifications, or requests for substitutions.

- Any questions or requests for clarifications regarding plans and specifications shall be submitted directly to Engberg Anderson and the CPM. Responses that change the contract scope and/or schedule will be published by Engberg Anderson and/or the CPM in the form of a bidding addendum
- Requests for substitutions shall be done according to Specification 01 25 13 – Product Substitution Procedures and other specifications as necessary. Use the form at the end of the specification. Contractors are cautioned to review all specifications and note whether substitutions for specific products will be allowed or not.
- See the contract contact information at the end of Section C – Special provisions for contact information. All questions and/or substitution requests shall be sent via email, reference Metro Transit Hanson Rd. Bus Facility Remodel, Contract 9086.
- **The deadline for receiving all questions, clarifications, and requests for substitutions shall be as indicated in the schedule table above.**

DBE PRE BID MEETING: Disadvantaged Business Enterprise Pre-Bid Meetings are being held virtually. Advance registration is required. Please visit the Small Business Enterprise Meetings web page on Engineering's web site. Questions regarding DBE program requirements may be directed to Tracy Lomax, Affirmative Action Division, at (608) 266-6510 or by email, TLomax@cityofmadison.com.

PREQUALIFICATION APPLICATION: Forms are available on our website, www.cityofmadison.com/engineering/developers-contractors/contractors/how-to-get-prequalified. If not currently prequalified in the categories listed in Section A, an amendment to your Prequalification will need to be submitted prior to the same due date. Postmark is not applicable.

DUNS NUMBER/SAM UNIQUE ENTITY ID REQUIRED: Prior to bid award, all bidders for this project must submit a DUNS Number or SAM Unique Entity ID to the City for all proposed prime and subcontractors listed in the bid.

BIDS TO BE SUBMITTED by hand to 1600 EMIL ST., MADISON, WI 53713 or online at www.bidexpress.com.

Bids may be submitted on line through Bid Express or in person at 1600 Emil St. The bids will be posted on line after the bid opening. If you have any questions, please call Alane Boutelle at (608) 267-1197, or John Fahrney at (608) 266-9091.

STANDARD SPECIFICATIONS

The City of Madison's Standard Specifications for Public Works Construction - 2023 Edition, as supplemented and amended from time to time, forms a part of these contract documents as if attached hereto.

These standard specifications are available on the City of Madison Public Works website, www.cityofmadison.com/engineering/developers-contractors/standard-specifications.

The Contractor shall review these Specifications prior to preparation of proposals for the work to be done under this contract, with specific attention to Article 102, "BIDDING REQUIREMENTS AND CONDITIONS" and Article 103, "AWARD AND EXECUTION OF THE CONTRACT." For the convenience of the bidder, below are highlights of three subsections of the specifications.

SECTION 102.1: PRE-QUALIFICATION OF BIDDERS

In accordance with Wisconsin State Statutes 66.0901(2) and (3), all bidders must submit to the Board of Public Works proof of responsibility on forms furnished by the City. The City requires that all bidders be qualified on a biennial basis.

Bidders must present satisfactory evidence that they have been regularly engaged in the type of work specified herein and they are fully prepared with necessary capital, materials, machinery and supervisory personnel to conduct the work to be contracted for to the satisfaction of the City. All bidders must be pre-qualified by the Board of Public Works for the type of construction on which they are bidding prior to the opening of the bid.

In accordance with Section 39.02(9)(a)l. of the General Ordinances, all bidders shall submit in writing to the Affirmative Action Division Manager of the City of Madison, a Certificate of Compliance or an Affirmative Action Plan at the same time or prior to the submission of the proof of responsibility forms.

The bidder shall be disqualified if the bidder fails to or refuses to, prior to opening of the bid, submit a Certificate of compliance, Affirmative Action Plan or Affirmative Action Data Update, as applicable, as defined by Section 39.02 of the General Ordinances (entitled Affirmative Action) and as required by Section 102.11 of the Standard Specifications.

SECTION 102.4 PROPOSAL

No bid will be accepted that does not contain an adequate or reasonable price for each and every item named in the Schedule of Unit Prices.

A lump sum bid for the work in accordance with the plans and specifications is required. The lump sum bid must be the same as the total amounts bid for the various items and it shall be inserted in the space provided.

All papers bound with or attached to the proposal form are considered a part thereof and must not be detached or altered when the proposal is submitted. The plans, specifications and other documents designated in the proposal form will be considered a part of the proposal whether attached or not.

A proposal submitted by an individual shall be signed by the bidder or by a duly authorized agent. A proposal submitted by a partnership shall be signed by a member/partner or by a duly authorized agent thereof. A proposal submitted by a corporation shall be signed by an authorized officer or duly authorized registered agent of such corporation, and the proposal shall show the name of the State under the laws of which such corporation was chartered. The required signatures shall in all cases appear in the space provided thereof on the proposal.

Each proposal shall be placed, together with the proposal guaranty, in a sealed envelope, so marked as to indicate name of project, the contract number or option to which it applies, and the name and address of the Contractor or submitted electronically through Bid Express (www.bidexpress.com). Proposals will be accepted at the location, the time and the date designated in the advertisement. Proposals received after the time and date designated will be returned to the bidder unopened.

SECTION 102.5: BID DEPOSIT (PROPOSAL GUARANTY)

All bids, sealed or electronic, must be accompanied with a Bid Bond equal to at least 5% of the bid or a Certificate of Annual/Biennial Bid Bond or certified check, payable to the City Treasurer. Bid deposit of the successful bidders shall be returned within forty-eight (48) hours following execution of the contract and bond as required.

MINOR DISCREPENCIES

Bidder is responsible for submitting all forms necessary for the City to determine compliance with State and City bidding requirements. Notwithstanding any language to the contrary contained herein, the City may exercise its discretion to allow bidders to correct or supplement submissions after bid opening, if the minor discrepancy, bid irregularity or omission is insignificant and not one related to price, quality, quantity, time of completion or performance of the contract.

Bidders for this Contract(s) must be Pre-Qualified for at least one of the following type(s) of construction denoted by an ☒

Building Demolition

101 ☐ Asbestos Removal
120 ☐ House Mover
110 ☐ Building Demolition

Street, Utility and Site Construction

201 ☐ Asphalt Paving
205 ☐ Blasting
210 ☐ Boring/Pipe Jacking
215 ☐ Concrete Paving
220 ☐ Con. Sidewalk/Curb & Gutter/Misc. Flat Work
221 ☐ Concrete Bases and Other Concrete Work
222 ☐ Concrete Removal
225 ☐ Dredging
230 ☐ Fencing
235 ☐ Fiber Optic Cable/Conduit Installation
240 ☐ Grading and Earthwork
241 ☐ Horizontal Saw Cutting of Sidewalk
242 ☐ Infrared Seamless Patching
245 ☐ Landscaping, Maintenance
246 ☐ Ecological Restoration
250 ☐ Landscaping, Site and Street
251 ☐ Parking Ramp Maintenance
252 ☐ Pavement Marking
255 ☐ Pavement Sealcoating and Crack Sealing
260 ☐ Petroleum Above/Below Ground Storage Tank Removal/Installation
262 ☐ Playground Installer
265 ☐ Retaining Walls, Precast Modular Units
270 ☐ Retaining Walls, Reinforced Concrete
275 ☐ Sanitary, Storm Sewer and Water Main Construction
276 ☐ Sawcutting
280 ☐ Sewer Lateral Drain Cleaning/Internal TV Insp.
285 ☐ Sewer Lining
290 ☐ Sewer Pipe Bursting
295 ☐ Soil Borings
300 ☐ Soil Nailing
305 ☐ Storm & Sanitary Sewer Laterals & Water Svc.
310 ☐ Street Construction
315 ☐ Street Lighting
318 ☐ Tennis Court Resurfacing
320 ☐ Traffic Signals
325 ☐ Traffic Signing & Marking
332 ☐ Tree pruning/removal
333 ☐ Tree, pesticide treatment of
335 ☐ Trucking
340 ☐ Utility Transmission Lines including Natural Gas, Electrical & Communications
399 ☐ Other_____

Bridge Construction

501 ☐ Bridge Construction and/or Repair

Building Construction

401 ☐ Floor Covering (including carpet, ceramic tile installation, rubber, VCT
402 ☐ Building Automation Systems
403 ☐ Concrete
404 ☐ Doors and Windows
405 ☐ Electrical - Power, Lighting & Communications
410 ☐ Elevator - Lifts
412 ☐ Fire Suppression
413 ☐ Furnishings - Furniture and Window Treatments
415 ☐ General Building Construction, Equal or Less than $250,000
420 ☐ General Building Construction, $250,000 to $1,500,000
425 ☒ General Building Construction, Over $1,500,000
428 ☐ Glass and/or Glazing
429 ☐ Hazardous Material Removal
430 ☐ Heating, Ventilating and Air Conditioning (HVAC)
433 ☐ Insulation - Thermal
435 ☐ Masonry/Tuck pointing
437 ☐ Metals
440 ☐ Painting and Wallcovering
445 ☐ Plumbing
450 ☐ Pump Repair
455 ☐ Pump Systems
460 ☐ Roofing and Moisture Protection
464 ☐ Tower Crane Operator
461 ☐ Solar Photovoltaic/Hot Water Systems
465 ☐ Soil/Groundwater Remediation
466 ☐ Warning Sirens
470 ☐ Water Supply Elevated Tanks
475 ☐ Water Supply Wells
480 ☐ Wood, Plastics & Composites - Structural & Architectural
499 ☐ Other_____

State of Wisconsin Certifications

1 ☐ Class 5 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for quarries, open pits and road cuts.
2 ☐ Class 6 Blaster - Blasting Operations and Activities 2500 feet and closer to inhabited buildings for trenches, site excavations, basements, underwater demolition, underground excavations, or structures 15 feet or less in height.
3 ☐ Class 7 Blaster - Blasting Operations and Activities for structures greater than 15 ' in height, bridges, towers, and any of the objects or purposes listed as "Class 5 Blaster or Class 6 Blaster".
4 ☐ Petroleum Above/Below Ground Storage Tank Removal and Installation (Attach copies of State Certifications.)
5 ☐ Hazardous Material Removal (Contractor to be certified for asbestos and lead abatement per the Wisconsin Department of Health Services, Asbestos and Lead Section (A&LS).) See the following link for application: www.dhs.wisconsin.gov/Asbestos/Cert. State of Wisconsin Performance of Asbestos Abatement Certificate must be attached.
6 ☐ Certification number as a Certified Arborist or Certified Tree Worker as administered by the International Society of Arboriculture
7 ☐ Pesticide application (Certification for Commercial Applicator For Hire with the certification in the category of turf and landscape (3.0) and possess a current license issued by the DATCP)
8 ☐ State of Wisconsin Master Plumbers License.

SECTION B: PROPOSAL

Please refer to the Bid Express Website at https://bidexpress.com look up contract number and go to Section B: Proposal Page

You can access all City of Madison bid solicitations for FREE at www.bidexpress.com

Click on the "Register for Free" button and follow the instructions to register your company and yourself. You will be asked for a payment subscription preference, since you may wish to bid online someday. Simply choose the method to pay on a 'per bid' basis. This requires no payment until / unless you actually bid online. You can also choose the monthly subscription plan at this time. You will, however, be asked to provide payment information. Remember, you can change your preference at anytime. You will then be able to complete your free registration and have full access to the site. Your free access does not require completion of the 'Digital ID' process, so you will have instant access for viewing and downloading. To be prepared in case you ever do wish to bid online, you may wish to establish your digital ID also, since you cannot bid without a Digital ID.

If you have any problems with the free registration process, you can call the bidexpress help team, toll free at 1-888-352-2439 (option 1, option1).

SECTION C: SPECIAL PROVISIONS

METRO TRANSIT HANSON RD. BUS FACILITY REMODEL
CONTRACT NO. 9086

It is the intent of these Special Provisions to set forth the final contractual intent as to the matter involved and shall prevail over the Standard Specifications and plans whenever in conflict therewith.

SECTION 102.11 BEST VALUE CONTRACTING AND FTA FAIR COST/PRICE ANALYSIS

This Contract shall be considered a Best Value Contract if the Contractor's bid is equal to or greater than $74,000 for a single trade contract; or equal to or greater than $360,500 for a multi-trade contract pursuant to MGO 33.07(7).

In addition, Bidder acknowledges that federal requirements pursuant FAR Subpart 15.300 et. seq. may require the City to conduct a price and/or cost analysis of a best value contract in order to determine if the bid is fair and reasonable. Bidder agrees to cooperate with the City's efforts to perform such an analysis and acknowledges that the lowest bid best value contract may not be selected if federal standards determine that it is not a fair price or cost.

SECTION 102.13 PREVAILING WAGE

In addition to the requirements in Sec. 102.13 of the Standard Specifications, during the performance of this agreement, the Contractor agrees to comply with all applicable provisions of the Davis-Bacon Act (29 CFR part 5), as further set forth in Sec. 14 of Addendum A to the Agreement. The Federal Wage Decision applicable to this Project is attached as Attachment 2 to Addendum A to the Agreement.

In addition, the reporting language in Sec. 102.13(d) of the Standard Specifications applicable to replaced as follows:

Prior to all payments, including those under this Sec. 110.2 of these Special Provisions, Contractor or Subcontractor shall:

1. Submit weekly payroll reports, reflecting the number of hours worked by each employee, their rate of pay (including fringe benefits) and their specific trade, using LCP Tracker, at https://prod.lcptracker.net/Accounts/Accounts/Login.

2. Submit their monthly workforce reporting (Monthly Employment Utilization Report) including demographic information by the 15th of the next month using the City of Madison Contract Compliance online system at https://elam.cityofmadison.com/CitizenAccess/Default.aspx.

3. Submit their information on payments (Committed Cost Status Report) to subcontractors including Disadvantaged Business Enterprises by the 15th of the next month using the City of Madison Contract Compliance online system at https://elam.cityofmadison.com/CitizenAccess/Default.aspx.

The wages and benefits paid on the contract shall not be less than those specified in the Federal Wage Decision included with these contract documents for the following Construction Type of work:

- ☒ Building
- ☐ Heavy
- ☐ Highway
- ☐ Residential

ARTICLE 103: AWARD AND EXECUTION OF THE CONTRACT

The awarded Contractor shall completely execute the signing of all contract documents and submit them to City Engineering (Attn: Alane Boutelle, 1600 Emil Street, Madison, WI 53703) prior to **12:00pm on Wednesday, November 22, 2023**. Delays by the Contractor in submitting the required completed contract documents will not adjust the project completion date. Payment and Performance Bonds shall be dated no sooner than **Wednesday, November 22, 2023**.

ARTICLE 104 SCOPE OF WORK

This contract is for construction to remodel existing buildings, including site improvements, for the Metro transit Hanson Road Satellite bus Facility located at 3829 and 3901 Hanson Road in Madison, Wisconsin.

This remodel will provide bus storage and bus maintenance for sixty foot (60ft) all-electric articulated buses for the Metro Bus Rapid Transit (BRT) system. It includes spaces for bus parking, bus wash service lanes and fueling, bus maintenance repair bays and parts storage, administration offices and dispatch, driver lockers and lounge, driver training, buildings & grounds storage with shop and office spaces, and similar spaces.

These improvements include, but are not limited to, items such as selective demolition, structural modifications, below grade piping, MEP, fire protections, technology, bus maintenance and service equipment, some site civil work to facilitate new bus entrance doors, and similar items.

This facility was previously a FedEx distribution center. The existing floor area of building 3829 Hanson Rd is approximately 58,400 square feet. The existing floor area of building 3901 Hanson Rd is approximately 130,700 square feet.

The bus charger infrastructure including charger pads, conduit, and electrical panels in building 3901 needs to be ready by May 15, 2024 for New Flyer to begin installing the EV bus chargers.

The bus storage area in building 3901 and the bus maintenance area in building 3829 needs to be ready by July 15, 2024 for the Owner to use for parking buses and bus maintenance.

The scope of work includes the furnishing of all labor, materials, equipment, tools, and other services necessary to complete the work in accordance with the intent of this contract. The Contractor shall use properly functioning equipment capable of performing the tasks required. The contractor shall furnish workers who perform quality work and who are experienced and knowledgeable in the work proposed.

SECTION 104.1 LANDS FOR WORK

General outlines for the Lands for Work for this contract are represented on the **Exhibit A– Plans Dated September 15, 2023** and generally include the interior, and a limited portion of the exterior of the property at 3829 & 3901 Hanson Rd. All use of the City Lands for Work – by the Contractor - shall be reviewed and approved by the City's Construction Manager.

The Contractor for this Work must also coordinate the work so as not to interfere with Metro Transit operations. Onsite storage, staging and office space will be limited in the gated areas. Refer to sheet C300 for contractor staging area.

No tobacco product use is allowed on the Lands for Work.

SECTION 104.2 INTENT AND COORDINATION OF CONTRACT DOCUMENTS

The contract documents are complimentary of each other and consist of all of the following:

- The City Standard Specifications for Public Works Construction, 2023 Edition
- These Special Provisions including all plans and specifications as noted by the exhibits listed below.
- All Addenda to the bidding documents.

EXHIBITS FOR BIDDING PURPOSES:

- Exhibit A – Plans Volume 1 Dated September 15, 2023
- Exhibit B – Specification Dated September 15, 2023

104.7 EXTRA WORK

Sec. 104.7 applies in full except that when calculating the prices for Extra Work to be completed by subcontractors federal requirements prohibit the addition of a percentage of cost as a mechanism for recovering indirect costs such as overhead or administrative costs. Contractors wishing to account for indirect costs must provide specific indirect cost rates at the time of submitting its costs that have been accepted by a Federal or State government agency in compliance with FAR Part 31 cost principles. These must be submitted in conjunction calculating the overall price for Extra Work.

SECTION 105.5 INSPECTION OF WORK

The Contractor shall coordinate directly with any and all regulatory agencies having jurisdiction over the licensing, permitting, and inspection of work as described in the construction documents.

All Contractors shall be familiar with Specification 01 45 16 – Field Quality Control Procedures regarding City of Madison policies and procedures for Quality Assurance and Quality Control.

SECTION 105.6 CONTRACTORS RESPONSIBILITY FOR WORK

The Contractor shall not take advantage of any discrepancy in the plans or specifications. This shall include but not be limited to apparent errors, omissions, and interpretations involving codes, regulations, and standards.

Any Contractor who identifies such a discrepancy during the bidding process shall notify Engberg Anderson and the City Project Manager (CPM) of the discrepancy prior to the "Questions and Clarifications Deadline" as noted in Section A of the bid documents.

Any Contractor who identifies such a discrepancy after the bidding process and/or after contract signing shall immediately notify Engberg Anderson, the CPM, and the CCM in writing and request clarification on how to proceed. See Specification 01 26 13 – Request for Information (RFI).

SECTION 105.7 CONTRACT DOCUMENTS

The General Contractor is responsible for reproducing all construction documents necessary to complete the Work at their own cost. This shall include plans, specifications, and addenda for the General Contractor and all Sub-contractors. The Contractor shall keep one copy of all drawings and Specifications on the project site, in good order, available to the Project Designers and all City representatives.

SECTION 105.9 SURVEYS, POINTS, AND INSTRUCTIONS

The General Contractor is responsible for providing all survey, benchmarks, points, and elevations required for this project.

SECTION 105.12 COOPERATION BY THE CONTRACTOR

Any Work outside the specified Lands for Work will need to be coordinated with CCM for City of Madison Engineering.

- Provide an anticipated work schedule including number of people, type of access, equipment, and duration. Schedule shall be supplied at least five (5) working days prior to the date access will be required.
- All tools, equipment, and materials shall be mobile and shall be moved back to within the Lands for Work at the end of each work day or otherwise coordinated with Metro Transit.
- All adjacent spaces will be hermetically sealed to minimize dust and debris from entering adjacent spaces. Any common areas including but limited to drive aisles, hallways, and roof access (if utilized) shall be cleaned of dust and debris at the end of each work day

All excessive noisy activities will need to be coordinated and scheduled with the CCM for City of Madison Engineering.

The General Contractor shall be responsible for the sequencing of the project.

The Contractor shall review all other specifications within the construction documents and Additional Reference Documents for other requirements and coordination of work associated with this contract.

SECTION 107.2 PROTECTION AND RESTORATION OF PROPERTY

The Contractor shall be responsible for the protection and restoration of all new and existing work according to Specification 01 76 00 – Protecting Installed Construction.

SECTION 108.2 PERMITS AND LICENSING

See 01 31 46 - Permits.

The Contractor is responsible for obtaining all required permits. The Contractor is not responsible for paying for the City Building, City HVAC, City Electrical, City Plumbing, Madison Fire Department Sprinkler and Madison Fire Department Fire Alarm permits. The Contractor is responsible for paying for other permits not explicitly stated here.

The Contractor shall be responsible for any fines issued due to non-compliance with the project permits.

SECTION 109.7 TIME OF COMPLETION

Work shall only begin after the contract is completely executed and the start work letter is received. It is anticipated that the start work letter shall be issued on or about the week of **December 4, 2023.**

The Contractor shall have reached a level of Construction Closeout **NO LATER THAN September 30, 2024.**

Complete bus charger infrastructure including charger pads, conduit, and electrical panels in building 3901 by May 15, 2024 to make the space ready for New Flyer to begin installing charger equipment. Coordinate bus charger installation work and bus charger conduit locations with New Flyer and their subcontractors. Bus chargers are Owner Furnished/Owner Installed.

Complete the bus storage area in building 3901 and the bus maintenance area in building 3829 by July 15, 2024 for the Owner to use for parking buses and bus maintenance. Work that needs to be completed for bus storage and bus maintenance areas includes completion of the fire sprinkler system, fire alarm system, hydrogen gas detection, HVAC exhaust-air ventilation, structural modifications to the column bays for circulation, compressor room, and similar items.

The Contractor shall review Specifications 01 29 76 - Progress Payment Procedures and 01 77 00 - Closeout Procedures and be completely familiar with the progress payment milestones and definitions related to construction closeout and contract closeout.

SECTION 109.9 LIQUIDATED DAMAGES

The fixed, agreed upon, liquidated damages for failure to complete all work within the Contract Time, shall be calculated in accordance with Article 109 of Standard Specifications, per working day.

110.2 PARTIAL PAYMENT TO CONTRACTORS AND PROMPT PAYMENT TO SUBCONTRACTORS.

I. Partial Payments to Contractor. Partial payments based on the value of the work satisfactorily performed or satisfactory materials furnished, at contract or agreed unit or lump sum prices, will be made to the Contractor as the work progresses, except that partial payments will not be made if the Contractor is in noncompliance with any order given to the Contractor by the Engineer pursuant to the contract.

Once each month (provided that a payment of $1,000 or more becomes due, which amount may at the Engineer's discretion be reduced for contracts of $25,000 or less) the Contractor will prepare an estimate of the quantities of work performed and the value thereof at contract or agreed unit or lump sum prices. The estimate will be prepared on forms provided by the Engineer. After review and acceptance of the estimate by the Engineer, the City shall issue a partial payment. Workforce Profiles shall be approved prior to the first partial payment.

The quantities included shall be computed to reflect the approximate amount of work completed, or substantially completed under each of the pertinent contract items to the date of the estimate less, in each case, an allowance adequate to cover contingencies and costs still to be incurred incident to finishing, maintaining, repairing and restoring of the work, and to cover possible variations between the contract and final quantities in instances where contract quantities are used as a basis for the estimate.

The Engineer may, upon presentation by the Contractor of receipted bills, freight bills or other satisfactory evidence of payment, include in the estimate prepared for partial payment the value of nonperishable materials which are to form a part of the completed work, produced or purchased, and delivered and stored in the vicinity of the work at such location where they will be available for ready incorporation into the work. The amounts paid for such materials shall go to reduce the amount of other partial or final payments due to the Contractor for the work performed as the materials are incorporated into the completed work.

The payment of any current estimate prior to final acceptance of the work by the City shall in no way constitute acceptance of the work, nor in any way prejudice or affect the obligation of the Contractor, to repair, restore, correct, renew or replace any defects or imperfections in the construction or in the strength or quality of the materials used in or about the construction of the work under contract and its appurtenances, or any damage due or attributable to such defects, which defects, imperfections or damage shall have been discovered on or before the final inspection or acceptance of the work. The Engineer shall be the sole judge of such defects, imperfections or damage and the Contractor shall be liable to the City for failure to correct the same as provided herein.

II. Prompt Payment to Subcontractors. The Contractor is required pursuant to 49 CFR §26.29 and Wis. Stat. § 66.0135 to pay all Subcontractors for all work that the Subcontractor has satisfactorily completed, no later than seven (7) days from the receipt of each payment that the City makes to the Contractor under sub. I above. Contractor must pay subcontractors in full and may not withhold any amount in retainage. Any delay in or postponement of payment to the Subcontractor requires good cause and prior written approval of the Engineer. Failure to comply with this prompt payment requirement is a breach of contract, which may result in the City withholding payment under sub. I above or pursuing any remedies permitted under law, including, but not limited to, Contractor Debarment. In addition, Contractor's failure to promptly pay its Subcontractors is subject to the provisions of Wis. Stat. §66.0135(3).

NON STANDARD BID ITEMS

BID ITEM 90000 – BASE BID

DESCRIPTION: The BASE BID shall include the complete installation of all building, mechanical, site, and utility components; the accepted testing, and commissioning of all systems; and the completion, and turn-in of all deliverables as outlined in the plans and specifications.

METHOD OF MEASUREMENT: The BASE BID shall be measured as Lump Sum of the required construction and installations described in the plans and specifications. Partial Payments shall be requested as indicated in Specifications 01 29 73 - Schedule of Values and 01 29 76 - Progress Payment Procedures.

BASIS OF PAYMENT: The BASE BID shall be paid at the contract lump sum price. Partial payments shall be reviewed and authorized as described in the above referenced specifications.

POINTS OF CONTACT

We ask all Contractors with questions and concerns regarding the bidding documents shall contact the Project Architect by e-mail so we may properly log, track, and respond to all issues.

*** Please reference Hanson Rd. Bus Facility Remodel, #9086**

The Project Architect for this contract is:

Engberg Anderson, Inc.
Jim Brown, AIA
PH: 608-250-7514
Email: jimb@engberganderson.com

The City Project Manager (CPM) for this contract is:

City of Madison
Jim Whitney, AIA
PH: 608-266-4563
Email: jwhitney@cityofmadison.com

Department of Public Works
Engineering Division
James M. Wolfe, P.E., City Engineer

City-County Building, Room 115
210 Martin Luther King, Jr. Boulevard
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Assistant City Engineer
Bryan Cooper, AIA
Gregory T. Fries, P.E.
Chris Petykowski, P.E.

Deputy Division Manager
Kathleen M. Cryan

Principal Engineer 2
John S. Fahrney, P.E.
Janet Schmidt, P.E.

Principal Engineer 1
Mark D. Moder, P.E.
Andrew J. Zwieg, P.E.

Financial Manager
Steven B. Danner-Rivers

September 28, 2023

NOTICE OF ADDENDUM
ADDENDUM NO. 1

CONTRACT NO. 9086
Metro Transit Hanson Rd Bus Facility Remodel

This addendum is issued to modify, explain or correct the original Drawings, Specifications, or Contract Documents marked as ***Metro Transit Hanson Rd Bus Facility Remodel, City of Madison Project 10950, Contract No. 9086, as issued on September 19, 2023 and Addendum #1 as issued on September 28, 2023.*** This addendum is hereby made a part of the contract documents, represents clarifications of the previously released documents, consists of one (1) pages, and the referenced exhibits.

This addendum does not include a change to the bid due date.

Please acknowledge this addendum on page E1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

An electronic version of these documents can be found on the Bid Express website at
https://www.infotechinc.com/bidexpress/

If you are unable to download the plan revisions associated with the addendum please contact the Engineering office at 608-266-4751 to receive the material by another route.

For questions regarding this bid, contact:

Jim Whitney
City of Madison Engineering
Phone: 608-266-4563
Email: jwhitney@cityofmadison.com

Sincerely,

James M. Wolfe, P.E., City Engineer

Cc: Greg Fries
Bryan Cooper

1. **GENERAL CONTRACT CONDITIONS**
   A. Attached a copy of the sign-in sheet from the pre-bid meeting and site tour on 9/26/23.

2. **GENERAL QUESTIONS/AMSWERS AND CLARIFICATIONS**
   A. Make a correction to the Bid Talk (Virtual) Registration link on the Bid Express webpage.

3. **ACCEPTABLE EQUIVALENTS**
   A. No change.

4. **SPECIFICATIONS**
   A. No change

5. **DRAWINGS**
   A. Attach a copy of the existing drawing sets of plans for building 3829 and building 3901 to the Bid Express webpage under "Specifications and Plan Sets".
      - 3829 Final Erection FedEx Madison.pdf
      - 3829 FX Home Delivery Madison-Record Dwg Set 2015-02-20.pdf
      - 3901 FX Ground Madison As-builts 2003-2004.pdf
      - 3901 Hanson Road_Building Expansion Drawings-Set 1.pdf
      - 3901 Hanson Road_Building Expansion Drawings-Set 2.pdf
      - 3901 Hanson Road_Building Expansion Drawings-Set 3.pdf
      - 3901 Hanson Road_Building Plans Con-Steel as-builts.pdf

6. **PROPOSAL**
   A. No change.

End of Contract 9086 Addendum No. 1

9/26/23
PRE-BID TOUR
METRO HANSON RD.

JIM WHITNEY	CITY OF MADISON	JWHITNEY@CITYOFMADISON.COM
JERRY ROACH	TRI-MARK	JROACH@TRI-MARK.COM
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Engineering Division
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Principal Engineer 1
Mark D. Moder, P.E.
Andrew J. Zwieg, P.E.

Financial Manager
Steven B. Danner-Rivers

October 17, 2023

NOTICE OF ADDENDUM
ADDENDUM NO. 2

CONTRACT NO. 9086
Metro Transit Hanson Rd Bus Facility Remodel

This addendum is issued to modify, explain or correct the original Drawings, Specifications, or Contract Documents marked as ***Metro Transit Hanson Rd Bus Facility Remodel, City of Madison Project 10950, Contract No. 9086, as issued on September 19, 2023, Addendum #1 as issued on September 28, 2023 and Addendum #2 as issued on October 17, 2023.*** The addenda are hereby made a part of the contract documents, represents clarifications of the previously released documents, consists of eleven (11) pages, and the referenced exhibits.

This addendum does not include a change to the bid due date.

Please acknowledge the addenda on page E1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

An electronic version of these documents can be found on the Bid Express website at
https://www.infotechinc.com/bidexpress/

If you are unable to download the plan revisions associated with the addendum please contact the Engineering office at 608-266-4751 to receive the material by another route.

For questions regarding this bid, contact:

Jim Whitney
City of Madison Engineering
Phone: 608-266-4563
Email: jwhitney@cityofmadison.com

Sincerely,

James M. Wolfe, P.E., City Engineer

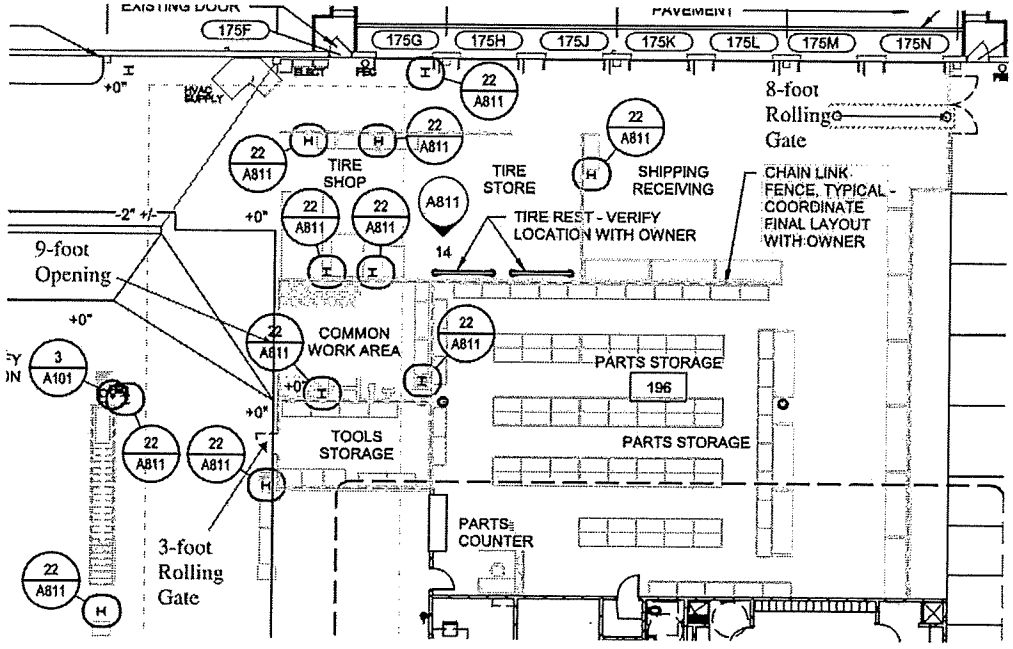
Cc: Greg Fries
Bryan Cooper

GENERAL CONTRACT CONDITIONS

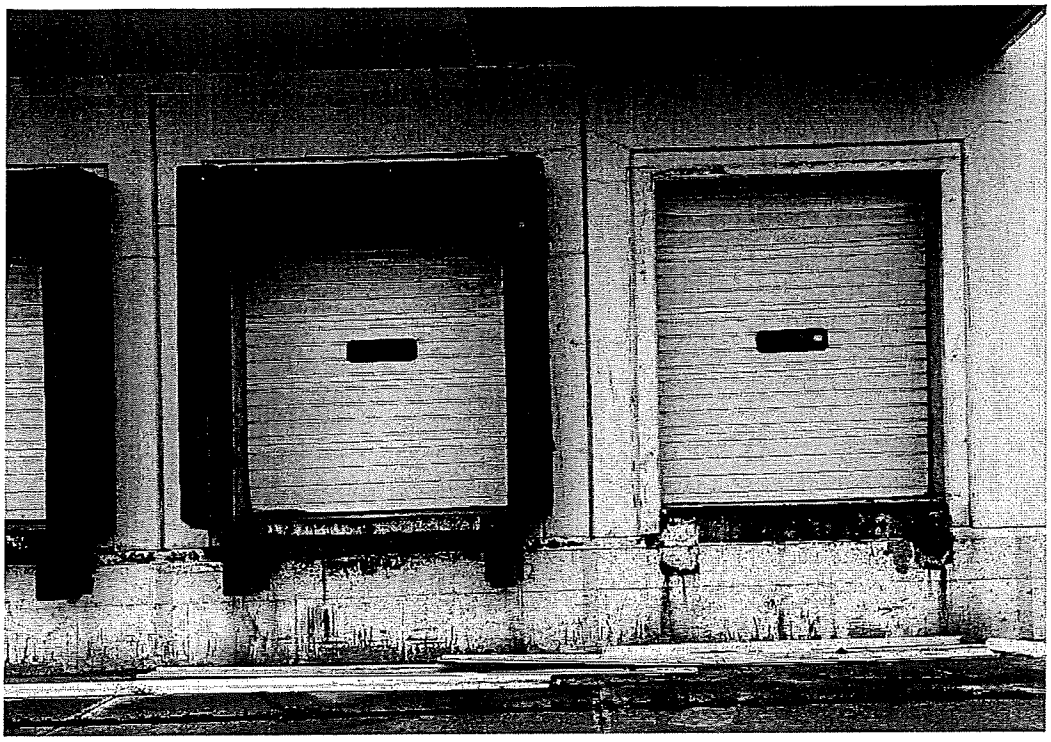
1. No change.

GENERAL QUESTIONS/AMSWERS AND CLARIFICATIONS

1. Can you verify the fence highlighted attached is what is needed to be included in this bid?
    a. Response: The required fence, openings, and gates are highlighted below.



2. How tall does the fence need to be?
    a. Response: See below
3. Do posts need to be cored and set into the concrete floor, or can they be plate set with mechanical anchors?
    a. Response: Specification requires mounting into cored openings at concrete floor.
4. Please provide shop drawings/cut sheets of the New Flyer products which are being furnished and installed under separate contract.
    a. Response: Refer to attached charging equipment cutsheets for the depot chargers, mobil chargers, and pantograph charger for reference.
5. I have been unable to find where the Wash Bay Curtains from Section 10.14.43 are located on the plans.
    a. Response: Refer to sheet A201.
6. I have been unable to find the dimensions required for the curtains.
    a. Response: Refer to the specification and sheet A201. Bottom of curtain is approximately 11-feet above the finished floor.
7. Sheet D400 is not clear in elevations 1 thru 3 what area of the pre-cast wall panels get removed for install of new overhead doors. Please confirm what the hatching specifically at these elevations on the sheet denote as there does not appear to be a sheet legend.
    a. Refer to the revised elevations contained within the addendum.
8. Please confirm as it is not depicted on Sheet A400 or A401, if the existing accent color bands on the buildings are to be re-painted.
    a. Response: the elevations do not require the accent bands to be repainted. The addendum requires select areas of the storage building to be repainted due to selective demolition of items.
9. There is no work shown beyond the new VAV's, based on the demo on the preceding pages this area appears to get all new ductwork and HW piping, none of this work is shown on H101D, not sure if it's a layer issue or what but I think there's a fair amount of information missing from that sheet.
    a. This is being addressed and will be issued in another addendum.
10. Reference D101 – at the existing dock doors, "remove door, sill, seals and bumpers".... Are the existing levelers being removed and infilled?
    a. Response: There are no levelers and therefore no pit to infill.



The photo above depicts what the building looks like after the sill, seal, and bumpers have been removed (threaded attachments remain as the removal was not complete). The steel, dock edge angle remains in the photo and as noted on the plans as it gets covered with metal flashing where the doors are infilled with metal panel or storefront.

The photo above depicts the sectional door hood and surround that are noted to be removed.

11. Is an equivalent dose of macrofibers in the concrete SOG an acceptable alternative to WWF reinforcement?
    a. Response: No
12. Who was the precaster for the original storage building?
    a. Response: The Con-Steel as-builts were provided in Addendum #1.
13. What is the crane rail elevation? How much clearance is between the crane rail and bottom of structure?
    a. Response: The crane should be as high as possible within the confines of the existing facility. Based on some preliminary measurements there is approximately 20-feet of clearance at the roof low point to accommodate the top of the crane. The buses are approximately12-feet high.
14. What are the retaining walls built from?
    a. Response: This is addressed in Addendum #2. The walls are block and sit on a concrete foundation. The guardrail has been eliminated.

15. Specification says dispensers are to be enamel coated steel. Does end user want stainless steel or painted dispensers?
    a. Response: Dispensers have been revised in the addendum.
16. Will there be a detail or specification on how the fuel piping is to enter the storage and maintenance building?
    a. Response: Refer to Vehicle Fueling System specification. Specifically 1.3(C) and (D).

17. What communication system will the customer want the fueling system to integrate with? (BAS, Modbus, stand alone?)
    a. Response: Refer to Vehicle Fueling System specification. Specifically 1.3(G) and (I).
18. Will there be a detail provided on what is desired for the future assemblies?
    a. Response: Accommodations for future assemblies should include rough-ins for all concealed and buried installations including sumps, catch basins, wash equipment, and the like. Future reels, dispensers, wash equipment, and the like will be provided by the Owner in the future but the concealed rough-ins should be in place to accommodate the installations without concrete removal.
19. Sheet C301 at the Maintenance Building fuel tank pad - should the 6" raised concrete pad be a 6" concrete curb at the perimeter of the 8" concrete slab?
    a. Response: The fuel island edging was removed from the metal fabrication specification. The vehicle fueling system specification requires a minimum of a 6-inch curb. The civil drawings indicate an 8" slab with a 6" curb. The installed condition should be an 8" slab as required by the civil documents with an exposed 6" high curb (2" of the slab is below the surface) with stainless steel edging at curb edge. The reinforcing shall be as indicated within the vehicle fueling specification and not as detailed on the civil sheets.

ACCEPTABLE EQUIVALENTS

1. No change.

SPECIFICATIONS

1. Add Section 08 91 19 Fixed Louvers (Specification section attached to Addendum).
2. Add Section 09 66 00 Terrazzo Shower Base (Specification section attached to Addendum).
3. Section 05 50 00 Metal Fabrications:
    a. Page 05 50 00-5
        i. Delete Section 2.12 Fuel Island Edging.
4. Delete Section 05 53 13 Guardrails
5. Section 08 41 13 Aluminum-Framed Storefronts:
    a. Page 08 41 13-2
        i. Delete Section 1.3(E)(4) Regional Materials.
6. Section 08 71 00 Door Hardware:
    a. Set 01, Set 04, Set 09, Set 11, Set 20, Set 31

i.	Add	1	EA	POWER SUPPLY	PS902		GRY	SCHLAGE
ii.	Add	1	EA	POSITION SWITCH		190-12	GRY	GRI

    b. Set 05, Set 29, 32, 36

i.	Add	1	EA	POWER SUPPLY	PS902		GRY	SCHLAGE
ii.	Add	1	EA	POSITION SWITCH		190-12	GRY	GRI
iii.	Add **GC TO RE-WORK FRAME AS REQUIRED FOR ELECTRIC STRIKE.							

    c. Set 08

i.	Delete	3	EA	HINGE FILLERS	AS REQUIRED		652	DON-JO
ii.	Add	1	EA	PUSH	70C		630	ROCKWOOD
iii.	Add	1	EA	PULL	BF111 X 70C		630	ROCKWOOD
iv.	Add	1	EA	CLOSER	4040XP		689	LCN
v.	Add	1	EA	WALL STOP	409		630	ROCKWOOD
vi.	Add	1	EA	DOOR LOUVER				

    d. Add Set 08A

i.	Delete	3	EA	HINGE FILLERS	AS REQUIRED		652	DON-JO
ii.	Add	1	EA	PUSH	70C		630	ROCKWOOD
iii.	Add	1	EA	PULL	BF111 X 70C		630	ROCKWOOD
iv.	Add	1	EA	CLOSER	4040XP		689	LCN
v.	Add	1	EA	WALL STOP	409		630	ROCKWOOD

    e. Set 10

i.	Delete	1	EA	CLASSROOM LOCK	ND70BD X SPA		262	SCHLAGE
ii.	Add	1	EA	PASSAGE	ND10S X SPA		262	SCHLAGE

    f. Set 12
        i. Add **ALLOW 180 DEGREE SWING AT DOOR 177B
    g. Set 21

i.	Delete	1	EA	ELECT HINGE	AS SPECIFIED X TW8		630	IVES

ii.	Delete	1	EA	DOOR HARNESS	CON-XX	---	SCHLAGE
iii.	Delete	1	EA	HARN TO POWER	CON-6W	---	SCHLAGE
iv.	Delete	1	EA	ELECTRIC LOCK	ND80BDEU X SPA	626	SCHLAGE

v. Delete **CARD READER/KEY PAD BY SECURITY SUPPLIER

vi. Delete OPERATION

vii.	Add	1	EA	STOREROOM LOCK	ND80BD X SPA	262	SCHLAGE

h. Set 25

i.	Delete	1	EA	PUSH	70C	630	ROCKWOOD
ii.	Delete	1	EA	PULL	BF111 X 70C	630	ROCKWOOD
iii.	Add	1	EA	PASSAGE	ND10S X SPA	262	SCHLAGE

i. Add SET 37

i.	Add	1	EA	CORE	AS REQUIRED	626	BEST
ii.	Add	1	EA	POSITION SWITCH	190-12	GRY	GRI

iii. Add **BALANCE OF HARDWARE IS EXISTING TO REMAIN.

j. Add SET 38

i.	Add	1	EA	HINGES	AS SPECIFIED	652	IVES
ii.	Add	1	EA	STOREROOM LOCK	ND80BD X SPA		626
		SCHLAGE					
iii.	Add	1	EA	CORE	AS REQUIRED	626	BEST
iv.	Add	1	EA	CLOSER	4040XP X SCUSH	689	LCN
v.	Add	1	EA	ELECT STRIKE	6211	630	VON DUPRIN
vi.	Add	1	EA	POWER SUPPLY	PS902	GRY	SCHLAGE
vii.	Add	1	EA	POSITION SWITCH	190-12	GRY	GRI

viii. Add **CARD READER/KEYPAD BY SECURITY SUPPLIER.

ix. Add VALID CARD READ RELEASES ELECTRIC STRIKE TO ALLOW ENTRY. UPON LOSS OF POWER, ELECTRIC STRIKE TO REMAIN SECURED (FAIL SECURE). FREE EGRESS IS ALWAYS ALLOWED.

k. Add SET 39

i.	Add	1	EA	HINGES	AS SPECIFIED	652	IVES
ii.	Add	1	EA	PRIVACY	L9040 X 17A X L283-722	626	SCHLAGE
iii.	Add	1	EA	CLOSER	4040XP X SCUSH	689	LCN

iv. Add **PROVIDE STAINLESS STEEL HINGES AT DOOR 207.

7. Section 08 80 00 Glazing:
   a. Page 08 80 00-5
      i. Delete Section 2.8(I) Marker Board Standoff.
8. Section 09 30 13 Ceramic Tiling:
   a. Page 09 30 13-3:
      i. Revise lines 16-30
      Porcelain Tile Type CT-1: Unglazed.
      Manufacture: Daltile.
      Product: Keystones.
      Certification: Tile certified by the Porcelain Tile Certification Agency.
      Face Size: 2 by 2 mosaic sheet of 12 x 24.
      Thickness: 5/16 inch.
      Pattern: Stacked bond
      Tile Color: Desert Gray Speckle D200.
      Grout Color: As selected by Architect from manufacturer's full range.
      Precoat with temporary protective coating.
      Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:
      Built-up Cove Base: MB5B.
      Inside and outside corners.
      ii. Revise lines 31-45
      Porcelain Tile Type CT-2: Unglazed.
      Manufacture: Delconca.
      Product: Essential.
      Certification: Tile certified by the Porcelain Tile Certification Agency.
      Face Size: 12 by 24.
      Thickness: 5/16 inch.

Pattern: Running bond
Tile Color: Gray HET05.
Grout Color: As selected by Architect from manufacturer's full range.
Precoat with temporary protective coating.
Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:
Base: 4 x 12.

iii. Add line 46:
Porcelain Tile Type CT-4:
Manufacture: Ceramiche Campogalliano.
Distributor: Ceramic Tileworks
Style: Glassalike Block.
Tile Color: Blu
Finish: Glossy
Face Size: 4 x 12.
Thickness: 3/8 inch+.
Pattern: Stacked Bond.
Grout Color: As selected by Architect from manufacturer's full range.
Precoat with temporary protective coating.
Grout width: 1/8-inch.

9. Section 09 91 24 Interior Painting:
   a. Page 09 91 24-5:
      i. Revise Line 3: Epoxy-Modified Latex System MPI EXT 3.1G:
      ii. Revise Line 17: Epoxy-Modified Latex System MPI EXT 4.2J:
      iii. Revise Line 23: Epoxy-Modified Latex System MPI EXT 3.1G:
      iv. Revise Line 24: Prime Coat: Sherwin Williams Pro Industrial Pro-Cryl Universal Primer.
10. Section 10 14 43 Wash Bay Curtain and Track
   a. Page 08 41 13-1
      i. Add line 51: Material weight: 18 oz.
11. Section 10 21 13.19 Plastic Toilet Compartments:
   a. Page 10 21 13.19-2
      i. Delete Section 2.2(A) Recycled Content
      ii. Delete Section 2.2(B) Regional Materials.
12. Section 10 51 13 Metal Lockers
   a. Page 10 51 13-3
      i. Delete Section 2.3(J)(2) Recycled Contect.
      ii. Add line 8: Size: 12-inches wide x 18 inches deep.
      iii. Add line 9: Filler Panels: Fabricated from 0.048-inch nominal-thickness steel sheet.
      iv. Add Line 10:
      Finished End Panels: Fabricated from 0.024-inch nominal-thickness steel sheet to cover unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.
13. Section 11 60 05 Vehicle fueling System
   a. Page 11 60 05-3
      i. Revise 2.2(B): Dispensers and Accessories: Heavy duty, <u>stainless steel</u>, digital, UL listed unit with cabinet, register with automatic hoses, swivels, and break away valves. Units shall have vertical rail features. Provide twin 20' (minimum) length hoses at each dispenser location.
14. Section 32 31 13 Chain Link Fencing and Gates (Interior):
   a. Page 32 31 13-1
      i. Add 2.2(A)(3): Fabric Height: 7'-0".
      ii. Add 2.2(A)(4): Selvage: Knuckled at both selvages.
   b. Page 32 31 13-2
      i. Add 2.2(A)(3): Fabric Height: 7'-0" AFF.
      ii. Add 2.2(C)(1)(a)(vii): Latch: Permitting operation from both sides of gate with provision for padlocking accessible from both sides of gate.
      iii. Add 2.2(C)(1)(a)(vii): Lock: Owner provide padlock.
15. Add Section 28 46 21 Addressable Fire-Alarm System (Specification section attached to Addendum).

DRAWINGS

1. C200 Demolition Plan
   A. Revise pavement removal and sawcut area around proposed transformer location.
   B. Add curb removal called out in proposed stair location.
2. C300 Overall Site Plan
   A. Revise pavement area around proposed transformer location.
   B. Revise callout for proposed camera pole.
   C. Revise bus charger station location and layout.
3. C301 East Building Detailed Site Plan
   A. Revise callout for proposed transformer.
   B. Revise Callouts for bus charger.
   C. Revise dimensioning labels.
4. C501 Details
   A. Add detail for camera pole concrete base.

5. D201 Demolition Reflected Ceiling Plan – Storage Building
   A. Revise existing ceiling to be removed from ACT to gypsum board.
   B. Add note to remove gyp bd ceiling – retain framing.
   C. Delete note to remove card reader. Door is scheduled to receive a card reader. Coordinate with data plans.
6. D400 Demolition Elevations - Maintenance Building
   A. Detail 1 – East elevation
      1. Revise note regarding removal of egress / emergency lighting.
      2. Add metal wall panel removal for door opening.
   B. Detail 2 – West elevation
      1. Revise note regarding removal of egress / emergency lighting.
   C. Detail 3 – North elevation
      1. Revise note regarding removal of egress / emergency lighting.
   D. Detail 4 – South elevation
      1. Revise note regarding removal of egress / emergency lighting.
   E. Demolition Legend
      1. Add Legend
7. D401 Demolition Elevations - Storage Building
   A. Detail 1 – East elevation
      1. Add notes regarding removal of egress / emergency lighting.
      2. Add note regarding removal of sectional door hood and surround.
   B. Detail 2 – West elevation
      1. Revise note regarding removal of egress / emergency lighting.
      2. Add notes regarding sectional door panel replacement.
   C. Detail 3 – North elevation
      1. Revise note regarding removal of egress / emergency lighting.
      2. Add precast removal for louver opening.
      3. Add note regarding existing FDC and alarm.
      4. Add door removal graphic.
      5. Add note regarding sectional door panel replacement.
      6. Add note regarding metal door and frame removal.
   D. Detail 5 – South elevation
      1. Add notes regarding removal of egress / emergency lighting.
      2. Add notes regarding removal of building lighting.
      3. Add note regarding removal of sectional door hood and surround.
      4. Add note regarding retaining a sectional door, sill, and associated seals and accessories.
   E. Demolition Legend
      1. Add Legend
8. A201 Reflected Ceiling Plan – Storage Building
   A. Revise Womens 266 and Mens 267 from ACT ceilings to Gyp Bd ceilings.
   B. Revise Water 299 from OTS to Gyp Bd ceiling.
   C. Add detail 8/A601 reference to Water 299.
   D. Revise PVC ceiling height.
   E. Add note to Wash Bay curtain indicating curtain height.

9. A202 Enlarged Ceiling Plans
    A. Revise Womens 266 and Mens 267 from ACT ceilings to Gyp Bd ceilings.
    B. Add note to reframe existing joists to accommodate 2x2 light fixtures.
    C. Revise Water 299 from OTS to Gyp Bd ceiling.
    D. Add detail 8/A601 reference to Water 299.
10. A400 Elevations - Maintenance Building
    A. Detail 1 – East elevation
        1. Revise note regarding high speed door.
        2. Add glazing panels to high speed door.
        3. Add hose bibbs.
        4. Revise FA Device note.
        5. Delete louver and note.
    B. Detail 2 – West elevation
        1. Revise note regarding egress / emergency lighting.
        2. Add note regarding building lighting.
        3. Add hose bibbs.
    C. Detail 3 – North elevation
        1. Revise note regarding egress / emergency lighting.
        2. Add note regarding building lighting.
    D. Detail 4 – South elevation
        1. Revise note regarding high speed door.
        2. Revise louver note.
        3. Add glazing panels to high speed doors
        4. Revise note regarding egress / emergency lighting.
        5. Add note regarding Fire Protection test header location.
        6. Revise door and frame notation.
    E. Elevation Legend
        1. Add Legend
11. A401 Elevations – Storage Building
    A. Detail 1 - East elevation
        1. Add note to paint wall below canopy.
        2. Revise glazing notes.
        3. Revise note regarding building lighting.
        4. Add glazing panels to high speed door.
        5. Add high speed door control buttons / status lights
        6. Add hose bibbs.
        7. Add building light
    B. Detail 2 – West elevation
        1. Revise detail number.
        2. Revise building lighting note.
        3. Add sectional door panel replacement notes.
    C. Detail 3 – North elevation
        1. Revise detail number.
        2. Revise building lighting notes.
        3. Add sectional door panel replacement notes.
        4. Add Fire Protection test header note.
    D. Detail 4 – South elevation
        1. Revise detail number.
        2. Add note to paint wall
        3. Revise glazing notes.
        4. Revise building lighting notes.
    E. Elevation Legend
        1. Add Legend

12. A601 Door Schedule & Wall Types
    A. Door and Frame Schedule – Maintenance Building:
        1. Delete doors 140B, 140E, 175G, 175H, 175J, 175K, 175L, 175M, and 175N from door schedule and add general note underneath schedule.
        2. Revise door type for doors 100, 160, 161, and 177C.
        3. Revise door material, door finish, and frame finish for doors 100, 175A, 175D, and 177A.
        4. Revise frame type, jamb detail, head detail, and remarks for doors 160 and 161.
        5. Revise label for door 176.
        6. Remove remarks for door 178B.
    B. Door and Frame Schedule – Storage Building:
        1. Remove doors 200E, 200J, 200L, 200N, 200Q, 200T, 200U, and 200V from door schedule and add general note underneath schedule.
        2. Revise door type for doors 200W, 210C, 259A, 266, 267, 293, 294, and 299.
        3. Revise door material, door finish, and frame finish for doors 200K, 200M, 200W, 250A, and 274.
        4. Revise door height for doors 204, 211, and 300.
        5. Revise frame type, jamb detail, head detail, and remarks for doors 200W, 266, 267, 293, 294, and 299.
        6. Revise threshold detail for door 200W.
        7. Revise label for door 299.
        8. Revise hardware for doors 200W, 285B, and 299.
    C. Frame Types: Revise frame type number from 3 to E.
    D. Add detail 8
13. A701 Interior Finishes & Schedules
    A. Finish Schedule – Maintenance Building:
        1. Delete base from rooms 176, 177, 178, 195, and 196.
        2. Revise floor and base finish for room 184.
        3. Revise base finish for rooms 186, 187, 188, and 189.
    B. Finish Schedule – Storage Building:
        1. Delete flooring from room 202.
        2. Delete base from rooms 201, 202, 203, 204, 205, 206, 210, 211, and 264.
        3. Add wall finish and revise remarks for room 201.
        4. Revise floor and base finish for rooms 207 and 208.
        5. Revise base finish for room 263.
    C. Finish Key:
        1. Revise style for CG-1.
        2. Revise CPT-1:
            - Add distributor, delete style, revise product number, and revise color.
        3. Delete style for RB-1.
        4. Delete CTB-1.
14. A702 Interior Finish Plans
    A. Detail 1:
        1. Add base extents for maintenance/building & grounds walls.
    B. Detail 3:
        1. Revise view extents.
        2. Add paint and base extents for bus storage wall.
    C. Detail 4:
        1. Revise view extents.
        2. Add paint callout for plan east wall.
        3. Note extents to paint all exposed items which are not stainless steel PT-1.
15. A801 Interior elevations
    A. Detail 17:
        1. Add base section callout.
        2. Revise base finish callout.
    B. Detail 18:
        1. Add base section callout.
        2. Revise base finish callout.

16. A802 Interior Elevations
    A. Detail 4:
        1. Remove base and add CT-4 wall finish callout.
    B. Detail 5:
        1. Add base section callout.
        2. Revise base finish callout.
    C. Detail 6:
        1. Add base section callout.
        2. Revise base finish callout.
    D. Detail 7:
        1. Remove base and add CT-4 wall finish callout.
    E. Detail 8:
        1. Add base section callout.
        2. Revise base finish callout.
17. A812 Interior Details:
    A. Detail 1:
        1. Revise tile base section and profile.
    B. Detail 2:
        1. Revise tile base section and profile.
    C. Detail 14:
        1. Revise concrete removal extents in Change 186.
18. F100 First Floor Plan Maintenance Building Fire Protection, revise the following:
    A. Add heads under precast lid in Battery 178, Fluids/Compressor 177, & Fire Pump 176.
    B. Relocated and added sidewalls sprinkler heads under garage doors to provide protection under obstructions that are greater than 4'-0" in width.
    C. Added heads above Office 181, Electrical Shop 182, Mechanical 195, Toilet 184, Comfort 183, Corridor 180, Change 187, Change 186, Locker 185, Change 188, and Change 189 as area above ceiling is open to adjacent warehouse.
19. F101 First Floor Plan Storage Building Fire Protection, revise the following:
    A. Show proper location of Fire Department Connection, located outside Office 271.
    B. Added Ordinary Hazard Group 1 classification for Mechanical Room located above Driver Locker 260 and Bus Storage 200.
    C. Added concealed pendants in Lounge 257 and Kitchenette 258. Also added note identifying above and below protection is required.
    D. Added concealed pendants in ceilings in Office 206, Toilet 207, Bus Storage 200, Toilet 208, & Break 209. Also added uprights above rooms as area above ceiling is open to adjacent warehouse.
    E. Removed sidewall sprinkler heads under garage door that does not meet the 4'-0" wide obstruction requirement.
20. E001 Notes, Symbols, Abbreviations & Sheet Index, revise the following:
    A. Revise plan and notes as indicated.
21. ED100A Lighting Demo Plan – 3829 Maint. Bldg. – Section A, revise the following:
    A. Revise plan and notes as indicated.
22. ED100B Lighting Demo Plan – 3829 Maint. Bldg. – Section B, revise the following:
    A. Revise plan and notes as indicated.
23. ED200A Power Demo Plan – 3829 Maint. Bldg. – Section A, revise the following:
    A. Revise plan and notes as indicated.
24. ED200B Power Demo Plan – 3829 Maint. Bldg. – Section B, revise the following:
    A. Revise plan and notes as indicated.
25. ED300 Existing Panel Schedules – 3829 Maint. Bldg., revise the following:
    A. Revise plan and notes as indicated.
26. E100A Lighting New Work Plan – 3829 Maint. Bldg. – Section A, revise the following:
    A. Revise plan and notes as indicated.
27. E100B Lighting New Work Plan – 3829 Maint. Bldg. – Section B, revise the following:
    A. Revise plan and notes as indicated.
28. E100C Lighting New Work Plan – 3829 Maint. Bldg. – Enlarged Plans, revise the following:
    A. Revise plan and notes as indicated.
29. E200A Power New Work Plan – 3829 Maint. Bldg. – Section A, revise the following:
    A. Revise plan and notes as indicated.
30. E200B Power New Work Plan – 3829 Maint. Bldg. – Section B, revise the following:
    A. Revise plan and notes as indicated.

31. E200C Power New Work Enlarged Plans – Maint. Bldg., revise the following:
    A. Revise plan and notes as indicated.
32. E200D Power New Work Enlarged Plans – Maint. Bldg., revise the following:
    A. Revise plan and notes as indicated.
33. E200E Power New Work Enlarged Plans – Maint. Bldg., revise the following:
    A. Revise plan and notes as indicated.
34. E300A Existing Revised Panel Schedules – 3829 Maint. Bldg., revise the following:
    A. Revise plan and notes as indicated.
35. E300B New Panel Schedules – 3829 Maint. Bldg., revise the following:
    A. Revise plan and notes as indicated.
36. E400 One Line Diagram – 3829 Maint. Bldg., revise the following:
    A. Revise plan and notes as indicated.
37. E500A Fire Alarm New Work – 3829 Maint. Bldg. – Section A, revise the following:
    A. Revise plan and notes as indicated.
38. E500B Fire Alarm New Work – 3829 Maint. Bldg. – Section B, revise the following:
    A. Revise plan and notes as indicated.
39. E501A Fire Alarm New Work – 3901 Storage Bldg. – Section A, revise the following:
    A. Revise plan and notes as indicated.
40. E501B Fire Alarm New Work – 3901 Storage Bldg. – Section B, revise the following:
    A. Revise plan and notes as indicated.
41. E501C Fire Alarm New Work – 3901 Storage Bldg. – Section C, revise the following:
    A. Revise plan and notes as indicated.
42. E501D Fire Alarm New Work – 3901 Storage Bldg. – Section D, revise the following:
    A. Revise plan and notes as indicated.
43. E600 Motor and Equipment Schedules – 3829 Maint. Bldg., revise the following:
    A. Revise plan and notes as indicated.
44. Q001, NOTES, SYMBOLS, AND ABREVIATIONS revise the following:
    A. Added note identifying outside camera locations – referenced sheet Q601.
45. QD100, BUILDING 3829 DEMOLITION PLAN revise the following:
    A. Added note to IT Closet E to refer to Sheet Q103 for Demo Information.
46. Q100, OVERALL BUILDING 3829 PLAN revise the following:
    A. Moved data cable locations in the Bay to better reflect location in relation to Bollards and Columns.
47. Q101, OFFICE AREA BUILDING 3829 PLAN revise the following:
    A. Added 2 Data to room 177.
    B. Added Card Reader to room 176.
48. Q200, OVERALL BUILDING 3901 PLAN revise the following:
    A. Added 3 data to fueling stations.
49. Q201, OFFICE AREA BUILDING 3901 PLAN revise the following:
    A. Added Key Pad Notes – referenced Sheet Q601.
    B. Added 1 Data location to room 204.
50. Q601, SCHEDULES - CARD ACCESS AND CAMERA revise the following:
    A. Revised Card Access Schedule

PROPOSAL

1. No change.

End of Contract 9086 Addendum No. 2

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SECTION 08 91 19
FIXED LOUVERS

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PART 1 – GENERAL

1.1 SUMMARY

A. Fixed extruded-aluminum louvers.

B. Blank-off panels for louvers

1.2 DEFINITIONS

A. Louver Terminology: Definitions of terms for metal louvers contained in AMCA 501 apply to this Section unless otherwise defined in this Section or in referenced standards.

B. Horizontal Louver: Louver with horizontal blades (i.e., the axis of the blades are horizontal).

C. Vertical Louver: Louver with vertical blades (i.e., the axis of the blades are vertical).

D. Drainable-Blade Louver: Louver with blades having gutters that collect water and drain it to channels in jambs and mullions, which carry it to bottom of unit and away from opening.

E. Wind-Driven-Rain-Resistant Louver: Louver that provides specified wind-driven-rain performance, as determined by testing in accordance with AMCA 500-L.

F. Windborne-Debris-Impact-Resistant Louver: Louver that provides specified windborne-debris-impact resistance, as determined by testing in accordance with AMCA 540.

1.3 SUBMITTALS

A. Product Data: For each type of product.

1. For louvers specified to bear AMCA seal, include printed catalog pages showing specified models with appropriate AMCA Certified Ratings Seals.

B. Sustainable Design Submittals:

C. Shop Drawings: For louvers and accessories. Include plans, elevations, sections, details, and attachments to other work. Show frame profiles and blade profiles, angles, and spacing.

1. Show weep paths, gaskets, flashings, sealants, and other means of preventing water intrusion.
2. Show mullion profiles and locations.

D. Samples: For each type of metal finish required.

1.4 FIELD CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.5 WARRANTY

A. Special Finish Warranty, Anodized Finishes: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of anodized finishes within specified warranty period.

1. Deterioration includes, but is not limited to, the following:
   a. Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.
   b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.

c. Cracking, peeling, or chipping.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain fixed louvers from single source from a single manufacturer where indicated to be of same type, design, or factory-applied color finish.

2.2 PERFORMANCE REQUIREMENTS

A. Structural Performance: Louvers withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated without permanent deformation of louver components, noise or metal fatigue caused by louver-blade rattle or flutter, or permanent damage to fasteners and anchors. Wind pressures are considered to act normal to the face of the building.

1. Wind Loads:

a. Determine loads based on pressures as indicated on Drawings.

B. Louver Performance Ratings: Provide louvers complying with requirements specified, as demonstrated by testing manufacturer's stock units identical to those provided, except for length and width in accordance with AMCA 500-L.

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

D. SMACNA Standard: Comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" for fabrication, construction details, and installation procedures.

2.3 FIXED EXTRUDED-ALUMINUM LOUVERS

A. Horizontal Drainable-Blade Louver, Extruded Aluminum:

1. Louver Depth: 4 inches unless 6 inches is required to meet performance requirements.

2. Frame and Blade Nominal Thickness: Not less than 0.060 inch for blades and 0.080 for frames.

3. Mullion Type: Exposed.

4. Louver Performance Ratings:

a. Free Area: Not less than 7.5 sq. ft. (0.70 sq. m) for 48-inch- wide by 48-inch- high louver.

b. Point of Beginning Water Penetration: Not less than 900 fpm.

5. AMCA Seal: Mark units with AMCA Certified Ratings Seal.

2.4 LOUVER SCREENS

A. General: Provide screen at each exterior louver.

1. Screen Location for Fixed Louvers: Interior face.

2. Screening Type: Bird screening

B. Secure screen frames to louver frames with stainless steel machine screws, spaced a maximum of 6 inches (150 mm) from each corner and at 16 inches o.c.

C. Louver Screen Frames: Fabricate with mitered corners to louver sizes indicated.

1. Metal: Same type and form of metal as indicated for louver to which screens are attached.

2. Finish: Mill finish unless otherwise indicated.

3. Type: Non-rewirable, U-shaped frames.

D. Louver Screening for Aluminum Louvers:

1. Bird Screening, Flattened, Expanded Aluminum: 3/4 by 0.050 inch (19 by 1.27 mm) thick.

2.5 BLANK-OFF PANELS

A. Insulated Blank-Off Panels: Laminated panels consisting of an insulating core surfaced on back and front with metal sheets and attached to back of louver.

1. Thickness: 2 inches (50 mm).

2. Metal Facing Sheets, Aluminum: Not less than 0.032-inch (0.81-mm) nominal thickness.

3. Insulating Core: extruded-polystyrene foam.

4. Edge Treatment: Trim perimeter edges of blank-off panels with louver manufacturer's standard with corners mitered and with same finish as panels.

5. Seal perimeter joints between panel faces and louver frames with gaskets or sealant.

6. Panel Finish: Same finish applied to louvers but black color.

7. Attach blank-off panels with sheet metal screws.

2.6 MATERIALS

A. Aluminum Extrusions: ASTM B221 (ASTM B221M), Alloy 6063-T5, T-52, or T6.

B. Aluminum Sheet: ASTM B209 (ASTM B209M), Alloy 3003 or 5005, with temper as required for forming, or as otherwise recommended by metal producer for required finish.

C. Fasteners: Use types and sizes to suit unit installation conditions.

1. Use screws for exposed fasteners unless otherwise indicated.

2. For fastening aluminum, use aluminum or 300 series stainless steel fasteners.

D. Postinstalled Fasteners for Concrete and Masonry: Torque-controlled expansion anchors, fabricated from stainless steel components, with allowable load or strength design capacities calculated in accordance with ICC-ES AC193 and ACI 318 greater than or equal to the design load, as determined by testing in accordance with ASTM E488/E488M conducted by a qualified testing agency.

E. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

2.7 FABRICATION

A. Factory assemble louvers to minimize field splicing and assembly. Disassemble units as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

B. Vertical Assemblies: Where height of louver units exceeds fabrication and handling limitations, fabricate units to permit field-bolted assembly with close-fitting joints in jambs and mullions, reinforced with splice plates.

1. Continuous Vertical Assemblies: Fabricate units without interrupting blade-spacing pattern.

C. Maintain equal louver blade spacing to produce uniform appearance.

D. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining material tolerances, and perimeter sealant joints.

1. Frame Type: Extruded Channel type flange unless otherwise indicated.

E. Include supports, anchorages, and accessories required for complete assembly.

F. Provide subsills made of same material as louvers for recessed louvers.

G. Join frame members to each other and to fixed louver blades with fillet welds concealed from view, threaded fasteners, or both, as standard with louver manufacturer unless otherwise indicated or size of louver assembly makes bolted connections between frame members necessary.

2.8 ALUMINUM FINISHES

A. Finish louvers after assembly.

B. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and openings, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

3.3 INSTALLATION

A. Locate and place louvers level, plumb, and at indicated alignment with adjacent work.

B. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.

C. Form closely fitted joints with exposed connections accurately located and secured.

D. Provide perimeter reveals and openings of uniform width for sealants and joint fillers, as indicated.

E. Protect unpainted galvanized- and nonferrous-metal surfaces that are in contact with concrete, masonry, or dissimilar metals from corrosion and galvanic action by applying a heavy coating of bituminous paint or by separating surfaces with waterproof gaskets or nonmetallic flashing.

F. Install concealed gaskets, flashings, joint fillers, and insulation as louver installation progresses, where weathertight louver joints are required. Comply with Section 079200 "Joint Sealants" for sealants applied during louver installation.

3.4 ADJUSTING AND CLEANING

A. Clean exposed louver surfaces that are not protected by temporary covering, to remove fingerprints and soil during construction period. Do not let soil accumulate during construction period.

B. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.

C. Restore louvers damaged during installation and construction, so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect, remove damaged units and replace with new units.

END OF SECTION

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SECTION 09 66 00
TERRAZZO SHOWER BASES

PART 1 – GENERAL 1
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PART 3 - EXECUTION 2
3.1 EXAMINATION 2
3.2 INSTALLATION 2
3.3 PIPING CONNECTIONS 2
3.4 ADJUSTING 2
3.5 CLEANING AND PROTECTION 2

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Shower Basins
   2. Grout.

1.2 SUBMITTALS

A. Product Data: For each type of product.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for showers **basins**.
   2. Include rated capacities, operating characteristics, and furnished specialties and accessories.

A. Maintenance Data: For shower valves to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 SHOWER BASINS

A. Precast-Terrazzo Shower Basins:
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Acorn Engineering; Morris Group International, model **SBADA and SBS** or comparable product by one of the following:
      a. Florestone Products Co., Inc.
      b. Stern-Williams Co., Inc.
   2. Source Limitations: Obtain shower basins from single source from single manufacturer.
   3. Description: Precast-terrazzo base for built-up-type shower fixture.
   4. Standard:
      a. CSA B45.8/IAPMO Z403.
      b. IAPMO PS 99.
      c. 2010 ADA Standards for Accessible Design.
   5. Threshold Type: **Standard commercial and Handicapped/accessible**.
   6. Shape: **Square** and **Square, ADA for roll-in.**
   7. Nominal Size:
      a. Square: **36 by 36 in.**
      b. Square, ADA for Roll-In: 37 1/2 by 39 in.
   8. Color: Selected from manufacturer's standard color selection.
   9. Outlet: Coordinate with plumbing contractor.
   10. Tiling Flange: Integral, stainless steel.
      a. Square fixture: **Three sides**.

2.2 GROUT

A. Standard: ASTM C1107/C1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
B. Characteristics: Nonshrink; recommended for interior and exterior applications.
C. Design Mix: 5000 psi (34.5 MPa), 28-day compressive strength.
D. Packaging: Premixed and factory packaged.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine rough-in of water-supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before shower installation.

B. Examine walls and floors for suitable conditions where showers will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Assemble shower components in accordance with manufacturers' written instructions.

B. Install showers level and plumb.

C. Set **shower basins** in leveling bed of cement grout.

D. Seal joints between showers and floors and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

3.3 PIPING CONNECTIONS

A. Connect fixtures with piping. Use size fittings required to match fixtures.

B. Comply with traps and soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."

3.4 ADJUSTING

A. Operate and adjust showers and controls. Replace damaged and malfunctioning showers, fittings, and controls.

B. Adjust water pressure at shower valves to produce proper flow.

3.5 CLEANING AND PROTECTION

A. After completing installation of showers **basins**, inspect and repair damaged finishes.

B. Clean shower **basins**, shower valves, and other fittings with manufacturers' recommended cleaning methods and materials.

C. Provide protective covering for installed fixtures and fittings.

D. Do not allow use of showers **basins** for temporary facilities unless approved in writing by Owner.

END OF SECTION

SECTION 28 46 21
ADDRESSABLE FIRE-ALARM SYSTEMS

PART 1 - GENERAL

SUMMARY

Section Includes:

Addressable fire-alarm system.
Fire-alarm control unit (FACP).
Manual fire-alarm boxes.
System smoke detectors.
Duct smoke detectors.
Carbon monoxide detectors.
Heat detectors.
Fire-alarm notification appliances.
Fire-alarm remote annunciators.
Fire-alarm addressable interface devices.

Related Requirements:

Section 26 05 19 "Low- Voltage Electrical Power Conductors and Cables" or section 26 05 23 "Control Voltage Electrical Power Cables" for cables and conductors for fire-alarm systems.

DEFINITIONS

DACT: Digital alarm communicator transmitter.
FACP: Fire-alarm control unit.
Voltage Class: For specified circuits and equipment, voltage classes are defined as follows:

Control Voltage: Listed and labeled for use in remote-control, signaling, and power-limited circuits supplied by a Class 2 or Class 3 power supply having rated output not greater than 150 V and 5 A, allowing use of alternate wiring methods complying with NFPA 70, Article 725.

Low Voltage: Listed and labeled for use in circuits supplied by a Class 1 or other power supply having rated output not greater than 1000 V, requiring use of wiring methods complying with NFPA 70, Article 300, Part I.

SEQUENCING AND SCHEDULING

Existing Fire-Alarm Equipment: Maintain existing equipment fully operational until new equipment has been tested and accepted. When new equipment is installed, label it "NOT IN SERVICE" until it is accepted. Remove labels from new equipment when put into service, and label existing fire-alarm equipment "NOT IN SERVICE" until removed from building.

Equipment Removal: After acceptance of new fire-alarm system, remove existing disconnected fire-alarm equipment and wiring.

SUBMITTALS

Product Data: For each type of product, including furnished operations and accessories.

Include construction details, material descriptions, dimensions, profiles, and finishes.

Include rated capacities, operating characteristics, and electrical characteristics.

Shop Drawings: For fire-alarm system.

Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field
assembly, components, and locations. Indicate conductor sizes, indicate termination locations and requirements,

and distinguish between factory and field wiring.

Detail assembly and support requirements.

Include voltage drop calculations for notification-appliance circuits.

Include battery-size calculations.

Include input/output matrix.

Include written statement from manufacturer that equipment and components have been tested as a system and comply with requirements in this Section and in NFPA 72.

Include performance parameters and installation details for each detector.

Verify that each duct detector is listed for complete range of air velocity, temperature, and humidity possible when air-handling system is operating.

Provide control wiring diagrams for fire-alarm interface to HVAC; coordinate location of duct smoke detectors and access to them.

Show critical dimensions that relate to placement and support of sampling tubes, detector housing, and remote status and alarm indicators.

Show field wiring and equipment required for HVAC unit shutdown on alarm.

Locate detectors in accordance with manufacturer's written instructions.

Include floor plans to indicate final outlet locations showing address of each addressable device. Show size and route of cable and conduits and point-to-point wiring diagrams

Delegated Design Submittal: For notification appliances and smoke and heat detectors, in addition to submittals listed above, indicate compliance with performance requirements and design criteria, including analysis data signed and sealed by qualified professional engineer responsible for their preparation.

Drawings showing location of each notification appliance and smoke and heat detector, ratings of each, and installation details as needed to comply with listing conditions of device.

Design Calculations: Calculate requirements for selecting spacing and sensitivity of detection, complying with NFPA 72. Calculate spacing and intensities for strobe signals and sound-pressure levels for audible appliances.

Indicate audible appliances required to produce square wave signal per NFPA 72.

CLOSEOUT SUBMITTALS

Operation and Maintenance Data: For fire-alarm systems and components to include in emergency, operation, and maintenance manuals.

In addition to items specified in Division 1, include the following and deliver copies to authorities having jurisdiction:

Comply with "Records" section of "Inspection, Testing and Maintenance" chapter in NFPA 72.

Provide "Fire-Alarm and Emergency Communications System Record of Completion Documents" in accordance with "Completion Documents" Article in "Documentation" section of "Fundamentals" chapter in NFPA 72.

Complete wiring diagrams showing connections between devices and equipment. Each conductor must be numbered at every junction point with indication of origination and termination points.

Riser diagram.

Device addresses.

Air-sampling system sample port locations and modeling program report showing layout meets performance criteria.

Record copy of site-specific software.

Provide "Inspection and Testing Form" in accordance with "Inspection, Testing and Maintenance" chapter in NFPA 72, and include the following:

Equipment tested.
Frequency of testing of installed components.
Frequency of inspection of installed components.
Requirements and recommendations related to results of maintenance.
Manufacturer's user training manuals.

Manufacturer's required maintenance related to system warranty requirements.

Abbreviated operating instructions for mounting at FACP and each annunciator unit.

MAINTENANCE MATERIAL SUBMITTALS

Extra Stock Material: Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Lamps for Remote Indicating Lamp Units: Quantity equal to 10 percent of amount installed, but no fewer than one unit.

Lamps for Strobe Units: Quantity equal to 10 percent of amount installed, but no fewer than one unit.

Smoke Detectors, Fire Detectors: Quantity equal to 10 percent of amount of each type installed, but no fewer than one unit of each type.

Detector Bases: Quantity equal to two percent of amount of each type installed, but no fewer than one unit of each type.

Keys and Tools: One extra set for access to locked or tamperproof components.

Audible and Visual Notification Appliances: One of each type installed.

Fuses: Two of each type installed in system. Provide in box or cabinet with compartments marked with fuse types and sizes.

WARRANTY

Special Warranty: Manufacturer agrees to repair or replace fire-alarm system equipment and components that fail because of defects in materials or workmanship within specified warranty period.

Warranty Period: Five years from date of Substantial Completion.

PART 2-PRODUCTS

ADDRESSABLE FIRE-ALARM SYSTEM

Description:

Noncoded, UL-certified addressable system, with multiplexed signal transmission and horn-and-strobe notification for evacuation.

Performance Criteria:

Regulatory Requirements:

Fire-Alarm Components, Devices, and Accessories: Listed and labeled by a NRTL in accordance with NFPA 70 for use with selected fire-alarm system and marked for intended location and application.

General Characteristics:

Automatic sensitivity control of certain smoke detectors.

Fire-alarm signal initiation must be by one or more of the following devices and systems:

- Manual stations.
- Heat detectors.
- Smoke detectors.
- Duct smoke detectors.
- Carbon monoxide detectors.
- Automatic sprinkler system water flow.
- Fire-extinguishing system operation.
- Fire standpipe system.
- Fire pump running.

Fire-alarm signal must initiate the following actions:

- Continuously operate alarm notification appliances.
- Identify alarm and specific initiating device at FACP and remote annunciators.
- Unlock electric door locks in designated egress paths.
- Release fire and smoke doors held open by magnetic door holders.
- Activate voice/alarm communication system.
- Record events in system memory.
- Indicate device in alarm on graphic annunciator.

Supervisory signal initiation must be by one or more of the following devices and actions:

- Valve supervisory switch.
- Independent fire-detection and -suppression systems.
- Fire pump is running.
- Fire pump has lost power.
- Power to fire pump has phase reversal.
- Zones or individual devices have been disabled.
- FACP has lost communication with network.

System trouble signal initiation must be by one or more of the following devices and actions:

- Open circuits, shorts, and grounds in designated circuits.
- Opening, tampering with, or removing alarm-initiating and supervisory signal-initiating devices.
- Loss of communication with addressable sensor, input module, relay, control module, remote annunciator, printer interface, or Ethernet module.
- Loss of primary power at FACP.
- Ground or single break in internal circuits of FACP.
- Abnormal ac voltage at FACP.
- Break in standby battery circuitry.
- Failure of battery charging.

Abnormal position of switch at FACP or annunciator.

Voice signal amplifier failure.

System Supervisory Signal Actions:

Identify specific device initiating event at FACP and remote annunciators.
Transmit system status to building management system.
Display system status on graphic annunciator.

Network Communications:

Provide network communications for fire-alarm system in accordance with fire-alarm manufacturer's written instructions.
Provide network communications pathway per manufacturer's written instructions and requirements in NFPA 72 and NFPA 70.

Document Storage Box:

Description: Enclosure to accommodate standard 8-1/2-by-11 inch manuals and loose document records. Legend sheet will be permanently attached to door for system required documentation, key contacts, and system information. Provide two key ring holders with location to mount standard business cards for key contact personnel.

Material and Finish: 18-gauge cold-rolled steel; four mounting holes.

Color: Red powder-coat epoxy finish.

Labeling: Permanently screened with 1 inch high lettering "SYSTEM RECORD DOCUMENTS" with white indelible ink.

Security: Locked with 3/4 inch barrel lock. Provide solid 12 inch stainless steel piano hinge.

FIRE-ALARM CONTROL UNIT (FACP)

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Bosch Security Systems, Inc.
Edwards; Carrier Global Corporation.
Gamewell-FCI; Honeywell International, Inc.
Notifier; Honeywell International, Inc.
Potter Electric Signal Company, LLC.
Siemens Industry, Inc., Building Technologies Division.
Simplex; brand of Johnson Controls International plc, Building Solutions North America.
Or approved equal

Description: Field-programmable, microprocessor-based, modular, power-limited design with electronic modules.

Performance Criteria:

Regulatory Requirements: Comply with NFPA 72 and UL 864.

General Characteristics:

System software and programs must be held in nonvolatile flash, electrically erasable, programmable, read-only memory, retaining information through failure of primary and secondary power supplies.

Include real-time clock for time annotation of events on event recorder and printer.

Provide communication between FACP and remote circuit interface panels, annunciators, and displays.

FACP must be listed for connection to central-station signaling system service.

Provide nonvolatile memory for system database, logic, and operating system and event history. System must require no manual input to initialize in the event of complete power down condition. FACP must provide minimum 500-event history log.

Addressable Initiation Device Circuits: FACP must indicate which communication zones have been silenced and must provide selective silencing of alarm notification appliance by building communication zone.

Addressable Control Circuits for Operation of Notification Appliances and Mechanical Equipment: FACP must be listed for releasing service.

Fire-Alarm Annunciator: Arranged for interface between human operator at FACP and addressable system components including annunciation and supervision. Display alarm, supervisory, and component status messages and programming and control menu.

Annunciator and Display: LCD, 80 characters, minimum.

Keypad: Arranged to permit entry and execution of programming, display, and control commands.

Initiating-Device, Notification-Appliance, and Signaling-Line Circuits:

Pathway Class Designations: NFPA 72, Class B

Pathway Survivability: Level 1

Install no more than 50 addressable devices on each signaling-line circuit.

Install fault circuit isolators to comply with circuit performance requirements of NFPA 72 or with manufacturer's written instructions, whichever is more conservative.

Serial Interfaces:

One dedicated RS 485 port for central-station operation using point ID DACT.

One RS 485 port for remote annunciators, Ethernet module, or multi-interface module (printer port).

FACP Notification-Appliance Circuit:

Audible appliances must sound in three-pulse temporal pattern, as defined in NFPA 72.

Where notification appliances provide signals to sleeping areas, alarm signal must be 520 Hz square wave with intensity 15 dB above average ambient sound level or 5 dB above maximum sound level, or at least 75 dB(A-weighted), whichever is greater, measured at pillow.

Visual alarm appliances must flash in synchronization where multiple appliances are in same field of view, as defined in NFPA 72.

Transmission to Remote Alarm Receiving Station: Automatically transmit alarm, supervisory, and trouble signals to remote alarm station.

Voice/Alarm Signaling Service: Central emergency communication system with redundant microphones, preamplifiers, amplifiers, and tone generators provided as special module that is part of FACP.

Indicate number of alarm channels for automatic, simultaneous transmission of different announcements to different zones or for manual transmission of announcements by use of central-control microphone.

Amplifiers must comply with UL 1711.

Allow application of, and evacuation signal to, indicated number of zones and simultaneously allow voice paging to other zones selectively or in combination.

Programmable tone and message sequence selection.

Generate tones to be sequenced with audio messages of type recommended by NFPA 72 and that are compatible with tone patterns of notification-appliance circuits of FACP.

Status Annunciator: Indicate status of various voice/alarm speaker zones and status of firefighters' two-way telephone communication zones.

Preamplifiers, amplifiers, and tone generators must automatically transfer to backup units, on primary equipment failure.

Printout of Events: On receipt of signal, print alarm, supervisory, and trouble events. Identify zone, device, and function. Include type of signal (alarm, supervisory, or trouble) and date and time of occurrence. Differentiate alarm signals from other printed indications. Also, print system reset event, including same information for device, location, date, and time. Commands initiate printing of list of existing alarm, supervisory, and trouble conditions in system and historical log of events.

Primary Power: 24 V(dc) obtained from 120 V(ac) service and power-supply module. Initiating devices, notification appliances, signaling lines, trouble signals, supervisory and DACT must be powered by 24 V(dc) source.

Alarm current draw of entire fire-alarm system must not exceed 80 percent of power-supply module rating.
Secondary Power: 24 V(dc) supply system with batteries, automatic battery charger, and automatic transfer switch.

Batteries: Sealed lead calcium .

Accessories:

Instructions: Computer printout or typewritten instruction card mounted behind plastic or glass cover in stainless steel or aluminum frame. Include interpretation and describe appropriate response for displays and signals. Briefly describe functional operation of system under normal, alarm, and trouble conditions.

Preaction System Functionality:

Initiate Presignal Alarm: This function must cause audible and visual alarm and indication to be provided at FACP. Activation of initiation device connected as part of preaction system must be annunciated at FACP only, without activation of general evacuation alarm.

MANUAL FIRE-ALARM BOXES

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Bosch Security Systems, Inc.
Edwards; Carrier Global Corporation.
Gamewell-FCI; Honeywell International, Inc.
Notifier; Honeywell International, Inc.
Potter Electric Signal Company, LLC.
Siemens Industry, Inc., Building Technologies Division.
Simplex; brand of Johnson Controls International plc, Building Solutions North America.
Or approved equal

General Requirements for Manual Fire-Alarm Boxes: Comply with UL 38. Boxes must be finished in red with molded, raised-letter operating instructions in contrasting color; must show visible indication of operation; and must be mounted on recessed outlet box. If indicated as surface mounted, provide manufacturer's surface back box.

Single-action mechanism, pull-lever type; with integral addressable module arranged to communicate manual-station status (normal, alarm, or trouble) to FACP.

Station Reset: Key- or wrench-operated switch.

Able to perform at up to 90 percent relative humidity at 90 deg F .

Able to be used in indoor areas.

SYSTEM SMOKE DETECTORS

Photoelectric Smoke Detectors:

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Bosch Security Systems, Inc.
Edwards; Carrier Global Corporation.
Gamewell-FCI; Honeywell International, Inc.
Notifier; Honeywell International, Inc.
Potter Electric Signal Company, LLC.
Siemens Industry, Inc., Building Technologies Division.
Simplex; brand of Johnson Controls International plc, Building Solutions North America.
Or approved equal

Performance Criteria:

Regulatory Requirements:

NFPA 72.
UL 268.

General Characteristics:

Detectors must be two-wire type.

Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to FACP.

Base Mounting: Detector and associated electronic components must be mounted in twist-lock module that connects to fixed base. Provide terminals in fixed base for connection to building wiring.

Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.

Integral Visual-Indicating Light: LED type, indicating detector has operated and power-on status.

Detector address must be accessible from FACP and must be able to identify detector's location within system and its sensitivity setting.

Operator at FACP, having designated access level, must be able to manually access the following for each detector:

Primary status.
Device type.
Present average value.
Present sensitivity selected.
Sensor range (normal, dirty, etc.).

Detector must have functional humidity range within 10 to 90 percent relative humidity.

Sensitivity levels based on time of day.

DUCT SMOKE DETECTORS

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Bosch Security Systems, Inc.
Edwards; Carrier Global Corporation.
Gamewell-FCI; Honeywell International, Inc.
Notifier; Honeywell International, Inc.
Potter Electric Signal Company, LLC.
Siemens Industry, Inc., Building Technologies Division.
Simplex; brand of Johnson Controls International plc, Building Solutions North America.
Or approved equal

Description: Photoelectric-type, duct-mounted smoke detector.

Performance Criteria:

Regulatory Requirements:

NFPA 72.
UL 268A.

General Characteristics:

Detectors must be four -wire type.

Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to FACP.

Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.

Integral Visual-Indicating Light: LED type, indicating detector has operated and power-on status.

Detector address must be accessible from FACP and must be able to identify detector's location within system and its sensitivity setting.

Operator at FACP, having designated access level, must be able to manually access the following for each detector:

Primary status.
Device type.
Present average value.
Present sensitivity selected.
Sensor range (normal, dirty, etc.).

Weatherproof Duct Housing Enclosure: NEMA 250, Type 4X; NRTL listed for use with supplied detector for smoke detection in HVAC system ducts.

Each sensor must have multiple levels of detection sensitivity.

Sampling Tubes: Design and dimensions as recommended by manufacturer for specific duct size, air velocity, and installation conditions where applied.

Relay Fan Shutdown: Fully programmable relay rated to interrupt fan motor-control circuit.

CARBON MONOXIDE DETECTORS

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Notifier; Honeywell International, Inc.
Or approved equal

Description: Carbon monoxide detector listed for connection to fire-alarm system.

Performance Criteria:

Regulatory Requirements:

NFPA 72

NFPA 720.
UL 2075.

General Characteristics:

Mounting: Adapter plate for outlet box mounting.
Testable by introducing test carbon monoxide into sensing cell.
Detector must provide alarm contacts and trouble contacts.
Detector must send trouble alarm when nearing end-of-life, power supply problems, or internal faults.
Locate, mount, and wire in accordance with manufacturer's written instructions.
Provide means for addressable connection to fire-alarm system.
Test button simulates alarm condition.

HEAT DETECTORS

Combination-Type Heat Detectors:

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Bosch Security Systems, Inc.
Edwards; Carrier Global Corporation.
Gamewell-FCI; Honeywell International, Inc.
Potter Electric Signal Company, LLC.
Siemens Industry, Inc., Building Technologies Division.
Simplex; brand of Johnson Controls International plc, Building Solutions North America.
Or approved equal

Performance Criteria:

Regulatory Requirements:

NFPA 72.
UL 521.

General Characteristics:

Temperature sensors must test for and communicate sensitivity range of device.
Actuated by fixed temperature of 135 deg F or rate of rise that exceeds 15 deg F per minute unless otherwise indicated.

Mounting: Twist-lock base interchangeable with smoke-detector bases.

Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to FACP.

Detector must have functional humidity range of 10 to 90 percent relative humidity.

Fixed-Temperature-Type Heat Detectors:

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Bosch Security Systems, Inc.
Edwards; Carrier Global Corporation.
Gamewell-FCI; Honeywell International, Inc.
Notifier; Honeywell International, Inc.
Potter Electric Signal Company, LLC.
Siemens Industry, Inc., Building Technologies Division.
Simplex; brand of Johnson Controls International plc, Building Solutions North America.
Or approved equal

Performance Criteria:

Regulatory Requirements:

NFPA 72.
UL 521.

General Characteristics:

Actuated by temperature that exceeds fixed temperature of 190 deg F .

Mounting: Twist-lock base interchangeable with smoke-detector bases.

Integral Addressable Module: Arranged to communicate detector status (normal, alarm, or trouble) to FACP.

Detector must have functional humidity range of 10 to 90 percent.

FIRE-ALARM NOTIFICATION APPLIANCES

Fire-Alarm Audible Notification Appliances:

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Edwards; Carrier Global Corporation.
Notifier; Honeywell International, Inc.
Potter Electric Signal Company, LLC.
Siemens Industry, Inc., Building Technologies Division.
Simplex; brand of Johnson Controls International plc, Building Solutions North America.
Or approved equal

Description: Horns, bells, or other notification devices that cannot output voice messages.

Performance Criteria:

Regulatory Requirements:

NFPA 72.

General Characteristics:

Connected to notification-appliance signal circuits, zoned as indicated, equipped for mounting as indicated, and with screw terminals for system connections.

Chimes, Low-Level Output: Vibrating type, 75 dB(A-weighted) minimum rated output.

Chimes, High-Level Output: Vibrating type, 81 dB(A-weighted) minimum rated output.

Sounders, High Volume 24 V(dc): Less than 6 mA of alarm current.
Sounders, Low Volume 24 V(dc): Less than 4 mA of alarm current.

Audible notification appliances must have functional humidity range of 10 to 95 percent relative humidity.

ISO Temporal 3 Evacuation Tone: 90 plus or minus 4 dB(A-weighted) at 24 V.

ISO Temporal 3 Alert Tone: 95 plus or minus 5 dB(A-weighted) at 24 V.

AS2220 Evacuation Tone: 93 plus or minus 4 dB(A-weighted) at 24 V.

AS2220 Alert Tone: 93 plus or minus 5 dB(A-weighted) at 24 V.

Horns: Electric-vibrating-polarized type, 24 V(dc); with provision for housing operating mechanism behind grille. Comply with UL 464. Horns must produce sound-pressure level of 90 dB(A-weighted), measured 10 ft. from horn, using coded signal prescribed in UL 464 test protocol.

Combination Devices: Factory-integrated audible and visible devices in single-mounting assembly, equipped for mounting as indicated, and with screw terminals for system connections.

Fire-Alarm Visible Notification Appliances:

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Edwards; Carrier Global Corporation.
Notifier; Honeywell International, Inc.
Potter Electric Signal Company, LLC.
Siemens Industry, Inc., Building Technologies Division.
Simplex; brand of Johnson Controls International plc, Building Solutions North America.
Or approved equal

Performance Criteria:

Regulatory Requirements:

NFPA 72.
UL 1971.

General Characteristics:

Rated Light Output:

15/30/75/110 cd, selectable in field.

Clear or nominal white polycarbonate lens mounted on aluminum faceplate.

Mounting: Wall mounted unless otherwise indicated.

For units with guards to prevent physical damage, light output ratings must be determined with guards in place.

Flashing must be in temporal pattern, synchronized with other units.

Strobe Leads: Factory connected to screw terminals.

Mounting Faceplate: Factory finished, red .

FIRE-ALARM REMOTE ANNUNCIATORS

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Same as FACP.

Performance Criteria:

Regulatory Requirements:

NFPA 72.

General Characteristics:

Annunciator functions must match those of FACP for alarm, supervisory, and trouble indications. Manual switching functions must match those of FACP, including acknowledging, silencing, resetting, and testing.

Mounting: Surface cabinet, NEMA 250, Type 1.

Display Type and Functional Performance: Alphanumeric display and LED indicating lights must match those of FACP. Provide controls to acknowledge, silence, reset, and test functions for alarm, supervisory, and trouble signals.

FIRE-ALARM ADDRESSABLE INTERFACE DEVICES

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Bosch Security Systems, Inc.
Notifier; Honeywell International, Inc.
Or approved equal.

Performance Criteria:

Regulatory Requirements:

NFPA 72.

General Characteristics:

Include address-setting means on module.

Store internal identifying code for control panel use to identify module type.

Listed for controlling HVAC fan motor controllers.

Monitor Module: Microelectronic module providing system address for alarm-initiating devices for wired applications with normally open contacts.

Integral Relay: Capable of providing direct signal to elevator controller to initiate elevator recall .
Allow control panel to switch relay contacts on command.
Have minimum of two normally open and two normally closed contacts available for field wiring.

Control Module:
Operate notification devices.
Operate solenoids for use in sprinkler service.

PART 3- EXECUTION

EXAMINATION

Examine areas and conditions for compliance with requirements for ventilation, temperature, humidity, and other conditions affecting performance of the Work.

Verify that manufacturer's written instructions for environmental conditions have been permanently established in spaces where equipment and wiring are installed, before installation begins.

Examine roughing-in for electrical connections to verify actual locations of connections before installation.

Proceed with installation only after unsatisfactory conditions have been corrected.

PREPARATION

Preinstallation Testing: Perform verification of functionality of installed components of existing system prior to starting work. Document equipment or components not functioning as designed.

Protection of In-Place Conditions: Protect devices during construction unless devices are placed in service to protect facility during construction.

INSTALLATION OF EQUIPMENT

Comply with NECA 305, NFPA 72, NFPA 101, and requirements of authorities having jurisdiction for installation and testing of fire-alarm equipment. Install electrical wiring to comply with requirements in NFPA 70 including, but not limited to, Article 760, "Fire Alarm Systems."

Devices placed in service before other trades have completed cleanup must be replaced.

Devices installed, but not yet placed, in service must be protected from construction dust, debris, dirt, moisture, and damage in accordance with manufacturer's written storage instructions.

Install wall-mounted equipment, with tops of cabinets not more than 78 inch above finished floor.

Manual Fire-Alarm Boxes:

Install manual fire-alarm box in normal path of egress within 60 inch of exit doorway.

Mount manual fire-alarm box on background of contrasting color.

Operable part of manual fire-alarm box must be between 42 and 48 inch above floor level. Devices must be mounted at same height unless otherwise indicated.

Smoke- and Heat-Detector Spacing:

Comply with "Smoke-Sensing Fire Detectors" section in "Initiating Devices" chapter in NFPA 72, for smoke-detector spacing.

Comply with "Heat-Sensing Fire Detectors" section in "Initiating Devices" chapter in NFPA 72, for heat-detector spacing.

Smooth ceiling spacing must not exceed 30 ft. .

Spacing of detectors for irregular areas, for irregular ceiling construction, and for high ceiling areas must be determined in accordance with Annex A or Annex B in NFPA 72.

HVAC: Locate detectors not closer than 36 inch from air-supply diffuser or return-air opening.

Lighting Fixtures: Locate detectors not closer than 12 inch from lighting fixture and not directly above pendant mounted or indirect lighting.

Install cover on each smoke detector that is not placed in service during construction. Cover must remain in place except during system testing. Remove cover prior to system turnover.

Duct Smoke Detectors: Comply with NFPA 72 and NFPA 90A. Install sampling tubes so they extend full width of duct. Tubes more than 36 inch long must be supported at both ends.

Do not install smoke detector in duct smoke-detector housing during construction. Install detector only during system testing and prior to system turnover.

Elevator Shafts: Coordinate temperature rating and location with sprinkler rating and location. Do not install smoke detectors in sprinklered elevator shafts.

Remote Status and Alarm Indicators: Install in visible location near each smoke detector, sprinkler water-flow switch, and valve-tamper switch that is not readily visible from normal viewing position.

Audible Alarm-Indicating Devices: Install not less than 6 inch below ceiling. Install bells and horns on flush-mounted back boxes with device-operating mechanism concealed behind grille. Install devices at same height unless otherwise indicated.

Visible Alarm-Indicating Devices: Install adjacent to each alarm bell or alarm horn and at least 6 inch below ceiling. Install devices at same height unless otherwise indicated.

Device Location-Indicating Lights: Locate in public space near device they monitor.

ELECTRICAL CONNECTIONS

Connect wiring in accordance with Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."

Ground equipment in accordance with Section 26 05 26 "Grounding and Bonding for Electrical Systems."
Install electrical devices furnished by manufacturer, but not factory mounted, in accordance with NFPA 70 and NECA 1.

Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

Nameplate must be laminated acrylic or melamine plastic signs with black background and engraved white letters at
least 1/2 inch high.

CONTROL CONNECTIONS

Install control and electrical power wiring to field-mounted control devices.

Connect control wiring in accordance with Section 26 05 23 "Control-Voltage Electrical Power Cables."

Install nameplate for each control connection, indicating field control panel designation and I/O control designation feeding connection.

PATHWAYS

Pathways above recessed ceilings and in inaccessible locations may be routed exposed.

Exposed pathways located less than 96 inch above floor must be installed in EMT.

Exposed EMT must be painted red enamel.

CONNECTIONS

Make addressable connections with supervised interface device to the following devices and systems. Install interface device
less than 36 inch from device controlled. Make addressable confirmation connection when such feedback is available at
device or system being controlled.

Alarm-initiating connection to smoke-control system (smoke management) at firefighters' smoke-control system panel.

Alarm-initiating connection to stairwell and elevator-shaft pressurization systems.

Smoke dampers in air ducts of designated HVAC duct systems.

Supervisory connections at low-air-pressure switch of each dry-pipe sprinkler system.

Supervisory connections at elevator shunt-trip breaker.

Data communication circuits for connection to building management system.

Supervisory connections at fire-extinguisher locations.

IDENTIFICATION

Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 27 05 53 "Identification for Communications Systems."

Install framed instructions in location visible from FACP.

GROUNDING

Ground FACP and associated circuits in accordance with Section 26 05 26 "Grounding and Bonding for Electrical Systems."

Ground shielded cables at control panel location only. Insulate shield at device location.

FIELD QUALITY CONTROL

Field tests must be witnessed by authorities having jurisdiction .

Administrant for Tests and Inspections:

Administer and perform tests and inspections.

Tests and Inspections:

Visual Inspection: Conduct visual inspection prior to testing.

Inspection must be based on completed record Drawings and system documentation that is required by "Completion Documents, Preparation" table in "Documentation" section of "Fundamentals" chapter in NFPA 72.

Comply with "Visual Inspection Frequencies" table in "Inspection" section of "Inspection, Testing and Maintenance" chapter in NFPA 72; retain "Initial/Reacceptance" column and list only installed components.

System Testing: Comply with "Test Methods" table in "Testing" section of "Inspection, Testing and Maintenance" chapter in NFPA 72.

Factory-authorized service representative must prepare "Fire Alarm System Record of Completion" in "Documentation" section of "Fundamentals" chapter in NFPA 72 and "Inspection and Testing Form" in "Records" section of "Inspection, Testing and Maintenance" chapter in NFPA 72.

Reacceptance Testing: Perform reacceptance testing to verify proper operation of added or replaced devices and appliances.

Fire-alarm system will be considered defective if it does not pass tests and inspections.

Prepare test and inspection reports.

Maintenance Test and Inspection: Perform tests and inspections listed for weekly, monthly, quarterly, and semiannual periods. Use forms developed for initial tests and inspections.

Annual Test and Inspection: One year after date of Substantial Completion, test fire-alarm system complying with visual and testing inspection requirements in NFPA 72. Use forms developed for initial tests and inspections.

DEMONSTRATION

Train Owner's maintenance personnel to adjust, operate, and maintain fire-alarm system. Provide video recording of training to Owner.

MAINTENANCE

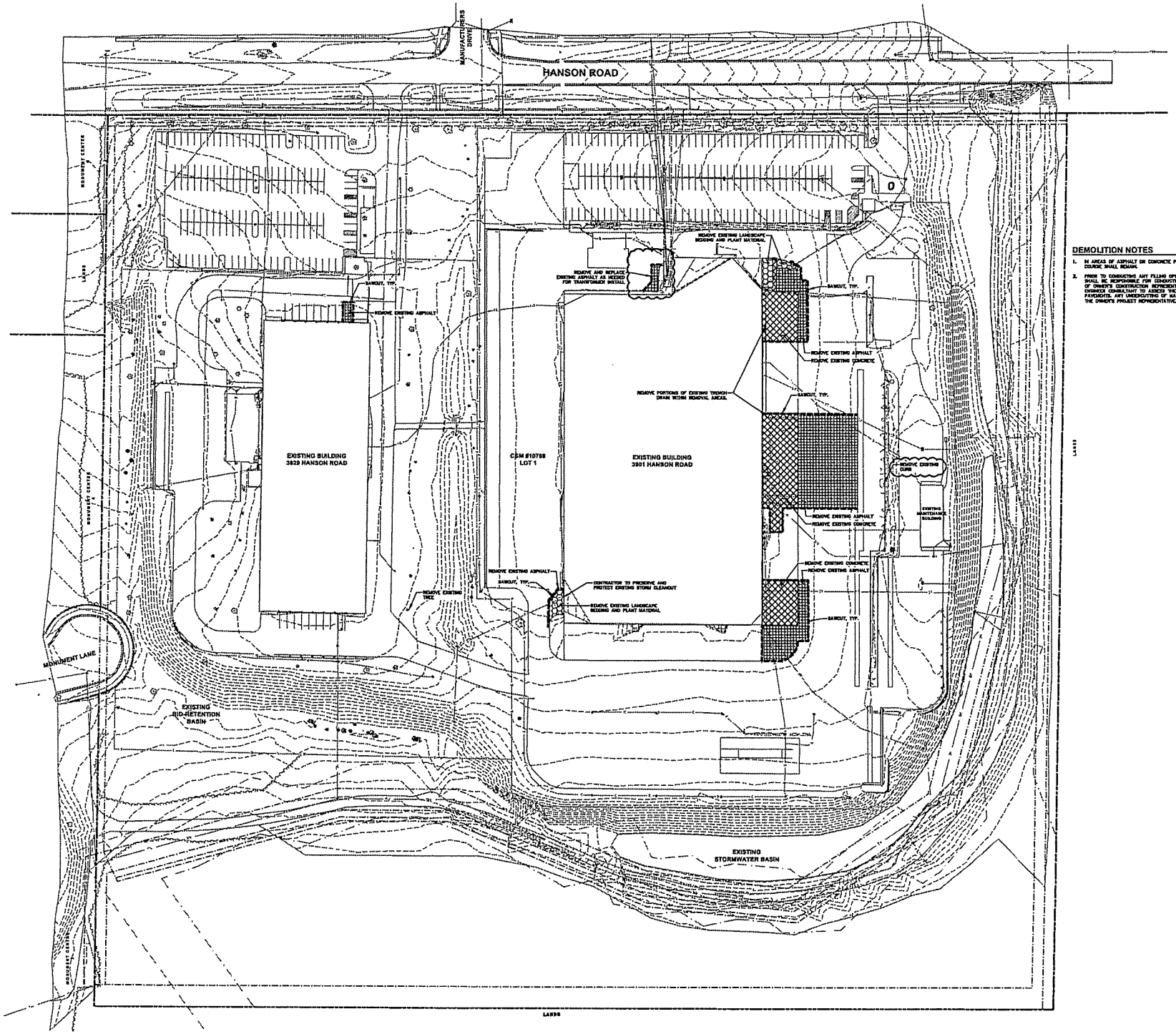
Maintenance Service: Beginning at Substantial Completion, maintenance service must include 12 months' full maintenance by skilled employees of manufacturer's designated service organization. Include preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper operation. Parts and supplies must be manufacturer's authorized replacement parts and supplies.

Include visual inspections in accordance with "Visual Inspection Frequencies" table in "Testing" paragraph of "Inspection, Testing and Maintenance" chapter in NFPA 72.

Perform tests in "Test Methods" table in "Testing" paragraph of "Inspection, Testing and Maintenance" chapter in NFPA 72.

Perform tests per "Testing Frequencies" table in "Testing" paragraph of "Inspection, Testing and Maintenance" chapter in NFPA 72.

END OF SECTION 28 46 21



DEMOLITION NOTES

1. IN AREAS OF ASPHALT OR CONCRETE PAVEMENT REMOVAL; ALL EXISTING BASE COURSE SHALL REMAIN.
2. PRIOR TO CONDUCTING ANY FILLING OPERATION IN PAVED AREAS, CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING A PROOF-ROLL IN THE PRESENCE OF OWNER'S CONSTRUCTION REPRESENTATIVE AND/OR OWNER'S GEOTECHNICAL ENGINEER CONSULTANT TO ASSESS THE STABILITY AND STRENGTH OF EXISTING PAVEMENTS. ANY UNDERCUTTING OF MATERIAL SHALL BE AT THE DIRECTION OF THE OWNER'S PROJECT REPRESENTATIVE.

north
SCALE IN FEET
30' 0 50'

Engberg Anderson ARCHITECT
MILWAUKEE | MADISON | CHICAGO

JSD

REVISIONS

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.01

ISSUED FOR:
BID SET 9/18/2023

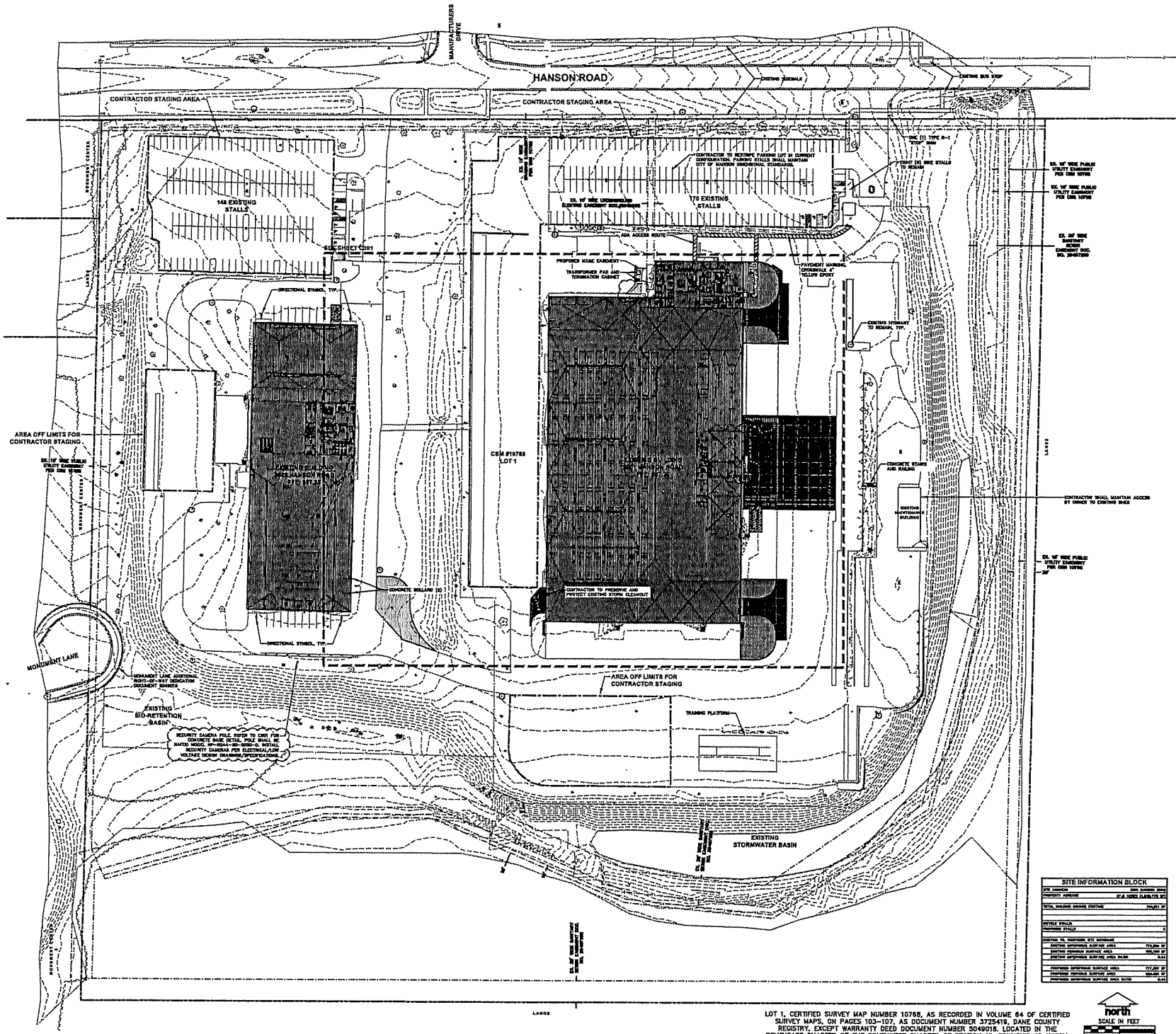
REVISION FOR:

NO.	DESCRIPTION	DATE
1	BID ADDENDUM #2	10/13/2023

DRAWN BY CHG / lc
CHECKED BY MRH / K.

DEMOLITION PLAN

C200



SITE INFORMATION BLOCK	
SITE ADDRESS	3902 HANSON ROAD
PROPERTY ADDRESS	ST. # 3902 (LABEL) TO BE
TOTAL BUILDING GROSS FOOTPRINT	29[illegible] SF
VEHICLE STALLS	
EXISTING STALLS	3
EXISTING VS. PROPOSED SITE COVERAGE	
EXISTING IMPERVIOUS SURFACE AREA	773,[illegible] SF
EXISTING PERVIOUS SURFACE AREA	[illegible] SF
EXISTING IMPERVIOUS SURFACE AREA 24.5%	0.41
PROPOSED IMPERVIOUS SURFACE AREA	777,[illegible] SF
PROPOSED PERVIOUS SURFACE AREA	[illegible] SF
PROPOSED IMPERVIOUS SURFACE AREA 24.5%	0.41

LOT 1, CERTIFIED SURVEY MAP NUMBER 10768, AS RECORDED IN VOLUME 64 OF CERTIFIED SURVEY MAPS, ON PAGES 103-107, AS DOCUMENT NUMBER 3725419, DANE COUNTY REGISTRY, EXCEPT WARRANTY DEED DOCUMENT NUMBER 5049018, LOCATED IN THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 08 NORTH, RANGE 10 EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN

north
SCALE IN FEET
50' 0 50'

Engberg Anderson ARCHITECT
MILWAUKEE | MADISON | CHICAGO

JSD

SATELLITE BUS FACILITY REMODEL

3902-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.0

ISSUED FOR:
BID SET 9/15/2023

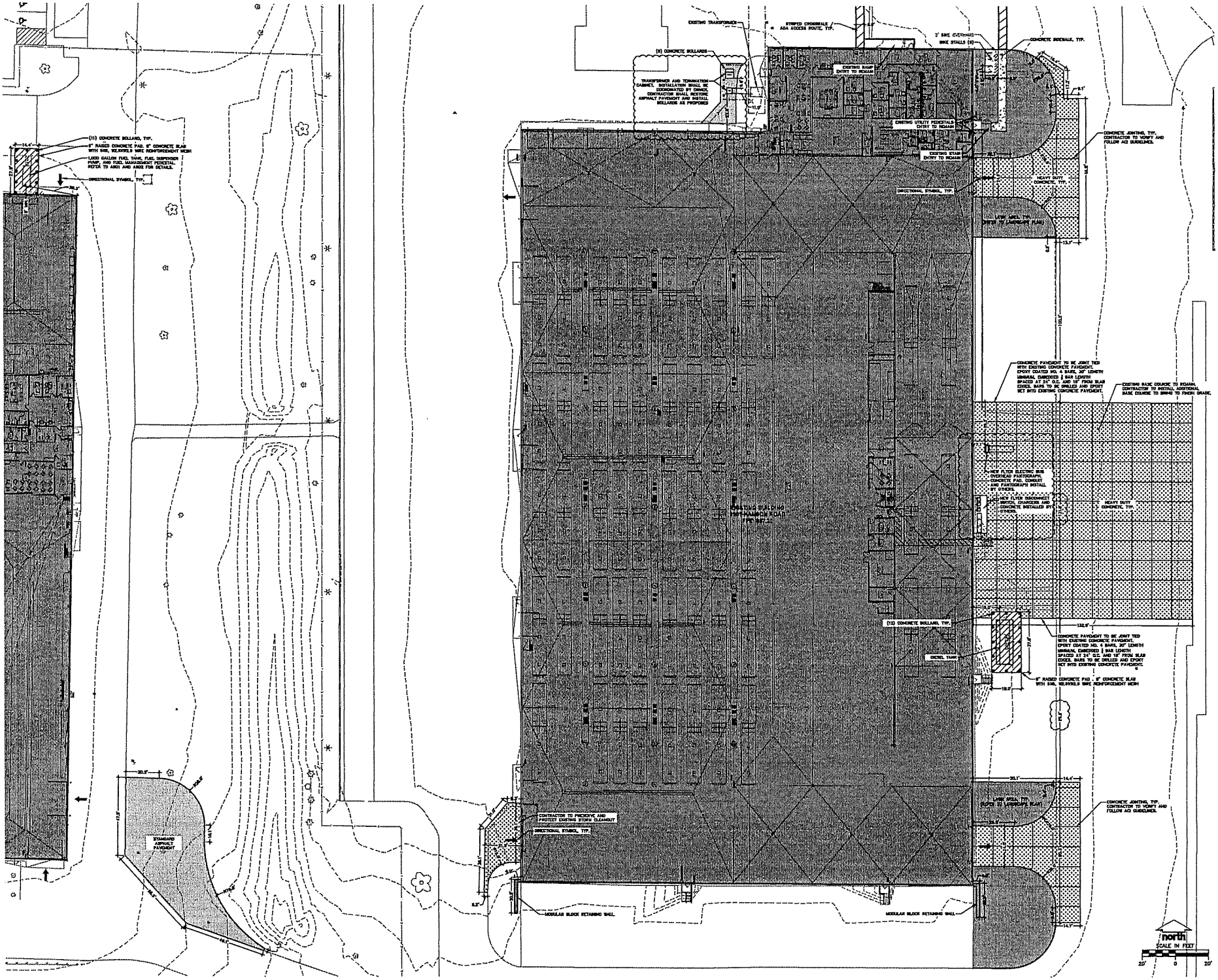
REVISION FOR:

NO.	DESCRIPTION	DATE
1	BID ADDENDUM #2	10/13/2023

DRAWN BY CHG / M
CHECKED BY MRH / K

OVERALL SITE PLAN

C300



Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

JSD REVISION

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.01

ISSUED FOR:

BID SET	9/18/2023

REVISION FOR:

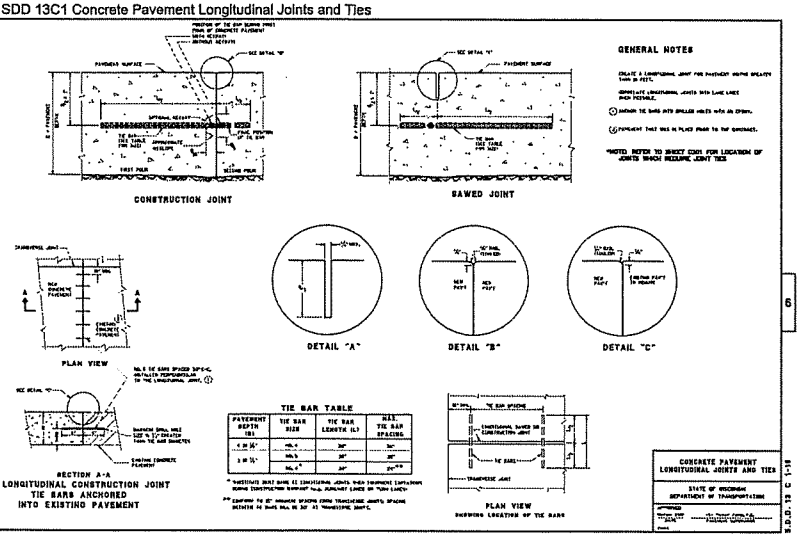
NR.	DESCRIPTION	DATE
	BID ADDENDUM #2	10/13/2023

DRAWN BY	CHG / lr
CHECKED BY	MRH / K.

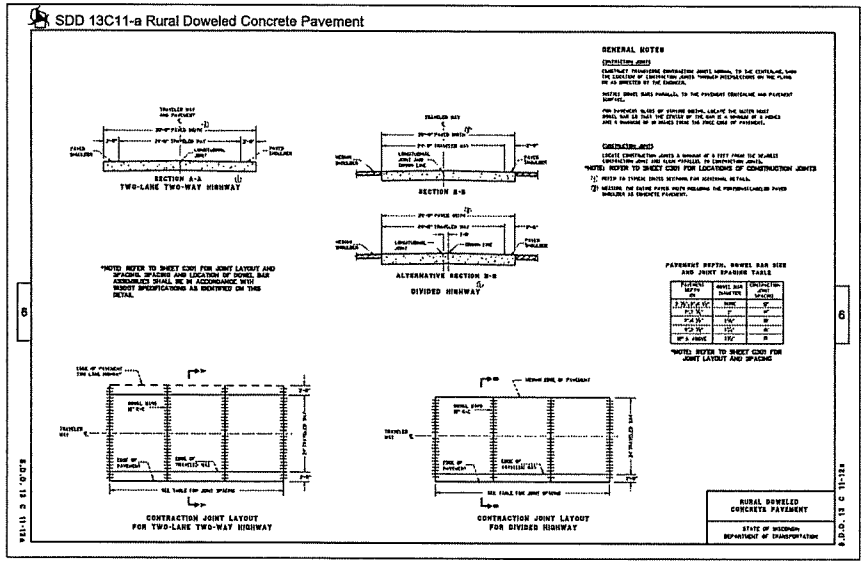
EAST BUILDING DETAILED SITE PLAN

C301

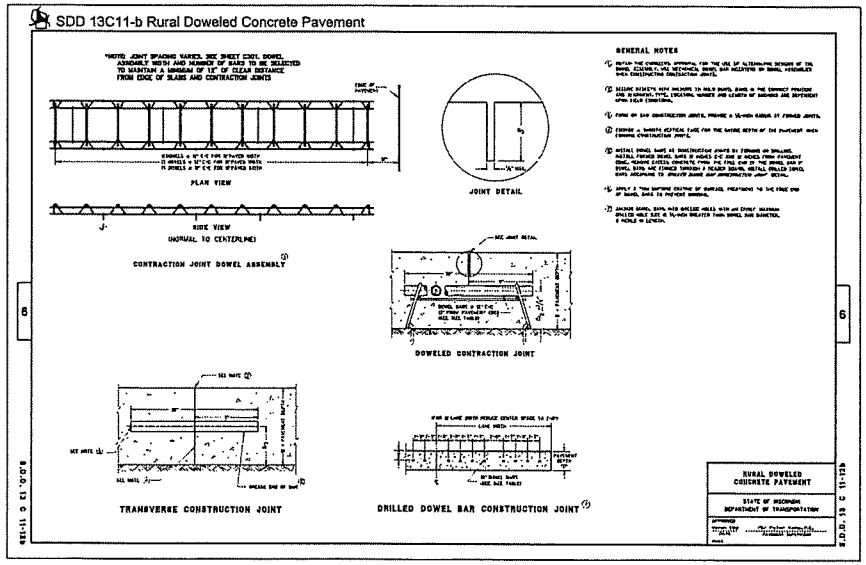
SDD 13C1 Concrete Pavement Longitudinal Joints and Ties

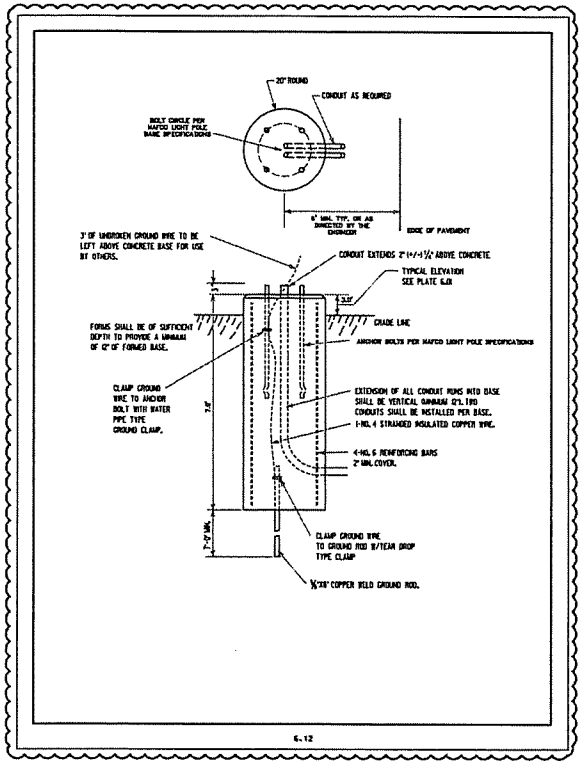


SDD 13C11-a Rural Doweled Concrete Pavement



SDD 13C11-b Rural Doweled Concrete Pavement





Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

JSD

SATELLITE BUS
FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
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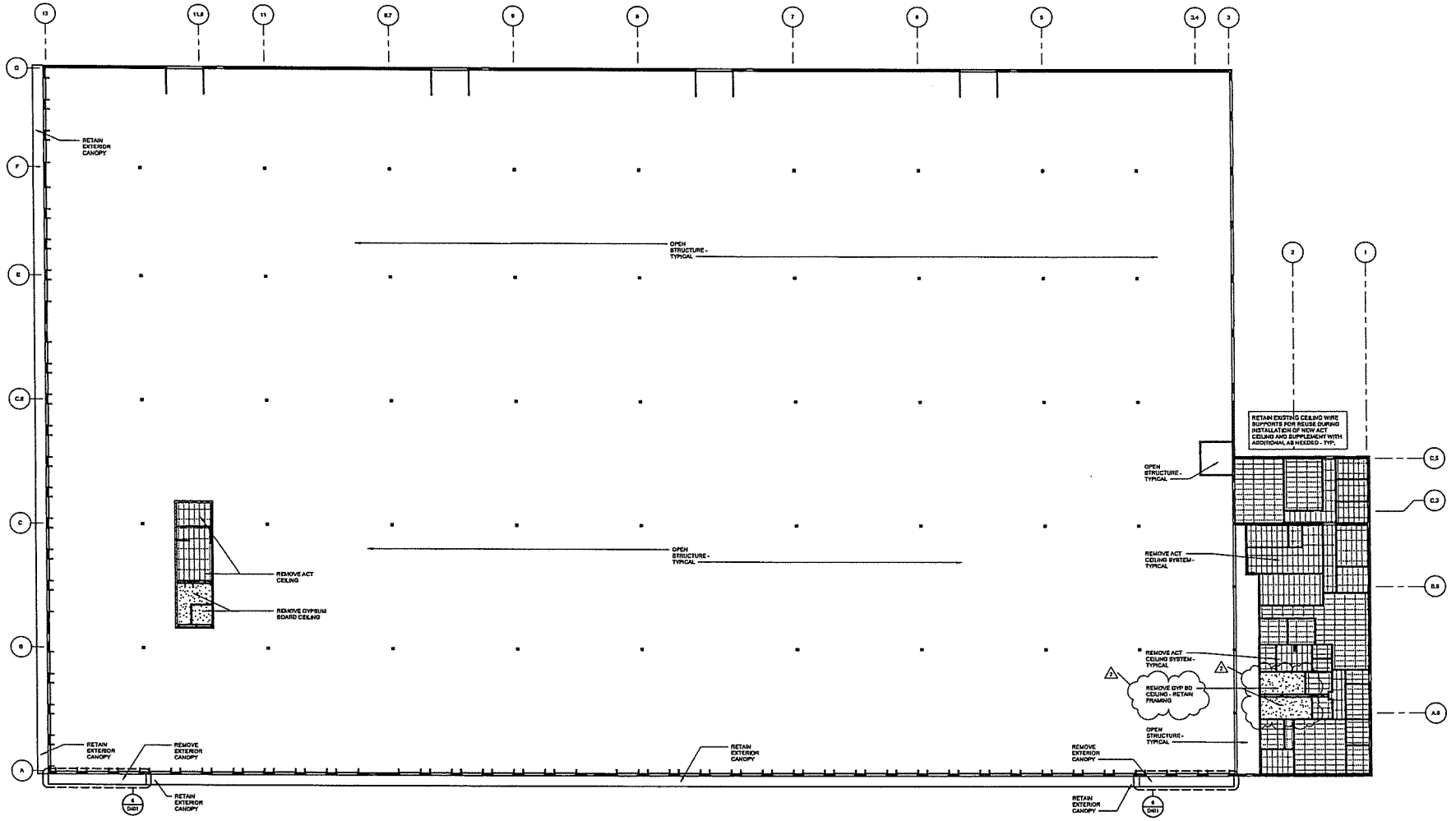
DRAWN BY CHG / M
CHECKED BY MRH / K

DETAILS

C501



1 CEILING DEMOLITION PLAN - STORAGE BUILDING
SCALE: 1/16" = 1'-0"

Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

REVISION 2

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 2134.19.01

ISSUED FOR:
90D SET 9/15/2023

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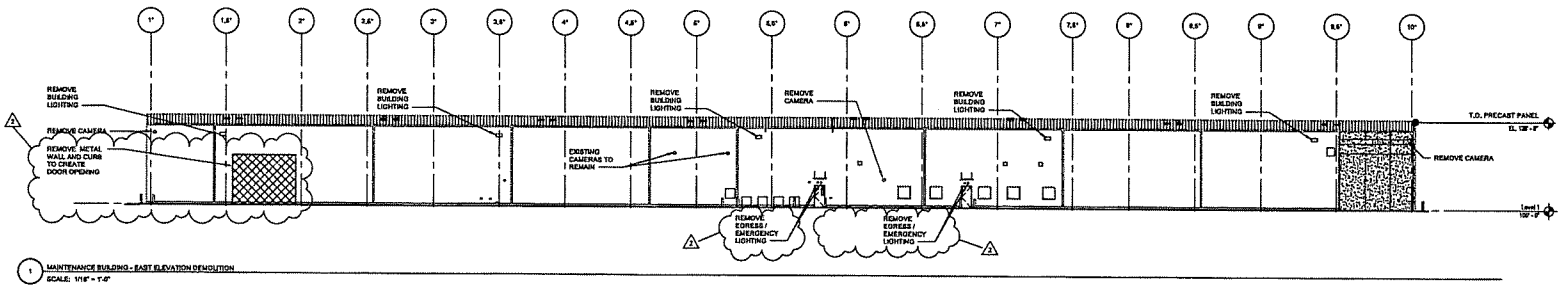
NO.	DESCRIPTION	DATE
2	ADDENDUM NO. 2	10/13/2023

DRAWN BY JFS
CHECKED BY JS

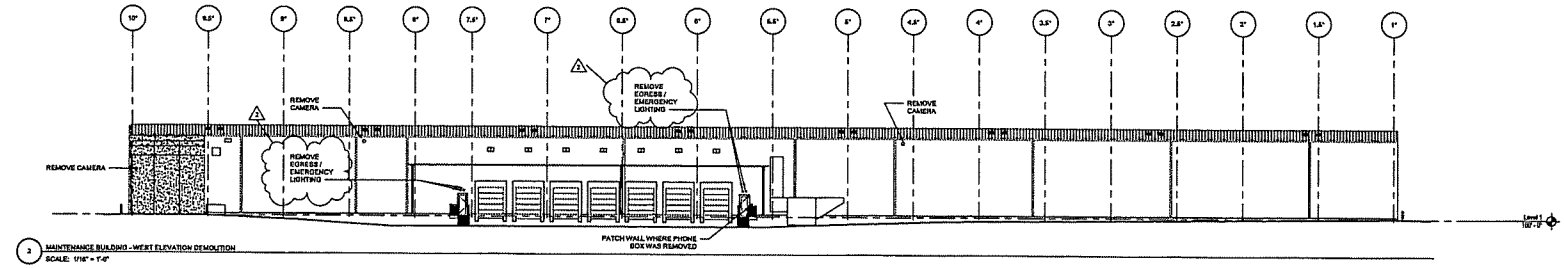
DEMOLITION REFLECTED CEILING PLAN - STORAGE BUILDING

NORTH

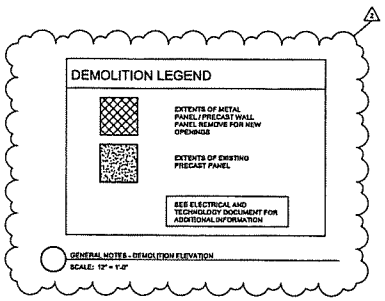
D201



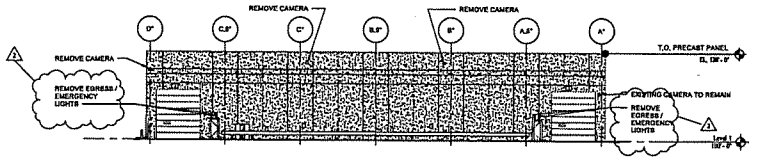
1 MAINTENANCE BUILDING - EAST ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"



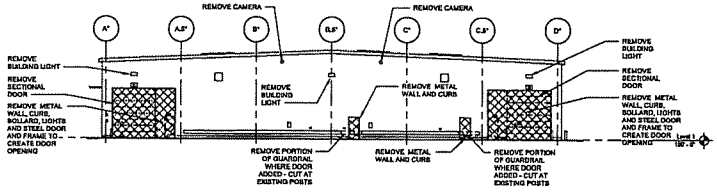
2 MAINTENANCE BUILDING - WEST ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"



GENERAL NOTES - DEMOLITION ELEVATION
SCALE: 12" = 1'-0"



3 MAINTENANCE BUILDING - NORTH ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"



4 MAINTENANCE BUILDING - SOUTH ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"

Engberg Anderson ARCHITECT
MILWAUKEE | MADISON | CHICAGO

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

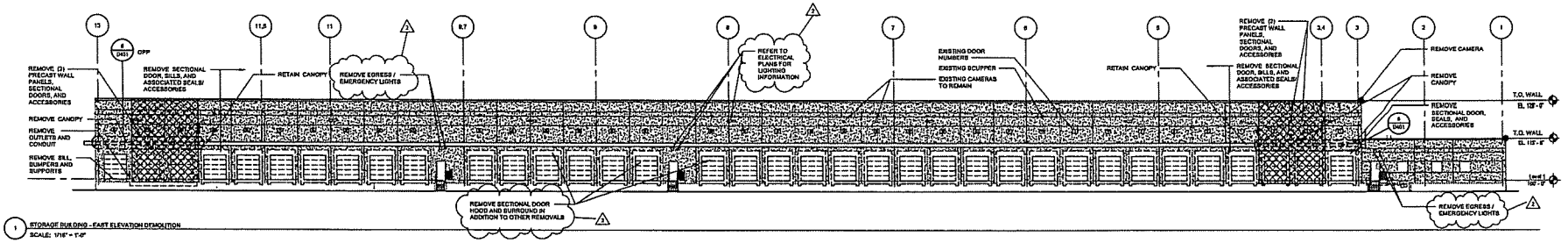
REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM NO. 2	10/13/2023

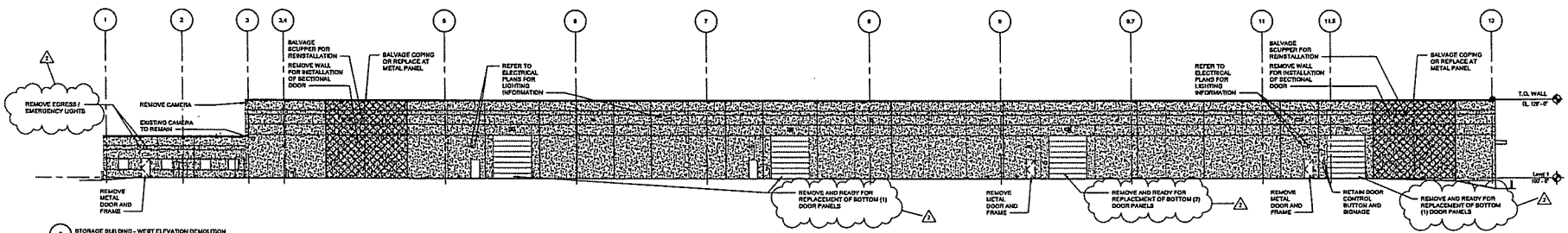
DRAWN BY JPE
CHECKED BY JI

DEMOLITION ELEVATIONS - MAINTENANCE BUILDING

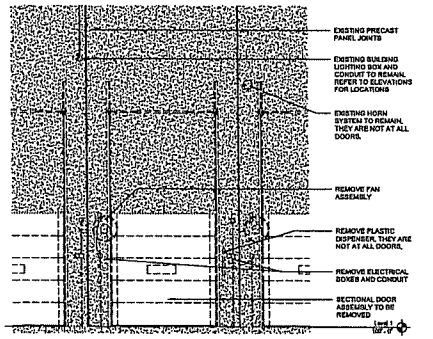
D400



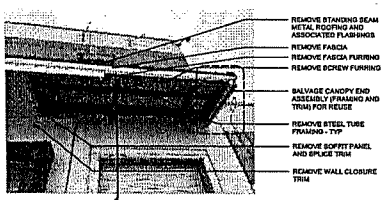
1 STORAGE BUILDING - EAST ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"



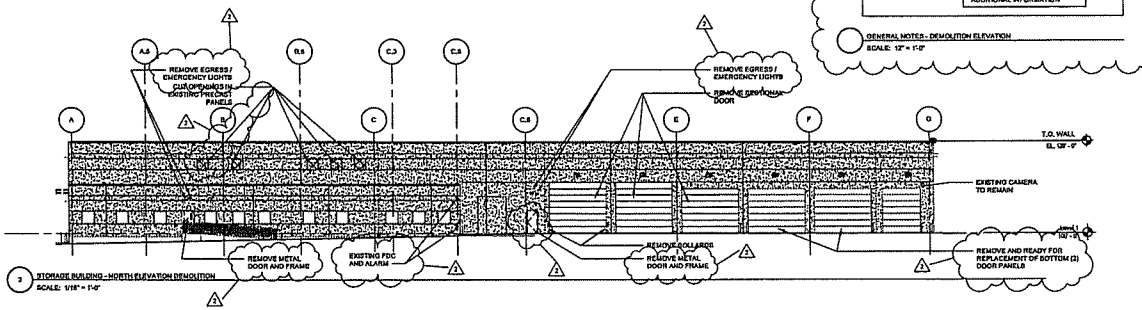
2 STORAGE BUILDING - WEST ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"



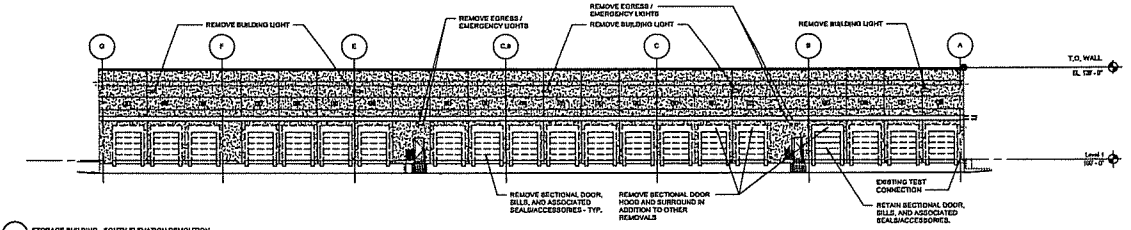
4 OVERHEAD DOOR INTERIOR DEMOLITION ELEVATION
SCALE: 1/4" = 1'-0"



6 CANOPY DEMOLITION DETAIL
SCALE: 1 1/2" = 1'-0"



3 STORAGE BUILDING - NORTH ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"



5 STORAGE BUILDING - SOUTH ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"

DEMOLITION LEGEND

EXTENTS OF METAL PANEL / PRECAST WALL PANEL REMOVE FOR NEW OPENINGS

EXTENTS OF EXISTING PRECAST PANEL

SEE ELECTRICAL AND TECHNOLOGY DOCUMENT FOR ADDITIONAL INFORMATION

GENERAL NOTES - DEMOLITION ELEVATION
SCALE: 1/2" = 1'-0"

Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE. #201
MADISON, WI 53703

PROJECT NUMBER 213418.01

ISSUED FOR:
BID SET 6/15/2023

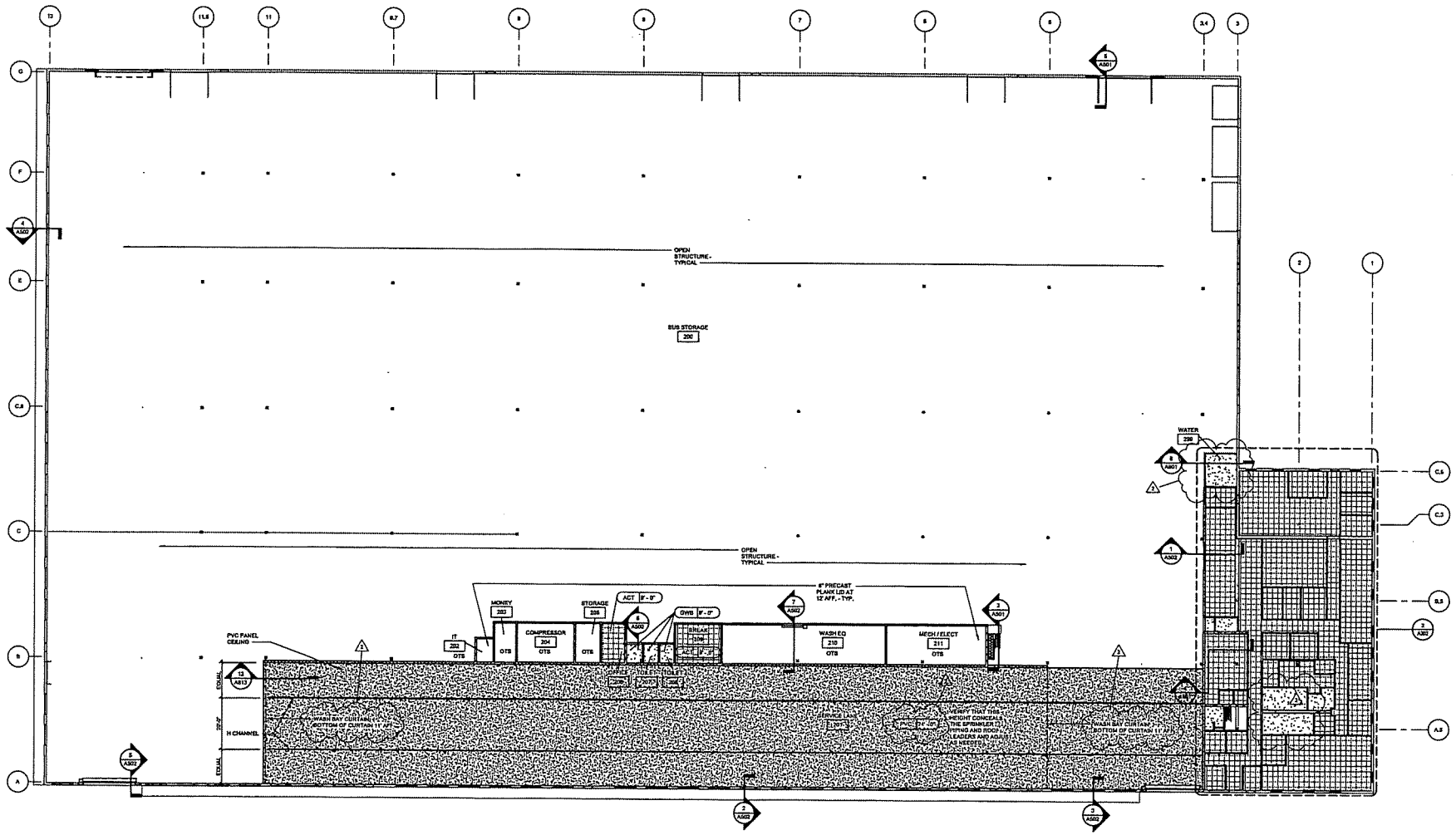
REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM NO. 2	10/13/2023

DRAWN BY JFT
CHECKED BY JS

DEMOLITION ELEVATIONS - STORAGE BUILDING

D401



1 REFLECTED CEILING PLAN - STORAGE BUILDING
SCALE: 1/16" = 1'-0"

REFLECTED CEILING PLAN LEGEND

- GWB CEILING
- PVC CEILING
- ACOUSTIC CEILING TILE

GENERAL NOTES - REFLECTED CEILING PLANS:

1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. PATCH AND REPAIR EXISTING WALLS WHERE CEILINGS, SOFFITS, AND OTHER ITEMS WERE REMOVED DURING DEMOLITION TO MATCH ORIGINAL.
3. RCP CEILING TILES EQUALLY ON OPPOSITE ENDS OF THE ROOM UNLESS NOTED OTHERWISE.

Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

SATELLITE BUS FACILITY REMODEL

2828-2801 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
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DRAWN BY JFT

CHECKED BY JS

REFLECTED CEILING PLAN - STORAGE BUILDING

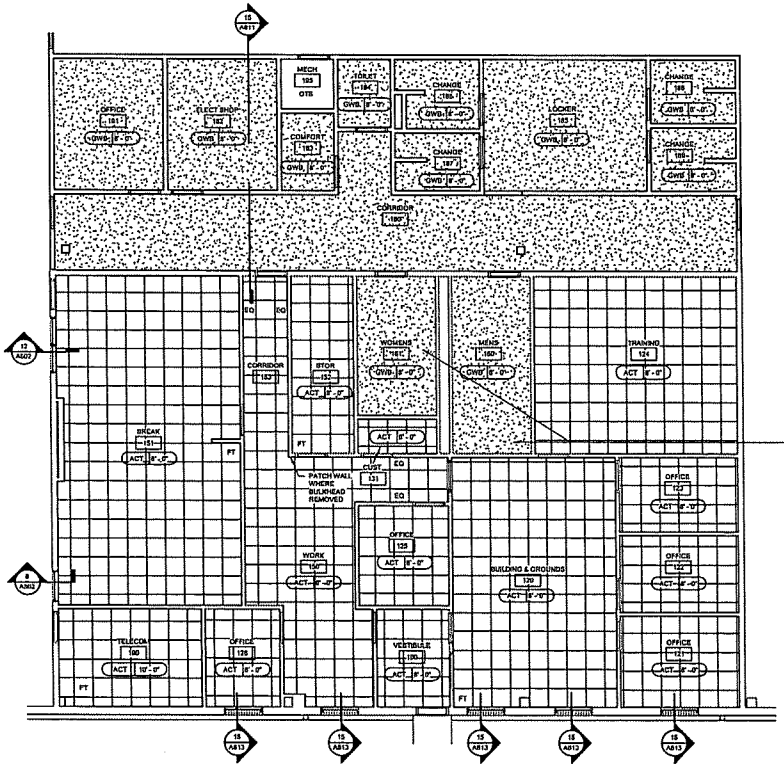
A201

REFLECTED CEILING PLAN LEGEND

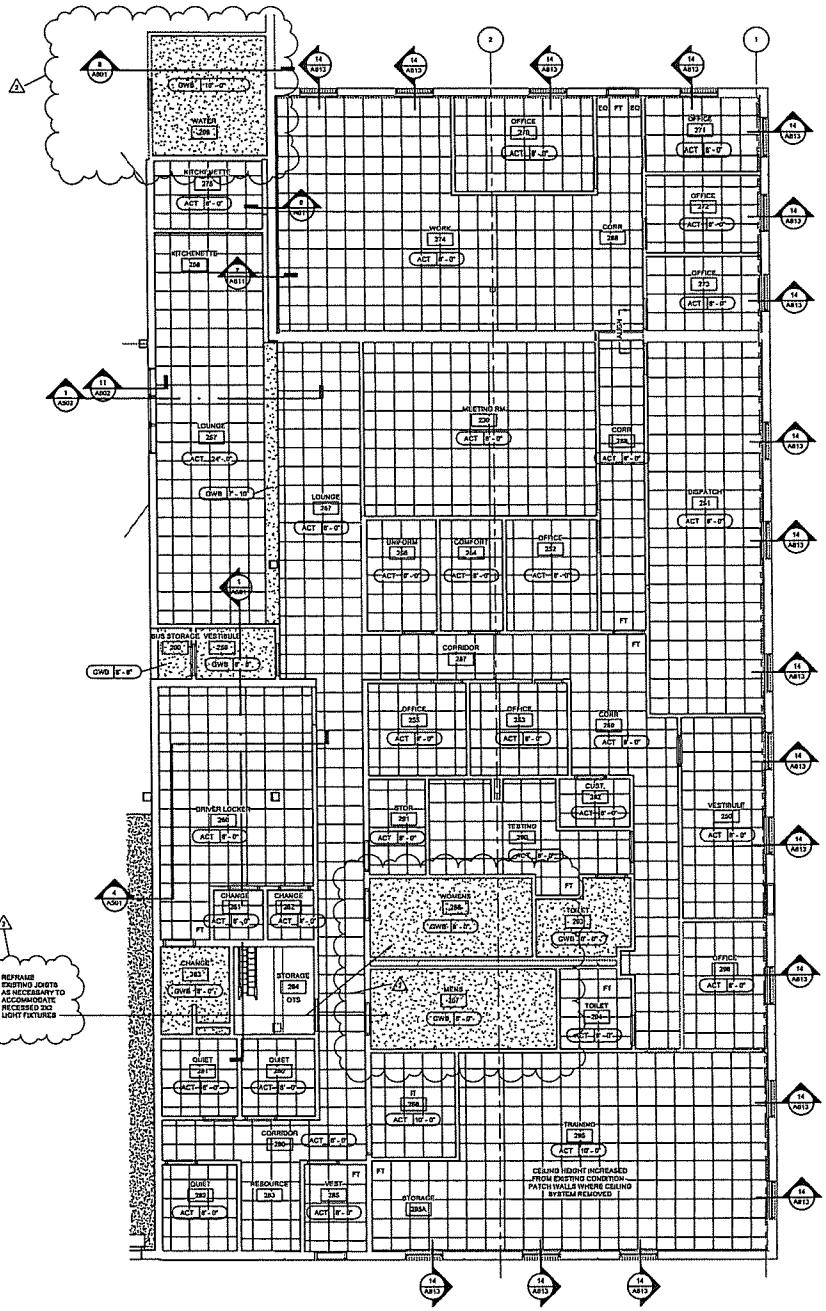
- GWB CEILING
- PVC CEILING
- ACOUSTIC CEILING TILE

GENERAL NOTES - REFLECTED CEILING PLANS:

1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. PATCH AND REPAIR EXISTING WALLS WHERE CEILINGS, BULKHEADS, AND OTHER ITEMS WERE REMOVED DURING DEMOLITION TO MATCH ORIGINAL.
3. SIZE CEILING TILES EQUALLY ON OPPOSITE ENDS OF THE ROOM UNLESS NOTED OTHERWISE.



1 ENLARGED REFLECTED CEILING PLAN - MAINTENANCE BUILDING
SCALE: 3/16" = 1'-0"



2 ENLARGED REFLECTED CEILING PLAN - STORAGE BUILDING
SCALE: 3/16" = 1'-0"

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REVISIONS

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

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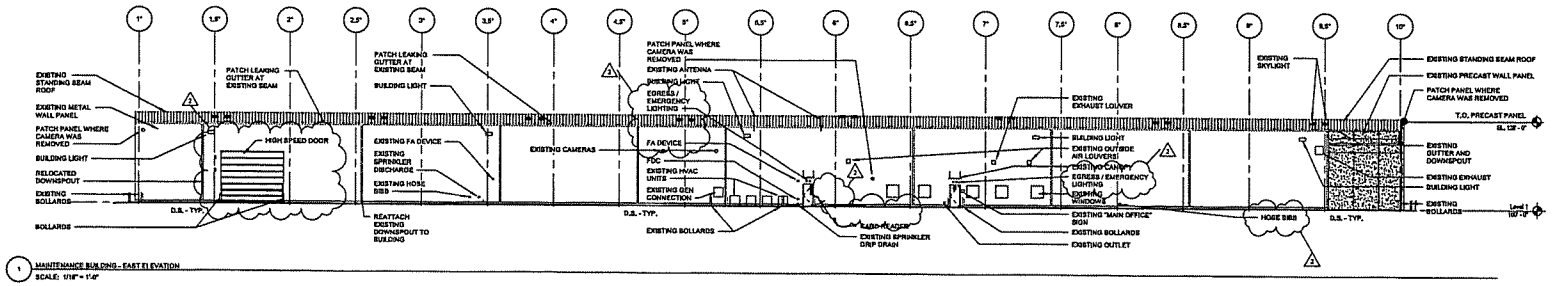
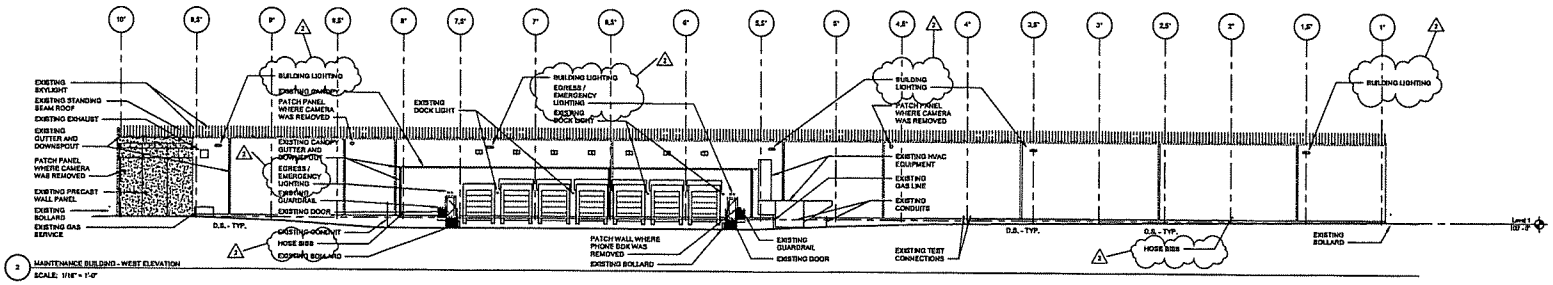
DRAWN BY JFT
CHECKED BY JS

ENLARGED CEILING PLANS

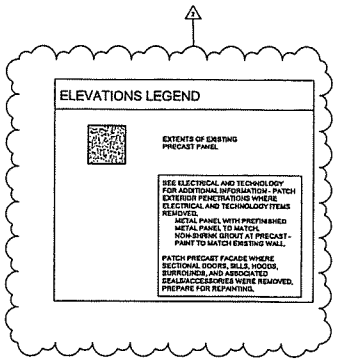
A202

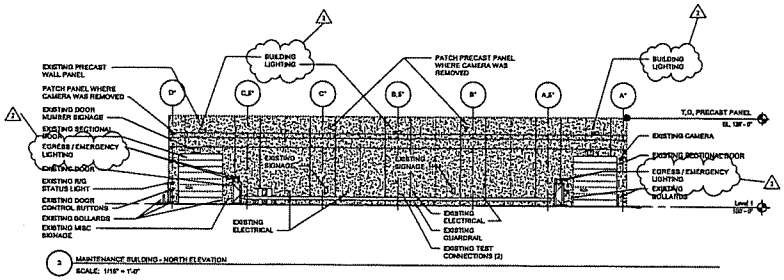


1 MAINTENANCE BUILDING - EAST ELEVATION
SCALE: 1/16" = 1'-0"

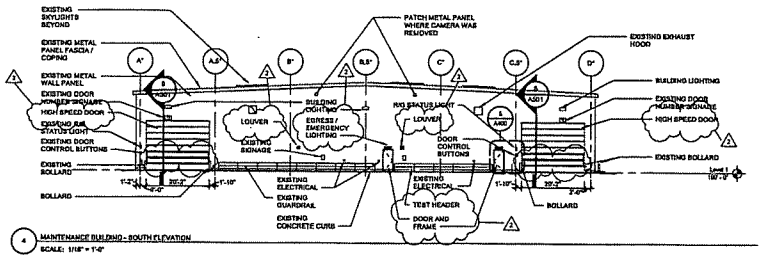


2 MAINTENANCE BUILDING - WEST ELEVATION
SCALE: 1/16" = 1'-0"

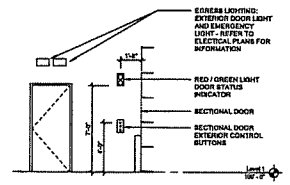




3 MAINTENANCE BUILDING - NORTH ELEVATION
SCALE: 1/16" = 1'-0"



4 MAINTENANCE BUILDING - SOUTH ELEVATION
SCALE: 1/16" = 1'-0"



5 DOOR LIGHT ELEVATION DETAIL
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

SATELLITE BUS FACILITY REMODEL

3830-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

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BID SET 8/16/2023

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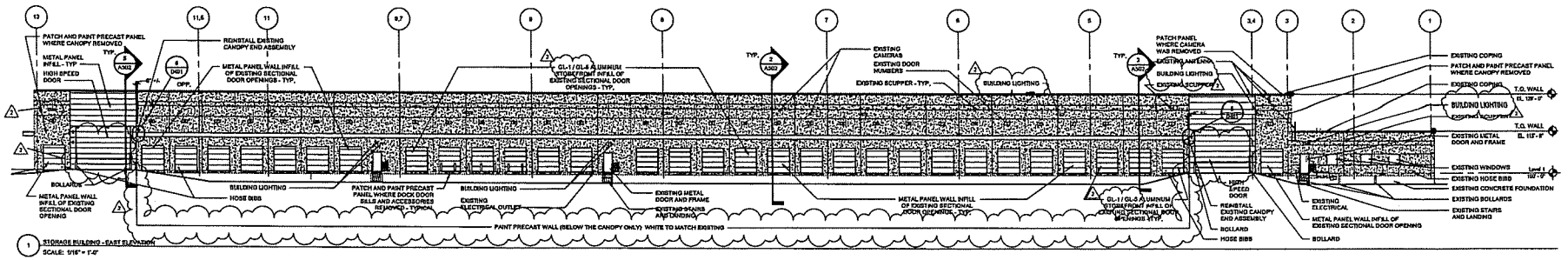
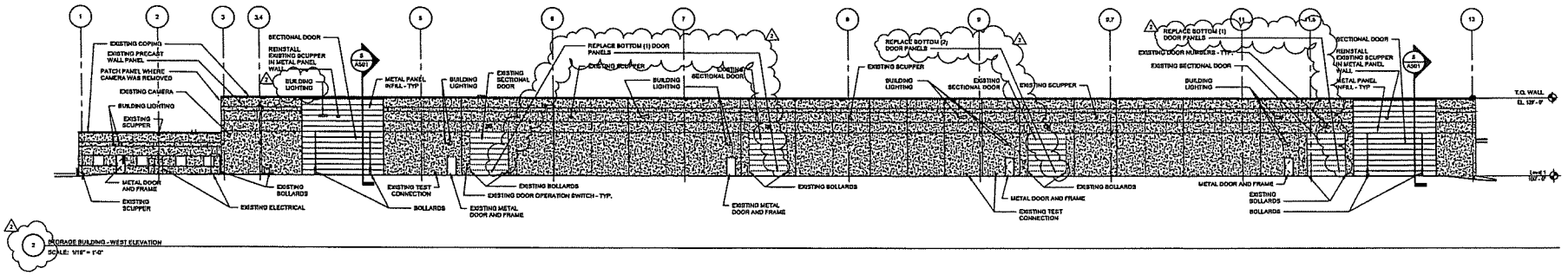
DRAWN BY JTT
CHECKED BY JS

ELEVATIONS - MAINTENANCE BUILDING

A400



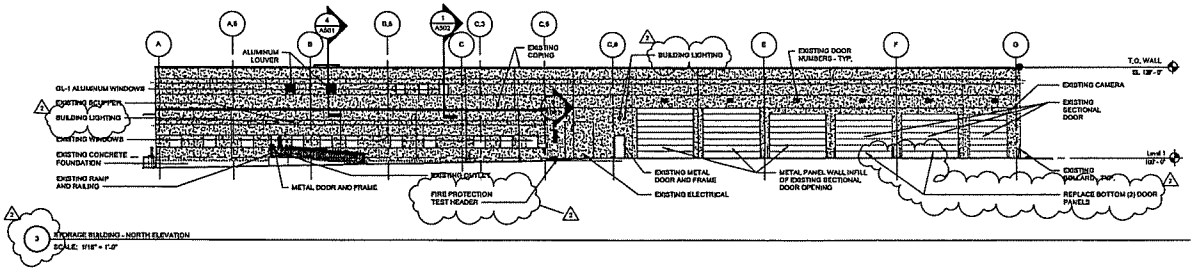


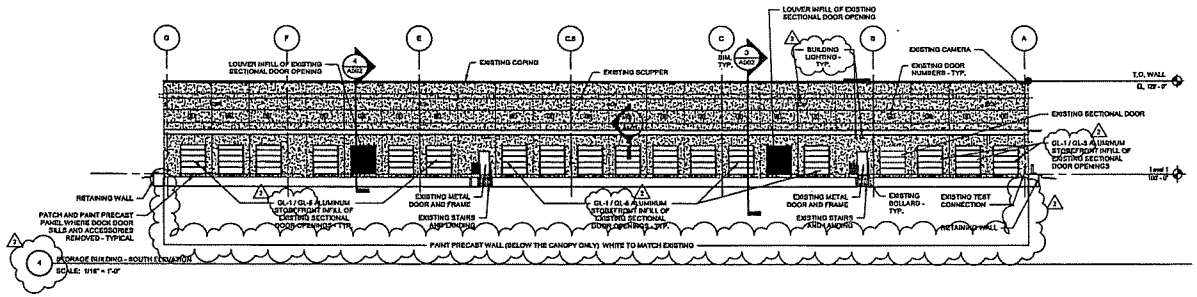
ELEVATIONS LEGEND

EXTENTS OF EXISTING PRECAST PANEL

SEE ELECTRICAL AND TECHNOLOGY FOR ADDITIONAL INFORMATION - PATCH EXTERIOR PENETRATIONS WHERE ELECTRICAL AND TECHNOLOGY ITEMS REMOVED.
METAL PANEL WITH PRETINISHED METAL PANEL TO MATCH, NON-SHRINK GROUT AT PRECAST - PAINT TO MATCH EXISTING WALL.

PATCH PRECAST FACADE WHERE SECTIONAL DOORS, SILLS, HOODS, SURROUNDS, AND ASSOCIATED SEALS/ACCESSORIES WERE REMOVED, PREPARE FOR REPAINTING.





Engberg Anderson ARCHITECT
MILWAUKEE | MADISON | CHICAGO

REVISIONS

SATELLITE BUS FACILITY REMODEL

3829-3901 MANSON ROAD
MADISON, WI 53704

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DRAWN BY JFI
CHECKED BY JS

ELEVATIONS - STORAGE BUILDING

A401

DOOR AND FRAME SCHEDULE - MAINTENANCE BUILDING

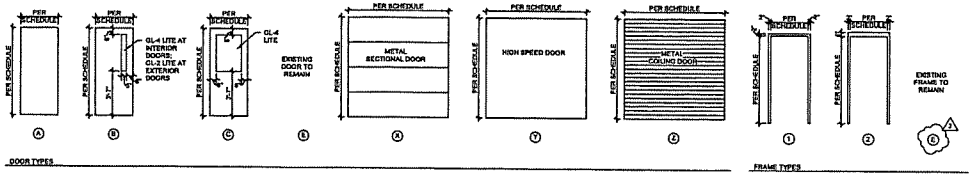
NUMBER	DOOR TYPE	DOOR MATL	DOOR FINISH	DOOR WIDTH	DOOR HEIGHT	FRAME TYPE	FRAME MATL	FRAME FINISH	DETAIL THRESH	DETAIL JAMB	DETAIL HEAD	LABEL	HARDWARE	REMARKS	NUMBER
100	C	FBO	N/A	3'-0"	7'-0"	1	ALUM	CLR ANOD	4/A801	4/A805	5/A806		1	REPLACE DOOR AND FRAME IN EXISTING OPENING	100
120	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		37		120
121	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		2		121
122	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		2		122
123	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		2		123
124B	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		3		124B
125	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		3		125
126	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		3		126
130	C	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		4		130
131	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		2		131
149A	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		5		149A
149C	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		6		149C
149D	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		6		149D
150	C	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	3/A801	2/A801		10		150
151A	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		7		151A
151B	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		7		151B
152	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		32		152
153	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		7		153
160	A	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	160
161	A	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		9	REPLACE DOOR AND FRAME IN EXISTING OPENING	161
175A	B	FBO	N/A	3'-0"	7'-0"	1	ALUM	CLR ANOD	4/A801	4/A805	5/A805		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	175A
175B-1	Z			22'-0"	16'-0"					6/A305 SIM.	7/A305		-	INSTALL DOOR AND FRAME IN EXISTING WALL	175B-1
175B-2	X			22'-0"	16'-0"					6/A305 SIM.	7/A305		-	INSTALL DOOR AND FRAME IN EXISTING WALL	175B-2
175C-1	Z			22'-0"	16'-0"					6/A305 SIM.	7/A305		-	INSTALL DOOR AND FRAME IN EXISTING WALL	175C-1
175C-2	X			22'-0"	16'-0"					6/A305 SIM.	7/A305		-	INSTALL DOOR AND FRAME IN EXISTING WALL	175C-2
175D	A	FBO	N/A	3'-0"	7'-0"	1	ALUM	CLR ANOD	4/A801	6/A305	6/A305		8	INSTALL DOOR AND FRAME IN EXISTING WALL	175D
175E-1	Z			22'-0"	16'-0"					6/A305 SIM.	7/A305		-	INSTALL DOOR AND FRAME IN EXISTING WALL	175E-1
175E-2	X			22'-0"	16'-0"					6/A305 SIM.	7/A305		-	INSTALL DOOR AND FRAME IN EXISTING WALL	175E-2
175F	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		5		175F
176	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801	90 MIN	38		176
177A	A	FBO	N/A	3'-0"	7'-0"	3	ALUM	CLR ANOD	4/A801	6/A305	6/A305		6	INSTALL DOOR AND FRAME IN EXISTING WALL	177A
177B	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		12		177B
177C	Z			6'-0"	8'-0"					8/A811	7/A301 SIM.		-		177C
178A	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801	90 MIN	13		178A
178B	Z			6'-0"	8'-0"					8/A811	7/A301 SIM.	90 MIN	-		178B
180A	B	HM	PAINTED	3'-0"	7'-0"	X	HM	PAINTED	-	1/A801	1/A801		14		180A
180B	B	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		8		180B
181	C	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		15		181
182	C	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		16		182
183	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		16		183
184	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		17		184
185	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		18		185
186	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		18		186
187	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		18		187
188	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		18		188
189	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		18		189
190	E	HM	PAINTED	3'-0"	7'-0"	8	HM	PAINTED	-	-	-		36		190
193	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		19		193
196	E	HM	PAINTED	3'-0"	7'-0"	8	HM	PAINTED	-	1/A801	1/A801		19		196

DOORS 140B, 140E, 175D, 175H, 175J, 175K, 175L, 175M, AND 175N ARE EXISTING SECTIONAL DOORS (DOOR TYPE E)

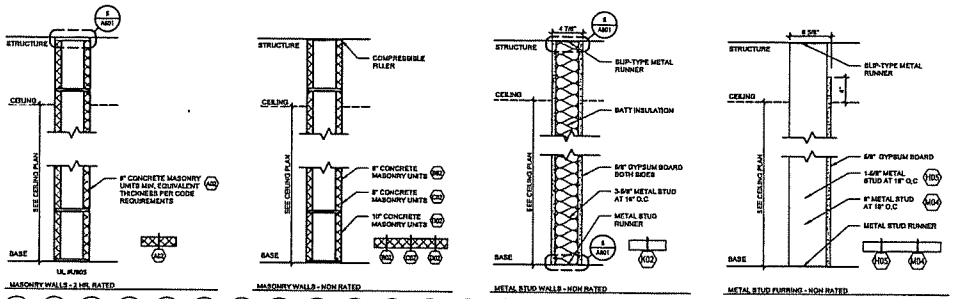
DOOR AND FRAME SCHEDULE - STORAGE BUILDING

#	DOOR TYPE	DOOR MATL	DOOR FINISH		DOOR WIDTH	DOOR HEIGHT	FRAME TYPE	FRAME MATL	FRAME FINISH	DETAIL THRESH	DETAIL JAMB	DETAIL HEAD	LABEL	HARDWARE	REMARKS	NUMBER
200A-1	Y				22'-0"	16'-0"				6/A305 SIM.	11/A308	12/A306		-		200A-1
200A-2	Z				22'-0"	16'-0"				6/A305 SIM.	11/A308	12/A306		-		200A-2
200B	E	HM	EXIST		3'-0"	7'-0"	E	HM	EXIST	-	-	-		29		200B
200C	E	HM	EXIST		3'-0"	7'-0"	E	HM	EXIST	-	-	-		29		200C
200D-1	Y				22'-0"	16'-0"				6/A305 SIM.	11/A308	12/A306		-		200D-1
200D-2	Z				22'-0"	16'-0"				6/A305 SIM.	11/A308	12/A306		-		200D-2
200F	E	HM	EXIST		3'-0"	7'-0"	E	HM	EXIST	-	-	-		28		200F
200G	E	HM	EXIST		3'-0"	7'-0"	E	HM	EXIST	-	-	-		28		200G
200H	X				20'-0"	16'-0"				6/A305	7/A305	6/A305		-		200H
200K	A	FBO	N/A		3'-0"	7'-0"	1	ALUM	CLR ANOD	4/A801	3/A801	3/A801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	200K
200M	A	FBO	N/A		3'-0"	7'-0"	1	ALUM	CLR ANOD	4/A801	3/A801	3/A801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	200M
200P	E	HM	EXIST		3'-0"	7'-0"	E	HM	EXIST	-	-	-		29		200M
200R	E	HM	EXIST		3'-0"	7'-0"	E	HM	EXIST	-	-	-		29		200R
200S	Y				20'-0"	16'-0"				6/A305	7/A305	6/A305		-		200S
200W	A	FBO	N/A		3'-0"	7'-0"	1	ALUM	CLR ANOD	4/A801	3/A801	3/A801		9	REPLACE DOOR AND FRAME IN EXISTING OPENING	200W
201	A	HM	PAINTED		3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		8		201
202	A	HM	PAINTED		3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		28		202
203	A	HM	PAINTED		3'-6"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		11		203
204	A	HM	PAINTED	(2)	3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		21		204
205	A	HM	PAINTED		3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		11		205
206	C	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		32		206
207	A	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		28		207
208	A	HM	PAINTED		3'-0"	7'-0"	3	HM	PAINTED	-	1/A801	1/A801		17		208
209	C	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		33		209
210A	A	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		8		210A
210B		HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		8		210B
210C	E				6'-0"	6'-0"				-	6/A811	7/A302		-		210C
210D	X				3'-0"	7'-0"		HM	PAINTED	-	1/A801	1/A801		8		210D
211	A	HM	PAINTED	(3)	3'-0"	6'-4"	3	HM	PAINTED	-	1/A801	7/A301		24		211
220	E	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	-	-		5		220
230A	B	FBO	N/A		3'-0"	7'-0"	1	ALUM	CLR ANOD	4/A801	3/A801	3/A801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	230A
230B	C	HM	PAINTED		3'-0"	7'-0"	1	HM	PAINTED	-	3/A801	2/A801		25		230B
251	E	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	-	-		3		251
252	C	HM	PAINTED		3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		32	INSTALL DOOR AND FRAME IN EXISTING WALL	252
253	C	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	-	-		28		253
254	A	HM	PAINTED		3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		18	INSTALL DOOR AND FRAME IN EXISTING WALL	254
255	E	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	-	-		28		255
256	A	HM	PAINTED		3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		11	INSTALL DOOR AND FRAME IN EXISTING WALL	256
256A	C	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		27		256A
256B	C	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		8		256B
281	A	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		18		281
282	A	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		18		282
283	A	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		18		283
284	A	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		18		284
286	A	HM	PAINTED		3'-0"	7'-0"	11	HM	PAINTED	-	2/A801	2/A801		11		286
287	A	HM	PAINTED		3'-0"	7'-0"	11	HM	PAINTED	-	2/A801	2/A801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	287
288	C	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	1/A801	1/A801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	288
289	C	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	-	-		28		289
270	C	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	2/A801	2/A801		22	INSTALL DOOR AND FRAME IN EXISTING WALL	270
271	E	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	-	-		35		271
272	E	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	-	-		35		272
273	E	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	-	-		35		273
274	B	FBO	N/A		3'-0"	7'-0"	1	ALUM	CLR ANOD	4/A801	3/A801	3/A801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	274
280	A	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		35		280
281	A	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		35		281
282	A	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		35		282
282A	E	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	-	-		35		282A
282B	C	HM	PAINTED		3'-0"	7'-0"	2	HM	PAINTED	-	1/A801	1/A801		35		282B
288	C	HM	PAINTED		3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		11		288
290	A	HM	PAINTED		3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		11		290
291	A	HM	PAINTED		3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		24	INSTALL DOOR AND FRAME IN EXISTING WALL	291
292	A	HM	PAINTED		3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		24	INSTALL DOOR AND FRAME IN EXISTING WALL	292
293	A	HM	PAINTED		3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	293
294	A	HM	PAINTED		3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	294
295	E	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	-	-		35		295
296	E	HM	PAINTED		3'-0"	7'-0"	E	HM	PAINTED	-	-	-		35		296
299	A	HM	PAINTED	(2)	3'-0"	7'-0"	1	HM	PAINTED	-	2/A801	2/A801	90 MIN	34	REPLACE DOOR AND FRAME IN EXISTING OPENING	299
300		HM	PAINTED		3'-0"	7'-0"		HM	PAINTED	-	1/A801	1/A801		38		300

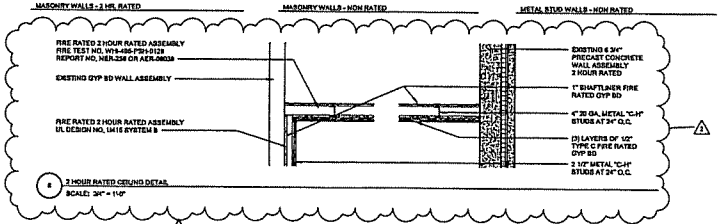
DOORS 200E, 200J, 200L, 200N, 200Q, 200T, 200U, AND 200V ARE EXISTING SECTIONAL DOORS (DOOR TYPE E)



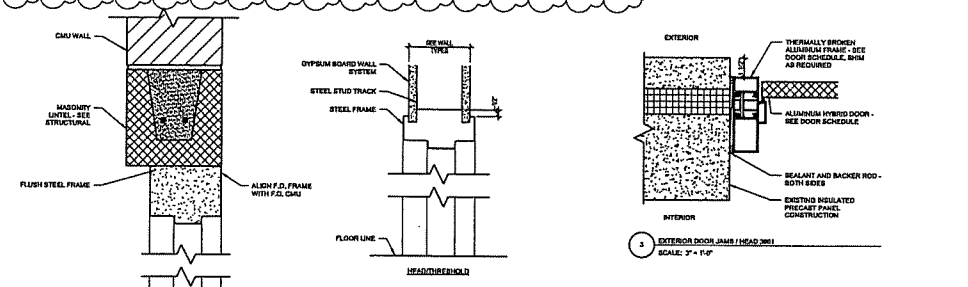
DOOR TYPES — FRAME TYPES



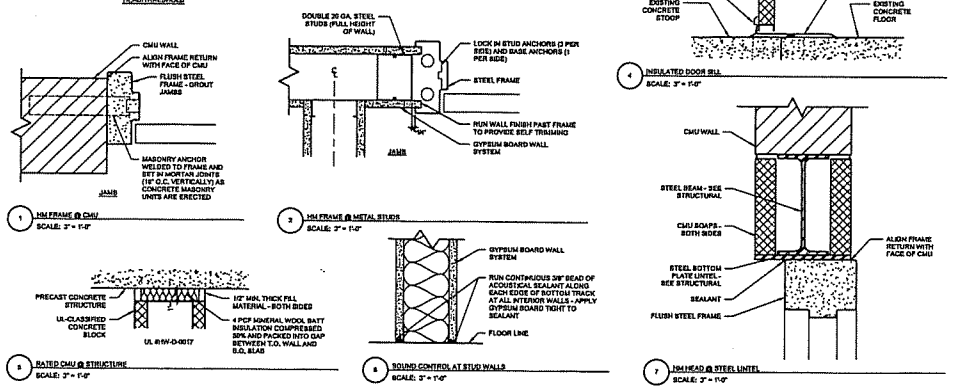
MASONRY WALLS - 2 HR. RATED — MASONRY WALLS - NON RATED — METAL STUD WALLS - NON RATED — METAL STUD FURRING - NON RATED



2 HOUR RATED CEILING DETAIL
SCALE: 3/4" = 1'-0"



1 HM FRAME @ CMU — SCALE: 3" = 1'-0"
2 HM FRAME @ METAL STUDS — SCALE: 3" = 1'-0"
3 EXTERIOR DOOR JAMB / HEAD 2001 — SCALE: 3" = 1'-0"
4 INSULATED DOOR SILL — SCALE: 3" = 1'-0"



5 RATED CMU @ STRUCTURE — SCALE: 3" = 1'-0"
6 SOUND CONTROL AT STUD WALLS — SCALE: 3" = 1'-0"
7 HM HEAD @ STEEL LINTEL — SCALE: 3" = 1'-0"

Engberg Anderson ARCHITECT
MILWAUKEE | MADISON | CHICAGO

SATELLITE BUS FACILITY REMODEL

3830-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM NO. 2	09/13/2023

DRAWN BY JT
CHECKED BY JJ

DOOR SCHEDULE & WALL TYPES

A601

FINISH SCHEDULE - MAINTENANCE BUILDING

RM #	ROOM NAME	FLOORS FINISH	BASE FINISH	WALL FINISH NORTH FINISH	WALL FINISH EAST FINISH	WALL FINISH SOUTH FINISH	WALL FINISH WEST FINISH	CEILING FINISH	REMARKS	RM #
100	VESTIBULE	WA-1	RB-1	PT-3	PT-3	PT-3	PT-8	ACT-1		100
120	BUILDING & GROUNDS	RF-1	RB-1	PT-4	PT-3	PT-3	PT-3	ACT-1		120
121	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		121
122	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		122
123	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		123
124	TRAINING	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		124
125	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		125
126	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		126
130	COMMISION	RF-1	RB-1	PT-3	PT-8	PT-3	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	130
131	CUST.	-	-	-	-	-	-	ACT-1	ID-03 SIGNAGE	131
140	BUILDING & GROUNDS	SC-1	RB-1	-	PT-1	-	-	-	RB-1 AND PT-1 AT OFFICE WING	140
150	WORK	RF-1	RB-1	PT-3 / PT-8	PT-3	PT-3 / PT-8	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	150
151	BREAK	RA-1	RB-1	PT-3 / PT-8	PT-3	PT-3 / PT-8	PT-8	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	151
152	STOR							ACT-1		152
153	COMMISION	RA-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		153
160	MENS	CT-2	CT-3	PT-1	PT-1	CT-4	PT-1	PT-1	REINSTALL EXISTING SIGNAGE	160
161	WOMENS	CT-2	CT-3	CT-4	PT-1	PT-1	PT-1	PT-1	REINSTALL EXISTING SIGNAGE	161
170	MAINTENANCE	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	RB-1 AND PT-1 AT OFFICE AND FIRE PUMP WING	170
175	FIRE PUMP	SC-1	-	PT-1	PT-1	PT-1	PT-1	-	RB-1 AND PT-1 AT OFFICE AND FIRE PUMP WING	175
177	FLUIDS / COMPRESSOR	SC-1	-	PT-1	PT-1	PT-1	PT-1	-		177
178	BATTERY	SC-1	-	PT-1	PT-1	PT-1	PT-1	-	ID-01, ID-04, AND ID-05 SIGNAGE	178
180	CORRIDOR	SC-2	WB-1	PT-3	PT-8	PT-3	PT-3	PT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	180
181	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	PT-1		181
182	ELECT SHOP	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	PT-1		182
183	COMFORT	RF-1	RB-1	PT-3	PT-3	PT-3	PT-8	PT-1		183
184	TOILET	CT-3	CT-3	PT-3	PT-3	PT-3	PT-3	PT-1	ID-03 SIGNAGE	184
185	LOCKER	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	PT-1		185
186	CHANGE	CT-1	CT-1	PT-3	BSM-1 / PT-3	BSM-1 / PT-3	BSM-1 / PT-3	PT-1	FULL-HEIGHT BSM-1 WALLS IN SHOWER	186
187	CHANGE	CT-1	CT-1	PT-3	BSM-1 / PT-3	BSM-1 / PT-3	BSM-1 / PT-3	PT-1	FULL-HEIGHT BSM-1 WALLS IN SHOWER	187
188	CHANGE	CT-1	CT-1	BSM-1 / PT-3	BSM-1 / PT-3	PT-3	BSM-1 / PT-3	PT-1	FULL-HEIGHT BSM-1 WALLS IN SHOWER	188
189	CHANGE	CT-1	CT-1	BSM-1 / PT-3	BSM-1 / PT-3	PT-3	BSM-1 / PT-3	PT-1	FULL-HEIGHT BSM-1 WALLS IN SHOWER	189
190	TELECOM	-	-	PT-1	PT-1	PT-1	PT-1	ACT-1		190
195	MECH	SC-2	-	PT-1	PT-1	PT-1	PT-1	-		195
196	PARTS STORAGE	SC-1	-	-	PT-1	-	-	-	RB-1 AND PT-1 AT OFFICE WING	196

Grand total: 54

FINISH SCHEDULE - STORAGE BUILDING

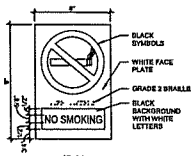
RM #	ROOM NAME	FLOORS FINISH	BASE FINISH	WALL FINISH NORTH FINISH	WALL FINISH EAST FINISH	WALL FINISH SOUTH FINISH	WALL FINISH WEST FINISH	CEILING FINISH	REMARKS	RM #
200	BUS STORAGE	SC-1	RB-1	PT-1	PT-1	-	-	PVC-1	RB-1 AND PT-1 AT OFFICE WING	200
201	SERVICE LANE	SC-1	-	-	PT-1	-	PT-1	PVC-1	RB-1 AND PT-1 AT OFFICE WING; PAINT ALL EXPOSED ITEMS WHICH ARE NOT STAINLESS STEEL PT-1	201
202	IT	-	-	PT-1	PT-1	PT-1	PT-1	PT-1		202
203	MONEY	SC-1	-	PT-1	PT-1	PT-1	PT-1	PT-1		203
204	COMPRESSOR	SC-1	-	PT-1	PT-1	PT-1	-	-		204
205	STORAGE	SC-1	-	PT-1	PT-1	PT-1	PT-1	-		205
206	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		206
207	TOILET	CT-2	CT-2	PT-3	PT-3	PT-3	PT-3	PT-1	ID-02 SIGNAGE	207
208	TOILET	CT-3	CT-3	PT-3	PT-3	PT-3	PT-3	PT-1	ID-03 SIGNAGE	208
209	BREAK	RF-1	RB-1	PT-3	PT-3	PT-3	PT-8	ACT-1		209
210	WASH EQ	SC-1	-	PT-1	PT-1	PT-1	PT-1	-		210
211	MECH / ELECT	SC-1	-	PT-1	PT-1	PT-1	PT-1	-	ID-08 SIGNAGE	211
230	MEETING RM	RF-1	RB-1	PT-3	PT-8	PT-3	PT-3	ACT-1		230
250	VIBRATRUDE	WA-1	RB-1	PT-3	PT-3	PT-3	PT-8	ACT-1		250
251	DISPATCH	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		251
252	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		252
253	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		253
254	COMFORT	RB-1	RB-1	PT-3	PT-3	PT-3	PT-8	ACT-1		254
255	OFFICE	RB-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		255
256	UNIFORM	RB-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		256
257	LOUNGE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	257
258	KITCHENETTE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		258
259	VESTIBULE	WA-1	RB-1	PT-3	PT-3	PT-3	PT-3	PT-1		259
260	DRIVER LOCKER	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		260
261	CHANGE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		261
262	CHANGE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		262
263	CHANGE	CT-1	CT-1	BSM-1 / PT-3	BSM-1 / PT-3	BSM-1 / PT-3	PT-3	PT-1	FULL-HEIGHT BSM-1 WALLS IN SHOWER	263
264	STORAGE	SC-1	-	PT-3	PT-3	PT-3	PT-3	-	FINISHES SIM. IN MECHANICAL MEZZANINE	264
266	WOMENS	-	-	-	-	-	-	ACT-1	REINSTALL EXISTING SIGNAGE	266
267	MENS	-	-	-	-	-	-	ACT-1	REINSTALL EXISTING SIGNAGE	267
268	IT	-	-	PT-3	PT-3	PT-3	PT-3	ACT-1		268
270	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		270
271	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		271
272	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		272
273	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		273
274	WORK	RF-1	RB-1	WA	PT-3	PT-3	PT-7	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	274
275	KITCHENETTE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-4	ACT-1		275
280	QUIET	CP-1	RB-1	PT-3	PT-3	PT-3	PT-4	ACT-1		280
281	QUIET	CP-1	RB-1	PT-3	PT-3	PT-3	PT-7	ACT-1		281
282	QUIET	CP-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		282
283	RESOURCE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		283
285	VEST	WA-1	RB-1	PT-8	PT-3	PT-3	PT-3	ACT-1	ID-06 SIGNAGE	285
286	CORRIDOR	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	286
287	CORRIDOR	RF-1	RB-1	PT-3	PT-3	PT-3	PT-4	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	287
288	CORR	RF-1	RB-1	PT-4	PT-3	PT-3 / PT-7	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	288
289	CORR	RF-1	RB-1	PT-3 / PT-4	PT-3	PT-3	PT-3 / PT-4	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	289
290	TILSTNG	RF-1	RB-1	PT-3	PT-3 / PT-8	PT-7	PT-3	ACT-1		290
291	STOR	RA-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		291
292	CUST.	-	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		292
293	TOILET	-	CT-3	PT-1	-	PT-1	PT-1	PT-1	EXISTING FRP WAINSCOT AT MOP BASIN WALLS; USE ATTIC STOCK AND SALVAGED BASE/WALL TILE TO PATCH FINISHES WHERE REQUIRED - SEE ENLARGED PLANS AND BASE PHOTO	293
294	TOILET	-	CT-1	-	-	-	-	ACT-1	SEE BASE PHOTO FOR ADDITIONAL INFORMATION	294
295	TRAINING	RF-1	RB-1	PT-8	PT-3	PT-4	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	295
295A	STORAGE	RF-1	RB-1	N/A	PT-3	PT-3	PT-4	ACT-1		295A
296	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		296
299	WATER	-	-	-	-	-	-	-	ID-03 SIGNAGE	299

FINISH KEY

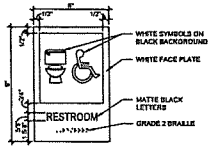
TAG	PRODUCT	MANUFACTURER	DISTRIBUTOR	STYLE	PRODUCT NO.	COLOR	FINISH	SIZE	NOTES
ACT-1	ACOUSTICAL CEILING TILE	ARMSTRONG		CADE	3874	WHITE		24" X 24"	9/16" SQUARE TEGULAR
CG-1	CORNER GUARD	INPRO		ENVIROGUARD CG SERIES		SATIN ANODIZED			
CP1-1	CARPET	J&J FLOORING	DIGITAL		1869	LONE SAGE		24" X 24"	
CT-1	TILE	DAL-TILE	DAL-TILE	KEYSTONES	0308	SEASPRAY GRAY SPECKLE	MATTE	2" X 2"	GT-1 GROUT
CT-2	TILE	DELCONCA	CERAMIC TILEWORKS	ESSENTIAL		CHALK WHITE	MATTE	12" X 24"	GT-3 GROUT
CT-3	TILE								ATTIC STOCK
CT-4	TILE	CERAMICHE CAMPOSAULIANO	CERAMIC TILEWORKS	CLASSBALINE BLOCK		SILK	GLOSSY	4" X 12"	GT-3 GROUT
GT-1	GROUT								MATCH BOSTIK SHADOW H195
GT-2	GROUT								MATCH BOSTIK STORM H198
GT-3	GROUT								MATCH BOSTIK WHITE H153
PLAM-1	PLASTIC LAMINATE	WILSONART		REDEWOOD	7950-60		MATTE		
PT-1	PAINT	SHERWIN WILLIAMS				SNOWBOUND SW 7004			
PT-2	PAINT	SHERWIN WILLIAMS				IRON ORE SW 7069			DOORS AND FRAMES TO BE PAINTED PT-3
PT-3	PAINT	SHERWIN WILLIAMS				ON THE ROCKS SW 7671			
PT-4	PAINT	SHERWIN WILLIAMS				BREEZY SW 7519			
PT-5	PAINT	SHERWIN WILLIAMS				LABRADORITE SW 7519			
PT-6	PAINT	SHERWIN WILLIAMS				DISTANCE SW 6243			
PT-7	PAINT	SHERWIN WILLIAMS				CAVERN CLAY SW 7701			
PVC-1									SEE SPECIFICATIONS
RB-1	RUBBER BASE	JOHNSONITE		GRAMA		BURNT UMBER 83		4"	
RF-1	RUBBER FLOOR	NORA			ARTICLE 1080	FENUGREEK 8307		3.8 MM TILE	
SC-1									SEE SPECIFICATIONS
SC-2									SEE SPECIFICATIONS
SSM-1	SOLID SURFACE MATERIAL	CORIAN		DOVE					SHOWER WALL
SSM-2	SOLID SURFACE MATERIAL	CORIAN		CARBON CONCRETE					COUNTERTOP
WM-1	WALKOFF MAT	J&J FLOORING		MICROFITO	7069	INTELLIGENCE 1841		24" X 24"	

GENERAL NOTES - FINISHES

1. REFER TO INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.
2. "-" ON THE FINISH SCHEDULE INDICATES THAT THE EXISTING FINISH IS TO REMAIN.
3. PAINT HOLLOW METAL DOORS AND FRAMES PT-2. SEE DOOR SCHEDULE FOR LOCATIONS.
4. SEE FLOORING TRANSITION DETAILS FOR ADDITIONAL INFORMATION. REMOVE AND REPLACE TRANSITION STRIP IN AREAS WHERE TILE FLOORING IS TO REMAIN.
5. "TRUE" CARDINAL DIRECTIONS ARE INDICATED IN THE FINISH SCHEDULE U.N.O.



ID-01



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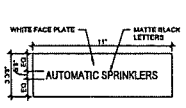

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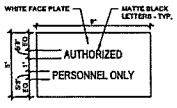

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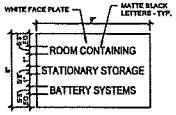

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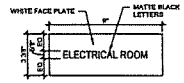

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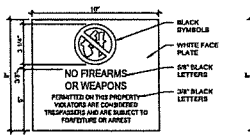

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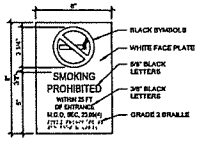

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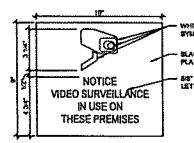

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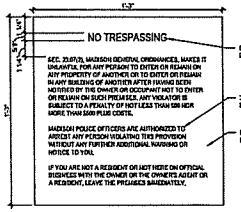

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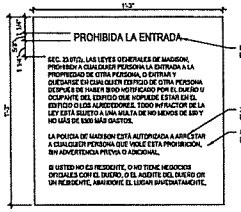
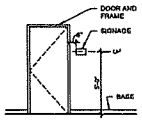
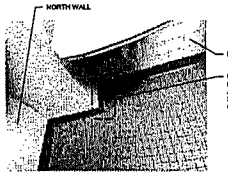


ID-11

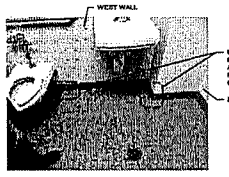
1 SIGNAGE SCHEDULE
NOT TO SCALE



2 SIGN MOUNTING
NOT TO SCALE



3 TOILET 293 BASE REPLACEMENT
NOT TO SCALE



4 TOILET 294 BASE REPLACEMENT
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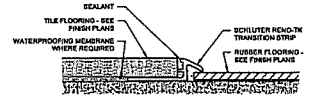
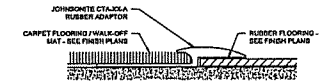


5 TILE TO RUBBER FLOORING TRANSITION
SCALE: 12" = 1'-0"

6 TILE TO CONCRETE TRANSITION
SCALE: 12" = 1'-0"

7 RUBBER FLOORING TO CONCRETE TRANSITION
SCALE: 12" = 1'-0"



8 CARPET TO RESILIENT FLOORING
SCALE: 12" = 1'-0"

SIGNAGE NOTES:

1. SEE FINISH SCHEDULE FOR LOCATIONS OF SIGNS ID-01 THROUGH ID-08.
2. ID-07 SIGNAGE TO BE INSTALLED AT DOORS 100 AND 258A.
3. ID-08 SIGNAGE TO BE INSTALLED AT DOORS 100, 140A, 140C, 140D, 175A, 175D, 175F, 177A, 200B, 200C, 200F, 200G, 200K, 200M, 200P, 200R, 200W, 250A, 274, AND 285A.
4. ID-09, ID-10, AND ID-11 SIGNAGE TO BE INSTALLED AT ALL PEDESTRIAN ENTRIES THROUGH EXTERIOR GATES AROUND THE SITE.
5. TYPEFACE ON ALL SIGNS SHALL BE HELVETICA BOLD.
6. COLOR CHANGES TO BE RAISED 1/32" FROM BACKGROUND.

Engberg Anderson ARCHITECT
MILWAUKEE | MADISON | CHICAGO

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3861 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

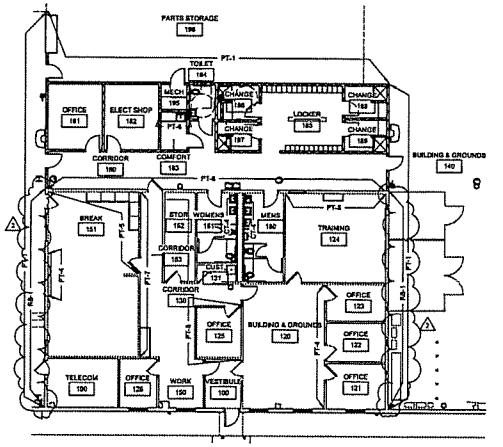
REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM NO. 2	10/13/2023

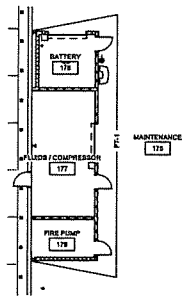
DRAWN BY JP1
CHECKED BY JS

INTERIOR FINISHES & SCHEDULES

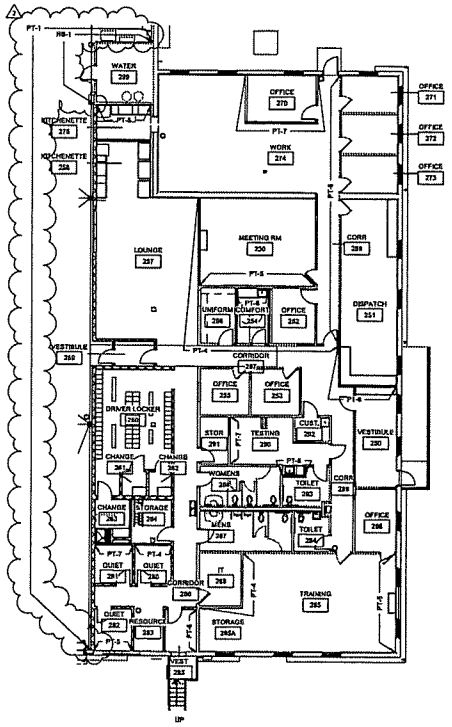
A701



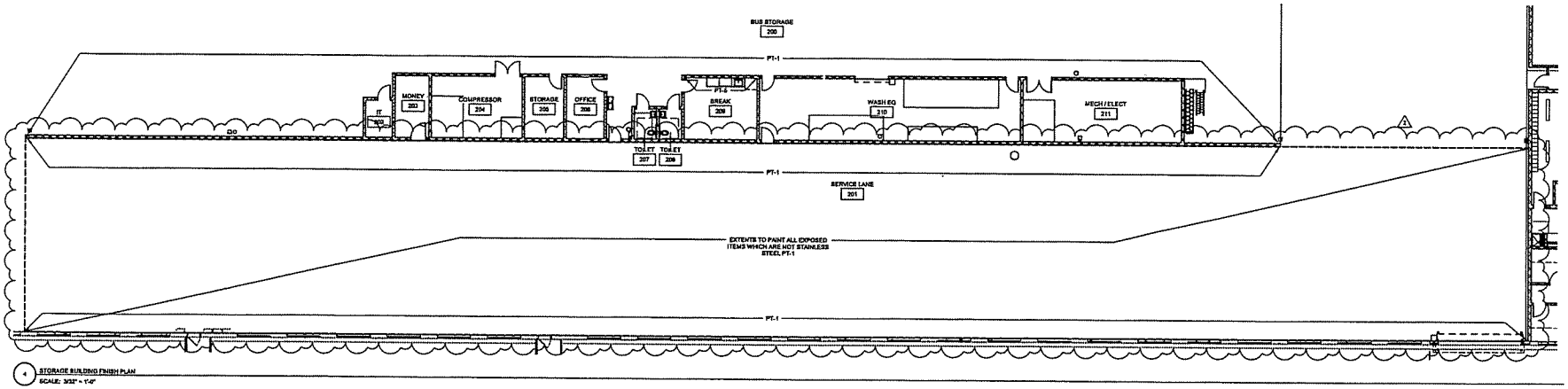
1 MAINTENANCE BUILDING FINISH PLAN
SCALE: 3/32" = 1'-0"



2 MAINTENANCE BUILDING FINISH PLAN
SCALE: 3/32" = 1'-0"



3 STORAGE BUILDING FINISH PLAN
SCALE: 3/32" = 1'-0"



4 STORAGE BUILDING FINISH PLAN
SCALE: 3/32" = 1'-0"

NORTH

Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.01

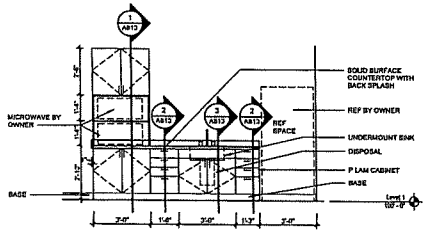
ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE
2 ADDENDUM NO. 2 10/13/2023

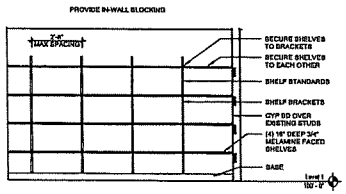
DRAWN BY JPE
CHECKED BY JH

INTERIOR FINISH PLANS

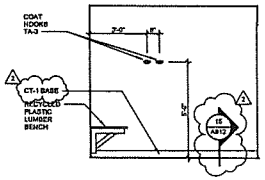
A702



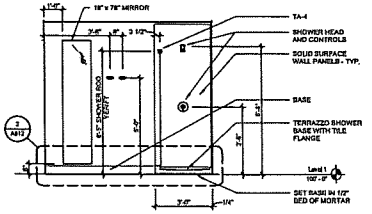
6 LOUNGE KITCHENETTE
SCALE: 3/8" = 1'-0"



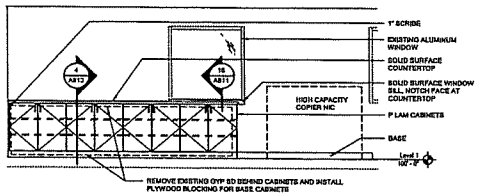
10 UNIFORM STORAGE 2
SCALE: 3/8" = 1'-0"



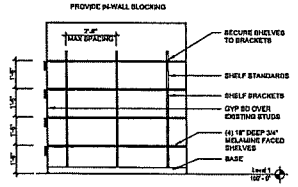
18 SHOWER ELEVATION C
SCALE: 3/8" = 1'-0"



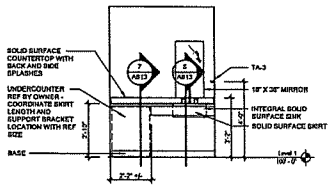
20 SHOWER ELEVATION B
SCALE: 3/8" = 1'-0"



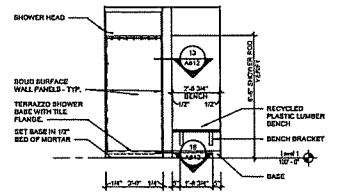
4 DISPATCH ELEVATION
SCALE: 3/8" = 1'-0"



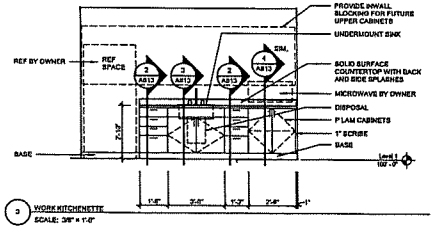
9 UNIFORM STORAGE 1
SCALE: 3/8" = 1'-0"



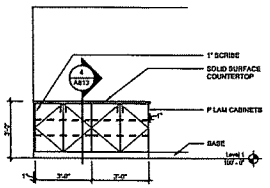
14 MAINTENANCE COMFORT ROOM
SCALE: 3/8" = 1'-0"



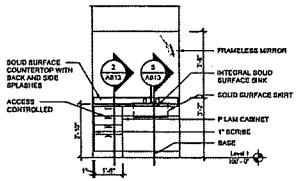
19 SHOWER ELEVATION A
SCALE: 3/8" = 1'-0"



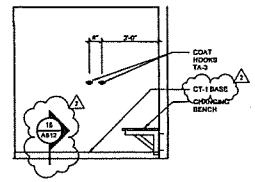
3 WORK KITCHENETTE
SCALE: 3/8" = 1'-0"



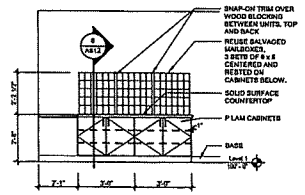
8 MAINTENANCE WORK ELEVATION
SCALE: 3/8" = 1'-0"



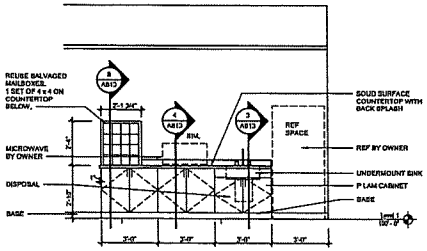
15 TESTING ROOM CASEWORK
SCALE: 3/8" = 1'-0"



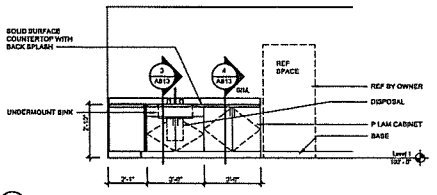
17 ACCESSIBLE SHOWER ELEVATION C
SCALE: 3/8" = 1'-0"



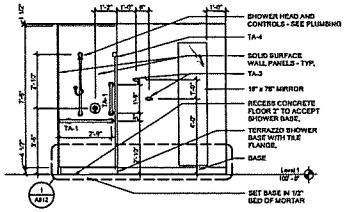
2 DISPATCH MAILBOXES
SCALE: 3/8" = 1'-0"



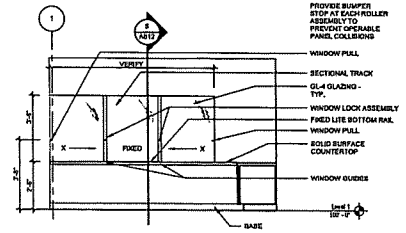
7 SERVICE LANE KITCHENETTE
SCALE: 3/8" = 1'-0"



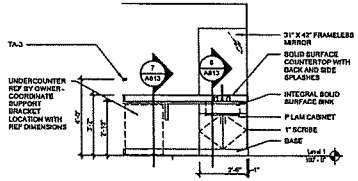
12 MAINTENANCE BREAK ROOM 2
SCALE: 3/8" = 1'-0"



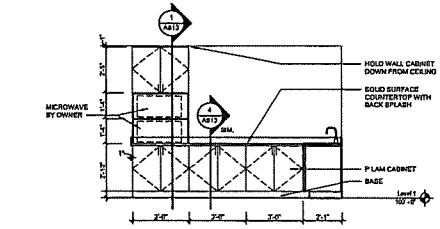
16 ACCESSIBLE SHOWER ELEVATION B
SCALE: 3/8" = 1'-0"



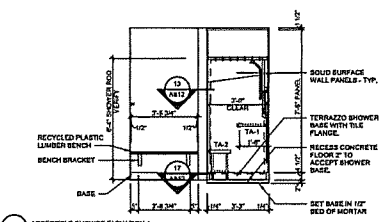
1 CHECK-IN WINDOW ELEVATION
SCALE: 3/8" = 1'-0"



5 OPERATIONS COMFORT ROOM
SCALE: 3/8" = 1'-0"



11 MAINTENANCE BREAK ROOM 1
SCALE: 3/8" = 1'-0"



18 ACCESSIBLE SHOWER ELEVATION A
SCALE: 3/8" = 1'-0"

Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

REVISION

SATELLITE BUS FACILITY REMODEL

3420-3501 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.01

ISSUED FOR:
BID SET 9/15/2023

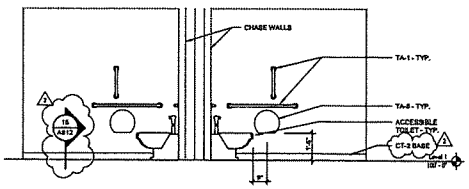
REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM NO. 2	10/13/2023

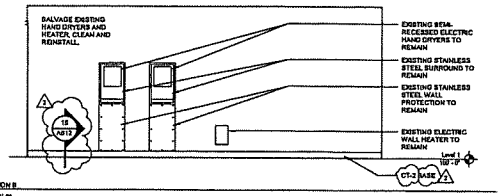
DRAWN BY JFI
CHECKED BY JI

INTERIOR ELEVATIONS

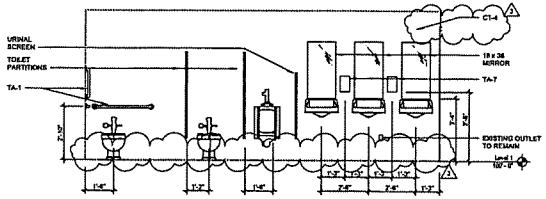
A801



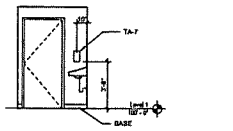
6 MENS / WOMENS C
SCALE: 3/8" = 1'-0"



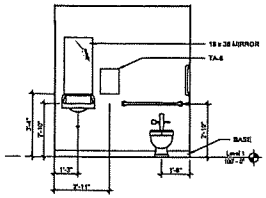
5 MENS ELEVATION B
SCALE: 3/8" = 1'-0"



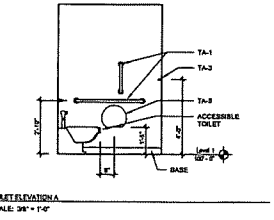
4 MENS ELEVATION A
SCALE: 3/8" = 1'-0"



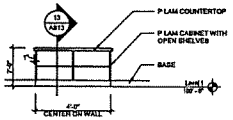
3 TOILET ELEVATION C
SCALE: 1/4" = 1'-0"



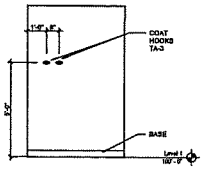
2 TOILET ELEVATION B
SCALE: 3/8" = 1'-0"



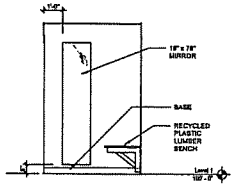
1 TOILET ELEVATION A
SCALE: 3/8" = 1'-0"



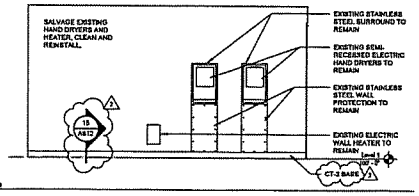
11 CONF ROOM CASEWORK
SCALE: 3/8" = 1'-0"



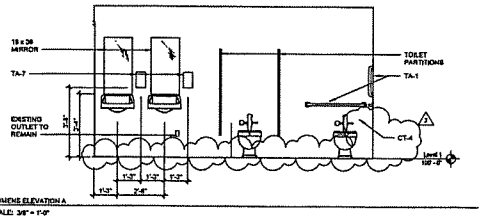
10 CHANGING ELEVATION B
SCALE: 3/8" = 1'-0"



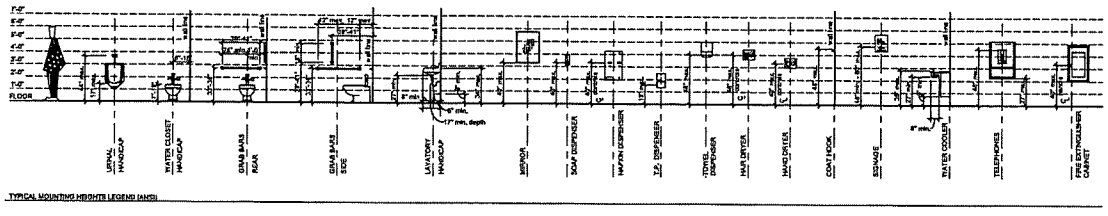
9 CHANGING ELEVATION A
SCALE: 3/8" = 1'-0"



8 WOMENS ELEVATION B
SCALE: 3/8" = 1'-0"



7 WOMENS ELEVATION A
SCALE: 3/8" = 1'-0"



TYPICAL MOUNTING HEIGHTS LEGEND (AMSI)

Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 212418.01

ISSUED FOR:

BID SET	9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
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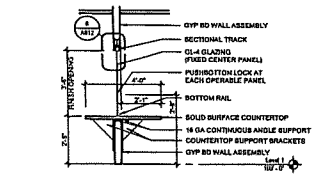
DRAWN BY JT

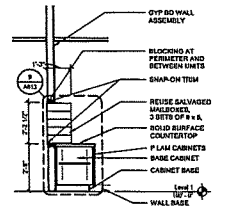
CHECKED BY JI

INTERIOR ELEVATIONS

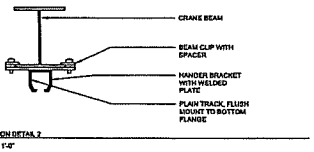
A802



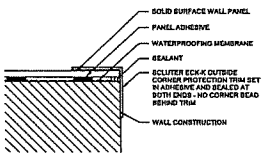
5 CHECK-IN WINDOW SECTION
SCALE: 3/8" = 1'-0"



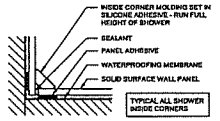
9 MAILBOX SECTION
SCALE: 3/8" = 1'-0"



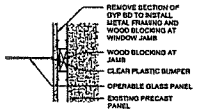
19 FALL PROTECTION DETAIL 2
SCALE: 1 1/2" = 1'-0"



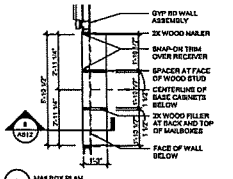
13 SOLID SURFACE CORNER
SCALE: 6" = 1'-0"



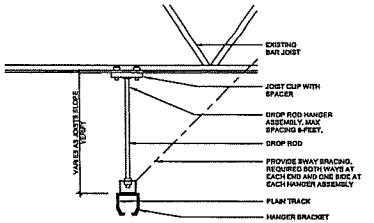
18 SHOWER CORNER DETAIL
SCALE: 6" = 1'-0"



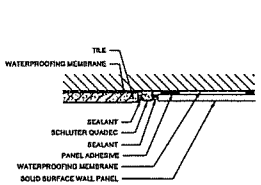
4 CHECK-IN WINDOW JAMB
SCALE: 1 1/2" = 1'-0"



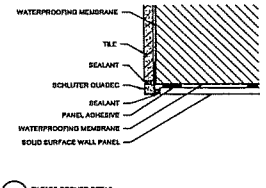
7 MAILBOX PLAN
SCALE: 3/8" = 1'-0"



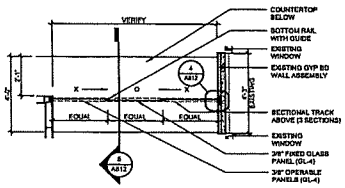
10 FALL PROTECTION DETAIL 1
SCALE: 1 1/2" = 1'-0"



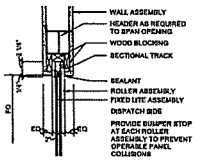
12 TILE/ SS DETAIL
SCALE: 6" = 1'-0"



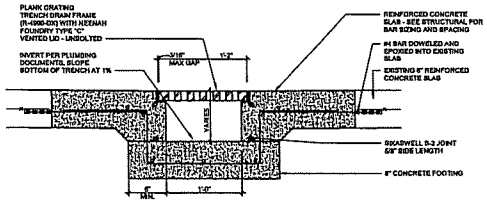
17 TILE/ SS CORNER DETAIL
SCALE: 6" = 1'-0"



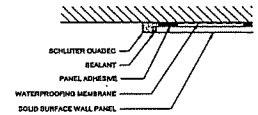
3 CHECK-IN WINDOW PLAN
SCALE: 3/8" = 1'-0"



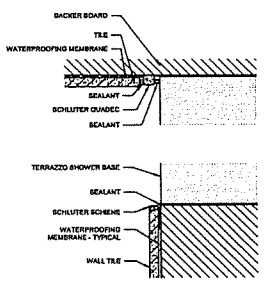
8 CHECK-IN WINDOW HEAD
SCALE: 1 1/2" = 1'-0"



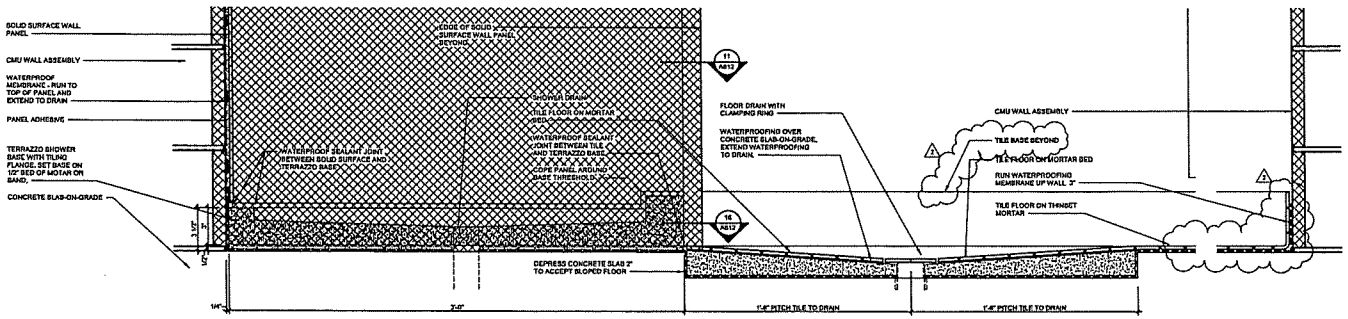
9 TRENCH DRAIN DETAIL
SCALE: 1 1/2" = 1'-0"



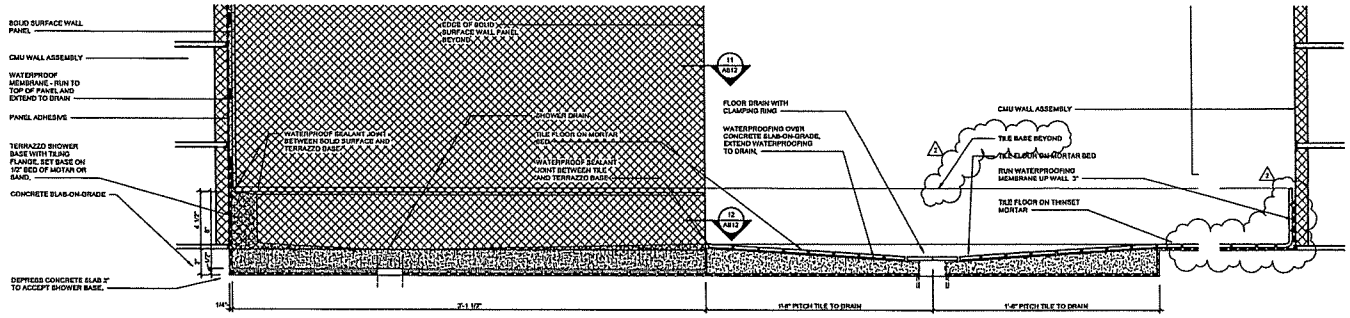
11 SS TRANSITION DETAIL
SCALE: 6" = 1'-0"



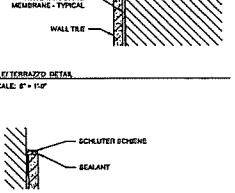
16 TILE/ TERRAZZO DETAIL
SCALE: 6" = 1'-0"



2 SHOWER BASE WATERPROOFING DETAIL
SCALE: 3" = 1'-0"



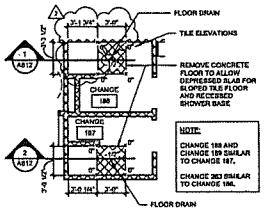
1 DEPRESSED SLAB WATERPROOFING DETAIL
SCALE: 3" = 1'-0"



15 TILE BASE DETAIL
SCALE: 6" = 1'-0"

FLOOR FINISH NOTE:

1. CHANGES IN LEVEL OF 1/4" MAX. SHALL BE PERMITTED TO BE VERTICAL.
2. CHANGES IN LEVEL GREATER THAN 1/4" AND NOT MORE THAN 1/2" SHALL BE BEVELED AND NOT STEEPER THAN 1:2.
3. SLOPES TO FLOOR DRAINS SHALL NOT BE STEEPER THAN 1:48.



14 SLAB REMOVAL DETAIL
SCALE: 3/16" = 1'-0"

Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

Revision

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 2134.18.K

ISSUED FOR:

BID SET	9/15/2023

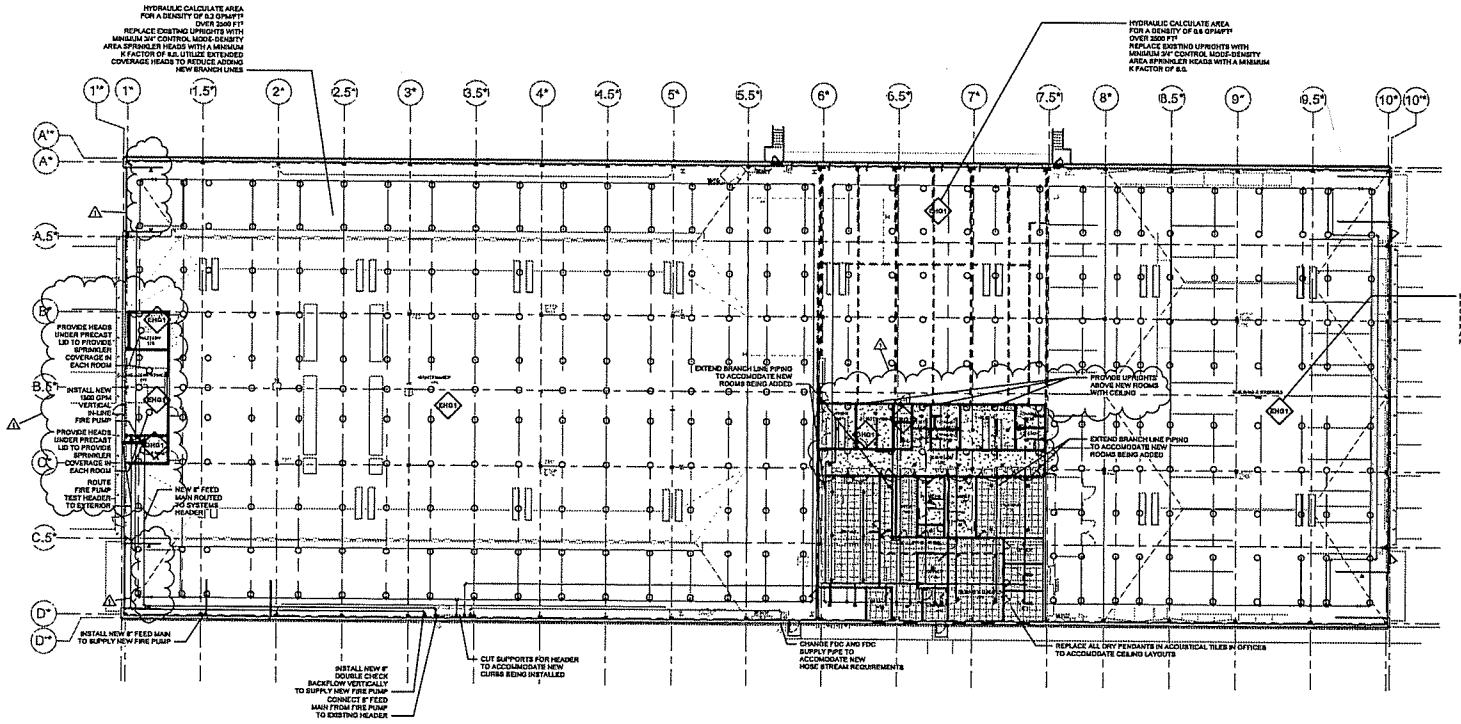
REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM NO. 2	10/13/2023

DRAWN BY JPE
CHECKED BY JH

INTERIOR DETAILS

A812



1 FIRST FLOOR FIRE PROTECTION PLAN - 3829

Engberg Anderson ARCHITECT
MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 2134.19.01

ISSUED FOR:
BID SET 09/16/2023

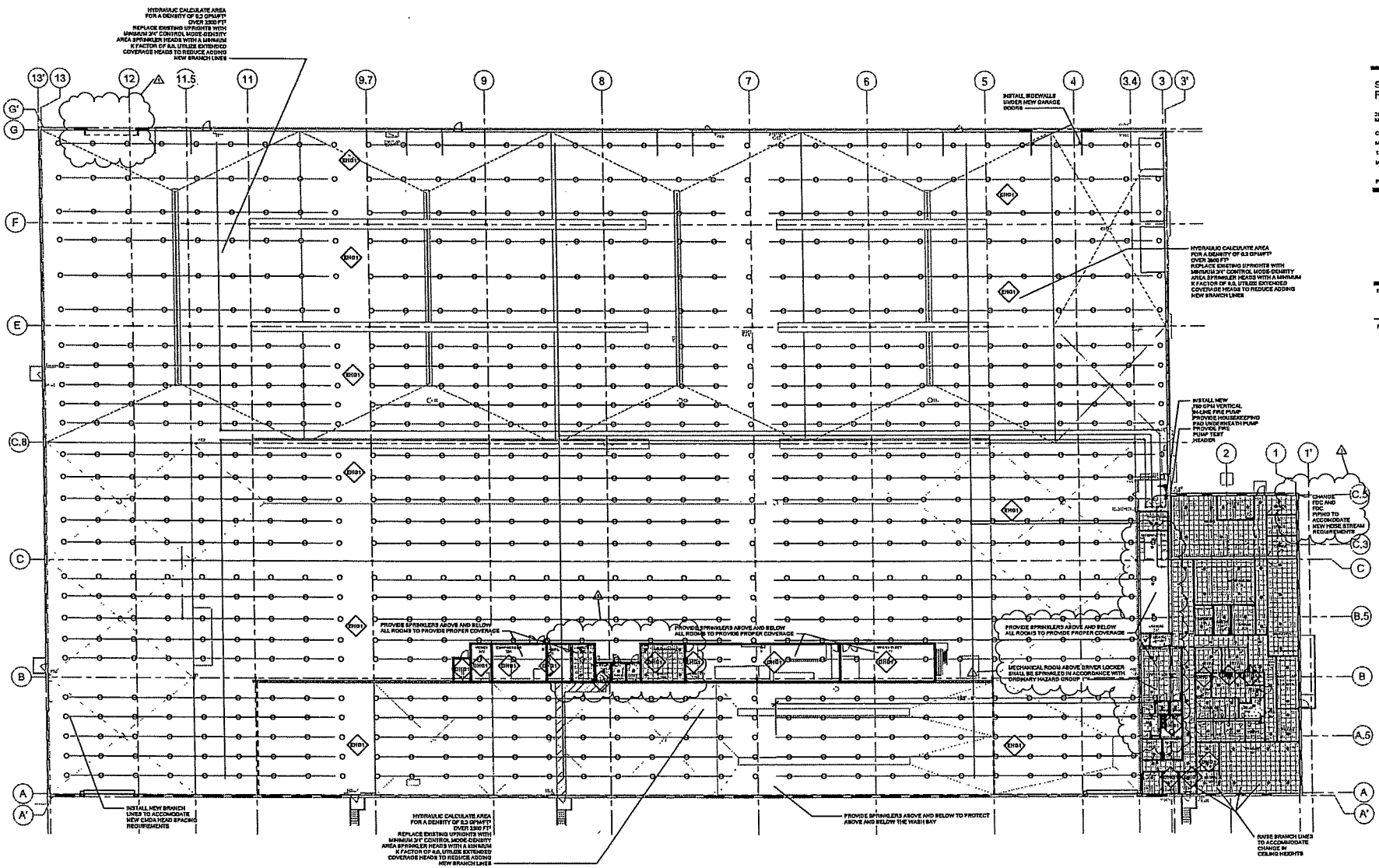
REVISION FOR:

NO.	DESCRIPTION	DATE
1	ADDENDUM #2	10/13/23

DRAWN BY Author
CHECKED BY Checker

FIRST FLOOR PLAN
MAINTENANCE BUILDING
FIRE PROTECTION

F100



1 **FIRST FLOOR FIRE PROTECTION PLAN - 3901**

Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

REVISIONS

SATELLITE BUS FACILITY REMODEL

2328-2901 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.0

ISSUED FOR:

BID SET	09/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
1	ADDENDUM 02	10/13/23

DRAWN BY Author
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FIRST FLOOR PLAN
STORAGE BUILDING FIRE PROTECTION

F101

GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL GENERAL NOTES WHICH WILL APPLY HERE.
2. NOTES ON DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
3. THE CONTRACTOR MUST VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING SITE AND BUILDING CONDITIONS WHICH WILL BE AFFECTED DURING CONSTRUCTION PRIOR TO SUBMITTING HIS BID PROPOSAL. CONTRACTOR IS CAUTIONED THAT THE PROJECT IS A REMODELING JOB AND IT IS ASSUMED THAT HE HAS INCLUDED FUNDS IN HIS BID TO COVER UNFORESEEN ITEMS WHICH MUST BE MOVED, RELOCATED OR ADJUSTED TO FIT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY EXTRA WORK CAUSED BY FAILURE TO VISIT, EXAMINE OR VERIFY.
4. ALL EXISTING EQUIPMENT IS TO REMAIN OPERATIONAL DURING CONSTRUCTION PERIOD. ALL TEMPORARY WIRING OR REROUTING OF CIRCUITRY TO ACHIEVE THIS IS BY THE ELECTRICAL CONTRACTOR. SHUTDOWN OF EXISTING SERVICES SHALL ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE OWNER AND THEN ONLY FOR THAT DATE AND DURATION AGREED UPON. INCLUDE ALL PREMIUM TIME CHARGES IN THE BASE BID.
5. EXISTING CONDUIT IN SAME PLACE MAY BE REUSED WHERE POSSIBLE. PULL NEW WIRE AS REQUIRED. ALL UNUSED CONDUIT, WIRE, JUNCTION BOXES, ETC. WILL BE REMOVED. RELOCATED EXISTING CONDUIT SHALL NOT BE ALLOWED.
6. BOXES LOCATED ON OPPOSITE SIDES OF NON-FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALL SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU THE WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
7. ELECTRICAL CONTRACTOR SHALL VERIFY TOTAL CONNECTED LOAD/HP WITH ALL OTHER TRADES PRIOR TO WIRING OF ALL OTHER TRADES' EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES AND FEEDER SIZE PER ELECTRICAL CODE AS REQUIRED.
8. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
9. PROVIDE SLEEVES/CONDUITS FOR LOW VOLTAGE CABLES WHEN THEY TRAVERSE ABOVE NON ACCESSIBLE CEILING SPACE. ALSO, PROVIDE SLEEVES THROUGH MASONRY WALLS FOR LOW VOLTAGE CABLES. VERIFY SLEEVE/CONDUIT SIZE REQUIREMENTS AND LOCATION WITH THE CONTRACTOR INSTALLING LOW VOLTAGE SYSTEM.
10. ALL FIRE ALARM SYSTEM WIRING SHALL BE INSTALLED IN CONDUITS INCLUDING WIRING ABOVE ACCESSIBLE CEILING. ALL OTHER LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT EXCEPT SUCH WIRING ABOVE ACCESSIBLE CEILING SHALL BE EXPOSED. PROVIDE "J" HOOKS AS REQUIRED. USE CABLE THAT WHERE APPLICABLE.
11. UNLESS NOTED OTHERWISE, THE CONDUITS AND BACK BOXES SHALL BE CONCEALED WITHIN ALL DRY WALLS, NEW MASONRY WALLS AND IN CEILING. SURFACE METAL RACEWAY SHALL BE USED FOR DEVICES ON EXISTING MASONRY WALLS AND ON EXISTING DRY WALL OR PLASTERED WALL. AS MUCH AS PRACTICAL, WHEREVER FEASIBLE, INSTALL CONDUITS BEHIND A WALL IN AN UNFINISHED ROOM AND PENETRATE INTO AN ELECTRICAL DEVICE TO BE INSTALLED IN FINISHED AREA. IF THIS IS NOT FEASIBLE, PROVIDE SURFACE METAL RACEWAY. IN THE ROOM, WHERE ELECTRICAL DEVICE NEEDS TO BE INSTALLED, THE SURFACE METAL RACEWAY SHALL BE ROUTED IN THE CORNER AND/OR ADJACENT TO WINDOW, DOOR FRAMEWORK ETC. SO IT IS AS INCONSPICUOUS AS POSSIBLE. FOR SAKE OF SIMPLICITY ONLY THE TERM "CONDUIT" IS USED IN MOST CASES IN THIS DOCUMENT. HOWEVER, BASED UPON ABOVE, THE SURFACE METAL RACEWAY AND CONDUIT SHALL BE USED, AS APPLICABLE. WHERE SURFACE METAL RACEWAY IS USED ONE, TWO CHANNEL RACEWAY WITH DIVIDER CAN BE USED (FOR POWER & LOW VOLTAGE) WHERE APPLICABLE.
12. WHERE POWER AND LOW VOLTAGE OUTLETS (SUCH AS DATA OUTLETS) ARE SHOWN TOGETHER ON DRAWINGS, PROVIDE THEM ADJACENT TO EACH OTHER.
13. PROVIDE CONCRETE PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. (SUCH AS SWITCHBOARDS, PANELS, TRANSFORMERS, ETC.)
14. FOR THE AREA TO BE DEMOLISHED, THE DEMOLITION OF LIGHT FIXTURES, OUTLETS OR ANY OTHER ELECTRICAL EQUIPMENT/DEVICES SHALL BE PERFORMED AS REQUIRED. SEE ARCHITECTURAL DRAWINGS AND THE RESPECTIVE FLOOR PLANS IN ELECTRICAL DRAWINGS FOR DEMOLITION. ELECTRICAL CONTRACTOR SHALL REMOVE ALL ASSOCIATED RACEWAYS AND WIRING AS REQUIRED. ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND DISCONNECT APPLICABLE WIRING TO FACILITATE SAFE DEMOLITION.
15. THE EXISTING EQUIPMENT IS SHOWN BASED UPON THE INFORMATION OBTAINED THROUGH BRIEF SURVEY OF THE FACILITY. CONTRACTOR IS TO SURVEY THE EXISTING FACILITY IN ORDER TO DETERMINE THE FULL EXTENT OF WORK AND BE COMPLETELY FAMILIAR WITH ALL THE EXISTING CONDITIONS INCLUDING PLUMBING, HVAC, ELECTRICAL, ETC. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY IN RESPECT TO THE ACCURACY OF SUCH INFORMATION SHOWN ON THE DRAWINGS. CONTRACTOR SHALL MAKE ADEQUATE ALLOWANCE IN HIS BID FOR SOME DEVIATIONS TO SUCH INFORMATION.
16. WHERE EXISTING CONDITIONS PREVENT PROPER INSTALLATION OF PROPOSED WORK, REROUTE, EXTEND OR ALTER EXISTING WORK SO AS TO ACCOMMODATE PROPOSED WORK REQUIREMENTS.
17. CIRCUIT NUMBERS SHOWN FOR EXISTING PANELS ARE FOR REFERENCE ONLY. USE NEXT AVAILABLE CIRCUITS AND PROVIDE APPROPRIATE SIZE BREAKERS.
18. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT & DEVICES. THE ELECTRICAL DRAWINGS ARE FOR CONCEPT ONLY.
19. IN GENERAL, DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED, LIGHT SOLID LINES INDICATE ITEMS TO REMAIN AND DARK SOLID LINES INDICATE NEW ITEMS.
20. WHERE EXISTING WIRING DEVICE (SUCH AS RECEPTACLE, SWITCH, ETC.) IS INDICATED TO REMAIN, REUSE EXISTING JUNCTION BOX, RACEWAY, BUT PROVIDE NEW DEVICE AND ASSOCIATED COVERPLATE. RECONNECT THIS DEVICE TO NEW CIRCUIT AS INDICATED.
21. THE SYSTEMS PROVIDED BY THIS CONTRACTOR SHALL BE COMPLETELY OPERATIONAL REGARDLESS OF OMISSION OF MINOR ITEMS, SUCH AS CIRCUIT NUMBER FOR RELAY, A CIRCUIT NUMBER NEXT TO A LIGHTING FIXTURE, ETC.
22. ALL OUTDOOR DEVICES SUCH AS RECEPTACLES, DISCONNECTS, SPEAKERS, LIGHTING FIXTURES, JUNCTION BOXES, ETC. SHALL BE OUTDOOR TYPE.
23. THE EXIT SIGNS ARE PROVIDED FOR BIDDING PURPOSE. FINAL LOCATION SHALL BE AS DETERMINED BY LOCAL FIRE MARSHALL. IF REQUIRED BY FIRE MARSHALL, PROVIDE ADDITIONAL EXIT SIGNS WITHOUT ADDITIONAL COST TO OWNER.
24. PROVIDE LOCKING CLIPS ON CIRCUIT BREAKERS SERVING EMERGENCY LIGHTING, FIRE ALARM SYSTEM, PA/INTERCOMM, TELEPHONE SYSTEM AND SECURITY SYSTEM LOAD.
25. WHERE A NEW WALL IS TO BE BUILT PERPENDICULAR TO EXISTING WALL AND IF THERE IS AN EXISTING RECEPTACLE ON THE EXISTING WALL, RELOCATE THIS RECEPTACLE AS REQUIRED.
26. IN CERTAIN CASES LARGER SIZE CABLES ARE SPECIFIED IN ORDER TO COMPENSATE FOR VOLTAGE DROP. PROVIDE OVERSIZE AND/OR MULTIPLE LUGS AT THE LINE AND LOAD SIDE OF EQUIPMENT TO INCORPORATE LARGER AND ADDITIONAL CABLES. IF REQUIRED, PROVIDE SPLICE BOXES AT EITHER END OF CABLE TO INTERCEPT CHANGE IN THE CABLES.
27. PROVIDE LABEL ON MAIN ELECTRICAL SERVICE PANEL/SWITCHBOARD INDICATING THAT IT IS LISTED AND LABELED AS A SUITABLE CONNECTION TO AN ONSITE RENEWABLE ENERGY SOURCE TO COMPLY WITH ARTICLE 401.12 OF IGCC (INTERNATIONAL GREEN CONSTRUCTION CODE).
28. PROVIDE TYPED PANEL DIRECTORY INDICATING LOAD SERVED.
29. UNO, ALL OVERCURRENT PROTECTION DEVICES 800 AMP AND LARGER SHALL BE 100% RATED.
30. AS REQUIRED EXTEND EXISTING RECEPTACLES WHERE EXISTING WALLS ARE FURRED OUT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF THIS WORK.
31. DUE TO THE SMALL SCALE AND INTERFERENCE OF EXISTING EQUIPMENT, EACH AND EVERY ITEM IS NOT SHOWN. SHOWN INFORMATION IS INTENDED AS A GUIDE. CONTRACTOR SHALL VERIFY INFORMATION AND CONDITIONS IN THE FIELD.
32. RECONFIGURE LIGHTING FIXTURES AND OUTLETS IN MECHANICAL ROOMS TO BE COMPATIBLE WITH EQUIPMENT LAYOUT AS REQUIRED.
33. COORDINATE THE FINAL LOCATION OF RECEPTACLES IN TELECOMMUNICATION CLOSETS WITH TELECOMMUNICATION EQUIPMENT VENDOR.
34. ALL RECEPTACLES LOCATED WITHIN 6' OF SOURCE OF WATER (SUCH AS SINK) AND ALL OUTDOOR RECEPTACLES SHALL BE GFI TYPE, WHETHER SPECIFICALLY INDICATED OR NOT.
35. WHERE THE OUTLETS ARE SHOWN ON FURNITURE/DESK THEY SHALL BE PROVIDED EITHER UNDER THE DESK OR AS A PART OF MILLWORK AS INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONDUITS AND WIRING UNDER OR WITHIN THE FURNITURE/DESK. THE QUANTITY AND LOCATION OF INDICATED OUTLETS IS APPROXIMATE. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT AND MILLWORK VENDOR. IF FURNITURE/DESK IS NEXT TO WALL, THE ROUGH-IN SHALL BE PROVIDED FROM WALLS. IF FURNITURE/DESK IS FREE STANDING, THE ROUGH-IN SHALL BE PROVIDED FROM FLOOR. THE POWER POLE IS NOT ALLOWED UNLESS SPECIFICALLY INDICATED.
36. IN ORDER TO FACILITATE THE REPLACEMENT OF EXISTING OR INSTALLATION OF NEW DUCTWORK AND/OR PIPING, REMOVE EXISTING LIGHTING FIXTURE AND/OR SMOKE/HEAT DETECTORS AS REQUIRED. THE WORK IS NOT SHOWN ON DRAWINGS. ONCE THE INSTALLATION OF DUCTWORK, PIPING ETC IS COMPLETED, REINSTALL ELECTRICAL EQUIPMENT/DEVICES. PROVIDE ADEQUATE ALLOWANCE IN THE BID FOR THIS WORK.
37. PROVIDE EXPANSION FITTINGS FOR ALL ELECTRICAL RACEWAYS AT EVERY EXPANSION JOINT. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATION OF EXPANSION JOINTS.
38. COORDINATE THE INSTALLATION OF ELECTRICAL EQUIPMENT SUCH AS PANELS, SWITCHBOARD, MOTOR CONTROL CENTER, TRANSFORMER ETC. WITH OTHER TRADES SUCH THAT NO DUCTWORK, PIPING ETC. IS LOCATED ABOVE THEM.
39. ELECTRICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC. FOR REMOVING EQUIPMENT AND MATERIAL OUT OF BUILDING. ELECTRICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION REQUIRED TO FACILITATE EXITING OF HIS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER COMPLETION.
40. VERIFY QUANTITY AND SIZE OF LUGS PROVIDED IN OTHER TRADE'S EQUIPMENT (FOR EXAMPLE, CHILLER, ELEVATOR, FIRE PUMP ETC.) BEFORE STARTING ANY WORK ASSOCIATED WITH SUCH EQUIPMENT. IF THEIR LUGS CANNOT ACCOMMODATE THE CABLES INDICATED IN ELECTRICAL DOCUMENT, PROVIDE LUG FITTINGS TO ACCOMMODATE CHANGE IN THE CABLES. PROVIDE SUCH FITTINGS IN A JUNCTION BOX AS CLOSE AS POSSIBLE TO THEIR EQUIPMENT. IF ALLOWED BY THE EQUIPMENT MANUFACTURER, SUCH FITTINGS MAY BE INSTALLED IN THEIR EQUIPMENT RATHER THAN IN A SEPARATE JUNCTION BOX.
41. MAIN SERVICE ENTRANCE EQUIPMENT SHALL HAVE LABEL FOR SERVICE ENTRANCE TYPE, AND SHALL BE GROUNDED PER ELECTRICAL CODE.
42. AS A MINIMUM, USE #10 FOR ALL EMERGENCY LIGHTING.
43. PROVIDE SEPARATE DEDICATED GROUNDING CONDUCTOR IN EACH FEEDER AND BRANCH CIRCUIT WIRING CIRCUIT.
44. PROVIDE FIRE SEALANTS FOR ALL PENETRATIONS THRU FIRE RATED FLOORS AND WALLS.
45. THE ELECTRICAL DRAWINGS SHOW DIRECT PRINCIPLE WORK WHICH MUST BE ACCOMPLISHED UNDER THE CONTRACT. INDIRECT AND INCIDENTAL WORK WILL ALSO BE NECESSARY DUE TO CHANGES AFFECTING EXISTING ARCHITECTURAL, MECHANICAL, PLUMBING OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INSPECT THOSE AREA, AND ASCERTAIN WORK NEEDED AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.
46. PROVIDE WIRELESS COMMUNICATOR AT FIRE ALARM CONTROL PANEL FOR DIALING OUT WHETHER SPECIFICALLY INDICATED OR NOT. THE COMMUNICATOR SHALL BE DSC MODEL LE 4020CF WITH ANTENNA MODEL LTE-SGANT OR APPROVED EQUAL. PROVIDE 120 VOLT POWER TO IT FROM NEAREST GENERATOR CIRCUIT IF THERE IS A GENERATOR. IF THERE IS NO GENERATOR PROVIDE POWER FROM NORMAL CIRCUIT. PROVIDE CAT 5 CABLE BETWEEN COMMUNICATOR AND FACP AND CABLE BETWEEN ANTENNA AND COMMUNICATOR. PROVIDE AN ADDITIONAL CAT 6 CABLE TO FACP FROM IT BACK AS A BACK UP TO COMMUNICATOR. IN LIEU OF COMMUNICATOR PROVIDE TWO PHONE LINES IF ACCEPTED BY OWNER AND LOCAL FIRE MARSHALL. COORDINATE APPLICABILITY OF COMMUNICATOR OR PHONE LINES WITH OWNER.
47. PROVIDE SMOKE DETECTOR WITHIN 5 FEET OF FIRE ALARM CONTROL PANEL, WHETHER SPECIFICALLY INDICATED OR NOT.
48. PROVIDE REMOTE TEST AND INDICATING STATION IN A READILY ACCESSIBLE AND VISIBLE SPACE FOR EACH DUCT SMOKE DETECTOR. VERIFY ITS EXACT LOCATION WITH OWNER AND LOCAL FIRE MARSHALL.
49. WHERE "VF" IS INDICATED NEXT TO A DEVICE, CONTRACTOR SHALL VERIFY ITS REQUIREMENT IN FIELD. THIS INCLUDES VERIFICATION OF DEVICE TYPE, LOCATION, WIRING CONDUIT AND CIRCUIT BREAKER ETC. PROVIDE APPROPRIATE DEVICE, WIRING, CONDUIT, CIRCUIT BREAKER ETC. AS REQUIRED.
50. PROVIDE RED PLASTIC SIGN AT MAIN WATER SERVICE METER INDICATING "MAIN GROUND LOCATION".
51. AIC (AVAILABLE INTERRUPTING CAPACITY) RATING OF PANELS, SWITCHBOARDS, BUSWAY, MCC ETC. ARE SHOWN BASED UPON PRELIMINARY CALCULATIONS. THE FINAL RATING OF THE EQUIPMENT SHALL BE BASED UPON THE ARC-FLASH AND SHORT CIRCUIT COORDINATION STUDY. PROVIDE POWER DISTRIBUTION EQUIPMENT TO MEET THE RATING INDICATED IN THE STUDY. THE STUDY SHALL BE BASED UPON THE ULTIMATE CAPABILITY OF THE MAIN SERVICE EQUIPMENT AND NOT THE INITIAL TRANSFORMER PROVIDED BY THE UTILITY COMPANY.
52. PROVIDE ARC-FLASH LABELS ON NEW EQUIPMENT IN ACCORDANCE WITH NEC.
53. WHERE EQUIPMENT DEVICES ARE INDICATED TO BE REMOVED, REMOVE ACCESSIBLE, UNUSABLE CONDUITS & WIRING. IF CONDUITS ARE NOT ACCESSIBLE THEY MAY BE ABANDONED. MAINTAIN CONTINUITY TO THE LOAD WHICH IS TO REMAIN.
54. CONNECT FIRE ALARM SYSTEM DEVICES TO EXISTING SYSTEM, UPGRADE/MODIFY EXISTING HEAD-END EQUIPMENT AS REQUIRED.
55. WHERE EXISTING HVAC EQUIPMENT IS SHOWN TO BE REMOVED, REMOVE ITS ASSOCIATED STARTER, DISCONNECT SWITCH, CONDUIT WIRING ETC. FIELD VERIFY LOCATION OF STARTER, DISCONNECT, ETC.
56. ONLY OCCUPANCY/VACANCY SENSORS & REQUIRED SWITCHES ARE INDICATED. PROVIDE POWER PACKS (CONTROL RELAYS) AS REQUIRED. LOCATE SENSORS TO PROVIDE OPTIMUM COVERAGE OF THE DEVICE.
57. PROVIDE GROUND BUS BAR IN EACH PANEL WHETHER SPECIFICALLY INDICATED OR NOT.
58. ARMORED (BX) CABLES OR MC CABLES ARE NOT ALLOWED.
59. ELECTRICAL DEVICES SUCH AS SMOKE/HEAT DETECTORS, OCCUPANCY SENSORS, DAYLIGHT SENSOR ETC. SHALL BE LOCATED IN AS CENTER AND AS UNIFORMLY IN ROOM AS POSSIBLE. THEY ARE NOT ALWAYS SHOWN IN CENTER OF A ROOM OR UNIFORMLY IN A ROOM TO AVOID CONFLICT WITH ROOM NUMBER TAGS.
60. PROVIDE DUCT SMOKE DETECTORS FOR ANY AIR HANDLING UNIT HAVING 2000 CFM OR MORE. PROVIDE TWO DUCT SMOKE DETECTORS FOR ANY AIR HANDLING UNIT HAVING 15000 CFM OR MORE. THE DUCT SMOKE DETECTOR SHALL BE FURNISHED, INSTALLED AND TESTED UNDER "DIVISION 26. ITS ASSOCIATED REMOTE TEST AND INDICATING STATION SHALL ALSO BE FURNISHED, INSTALLED, WIRED AND TESTED UNDER DIVISION 26. COMPLETE WARRANTY OF THESE PRODUCTS SHALL ALSO BE PROVIDED UNDER DIVISION 26. THE WIRING OF THESE PRODUCTS TO FIRE ALARM CONTROL PANEL SHALL BE PROVIDED UNDER DIVISION 26. WIRING FOR FAN SHUTDOWN SHALL BE PROVIDED UNDER DIVISION 23. REQUIRED RELAY FOR FAN SHUTDOWN SHALL BE PROVIDED UNDER DIVISION 26.
61. SERIES RATING OF PANELS IS ACCEPTABLE FOR THEIR SHORT CIRCUIT RATING.
62. LUGS FOR CIRCUIT BREAKERS AND SWITCHES SHALL BE RATED FOR TERMINATION OF 60 DEGREE C AND 75 DEGREE C RATED CONDUCTORS. THIS SHALL ALLOW USE OF CONDUCTORS BASED UPON AMPACITIES OF ONLY 75 DEGREE C.
63. OUTDOOR RECEPTACLES SHALL BE INSTALLED IN AN "IN USE" TYPE COVER. SUCH RECEPTACLES SHALL BE TYPE "WR" WEATHER-RESISTANT RECEPTACLES.
64. PROVIDE ARC ENERGY REDUCING FEATURES IN CIRCUIT BREAKERS RATED 1200 AMP OR LARGER TO MEET NEC 240.87.
65. IDENTIFY LOCATION OF CIRCUIT DISCONNECTS FOR FIRE ALARM PANEL PER NFPA 72, 10.5.
66. PER NFPA 72, 10.5.5.2; CIRCUIT BREAKERS FEEDING FIRE ALARM PANELS AND ASSOCIATED EQUIPMENT SHALL HAVE RED MARKING AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT" AND SHALL HAVE LOCK-ON DEVICE.
67. ALL LOW VOLTAGE WIRING SHALL BE IN CONDUITS EXCEPT WIRING ABOVE ACCESSIBLE CEILING. WIRING ABOVE ACCESSIBLE CEILING SHALL BE EXPOSED UNLESS REQUIRED BY CODE TO BE IN CONDUITS. COORDINATE WITH LOW VOLTAGE SYSTEM VENDORS ROUTING OF THEIR CABLING AND PROVIDE CONDUITS/RACEWAYS AS REQUIRED. ALL FIRE ALARM SYSTEM WIRING SHALL BE IN CONDUITS.
68. FOR DATA WIRING, PROVIDE CONDUITS PER FOLLOWING, (BASED UPON CAT6 CABLES HAVING 0.3" DIAMETER CABLES)

CONDUIT	NUMBER OF CABLES
3/4"	2
1"	4
1 1/4"	6
1 1/2"	10
2"	17

69. PROVIDE CAT6E OR EQUIVALENT CABLING SYSTEM FOR OCCUPANCY SENSORS, VACANCY SWITCHES/SENSORS, POWER PACKS, DIMMER SWITCHES, DAYLIGHT SENSORS ETC. AS REQUIRED.
70. UNLESS NOTED OTHERWISE, WHEN DETERMINING THE DIAMETER FOR DATA WIRING OF FEEDER CONDUITS FROM THE CABLE ORIGINATION POINT, CONDUIT SIZING SHALL ALLOW FOR 30% ADDITIONAL CAPACITY FOR OWNERS FUTURE DATA NEEDS.
71. FOR EACH FLUSH MOUNTED PANEL, PROVIDE THREE 1" SPARE EMPTY CONDUITS AND TERMINATE ABOVE ACCESSIBLE CEILING SPACE FOR FUTURE USE.
72. LIGHTING FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING SYSTEM BY AT LEAST TWO WIRES ON OPPOSITE CORNERS OF THE FIXTURES.
73. ALL WORK SHALL COMPLY WITH ALL LOCAL CODES.
74. UNLESS NOTED OTHERWISE, COLOR OF WIRING DEVICES (OUTLETS, SWITCHES AND COVER PLATES) SHALL BE WHITE. VERIFY FINAL COLOR WITH THE ARCHITECT BY PROVIDING SUBMITTAL.

ELECTRICAL SYMBOLS

- MULTI-OUTLET ASSEMBLY
- CABLE TRAY
- MANHOLE
- HANDHOLE
- PULL BOX
- JUNCTION BOX - EXPOSED OR IN CEILING
- JUNCTION BOX - WALL MOUNTED
- JUNCTION BOX WITH FLEXIBLE CONDUIT AND FINAL CONNECTION TO EQUIPMENT.
- HAND DRYER
- LIGHTING FIXTURE, SIZE AND TYPE AS INDICATED ON SCHEDULE.
- STRIP LIGHTING FIXTURE, SIZE AND TYPE AS INDICATED ON SCHEDULE.
- DOWNLIGHT LIGHTING FIXTURE, SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL MOUNTED LIGHTING FIXTURE, SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL MOUNTED LIGHTING FIXTURE, SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL WASH LIGHTING FIXTURE, SIZE AND TYPE AS INDICATED ON SCHEDULE.
- EMERGENCY LIGHTING FIXTURE
- LIGHTING STANDARD - SINGLE FIXTURE, POLE MOUNTED. NUMBER IDENTIFIES FIXTURE
- LIGHTING STANDARD - MULTI FIXTURE, POLE MOUNTED. NUMBER IDENTIFIES FIXTURE
- LIGHTING FIXTURES: "A" UPPER CASE LETTER INDICATES LIGHTING FIXTURE TYPE. REFER TO LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION AND MOUNTING. "1" NUMBER INDICATES BRANCH CIRCUIT NUMBER(S) "a" LOWER CASE LETTER INDICATES SWITCH CONTROL(S)
- TRACK LIGHTING
- BATTERY PACK, EMERGENCY LIGHTING UNIT
- REMOTE HEAD CONNECTED TO BATTERY PACK
- COMBINATION EXIT SIGN AND EMERGENCY LIGHTING UNIT
- "X" INDICATES FIXTURE. SHADED QUADRANTS INDICATES DIRECTION OF LIGHTED FACES. ARROWS INDICATE DIRECTION OF ARROWS.
- LIGHT SWITCH, SINGLE POLE UNLESS NOTED OTHERWISE:
  - "a" SWITCHLEG
  - "D" DIMMER SWITCH
  - "EP" EXPLOSION PROOF
  - "F" FAN CONTROLL
  - "K" KEY OPERATED
  - "P" PILOT LIGHT
  - "XX" CIRCUIT NUMBER
  - "T" THERMAL OVERLOAD PROTECTION
  - "VS" VACANCY SWITCH
  - "WP" WEATHERPROOF
  - "2" TWO POLE
  - "3" THREE POLE
  - "3W" THREE-WAY
  - "4W" FOUR-WAY
  - "MC" MOMENTARY CONTACT
  - "VC" VACANCY SENSOR
  - "OC" OCCUPANCY SENSOR
- DAYLIGHT SENSOR
- OCCUPANCY SENSOR
- VACANCY SENSOR
- TIME CLOCK
- PHOTOCELL
- BLUE INDICATOR LIGHT
- RED/GREEN INDICATOR LIGHT
- TIMER SWITCH

WALL	CEILING MOUNTED	FLUSH FLOOR MOUNTED	ABOVE COUNTER	
				SINGLE RECEPTACLE
				QUADRUPLEX RECEPTACLE
				DUPLEX RECEPTACLE
				DUPLEX RECEPTACLE - SPLIT WIRED
				DUPLEX RECEPTACLE - CRITICAL BRANCH
				DUPLEX RECEPTACLE - DEDICATED CIRCUIT
				TELE- DATA SYSTEMS OUTLET
				VOICE ONLY

- JUNCTION BOX WITH FLEXIBLE CONDUIT TO FINAL EQUIPMENT OR FURNITURE SYSTEM POWER CONNECTION
- ADJACENT LETTERS IN THE SYMBOLS ABOVE INDICATE THE FOLLOWING:
  - "EP" RECEPTACLE IS EXPLOSION PROOF
  - "GF" RECEPTACLE HAS GROUND FAULT CIRCUIT INTERRUPTER
  - "IG" RECEPTACLE HAS ISOLATED GROUND
  - "T" TAMPER PROOF (SAFETY TYPE)
  - "TVSS" RECEPTACLE HAS TRANSIENT VOLTAGE SURGE SUPPRESSION
  - "WP" RECEPTACLE HAS WATERPROOF COVER
  - "XX" RECEPTACLE CIRCUIT NUMBER
  - "USB" RECEPTACLE WITH 2 USB PLUGS
- SPECIAL PURPOSE OUTLET - SEE SCHEDULE "XX" INDICATES OUTLET TAG
- 6FT. MULTI RECEPTACLE STRIP
- PUSH-BUTTON STATION
- GARAGE DOOR OPENER PUSH-BUTTON STATION
- EMERGENCY SHUT OFF SWITCH
- PUSH PLATE STATION
- ENCLOSED CIRCUIT BREAKER
- TECHNOLOGY GROUND BAR - 1/4" X 4" X 18" COPPER
- REMOTE INDICATOR MODULE
- MOTOR OR EQUIPMENT
- FUSED DISCONNECT SWITCH, "AS" INDICATES AMPERE RATING OF SWITCH AND "AF" INDICATES AMPERE RATING OF FUSE
- NON-FUSED DISCONNECT SWITCH, CIRCUIT BREAKER IN ENCLOSURE
- CONTACTOR-SEE SCHEDULE
- SWITCHGEAR, SWITCHBOARD OR MOTOR CONTROL CENTER, DASHED LINES INDICATE FUTURE SECTIONS, ARROW INDICATES FRONT
- SURFACE MOUNTED DISTRIBUTION PANELBOARD
- SURFACE MOUNTED NORMAL BRANCH CIRCUIT PANELBOARD
- RECESSED MOUNTED NORMAL BRANCH CIRCUIT PANELBOARD
- TRANSFORMER
- HAND DRYER
- KEY PAD

TECHNOLOGY SYMBOLS

- INFORMATION DATA OUTLET
- COMCAST EQUIPMENT CABINET
- COMCAST SPLITTER JUNCTION POINT
- TELEVISION OUTLET-WITH LOW VOLTAGE JACK AND RECEPTACLE
- FIRE ALARM CONTROL PANEL
- TECHNOLOGY GROUND BAR, 12" L X 2" H X 0.25" T COPPER BAR WITH HOLES FOR LUGS
- SPEAKER - LOCAL SOUND SYSTEM
- EQUIPMENT CABINET
- PROJECTOR MOUNT
- RESCUE ASSISTANCE CALL STATION
- RESCUE ASSISTANCE CONTROL PANEL
- INTERCOM STATION
- DOME CAMERA

ELECTRICAL ABBREVIATIONS

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AIC	AVAILABLE INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BFS	BOILER FEED SYSTEM
C	CONDUIT
CCTV	CLOSED CIRCUIT TV
DW	DISHWASHER
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EL	ELEVATOR
EM	EMERGENCY
EDH	ELECTRIC DUCT HEATER
ESUH	ELECTRIC SUSPENDED UNIT HEATER
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EWH	ELECTRICAL WATER HEATER
E	EXISTING
FBO	FURNISHED BY OTHERS
FLA	FULL LOAD AMPS
FVNR	FULL VOLTAGE NON REVERSING
GF	GROUND FAULT INTERRUPTER
GND	GROUND
HP	HOUSE POWER
JB	JUNCTION BOX
KW	KILOWATTS
KVA	KILO VOLT AMPS
LTG	LIGHTING
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MFG	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
MV	MERCURY VAPOR
MW	MICROWAVE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NL	NIGHT LIGHT
NO	NORMALLY OPEN
P	PRESENT TO REMAIN
PX	PRESENT TO BE REMOVED
PH	PHASE (Ø)
PNL	PANEL
PRE	POWER ROOF EXHAUST
RF	REFRIGERATOR
STU	STOCK TOP UNIT
STV	STOVE
SW	SWITCH
TTC	TELEPHONE TERMINAL CABINET
UNO	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
UH	UNIT HEATER
V	VOLTS
VAV	VARIABLE AIR VOLUME
VCP	VACUUM CONDENSATE PUMP
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
W	WIRE
WE	WITH EQUIPMENT
WP	WEATHER PROOF
XP	EXISTING TO BE REPLACED
XR	EXISTING TO BE RELOCATED
XN	EXISTING RELOCATED IN NEW LOCATION

FIRE ALARM DEVICE SCHEDULE

SYMBOL	DESCRIPTION	NOTES
	CEILING MOUNTED HORN STROBE	CEILING MOUNT AUDIO/VISUAL ANNUNCIATION DEVICE WITH ADJUSTABLE CANDELA SETTINGS. ADJUST CANDELA TO SETTING INDICATED ON PLAN.
	CEILING SPEAKER STROBE	CEILING MOUNT AUDIO/VISUAL ANNUNCIATION DEVICE WITH ADJUSTABLE CANDELA SETTINGS. ADJUST CANDELA TO SETTING INDICATED ON PLAN.
FAAP	FIRE ALARM ANNUNCIATOR PANEL	FIRE ALARM ANNUNCIATOR PANEL.
FACP	FIRE ALARM CONTROL PANEL	FIRE ALARM CONTROL PANEL.
	FLOW SWITCH	FLOW SWITCH
	PULLSTATION	ADDRESSABLE PULLSTATION - MOUNT TO 48" AFF.
	SMOKE DETECTOR	ADDRESSABLE SMOKE DETECTOR - CEILING MOUNTED UNLESS OTHERWISE NOTED.
	STROBE	WALL MOUNTED STROBE
	TAMPER SWITCH	TAMPER SWITCH
	WALL MOUNTED HORN STROBE	WALL MOUNT AUDIO/VISUAL ANNUNCIATION DEVICE WITH ADJUSTABLE CANDELA SETTINGS. ADJUST CANDELA TO SETTING INDICATED ON PLAN.
	CARBON MONOXIDE DETECTOR	TAMPER SWITCH

ELECTRICAL PROJECT GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW THE EXACT LOCATIONS OF EQUIPMENT OR FIXTURES, CONDUIT ROUTING, ETC. THE CONTRACTOR MUST REFER TO ARCHITECTURAL AND MECHANICAL PLANS, DETAILS, AND SPECS TO OBTAIN COMPLETE INFORMATION.
2. PROVIDE LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED FOR COMPLETE AND FUNCTIONING SYSTEMS, FULLY TESTED AND READY FOR USE.
3. ALL WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, STATE, AND WITH REGULATIONS AND REQUIREMENTS OF ALL LOCAL AND NATIONAL CODES AS THEY MAY APPLY TO THE PROJECT AND TO THE PUBLIC SAFETY.
4. THE CONTRACTOR IS RESPONSIBLE FOR SEEING THAT NEC CLEARANCES AROUND AND ABOVE ELECTRICAL EQUIPMENT ARE MAINTAINED. REFER TO NEC 110-26 FOR SPECIFIC INFORMATION.
5. VERIFY ANY AND ALL CONFIGURATIONS, DIMENSIONS AND ELEVATIONS BY FIELD MEASUREMENTS AND COORDINATE WITH ARCHITECTURAL DRAWINGS AND STRUCTURAL CONDITIONS.
6. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. ALL RACEWAY WITHIN THE STRUCTURE ABOVE THE FLOOR SLAB SHALL BE METAL. RACEWAY BELOW THE FLOOR SLAB AND UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE SHALL BE PVC AT A MINIMUM. CONDUIT LEAVING THE SLAB SHALL TRANSITION TO RIGID METAL CONDUIT (RMC) PRIOR TO EXITING THE SLAB.
7. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON THHN INSULATION, 30°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
8. CONDUCTORS IN WITHIN UNINSULATED CEILING SPACES AND OUTDOORS MUST BE DERATED BASED UPON THE AMBIENT TEMPERATURE. THE CONTRACTOR IS RESPONSIBLE FOR REVISING CONDUCTOR SIZE IF ACTUAL CONDUIT ROUTING DIFFERS FROM THE CONSTRUCTION DOCUMENTS.
9. EXACT TYPE OF MECHANICAL DEVICES AND EQUIPMENT LOCATIONS SHALL BE COORDINATED WITH MECHANICAL CONTRACTOR(S).
10. ALL MATERIALS, EQUIPMENT, AND APPARATUS INSTALLED ON THE PROJECT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS AND THE MANUFACTURER. IN THE CASE OF EXCEPTIONS, THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL CERTIFY IN WRITING TO THE OWNER'S REPRESENTATIVE, THAT THE INSTALLATION HAS BEEN MADE IN ACCORDANCE WITH SUCH PRINTED INSTRUCTIONS AND REQUIREMENTS.
11. MODEL NUMBERS INDICATED ON THE DRAWINGS ARE ONLY FOR REFERENCE AND CONVENIENCE. CONFIRM THE ACCURACY OF ALL MODEL NUMBERS SO AS TO MEET THE SPECIFIC PROJECT REQUIREMENTS AND MINIMUM INDICATED PERFORMANCE DATA. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT EQUIPMENT FITS WITHIN THE SPACE ALLOTTED.
12. COORDINATE AND VERIFY LOCATIONS, ROUGH-IN REQUIREMENTS AND INSTALLATION REQUIREMENTS OF EQUIPMENT FURNISHED BY THE OWNER.

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E101B	LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B
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E200E	POWER NEW WORK ENLARGED PLANS - MAINT. BLDG.
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E201B	POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B
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E600	LIGHTING, MOTOR & EQUIPMENT SCHEDULES - 3829 MAINT. BLDG.
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HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER [illegible]

ISSUED FOR:
BID SET 9/1/2022

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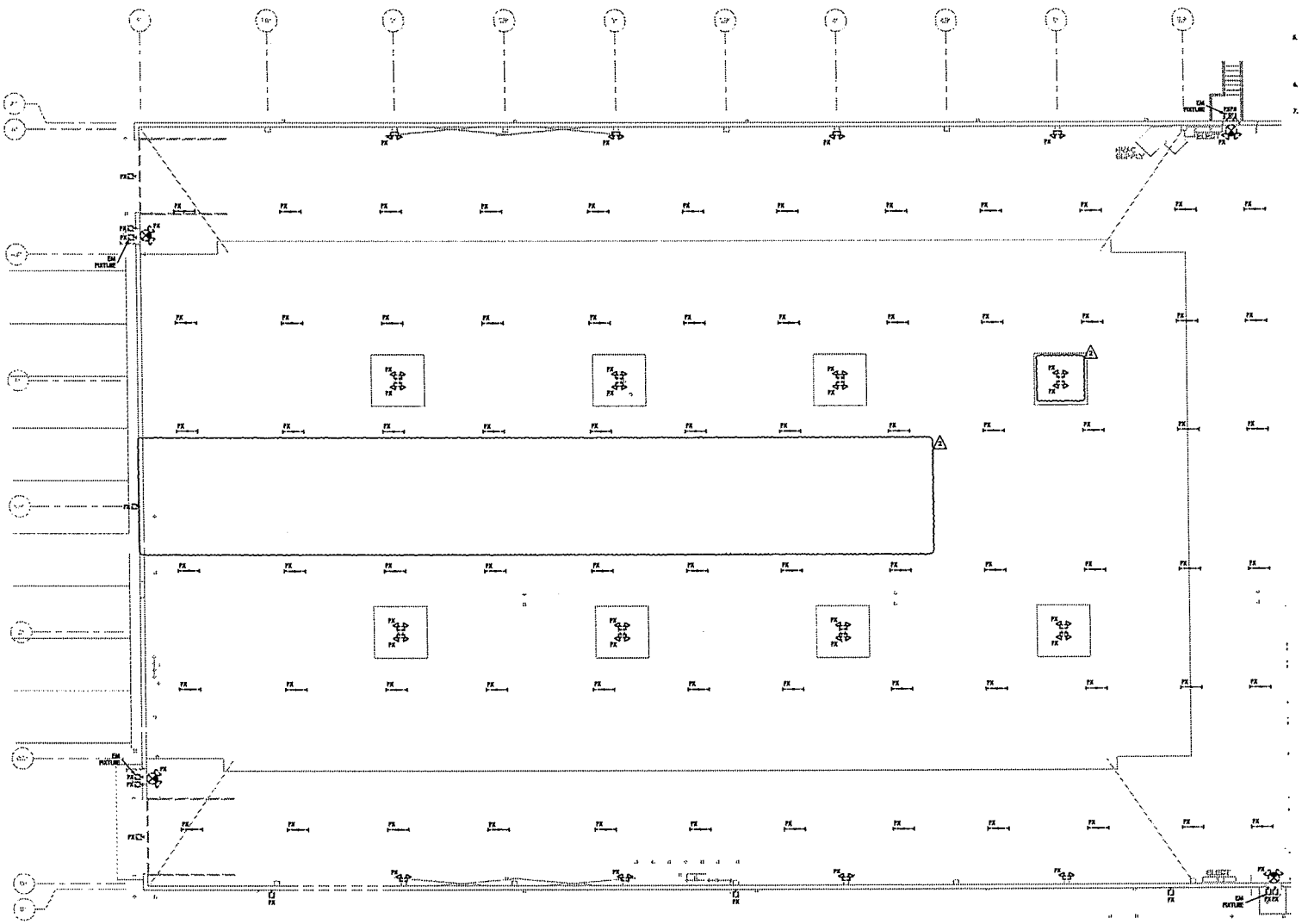
DRAWN BY EP
CHECKED BY MK

NOTES, SYMBOLS, ABREVIATIONS & SHEET INDEX

E001



LIGHTING DEMO PLAN - 3829 MAINT. BLDG - SECTION A
SCALE: 1/8" = 1'-0"

LIGHTING DEMOLITION GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION IN DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT ONLY MAY BE REUSED.
4. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGED SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED) DURING CONSTRUCTION AND SHALL BE REINSTALLED AT APPROXIMATE ORIGINAL LOCATION(S). SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
5. ALL ELECTRICAL CONDUCTORS AND CONDUITS SERVING REMOVED EQUIPMENT AND DEVICES SHALL BE COMPLETELY REMOVED. CONDUIT AND CONDUCTORS SHALL NOT BE ABANDONED IN PLACE. EXISTING CONDUITS AND PATHWAYS MAY BE REUSED FOR NEW WORK. EXISTING CONDUCTORS MAY NOT BE REUSED, UNLESS SPECIFICALLY NOTED.
6. DISCONNECT AND REMOVE ANY AND ALL ELECTRICAL EQUIPMENT AND DEVICES, ETC. WITHIN DEMOLISHED AREAS AS REQUIRED, UNLESS NOTED OTHERWISE.
7. ANY/ALL EXISTING ELECTRICAL BOXES, RACEWAYS, WIRING, ETC. THAT IS NOT ACTIVE AND ENERGIZED BEFORE, DURING, OR AFTER THE PROJECT COMPLETION SHALL BE DISCONNECTED AND REMOVED COMPLETE. NO ABANDONED BOXES OR RACEWAYS SHALL REMAIN IN THE BUILDING AT PROJECT COMPLETION.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER: 213419.00

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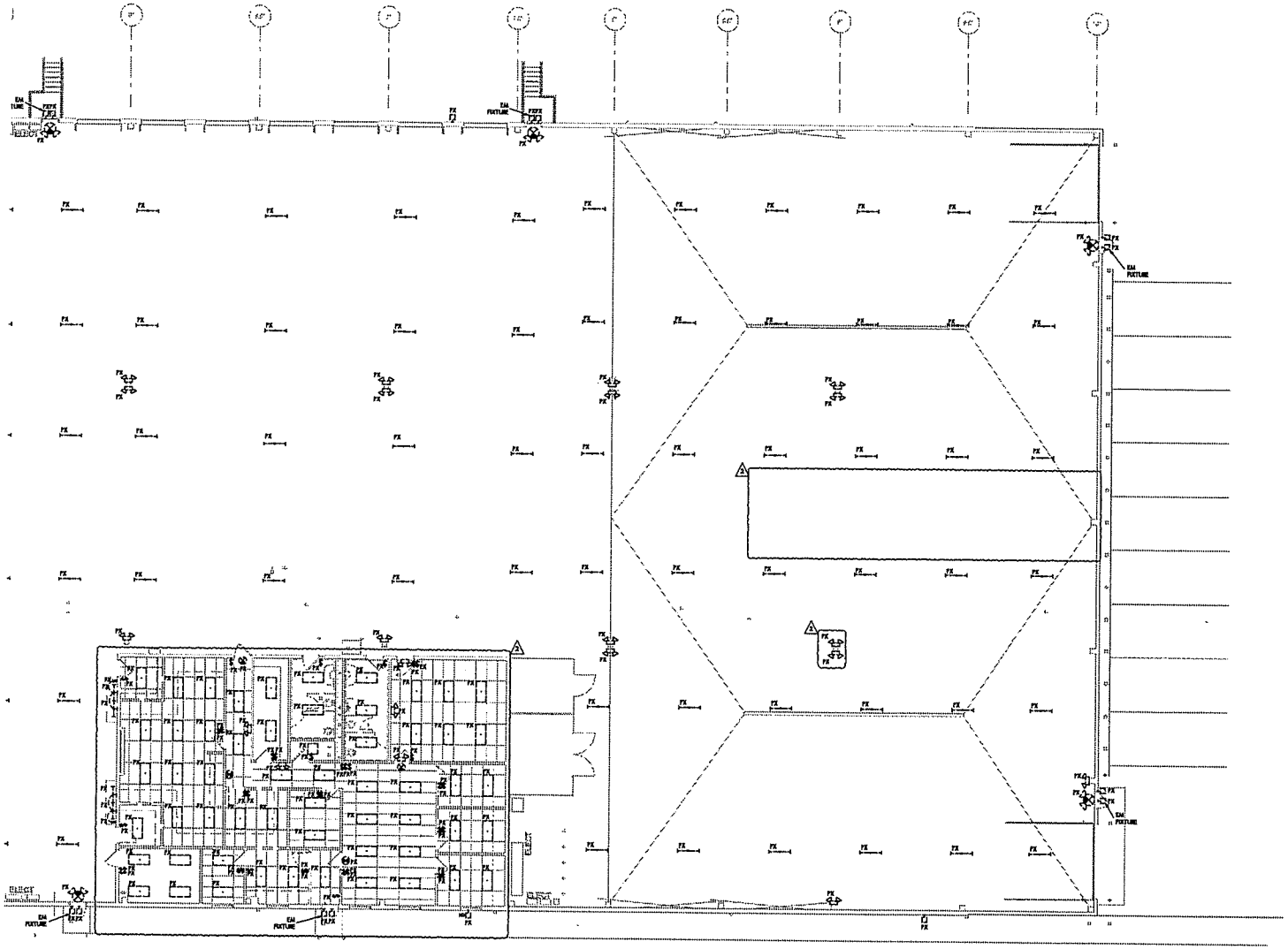
LIGHTING DEMO PLAN - 3829 MAINT. BLDG. - SECTION A

KEYPLAN

ED100A



LIGHTING DEMO PLAN – 3829 MAINT. BLDG. – SECTION B
1 SCALE: 1/8" = 1'-0"

LIGHTING DEMOLITION GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION IN DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT ONLY MAY BE REUSED.
4. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED), DURING CONSTRUCTION AND SHALL BE REINSTALLED AT APPROXIMATE ORIGINAL LOCATIONS. SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
5. ALL ELECTRICAL CONDUCTORS AND CONDUITS SERVING REMOVED EQUIPMENT AND DEVICES SHALL BE COMPLETELY REMOVED. CONDUIT AND CONDUCTORS SHALL NOT BE ABANDONED IN PLACE. EXISTING CONDUITS AND PATHWAYS MAY BE REUSED, FOR NEW WORK. EXISTING CONDUCTORS MAY NOT BE REUSED, UNLESS SPECIFICALLY NOTED.
6. DISCONNECT AND REMOVE ANY AND ALL ELECTRICAL EQUIPMENT AND DEVICES, ETC. WITHIN DEMOLISHED AREAS AS REQUIRED, UNLESS NOTED OTHERWISE.
7. ANY/ALL EXISTING ELECTRICAL BOXES, RACEWAYS, WIRING, ETC. THAT IS NOT ACTIVE AND ENERGIZED BEFORE, DURING, OR AFTER THE PROJECT CONSTRUCTION SHALL BE DISCONNECTED AND REMOVED COMPLETE. NO ABANDONED BOXES OR RACEWAYS SHALL REMAIN IN THE BUILDING AT PROJECT COMPLETION.

Engberg Anderson ARCHITECTS
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HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

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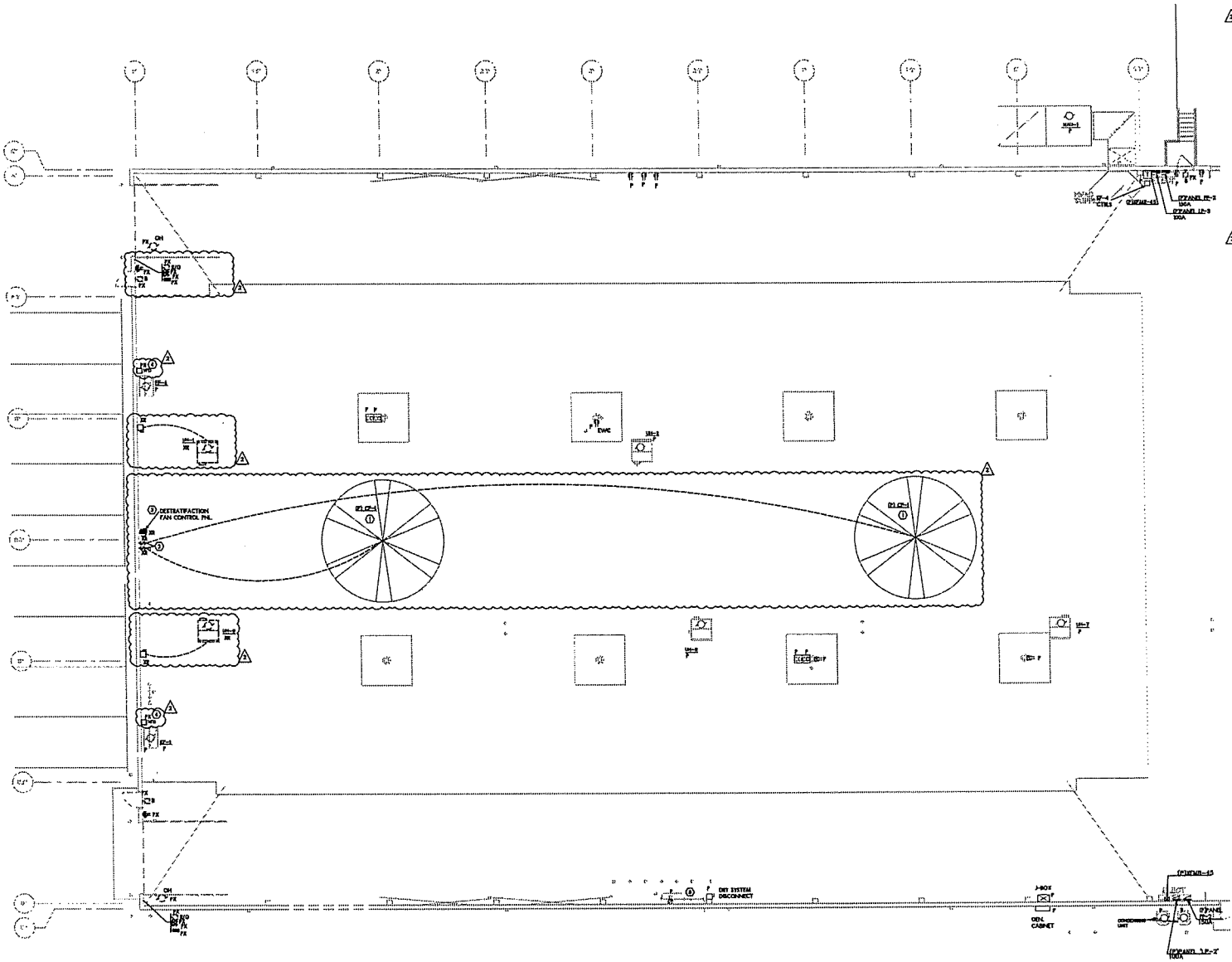
LIGHTING DEMO PLAN - 3829 MAINT. BLDG. - SECTION B

KEYPLAN

ED100B



POWER DEMOLITION GENERAL NOTES:

A

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION IN DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT ONLY MAY BE REUSED.

A

4. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION UNTIL NEW SYSTEM IS INSTALLED, INSPECTED, APPROVED, AND ONLINE/OPERATIONAL. REMOVE ANY/ALL EXISTING FIRE ALARM DEVICES ONCE THE NEW SYSTEM IS ONLINE/OPERATIONAL. PROVIDE FIRE WATCH, ETC. AS REQUIRED BY LOCAL AHJ DURING CONSTRUCTION.
5. ALL ELECTRICAL CONDUCTORS AND CONDUITS SERVING REMOVED EQUIPMENT AND DEVICES SHALL BE COMPLETELY REMOVED. CONDUIT AND CONDUCTORS SHALL NOT BE ABANDONED IN PLACE. EXISTING CONDUITS AND PATHWAYS MAY BE REUSED, FOR NEW WORK, EXISTING CONDUCTORS MAY NOT BE REUSED, UNLESS SPECIFICALLY NOTED.
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7. ANY/ALL EXISTING ELECTRICAL BOXES, RACEWAYS, WIRING, ETC. THAT IS NOT ACTIVE AND ENERGIZED BEFORE, DURING, OR AFTER THE PROJECT COMPLETION SHALL BE DISCONNECTED AND REMOVED COMPLETE. NO ABANDONED BOXES OR RACEWAYS SHALL REMAIN IN THE BUILDING AT PROJECT COMPLETION.

A

KEYED NOTES:

1. DISCONNECT EXISTING CEILING FAN FOR RELOCATION OF EXISTING CONTROLS, REFER TO KEYED NOTE 2. REFEED/RECONNECT ONCE NEW CONTROLS ARE RELOCATED.
2. DISCONNECT AND RELOCATE EXISTING CEILING FAN CONTROLS. REFEED/RECONNECT TO EXISTING CIRCUITS.
3. DISCONNECT EXISTING DESTRATIFICATION FAN CONTROL PANEL FOR RELOCATION. REFEED/RECONNECT ONCE RELOCATED.
4. DISCONNECT EXISTING VFD/CONTROLLER FOR EXISTING HVAC EQUIPMENT. COORDINATE ALL REQUIREMENTS WITH HVAC CONTRACTOR AND FIELD VERIFY ALL REQUIREMENTS.
5. FIRE SUPPRESSION SYSTEM – (1) CONTROL POINTS.

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SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

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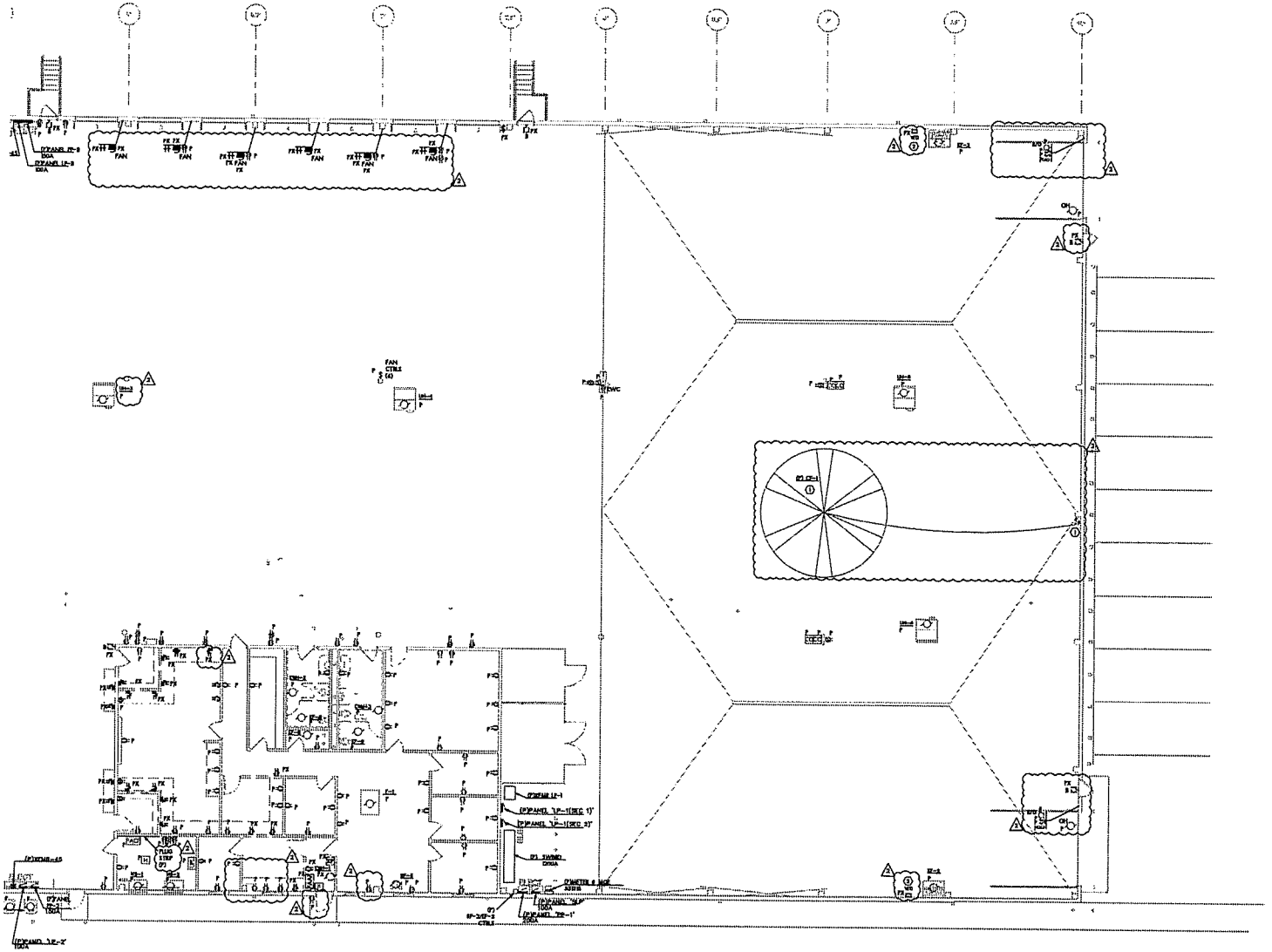
CHECKED BY MK

POWER DEMO PLAN - 3829
MAINT. BLDG. - SECTION A

KEYPLAN

POWER DEMO PLAN – 3829
1 MAINT. BLDG. – SECTION A
SCALE 1/8" = 1'-0"

ED200A



POWER DEMO PLAN – 3829 MAINT. BLDG. – SECTION B
1 SCALE: 1/8" = 1'-0"

POWER DEMOLITION GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION IN DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT ONLY MAY BE REUSED.
4. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION UNTIL NEW SYSTEM IS INSTALLED, INSPECTED, APPROVED, AND ONLINE/OPERATIONAL. REMOVE ANY/ALL EXISTING FIRE ALARM DEVICES ONCE THE NEW SYSTEM IS ONLINE/OPERATIONAL. PROVIDE FIRE WATCH, ETC. AS REQUIRED BY LOCAL AHJ DURING CONSTRUCTION.
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KEYED NOTES:

1. EXISTING CEILING FAN AND ASSOCIATED CONTROLS TO REMAIN.
2. DISCONNECT EXISTING VFD/CONTROLLER FOR EXISTING HVAC EQUIPMENT. COORDINATE ALL REQUIREMENTS WITH HVAC CONTRACTOR AND FIELD VERIFY ALL REQUIREMENTS.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023

DRAWN BY EP
CHECKED BY MK

POWER DEMO PLAN - 3829 MAINT. BLDG. - SECTION B

KEYPLAN

ED200B

PANEL SCHEDULE
GENERAL NOTES:

1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE EXISTING CONDITIONS AND ARE INCLUDED FOR REFERENCE ONLY TO ASSIST IN COMMUNICATING AVAILABLE CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE ANY/ALL POTENTIAL USE/REUSE.

PANEL MSB-1200A

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	FUSIBLE SWITCH SIZE (A)	P	FUSE (A)	CONNECTED KVA	AMP	DEMAND KVA	AMP	REMARKS
PANEL SLP	100	3						
PANEL PP3	150	3						
PANEL PP1	200	3						
TRANSFORMER T-1	90	3						
PANEL PP2	150	3						
MDP01 MATERIAL HANDLING (OFF	100	3						
NOT LABELED (OFF)	400	3						

BUS RATING 1200 A | MAIN BREAKER 1200 A | SHORT CIRCUIT CURRENT RATING - A | A.I.C. - A

TOTAL (CONNECTED) VA / A | TOTAL (DEMAND) VA / A | TOTAL (125%) A

PANEL SLP (FED FROM MDP)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
NORTH PARKING LOT POLES			20	2	1				2	20	1			E. BUILDING LIGHT OUTSIDE
NORTH PARKING LOT POLES			-	-	3				4	20	1			W. DOCK OUTSIDE LIGHTS
W.-S.W. LIGHT POLES			30	2	5				6	20	1			SPARE (ON)
W.-S.W. LIGHT POLES			-	-	7				8	20	1			SPARE (ON)
SPARE (ON)			20	1	9				10	20	1			SPARE (ON)
SPACE					11				12					SPACE
SPACE					13				14					SPACE
SPACE					15				16					SPACE
SPACE					17				18					SPACE
SPACE					19				20					SPACE
SPACE					21				22					SPACE
SPACE					23				24					SPACE
SPACE					25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE

PANEL PP-1 (FED FROM MDP)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
E.A.F. GARAGE DOOR N.E.			25	3	1				2	20	1			WHSE LIGHTS
-			-	-	3				4	20	1			WHSE LIGHTS
-			-	-	5				6	20	1			WHSE LIGHTS
GARAGE DOOR N.W.			20	3	7				8	20	1			CAGE RADIANT HEAT
-			-	-	9				10	20	1			EM LIGHTS
-			-	-	11				12	20	1			SPARE (ON)
ENTRY WALL HEAT			20	1	13				14	20	3			EX.FAN N.E.
OFFICE LIGHTS			20	1	15				16	-	-			-
OFFICE LIGHTS			20	1	17				18	-	-			-
HAND DRYER WOMENS			20	1	19				20	20	3			EX. FAN N.W.
HAND DRYER MENS			20	1	21				22	-	-			-
WOMENS BATH HEAT (OFF)			20	1	23				24	-	-			-
MENS BATH HEAT (OFF)			20	1	25				26	20	1			SPARE (OFF)
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A | MAIN BREAKER - A

PANEL LP-1 (FED FROM XFMR T-1) (SEC 1)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
N. COLUMN OUTLETS			20	1	1				2	20	1			CAGE OUTLETS
N. FURNACE (OFF)			20	1	3				4	20	1			CAGE OUTLETS
N. FURNACE (OFF)			20	1	5				6	20	1			CAGE OUTLETS
N.W. TRUCK OUTLET			20	1	7				8	20	1			N.C. FURNACE
N.W. WALK DOOR OUTLET			20	1	9				10	20	1			WATER COOLER-COLUMN OUTLET
N.W. TRUCK OUTLET			20	1	11				12	20	1			BATH FANS/LIGHTS
N.W. TRUCK OUTLET			20	1	13				14	20	1			VEND OUTLET 1
N.W. TRUCK OUTLET			20	1	15				16	20	1			VEND OUTLET 2
TURNSTYLE GATE			20	1	17				18	20	1			VEND OUTLET 3
N.E. TRUCK OUTLET			20	1	19				20	20	1			VEND OUTLET 4
N.E. WALK DOOR OUTLET			20	1	21				22	20	1			MEETING RM OUTLET
N.E. TRUCK OUTLET			20	1	23				24	20	1			TRUCK OUTLET W. TRUCK PKG LO
N.E. TRUCK OUTLET			20	1	25				26	20	1			TRUCK OUTLET W. TRUCK PKG LO
N.E. TRUCK OUTLET			20	1	27				28	20	1			SPARE (OFF)
STAIR OUTLET W.			20	1	29				30	20	1			SPARE (OFF)
STAIR OUTLET E.			20	1	31				32	20	1			SPARE (OFF)
TC/SVC MGR/CHECKING			20	1	33				34	20	1			SPARE (OFF)
FURNACE OFFICE S.			20	1	35				36	20	1			SPARE (OFF)
MOTORIZED GATE (OFF)			20	1	37				38	20	1			SPARE (OFF)
MOTORIZED GATE (OFF)			20	1	39				40	20	1			SPARE (OFF)
SPACE					41				42	20	1			SPARE (OFF)

BUS RATING 200 A | MAIN BREAKER 200 A

PANEL LP-1 (FED FROM XFMR T-1) (SEC 2)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
LIGHTING CONTROL OPEN OFFICE			20	1	43				44	20	1			SVC CHECK IN N.W. DED. OUTLET
FURNACE			20	1	45				46	20	1			SVC CHECK IN S.W. DED. OUTLET
PED MANAGER			20	1	47				48	20	1			SVC CHECK IN S.COND. OUTLET DE
COPIER OUTLET			20	1	49				50	20	1			TRANSMITTER & COLUMN OUTLET
SERVICE MANAGER			20	1	51				52	20	1			SVC MGR. E. OUTLET TEMP. & IT R
ABOVE CEILING EX.FAN			20	1	53				54	20	1			IT & SECURITY S. OUTLET
FIRE ALARM PANEL			20	1	55				56	20	1			S.E. SVC MGR. CHECK IN OUTLET
SVC MANAGER CHECKING OUTLET			20	1	57				58	20	1			N.E. SVC MGR. CHECK IN OUTLET
POS PRESSSURE FAN			20	1	59				60	20	1			ICE MACHINE
IT JH			20	1	61				62	20	1			MPO SINK FAN/LT OUTLET
IT DED. OUTLET			20	1	63				64	20	1			BATH OUTLET
SIGN N.E. BUILDING			20	1	65				66	20	1			WATER HEATER
SECURITY RM OUTLET			20	1	67				68	90	2			IT ROOM UPS
DOCK MANAGER RM OUTLET			20	1	69				70	-	-			-
APPLY/INTERVIEW RM OUTLET			20	1	71				72					SPACE
AC NORTH			20	3	73				74					SPACE
-			-	-	75				76					SPACE
-			-	-	77				78					SPACE
AC SOUTH			20	3	79				80					SPACE
-			-	-	81				82					SPACE
-			-	-	83				84					SPACE

BUS RATING 400 A | FEED THRU LUGS 400 A

PANEL PP-2 (FED FROM MDP)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
TRANSFORMER T-2			60	3	1				2	20	3			E.A.F. GARAGE DOOR OPENER
-			-	-	3				4	-	-			-
-			-	-	5				6	-	-			-
WHSE LIGHTS			20	1	7				8	20	1			CAGE HEAT (OFF)
WHSE LIGHTS			20	1	9				10	20	1			EM LIGHTS
EXHAUST FAN			20	3	11				12	20	1			SPARE (OFF)
-			-	-	13				14	20	1			SPARE (OFF)
-			-	-	15				16	20	1			SPARE (OFF)
SPACE					17				18	20	1			SPARE (OFF)
SPACE					19				20					SPACE
SPACE					21				22					SPACE
SPACE					23				24					SPACE
SPACE					25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A | MAIN BREAKER - A

PANEL LP-2 (FED FROM XFMR T-2)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
TRUCK OUTLET SOUTH			20	1	1				2	20	1			FIRE PUMP
TRUCK OUTLET SOUTH			20	1	3				4	-	-			-
S.E. WALK DOOR OUTLET			20	1	5				6	20	1			METAL DECECTION OUTLET
COLUMN T.C. OUTLET			20	1	7				8	20	1			CAGE J.B.
FURNACE			20	1	9				10	20	1			CAGE PHONE BOARD OUTLET
FURNACE			20	1	11				12	20	1			CAGE PHONE BOARD OUTLET
TRUCK OUTLET SOUTH			20	1	13				14	20	1			CAGE INSIDE OUTLET
TRUCK OUTLET SOUTH			20	1	15				16	20	1			CAGE INSIDE OUTLET
CENTER AREA WK OUTLET			20	1	17				18	20	1			CAGE INSIDE OUTLET
CENTER AREA WK OUTLET			20	1	19				20	20	1			SPRINKLER BELL
SPARE (ON)			20	1	21				22	20	1			GH BY SPRINKLER
SPARE (ON)			20	1	23				24	20	2			SPLIT SYSTEM NORTH
SPACE					25				26	-	-			-
SPACE					27				28	20	2			SPLIT SYSTEM SOUTH
SPACE					29				30	-	-			-
SPACE					31				32	20	1			PHOTO EYE/OUTLET BY COND.
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 100 A | MAIN BREAKER 100 A

PANEL LP-3 (FED FROM XFMR T-3)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
TUGGER OUTLET			20	1	1				2	20	1			WATER COOLER S./COLUMN OUTL
TUGGER OUTLET			20	1	3				4	20	1			FURNACE S.C.
TUGGER OUTLET			20	1	5				6	20	1			SOUTH WALL DOOR/EXIT
DOCK WALL OUTLET N.W.			20	1	7				8	20	1			FURNACE S.
DOCK WALL OUTLETS.W.			20	1	9				10	20	1			UNIT HEATER C.
SPARE (ON)			20	1	11				12	20	1			TRUCK OUTLET S.
SPARE (ON)			20	1	13				14	20	1			TRUCK OUTLET S.
SPACE					15				16	20	1			TRUCK OUTLET E.
SPACE					17				18	20	1			TRUCK OUTLET E.
SPACE					19				20	20	1			TRUCK OUTLET N.
SPACE					21				22	20	1			TRUCK OUTLET N.
SPACE					23				24	20	1			UNLOAD DOOR OUTLET
SPACE					25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 100 A | MAIN BREAKER 100 A

PANEL PP-3 (FED FROM MDP)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
TRANSFORMER T-3			60	3	1				2	20	3			OVERHEAD DOOR S.W.
-			-	-	3				4	-	-			-
-			-	-	5				6	-	-			-
WHSE LIGHTS			20	1	7				8	20	3			EXHAUST FAN SOUTH WEST
WHSE LIGHTS			20	1	9				10	-	-			-
DOCK FANS/LIGHTS N.W.			20	1	11				12	-	-			-
DOCK FANS/LIGHTS S.W.			20	1	13				14	20	1			FAN
EM LIGHTS			20	1	15				16	20	1			SOUTH VAN LIGHTS
SPARE (ON)			20	1	17				18	20	1			NORTH VAN LIGHTS
MAU			60	3	19				20					SPACE
-			-	-	21				22					SPACE
-			-	-	23				24					SPACE
SPACE					25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A | MAIN BREAKER - A

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

Revision

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 2134.19.00

ISSUED FOR:
BID SET 8/18/2023

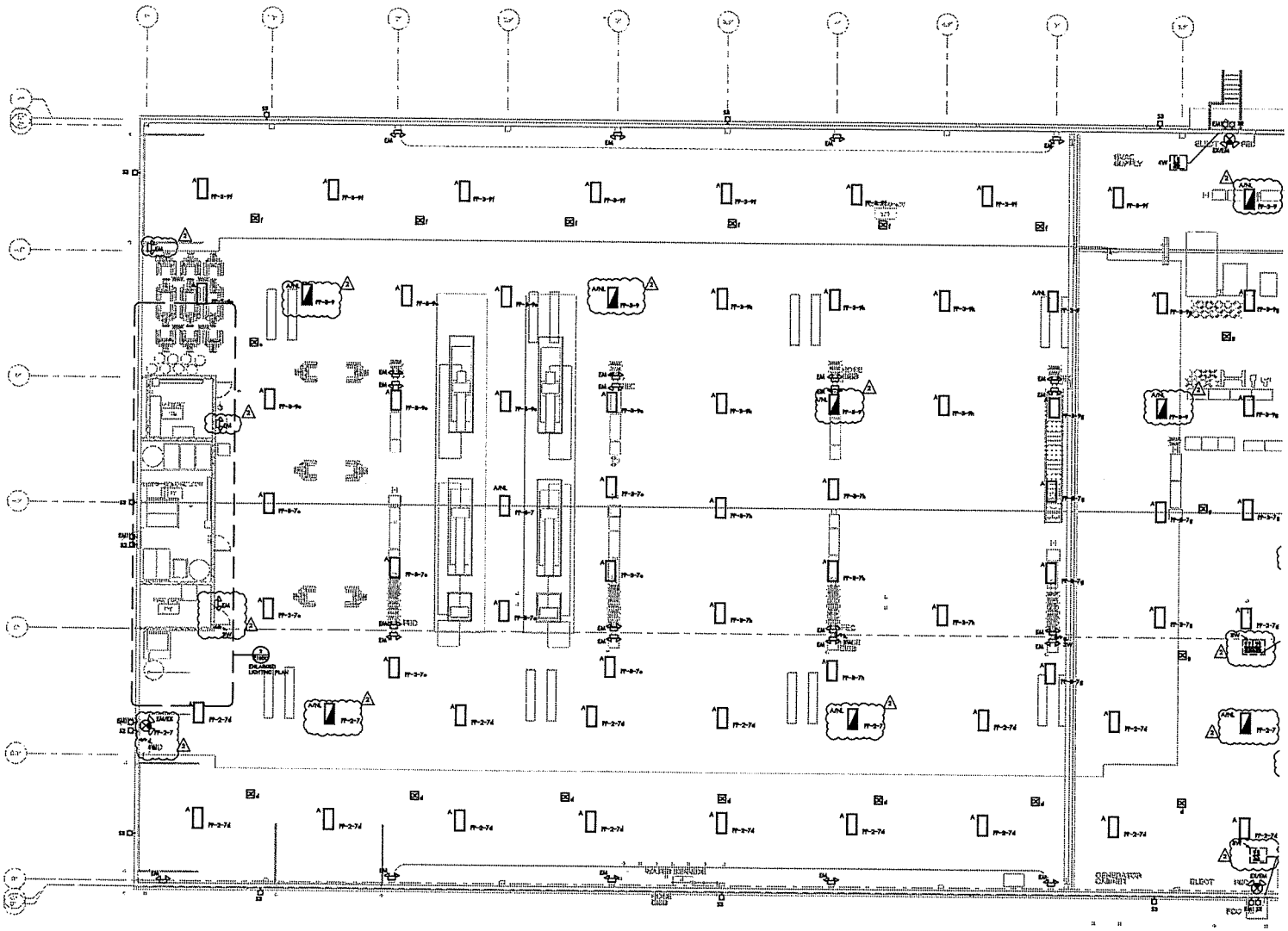
REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023

DRAWN BY EP
CHECKED BY MH

EXISTING PANEL SCHEDULES - 3829 MAINTENANCE BUILDING

ED300



LIGHTING NEW WORK PLAN – 3829 MAINT. BLDG. – SECTION A

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

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FASE AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/GENERAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE/EGRESS LIGHTING AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. ALL EXTERIOR LIGHTING SHALL BE FED FROM EXISTING CIRCUITS. EXTERIOR LIGHTING SHALL BE CONTROLLED VIA LUTRON ATHENA NETWORK. THROUGH FUNCTIONS, PROVIDE WIRELESS NODES/POWERPACK ON THE INTERIOR OF THE BUILDING IN LINE AT EACH EXTERIOR LIGHT LOCATION. THE EXTERIOR EMERGENCY BOARDS FIXTURES ARE NOT TO BE INCLUDED IN THE ATHENA NETWORK.
11. ALL EMERGENCY LIGHTING SHALL BE FED FROM THE NEAREST NORMAL LIGHTING CIRCUIT IN THE AREA.
12. IN GENERAL, THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED, AND REPLACED. ANYWALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREAS SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 20'-0" A.F.F.
13. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS. LUTRON ENERGI SAVE WIRELESS NODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUBS, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANYWALL OTHER MANUFACTURERS MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.
14. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGE, REPAIR AND STORAGE. AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANYWALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THOSE AREAS, ANYWALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISIONS

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341B.00

ISSUED FOR:
BID SET 8/19/2022

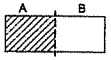
REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2022

DRAWN BY EP
CHECKED BY MK

LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. SECTION A

KEYPLAN



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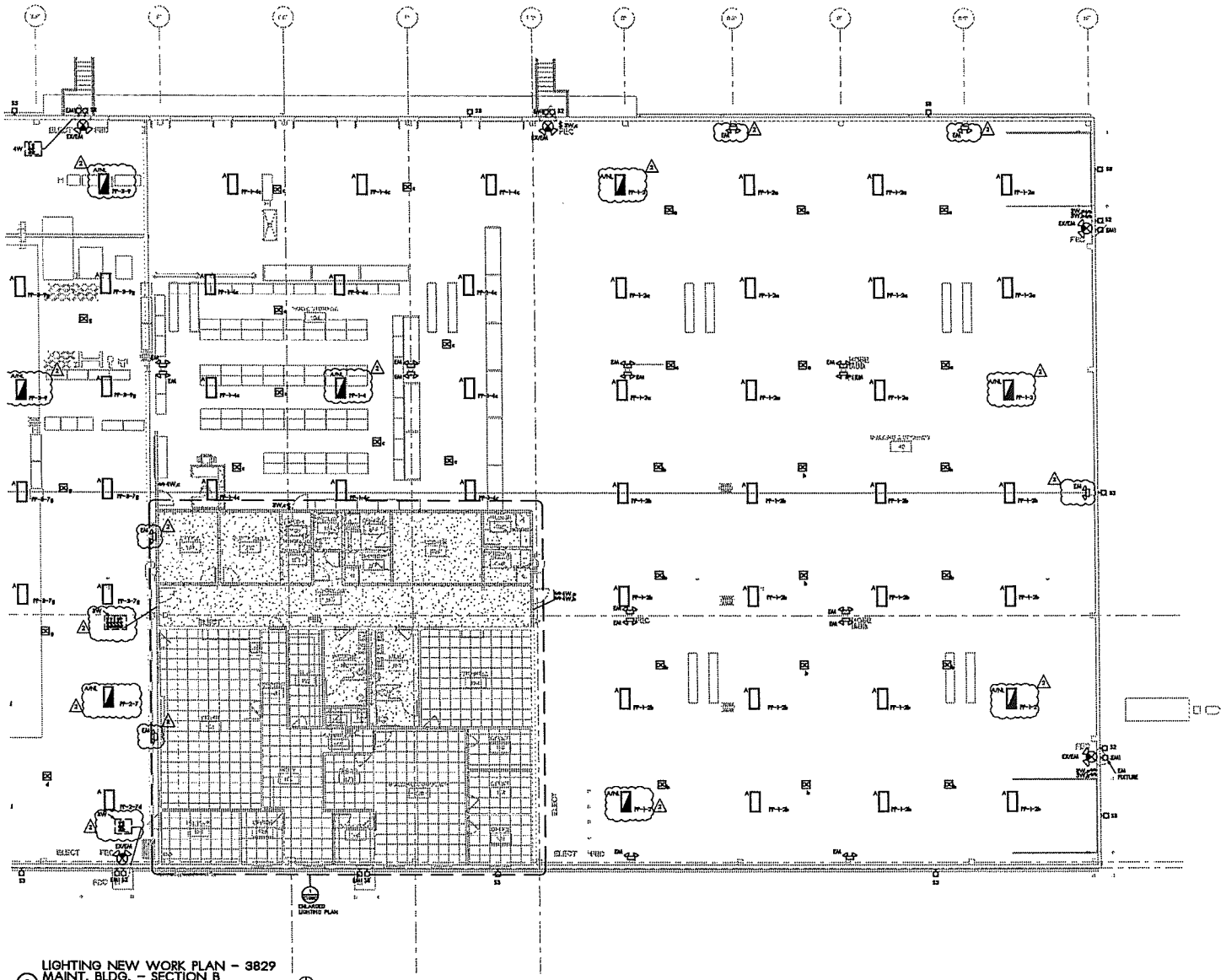


LIGHTING NEW WORK PLAN – 3829 MAINT. BLDG. – SECTION B

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

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/HEG. CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE/EGRESS LIGHTING AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 4'-0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. ALL EXTERIOR LIGHTING SHALL BE FED FROM EXISTING CIRCUITS. EXTERIOR LIGHTING SHALL BE CONTROLLED VIA LUTRON ATHENA NETWORK, TIMECLOCK FUNCTIONAL PROVIDE WIRELESS NODE/POWERPACK ON THE INTERIOR OF THE BUILDING IN LINE AT EACH EXTERIOR LIGHT LOCATION. THE EXTERIOR EMERGENCY EGRESS FIXTURES ARE NOT TO BE INCLUDED IN THE ATHENA NETWORK.
11. ALL EMERGENCY LIGHTING SHALL BE FED FROM THE NEAREST NORMAL LIGHTING CIRCUIT IN THE AREA.
12. IN GENERAL, THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED, AND REPLACED. ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURAL/BAR JOISTS AT APPROXIMATELY 20'-0" A.F.F.
13. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS, LUTRON ENERGI SAVR WIRELESS NODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUB, PROCESSOR, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.
14. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE, AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

Revision

SATELLITE BUS FACILITY REMODEL

3828-3901 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341900

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023

DRAWN BY EP
CHECKED BY MK

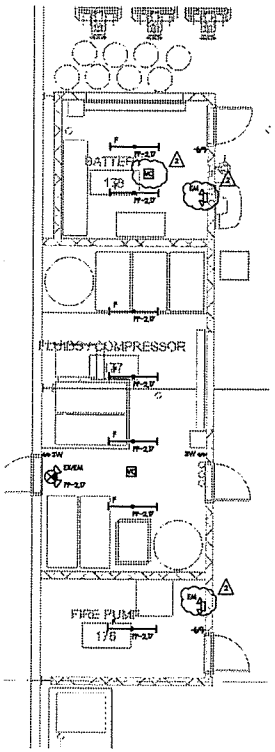
LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. SECTION B

KEYPLAN

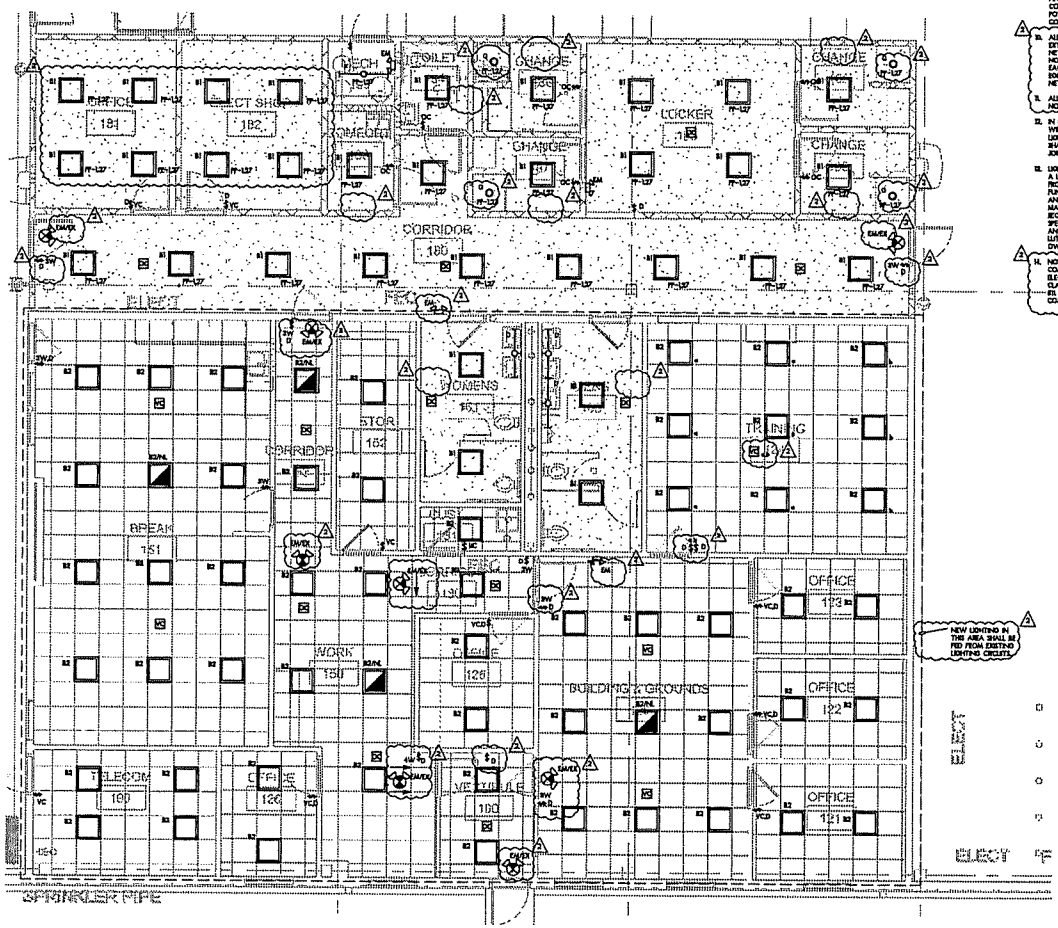
E100B

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (SIZED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/GENERAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE/EGRESS LIGHTING AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURE SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. ALL EXTERIOR LIGHTING SHALL BE FED FROM EXISTING CIRCUITS. EXTERIOR LIGHTING SHALL BE CONTROLLED VIA LUTRON ATHENA NETWORK THROUGH FUNCTIONS, PROVIDE WIRELESS NODE/POWERPACK ON THE INTERIOR OF THE BUILDING IN LINE AT EACH EXTERIOR LIGHT LOCATION. THE EXTERIOR EMERGENCY EGRESS FIXTURES ARE NOT TO BE INCLUDED IN THE ATHENA NETWORK.
11. ALL EMERGENCY LIGHTING SHALL BE FED FROM THE NEAREST NORMAL LIGHTING CIRCUIT IN THE AREA.
12. IN GENERAL, THE EXISTING LIGHTING THROUGHOUT THE BUILDING WILL BE DISCONNECTED, REMOVED, AND REPLACED, ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 20'-0" A.F.F.
13. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH THAN LOCK FUNCTIONS. LUTRON ENDEK SAVE WIRELESS NODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUB, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.
14. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE. AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.



2 MAINTENANCE BUILDING
BATTERY RM, BULK FLUIDS/ COMPRESSOR, FIRE PUMP RM.
SCALE: 1/4" = 1'-0"



1 MAINTENANCE BUILDING
OFFICE AREA
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

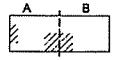
ISSUED FOR:
BID SET 9/19/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
1	ADDENDUM 2	10/13/2023

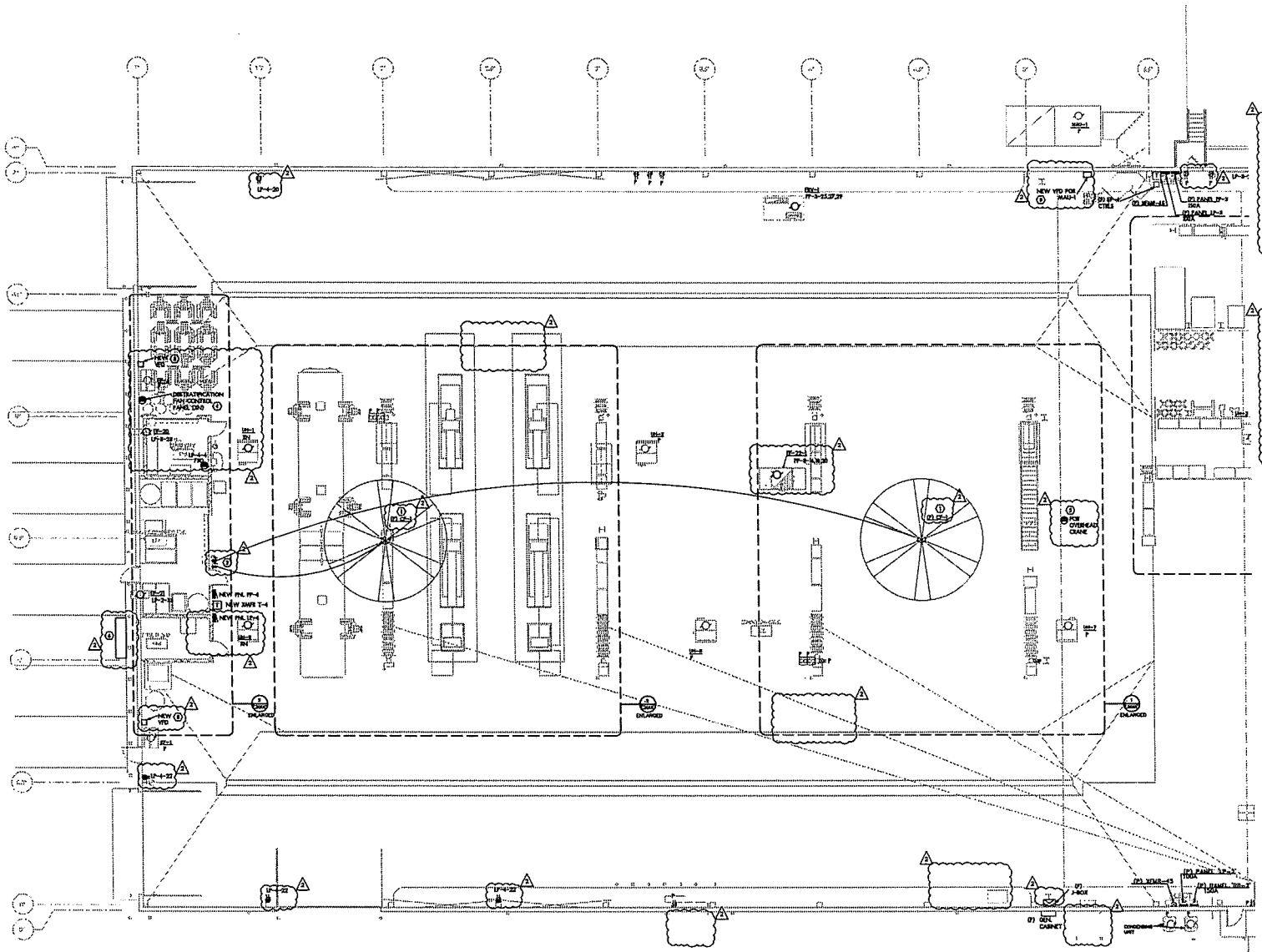
DRAWN BY EP
CHECKED BY MK

LIGHTING NEW WORK - 3829 MAINT. BLDG. ENLARGED PLANS



KEYPLAN

E100C



POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 30 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. REFER TO OWNER/OWNERS VENDORS EQUIPMENT SCHEDULES AND PLANS FOR ALL EXACT EQUIPMENT LOCATIONS AND ELECTRICAL REQUIREMENTS. ALL EXACT/FINAL EQUIPMENT ELECTRICAL REQUIREMENTS SHALL BE COORDINATED PRIOR TO ROUGH-IN. ANY/ALL ASSOCIATED ELECTRICAL EQUIPMENT REQUIRED FOR THESE CONNECTIONS SHALL BE CONFIRMED IN ADVANCE OF PURCHASING.
8. E.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE ROUGH-INS, CONSISTING OF EMPTY JUNCTION BOXES AND CONDUITS, AS REQUIRED FOR ALL LOW VOLTAGE SYSTEMS DEVICES/EQUIPMENT SHOWN ON THE TECHNOLOGY PLANS (SHEETS G001 – G700). COORDINATE ALL REQUIREMENTS WITH TECHNOLOGY CONTRACTORS.
9. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE. AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.

KEYED NOTES:

1. DISCONNECT EXISTING CEILING FAN FOR RELOCATION OF EXISTING CONTROLS. REFER TO KEYED NOTE 2. REFEED/RECONNECT ONCE NEW CONTROLS ARE RELOCATED.
2. DISCONNECT AND RELOCATE EXISTING CEILING FAN CONTROLS. REFEED/RECONNECT TO EXISTING CIRCUITS.
3. INSTALL/CONNECT NEW VFD FOR EXISTING HVAC EQUIPMENT. COORDINATE ALL REQUIREMENTS WITH HVAC CONTRACTOR AND FIELD VERIFY ALL REQUIREMENTS.
4. DISCONNECT AND RELOCATE EXISTING DESTRATIFICATION FAN CONTROL PANEL. REFEED/RECONNECT TO EXISTING CIRCUITS.
5. COORDINATE EXACT REQUIREMENT, LOCATION FOR POWER FEED WITH OWNER. FEED FROM PANEL 'P'-3.
6. PROVIDE NEW 400AF ELECTRICAL SERVICE AS REQUIRED FOR NEW FIRE PUMP. COORDINATE ALL REQUIREMENTS WITH MCAE AND INCLUDE ALL COSTS IN BID.

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

Revision

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 9/19/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023

DRAWN BY CP
CHECKED BY MK

POWER NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION A

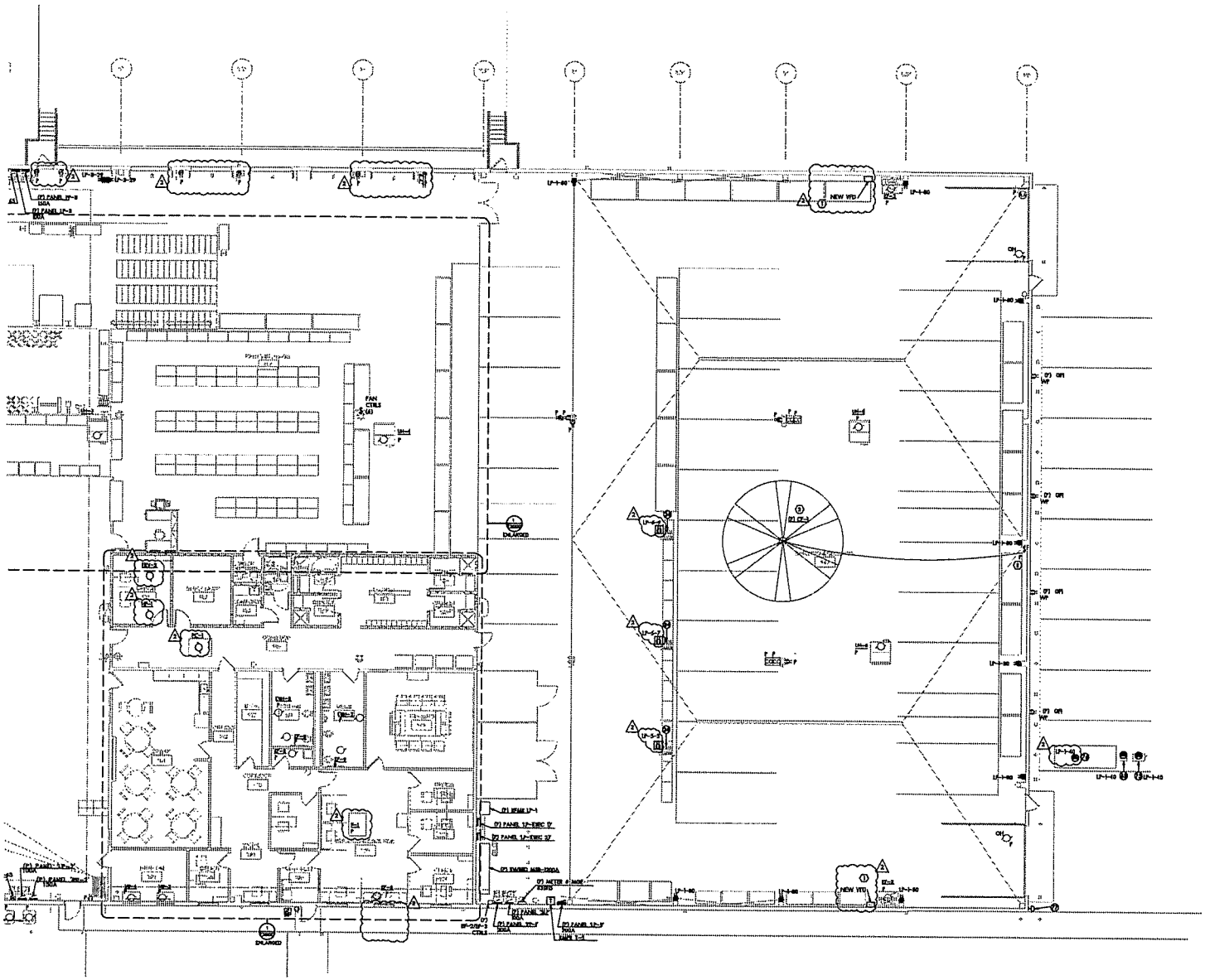
A B

KEYPLAN

1 POWER NEW WORK PLAN - 3829 MAINT. BLDG. SECTION A
SCALE: 1/8" = 1'-0"

N

E200A



POWER NEW WORK - 3829 MAINT. BLDG. - SECTION B

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

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FIXED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. REFER TO OWNER/OWNERS VENDORS EQUIPMENT SCHEDULES AND PLANS FOR ALL EXACT EQUIPMENT LOCATIONS AND ELECTRICAL REQUIREMENTS. ALL EXACT/FINAL EQUIPMENT ELECTRICAL REQUIREMENTS SHALL BE COORDINATED PRIOR TO ROUGH-IN. ANY/ALL ASSOCIATED ELECTRICAL EQUIPMENT REQUIRED FOR THESE CONNECTIONS SHALL BE CONFIRMED IN ADVANCE OF PURCHASING.
8. E.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE ROUGH-INS, CONSISTING OF EMPTY JUNCTION BOXES AND CONDUITS, AS REQUIRED FOR ALL LOW VOLTAGE SYSTEMS DEVICES/EQUIPMENT SHOWN ON THE TECHNOLOGY PLANS (SHEETS D001 - D703). COORDINATE ALL REQUIREMENTS WITH TECHNOLOGY CONTRACTORS.
9. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGE, REPAIR AND STORAGE. AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.

KEYED NOTES:

1. INSTALL/CONNECT NEW VFD FOR EXISTING HVAC EQUIPMENT. COORDINATE ALL REQUIREMENTS WITH HVAC CONTRACTOR AND FIELD VERIFY ALL REQUIREMENTS.
2. EXISTING CEILING FAN AND ASSOCIATED CONTROLS TO REMAIN.

Engberg Anderson ARCHITECTS

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HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 9/16/2022

REVISION FOR:

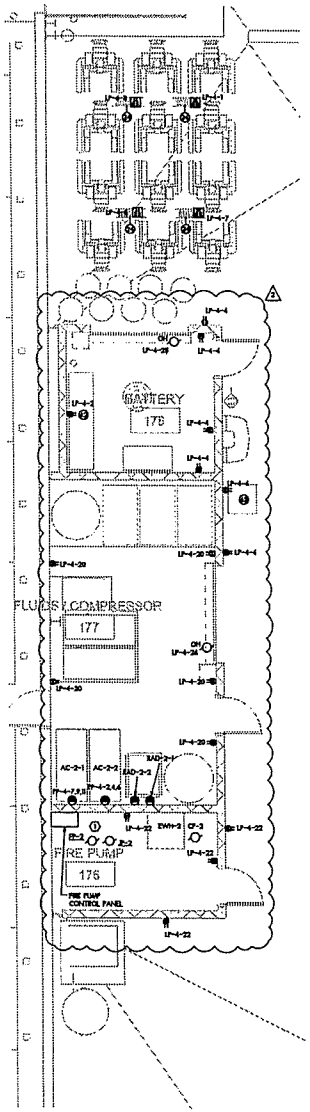
NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2022

DRAWN BY EP
CHECKED BY MK

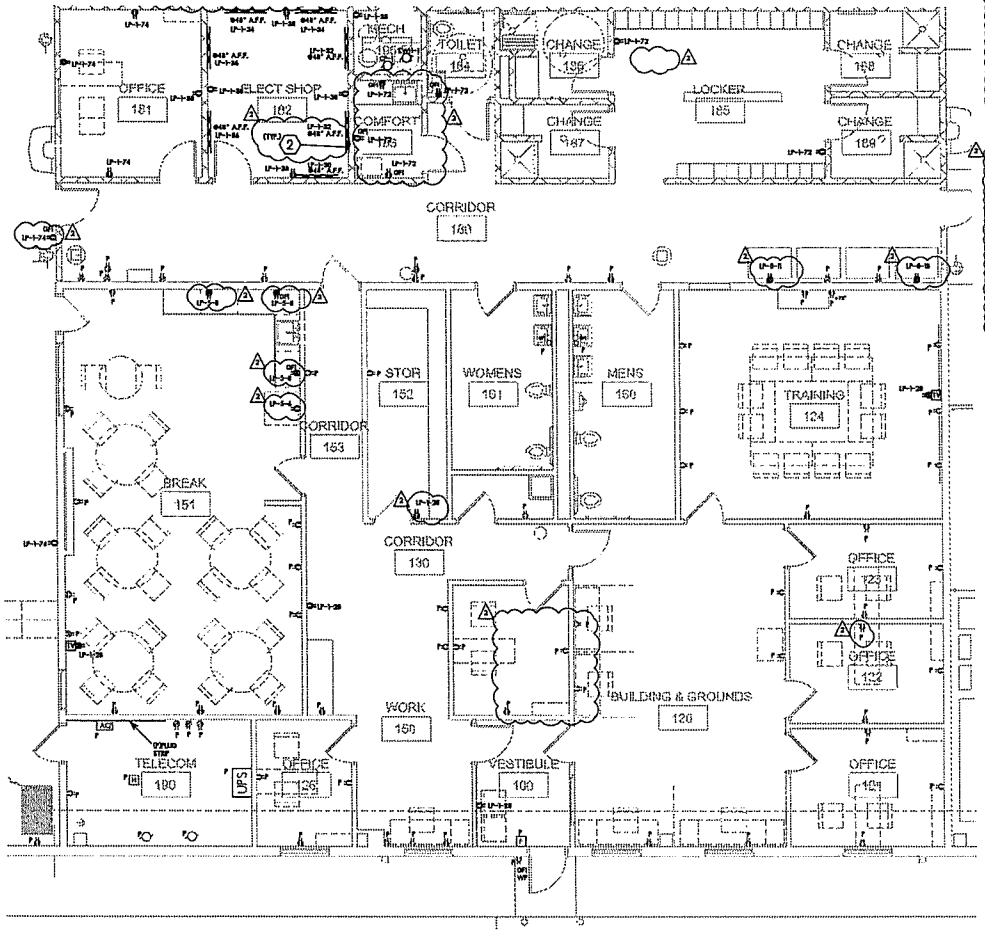
POWER NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION B

KEYPLAN

E200B



2 MAINTENANCE BUILDING
BATTERY RM, BULK FLUIDS/ COMPRESSOR, FIRE PUMP RM.
SCALE 1/4" = 1'-0"



1 MAINTENANCE BUILDING
OFFICE AREA
SCALE 1/4" = 1'-0"

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FIRST AND MARCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND ARRANGED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. REFER TO OWNER/OWNERS VENDORS EQUIPMENT SCHEDULES AND PLANS FOR ALL EXACT EQUIPMENT LOCATIONS AND ELECTRICAL REQUIREMENTS. ALL EXACTUTHAL EQUIPMENT ELECTRICAL REQUIREMENTS SHALL BE COORDINATED PRIOR TO ROUGH-IN. ANY/ALL ASSOCIATED ELECTRICAL EQUIPMENT REQUIRED FOR THESE CONNECTIONS SHALL BE CONFIRMED IN ADVANCE OF PURCHASING.
8. E.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE ROUGH-INS, CONSISTING OF EMPTY JUNCTION BOXES AND CONDUITS, AS REQUIRED FOR ALL LOW VOLTAGE SYSTEMS DEVICES/EQUIPMENT SHOWN ON THE TECHNOLOGY PLANS (SHEETS Q001 – Q700). COORDINATE ALL REQUIREMENTS WITH TECHNOLOGY CONTRACTORS.
9. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE, AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.

KEYED NOTES:

1. FP-2 – FIRE PUMP – FIRETEMAND, 480V, 3P, FED FROM NEW 1000A MDAE SERVICE. PUMP IS SIZED AS A BASIS OF DESIGN ONLY. COORDINATE EXACT FINAL PUMP SIZE AND ANY/ALL ELECTRICAL REQUIREMENTS WITH FIRE PROTECTION CONTRACTOR. PROVIDE FIRE PUMP ALARM AND SIGNALS AS REQUIRED BY NFPA 20.
   - PUMP OR MOTOR RUNNING
   - LOSS OF PHASE
   - PHASE REVERSAL
   - CONTROLLER OR SYSTEM TROUBLE (GROUND-FAULT, PRESSURE-SENSING, VARIABLE SPEED TROUBLE, FAIL-TO-START)
2. TYPICAL. PROVIDE A WIREMOLD #2000 SERIES PLUGMOLD. CIRCUIT AS INDICATED

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341900

ISSUED FOR:

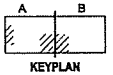
BID SET	8/16/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
1	ADDENDUM 2	10/13/2023

DRAWN BY	EP
CHECKED BY	MK

POWER NEW WORK
ENLARGED PLANS - 3829
MAINT. BLDG. .

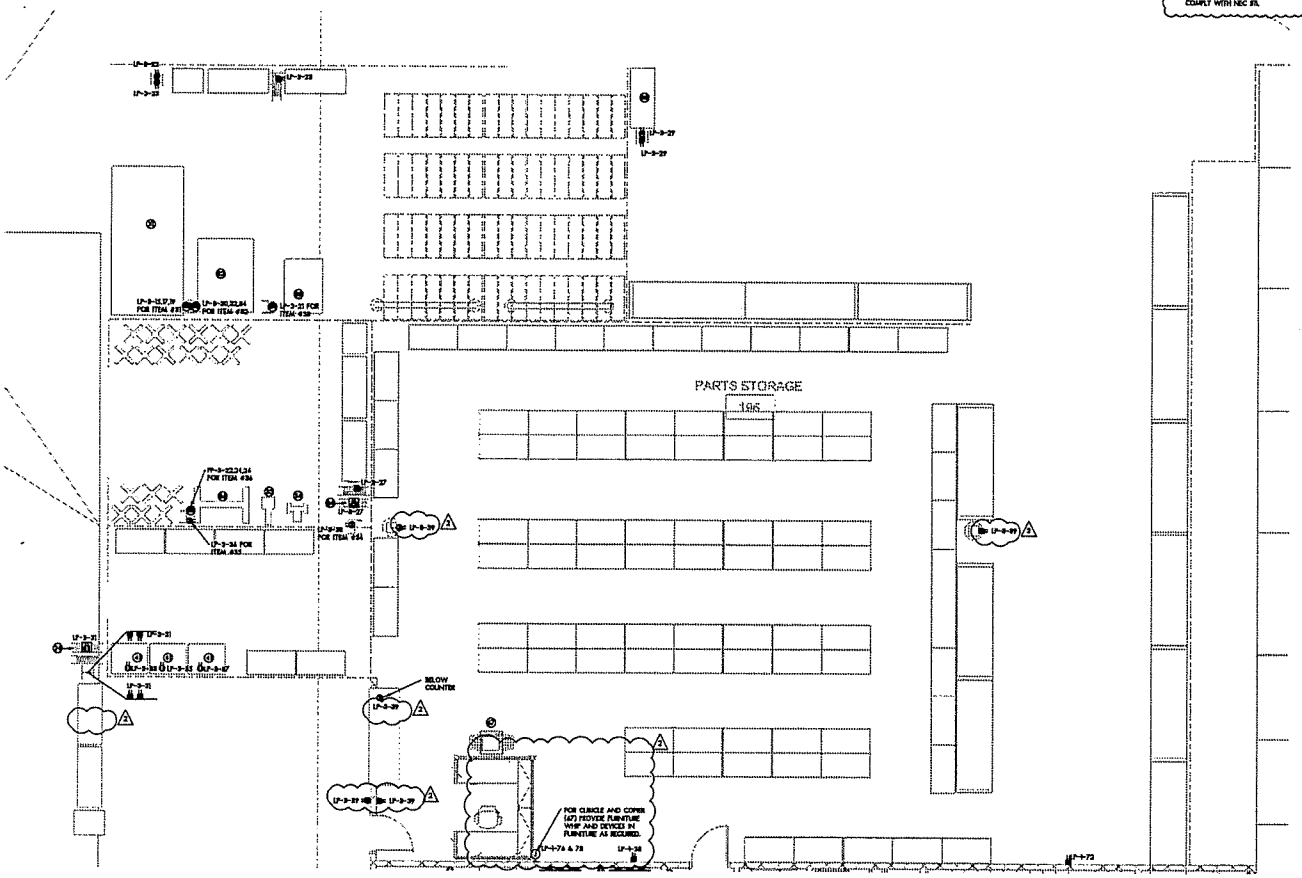


KEYPLAN

E200C

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (310.15) AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 30 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. REFER TO OWNER/OWNERS VENDORS EQUIPMENT SCHEDULES AND PLANS FOR ALL EXACT EQUIPMENT LOCATIONS AND ELECTRICAL REQUIREMENTS. ALL EXACT/FINAL EQUIPMENT ELECTRICAL REQUIREMENTS SHALL BE COORDINATED PRIOR TO E0.0101-01 ANY/ALL ASSOCIATED ELECTRICAL EQUIPMENT REQUIRED FOR THESE CONNECTIONS SHALL BE CONFIRMED IN ADVANCE OF PURCHASING.
8. E.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE E0.0101-04, CONSISTING OF EMPTY JUNCTION BOXES AND CONDUITS, AS REQUIRED FOR ALL LOW VOLTAGE SYSTEMS DEVICES/EQUIPMENT SHOWN ON THE TECHNOLOGY PLANS (SHEETS T001 - T010). COORDINATE ALL REQUIREMENTS WITH TECHNOLOGY CONTRACTORS.
9. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE. AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.



1 SHOP AND PARTS
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 09/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023

DRAWN BY EP
CHECKED BY MK

POWER NEW WORK
ENLARGED PLANS - 3829 MAINT. BLDG.

KEYPLAN

E200D

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
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5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (ATTICS, ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. REFER TO OWNER/OWNERS VENDORS EQUIPMENT SCHEDULES AND PLANS FOR ALL EXACT EQUIPMENT LOCATIONS AND ELECTRICAL REQUIREMENTS. ALL EXACT/FINAL EQUIPMENT ELECTRICAL REQUIREMENTS SHALL BE COORDINATED PRIOR TO ROUGH-IN ANY/ALL ASSOCIATED ELECTRICAL EQUIPMENT REQUIRED FOR THESE CONNECTIONS SHALL BE CONFIRMED IN ADVANCE OF PURCHASING.
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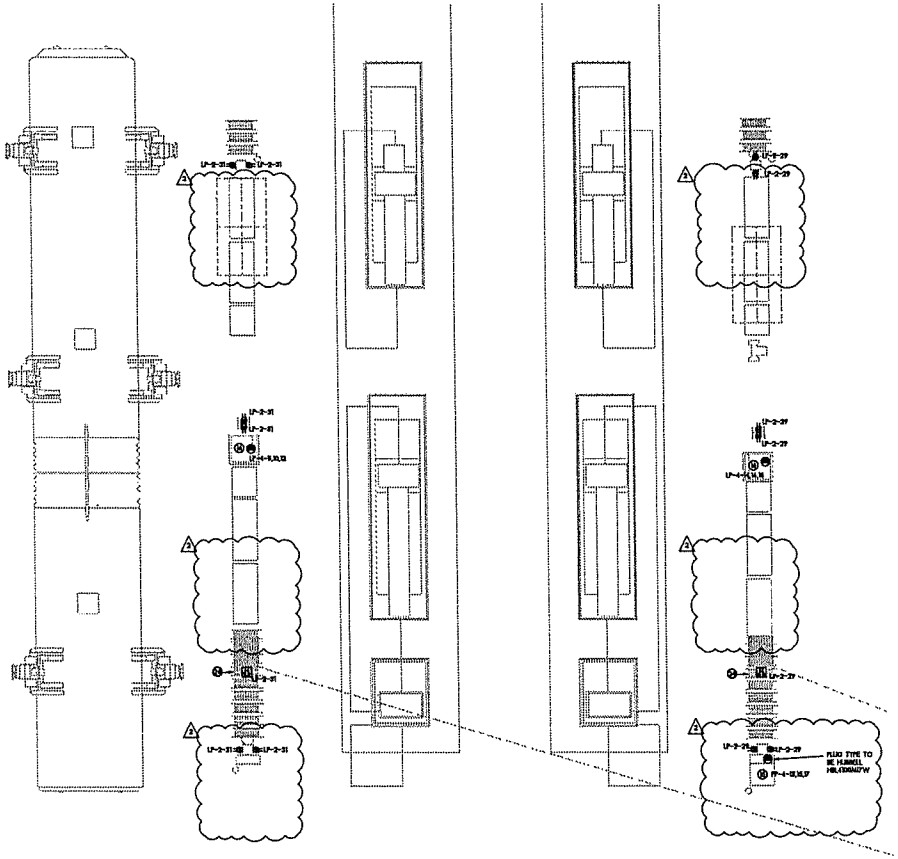
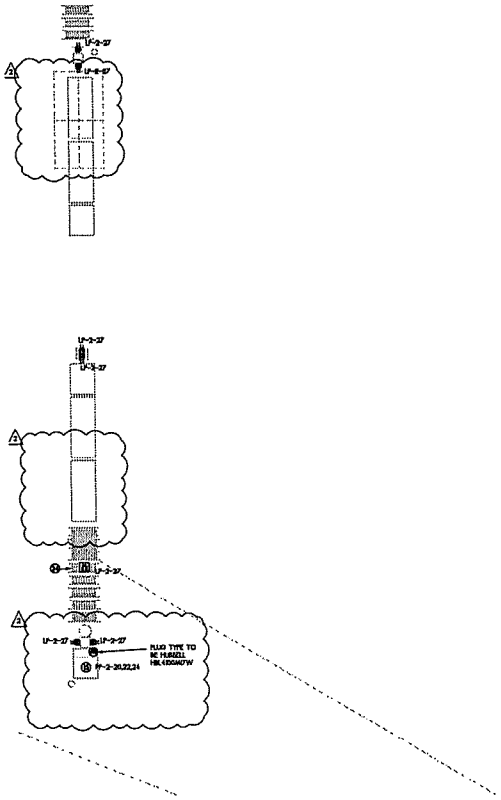
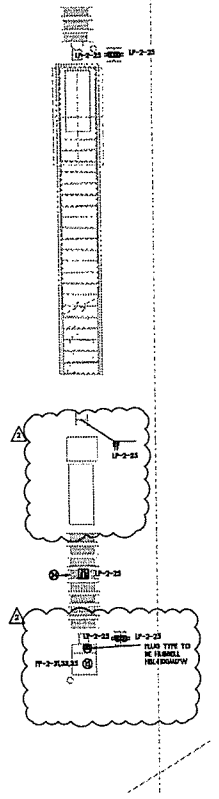
9. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE. AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGES, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.



② WORK BAYS
SCALE: 1/4" = 1'-0"



① WORK BAY WITH ROOF ACCESS
SCALE: 1/4" = 1'-0"



Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

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REVISIONS

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER: 213419.00

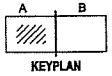
ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023

DRAWN BY: EP
CHECKED BY: MK

POWER NEW WORK ENLARGED PLANS - 3829 MAINT. BLDG.



KEYPLAN

E200E

PANEL SCHEDULE GENERAL NOTES:

1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE NEW WORK CONDITIONS AND ARE INCLUDED TO ASSIST IN COMMUNICATING AVAILABLE AND NEW WORK CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE AVAILABILITY FOR POTENTIAL USE/REUSE. PANEL SCHEDULES FOR ANY/ALL NEW PANELS PROVIDED AS PART OF THIS PROJECT ARE ALSO REFLECTED ON THIS SHEET.

PANEL MSB-1200A REVISED SCHEDULE

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	FUSIBLE SWITCH SIZE (A)	P	FUSE (A)	CONNECTED KVA	CONNECTED AMP	DEMAND KVA	DEMAND AMP	REMARKS
EXISTING LOAD	100	3						
EXISTING LOAD	150	3						
EXISTING LOAD	200	3						
EXISTING LOAD	80	3						
EXISTING LOAD	150	3						
EXISTING LOAD	100	3						
EXISTING LOAD (FOR NEWPLTER)	400	3						
TRANSFORMER T-5	125	3						
PP-2	400	3						

BUS RATING 1200 A | MAIN BREAKER 1200 A | SHORT CIRCUIT CURRENT RATING: FIELD VERIFY A.I.C. FIELD VERIFY

PANEL PP-1 (FED FROM MDP) REVISED SCHEDULE

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	3	1	4,872			2	20	1			BUILDING & GROUNDS LIGHTS
-			-	-	3		2,046		4	20	1			PARTS STORAGE LIGHTS
-			-	-	5			0	6	20	1			SPARE
EXISTING LOAD			20	3	7			0	8	20	1			SPARE
-			-	-	9				10	20	1			EXISTING LOAD
-			-	-	11				12	20	1			EXISTING LOAD
EXISTING LOAD			20	1	13				14	20	3			EXISTING LOAD
EXISTING LOAD			20	1	15				16	-	-			-
EXISTING LOAD			20	1	17				18	-	-			-
EXISTING LOAD			20	1	19				20	20	3			EXISTING LOAD
EXISTING LOAD			20	1	21				22	-	-			-
EXISTING LOAD			20	1	23				24	-	-			-
EXISTING LOAD			20	1	25				26	20	1			SPARE (OFF)
NEW OFFICE SPACE LIGHTING					27		223		28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A | FEED THRU LUGS A

PANEL LP-1 (FED FROM XFMR T-1) (SEC 1) REVISED SCHEDULE

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	1				2	20	1			EXISTING LOAD
EXISTING LOAD			20	1	3				4	20	1			EXISTING LOAD
EXISTING LOAD			20	1	5				6	20	1			EXISTING LOAD
EXISTING LOAD			20	1	7				8	20	1			EXISTING LOAD
EXISTING LOAD			20	1	9				10	20	1			EXISTING LOAD
EXISTING LOAD			20	1	11				12	20	1			EXISTING LOAD
EXISTING LOAD			20	1	13				14	20	1			EXISTING LOAD
EXISTING LOAD			20	1	15				16	20	1			EXISTING LOAD
EXISTING LOAD			20	1	17				18	20	1			EXISTING LOAD
EXISTING LOAD			20	1	19				20	20	1			EXISTING LOAD
EXISTING LOAD			20	1	21				22	20	1			EXISTING LOAD
EXISTING LOAD			20	1	23				24	20	1			EXISTING LOAD
EXISTING LOAD			20	1	25				26	20	1			EXISTING LOAD
EXISTING LOAD			20	1	27	720			28	20	1			NEW TV RECP.
EXISTING LOAD			20	1	29			720	30	20	1		1,080	ELEC SHOP PLUG MOLD
EXISTING LOAD			20	1	31	1,440			32	20	1		1,080	ELEC SHOP PLUG MOLD
EXISTING LOAD			20	1	33		1,440		34	20	1		1,080	ELEC SHOP PLUG MOLD
EXISTING LOAD			20	1	35			1,440	36	20	1		1,080	ELEC SHOP PLUG MOLD
EXISTING LOAD			20	1	37	1,260			38	20	1		1,080	ELEC SHOP RECP.
EXISTING LOAD			20	1	39		1,034		40	20	1		1,034	FUEL PUMP AND FUEL MANAGEMN
SPACE					41				42	20	1			SPARE (OFF)

BUS RATING 200 A | MAIN BREAKER 200 A

PANEL LP-1 (FED FROM XFMR T-1) (SEC 2) REVISED SCHEDULE

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	43				44	20	1			EXISTING LOAD
EXISTING LOAD			20	1	45				46	20	1			EXISTING LOAD
EXISTING LOAD			20	1	47				48	20	1			EXISTING LOAD
EXISTING LOAD			20	1	49				50	20	1			EXISTING LOAD
EXISTING LOAD			20	1	51				52	20	1			EXISTING LOAD
EXISTING LOAD			20	1	53				54	20	1			EXISTING LOAD
EXISTING LOAD			20	1	55				56	20	1			EXISTING LOAD
EXISTING LOAD			20	1	57				58	20	1			EXISTING LOAD
EXISTING LOAD			20	1	59				60	20	1			EXISTING LOAD
EXISTING LOAD			20	1	61				62	20	1			EXISTING LOAD
EXISTING LOAD			20	1	63				64	20	1			EXISTING LOAD
EXISTING LOAD			20	1	65				66	25	1			EXISTING LOAD
EXISTING LOAD			20	1	67				68	40	2			EXISTING LOAD
EXISTING LOAD			20	1	69				70	-				-
EXISTING LOAD			20	1	71			1,440	72	20	1		1,080	COMFORT, TOILET 184, LOCKER RI
EXISTING LOAD			20	3	73	540			74	20	1		540	OFFICE, 181 RECP.
-			-	-	75		180		76	20	1		180	EQUIP. #47 COPIER
-			-	-	77			180	78	20	1		180	EXISTING SPACE
EXISTING LOAD			20	3	79	1,020			80	20	1		1,020	BLDG AND GROUNDS RECP
-			-	-	81	55			82	15	1		55	CP-1
-			-	-	83				84					SPACE

BUS RATING 400 A | FEED THRU LUGS 400 A

PANEL PP-2 (FED FROM MDP) REVISED SCHEDULE

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			60	3	1				2	20	3			EXISTING LOAD
-			-	-	3				4	-	-			-
-			-	-	5				6	-	-			-
MAINT. LIGHTS	3,132		20	1	7	3,132			8	20	1			SPARE
SPARE			20	1	9		0		10	20	1			EXISTING LOAD
EXISTING LOAD			20	3	11			0	12	20	1			EXISTING SPARE (OFF)
-			-	-	13				14	20	1			EXISTING SPARE (OFF)
-			-	-	15				16	20	1			EXISTING SPARE (OFF)
BATTERY, FLUIDS/COMP. FRM	244		20	1	17		244		18	20	1			EXISTING SPARE (OFF)
EXISTING SPACE					19	18,000			20	90	3	18,000		EV BATTERY TENDER
EXISTING SPACE					21		18,000		22	-	-	18,000	-	
EXISTING SPACE					23			18,000	24	-	-	18,000	-	
OVERHEAD CRANE			3		25				26					EXISTING SPACE
-			-	-	27				28					EXISTING SPACE
-			-	-	29				30					EXISTING SPACE
EXISTING SPACE					31				32					EXISTING SPACE
EXISTING SPACE			-	-	33				34					EXISTING SPACE
EXISTING SPACE			-	-	35				36					EXISTING SPACE
EXISTING SPACE					37				38					EXISTING SPACE
EXISTING SPACE					39				40					EXISTING SPACE
EXISTING SPACE					41				42					EXISTING SPACE

BUS RATING 225 A | FEED THRU LUGS - A

PANEL LP-2 (FED FROM XFMR T-2) REVISED SCHEDULE

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	1				2	20	2			EXISTING LOAD
EXISTING LOAD			20	1	3				4	-	-			-
EXISTING LOAD			20	1	5				6	20	1			EXISTING LOAD
EXISTING LOAD			20	1	7				8	20	1			EXISTING LOAD
EXISTING LOAD			20	1	9				10	20	1			EXISTING LOAD
SPARE (ON)			20	1	11				12	20	1			EXISTING LOAD
EXISTING LOAD			20	1	13				14	20	1			EXISTING LOAD
EXISTING LOAD			20	1	15				16	20	1			EXISTING LOAD
EXISTING LOAD			20	1	17				18	20	1			EXISTING LOAD
EXISTING LOAD			20	1	19				20	20	1			EXISTING LOAD
SPARE (ON)			20	1	21				22	20	1			EXISTING LOAD
SPARE (ON)			20	1	23				24	20	2			EXISTING LOAD
MAINT BAY RECP.	1,080		20	1	25	1,080			26	-	-			EXISTING LOAD
MAINT BAY RECP.	1,440		20	1	27		1,440		28	20	2			EXISTING LOAD
MAINT BAY RECP.	1,440		20	1	29			1,440	30	-	-			EXISTING LOAD
MAINT BAY RECP.	1,440		20	1	31	1,440			32	20	1			EXISTING LOAD
EF-31	180		20	1	33		180		34					EXISTING SPACE
ERV-3	2,000		25	2	35			2,000	36					EXISTING SPACE
	2,000		-	-	37	2,000			38					EXISTING SPACE
EXISTING SPACE					39				40					EXISTING SPACE
EXISTING SPACE					41				42					EXISTING SPACE

BUS RATING 100 A | FEED THRU LUGS 100 A

PANEL LP-3 (FED FROM XFMR T-3) REVISED SCHEDULE

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	1				2	20	1			EXISTING LOAD
EXISTING LOAD			20	1	3				4	20	1			EXISTING LOAD
EXISTING LOAD			20	1	5				6	20	1			EXISTING LOAD
EXISTING LOAD			20	1	7				8	20	1			EXISTING LOAD
EXISTING LOAD			20	1	9				10	20	1			EXISTING LOAD
SPARE (ON)			20	1	11				12	20	1			EXISTING LOAD
SPARE (ON)			20	1	13				14	20	1			EXISTING LOAD
TIRE CARGUSSEL	1,040		20	1	15	1,040			16	20	1			EXISTING LOAD
-	1,040		-	-	17		1,040		18	20	1			EXISTING LOAD
-	1,040		-	-	19	1,040			20	20	1			EXISTING LOAD
TIRE INFLATION CAGE	1,500		20	1	21		1,500		22	20	1			EXISTING LOAD
SPARE			20	1	23			1,500	24	20	1			EXISTING LOAD
CONVENIENCE RECP.	1,080		20	1	25	1,080			26	20	1			EXISTING LOAD
RECP.	900		20	1	27		1,080		28	20	1		180	EF-30
RECEIVING RECP	720		20	1	29			1,080	30	20	3		1,180	TIRE CHANGER
RECP.	1,080		20	1	31	2,240			32	-	-		1,160	
EQUIP. #41 VENDING MACH	1,500		20	1	33		2,080		34	-	-		1,160	-
EQUIP. #41 VENDING MACH	1,500		20	1	35			3,000	36	20	1		1,500	DRILL PRESS
EQUIP. #41 VENDING MACH	1,500		20	1	37	3,000			38	20	1		1,500	BENCH GRINDER
PARTS STOR. RECP	720		20	1	39		720		40					EXISTING SPACE
EXISTING SPACE					41				42					EXISTING SPACE

BUS RATING 100 A | FEED THRU LUGS 100 A

PANEL PP-3 (FED FROM MDP) REVISED SCHEDULE

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			60	3	1				2	20	3			EXISTING LOAD
-			-	-	3				4	-	-			-
-			-	-	5				6	-	-			-
MAINT. LIGHTS			20	1	7	3,132			8	20	3			EXISTING LOAD
MAINT. LIGHTS			20	1	9		9,200		10	-	-			-
SPARE			20	1	11			0	12	-	-			-
SPARE			20	1	13				14	20	1			EXISTING LOAD
EXISTING LOAD			20	1	15		1,850		16	20	3			EF-32-1
EXISTING LOAD			20	1	17			1,850	18	-	-			-
EXISTING LOAD			60	3	19	1,800			20	-	-			-
-			-	-	21		748		22	20	3	748		SHOP PRESS
-			-	-	23			748	24	-	-	748		-
ERV-1			20	3	25	2,700			26	-	-	748		-
-			-	-	27		2,700		28					SPACE
-			-	-	29			2,700	30					SPACE
EV BATTERY TENDER	18,000		90	3	31	18,000			32					SPACE
	18,000		-	-	33		18,000		34					SPACE
	18,000		-	-	35			18,000	36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

PHASE

BUS RATING 225 A | FEED THRU LUGS - A

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3838-3851 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/19/2025

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2025

DRAWN BY SP
CHECKED BY MK

EXISTING REVISED PANEL SCHEDULES - 3829 MAINT. BLDG.

E300A

PANEL SCHEDULE GENERAL NOTES:

1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE NEW WORK CONDITIONS AND ARE INCLUDED TO ASSIST IN COMMUNICATING AVAILABLE AND NEW WORK CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE AVAILABILITY FOR POTENTIAL USE/RE-USE. PANEL SCHEDULES FOR ANY/ALL NEW PANELS PROVIDED AS PART OF THIS PROJECT ARE ALSO REFLECTED ON THIS SHEET.

A

PANEL PP-4

VOLTS 277/480 V | PHASE 3 Ø | 3 WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
TRANSFORMER T-4	25,000		125	3	1	50,761			2	125	3		25,761	AC-2-2 COMPRESSOR
-	25,000		-	-	3		50,761		4	-	-		25,761	-
-	25,000		-	-	5			50,761	6	-	-		25,761	-
AC-2-1 COMPRESSOR	23,761		175	3	7	27,295			8	50	3		1,534	RAD-2-1, RAD-2-2 AIR DRYERS
-	23,761		-	-	9		27,295		10	-	-		1,534	-
-	23,761		-	-	11			27,295	12	-	-		1,534	-
JP-2	4,307		20	3	13	4,307			14	20	1			SPARE
-	4,307		-	-	15		4,307		16	20	1			SPARE
-	4,307		-	-	17			4,307	18	20	1			SPARE
SPACE			-	-	19				20					SPACE
SPACE			-	-	21				22					SPACE
SPACE			-	-	23				24					SPACE
SPACE			-	-	25				26					SPACE
SPACE			-	-	27				28					SPACE
SPACE			-	-	29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

PHASE

BUS RATING 400 A
FEED THRU LUGS A

PANEL LP-4

VOLTS 120/208 V | PHASE 3 Ø | 4 WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
PORTABLE LIFT CHRG STAT.	1,080		20	1	1	2,160			2	20	1		1,080	BATTERY CHAGING BENCH #42
PORTABLE LIFT CHRG STAT.	1,080		20	1	3		2,160		4	20	1		1,080	CONV. RECP.
PORTABLE LIFT CHRG STAT.	1,080		20	1	5			2,160	6	20	1		1,080	OIL FILTER CRUSHER
PORTABLE LIFT CHRG STAT.	1,080		20	1	7	5,483			8	60	3		5,403	BUS LIFT
EWH-2	2,000		20	3	9		7,403		10	-	-		5,403	-
-	2,000		-	-	11			7,403	12	-	-		5,403	-
-	2,000		-	-	13	7,403			14	60	3		5,403	BUS LIFT
CP-2	39		15	1	15		6,442		16	-	-		3,403	-
SPARE			20	1	17			5,403	18	-	-		5,403	-
SPARE			20	1	19				20	20	1			SPARE
SPARE			20	1	21				22	20	1			SPARE
SPARE			20	1	23				24	20	1			SPARE
SPARE			20	1	25				26	20	1			SPARE
SPARE			20	1	27				28	20	1			SPARE
SPARE			20	1	29				30	20	1			SPARE
SPARE			20	1	31				32	20	1			SPARE
SPARE			20	1	33				34	20	1			SPARE
SPARE			20	1	35				36	20	1			SPARE
SPARE			20	1	37				38	20	1			SPARE
SPARE			20	1	39				40	20	1			SPARE
SPARE			20	1	41				42	20	1			SPARE

BUS RATING 225 A
FEED THRU LUGS A

PANEL LP-5

VOLTS 120/208 V | PHASE 3 Ø | 4 WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
PC-1	10,807		85	2	1	10,049			2	35	2		5,242	HP-1
-	10,807		-	-	3		10,049		4	-	-		5,242	-
BLDG. GROUNDS RECP.	1,080		20	1	5			2,160	6	20	1		1,080	BREAK 151 FRIDGE RECP.
BLDG. GROUNDS RECP.	1,080		20	1	7	2,160			8	20	1		1,080	BREAK 151 RECP.
BLDG. GROUNDS RECP.	1,080		20	1	9		4,080		10	35	3		3,000	EWH-1
CORRIDOR 150 RECP.	1,080		20	1	11			4,080	12	-	-		3,000	-
CORRIDOR 160 RECP.	1,080		20	1	13	4,080			14	-	-		3,000	-
SPARE			20	1	15				16	20	1			SPARE
SPARE			20	1	17				18	20	1			SPARE
SPARE			20	1	19				20	20	1			SPARE
SPARE			20	1	21				22	20	1			SPARE
SPARE			20	1	23				24	20	1			SPARE
SPARE			20	1	25				26	20	1			SPARE
SPARE			20	1	27				28	20	1			SPARE
SPACE			-	-	29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
FEED THRU LUGS A

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/19/2023

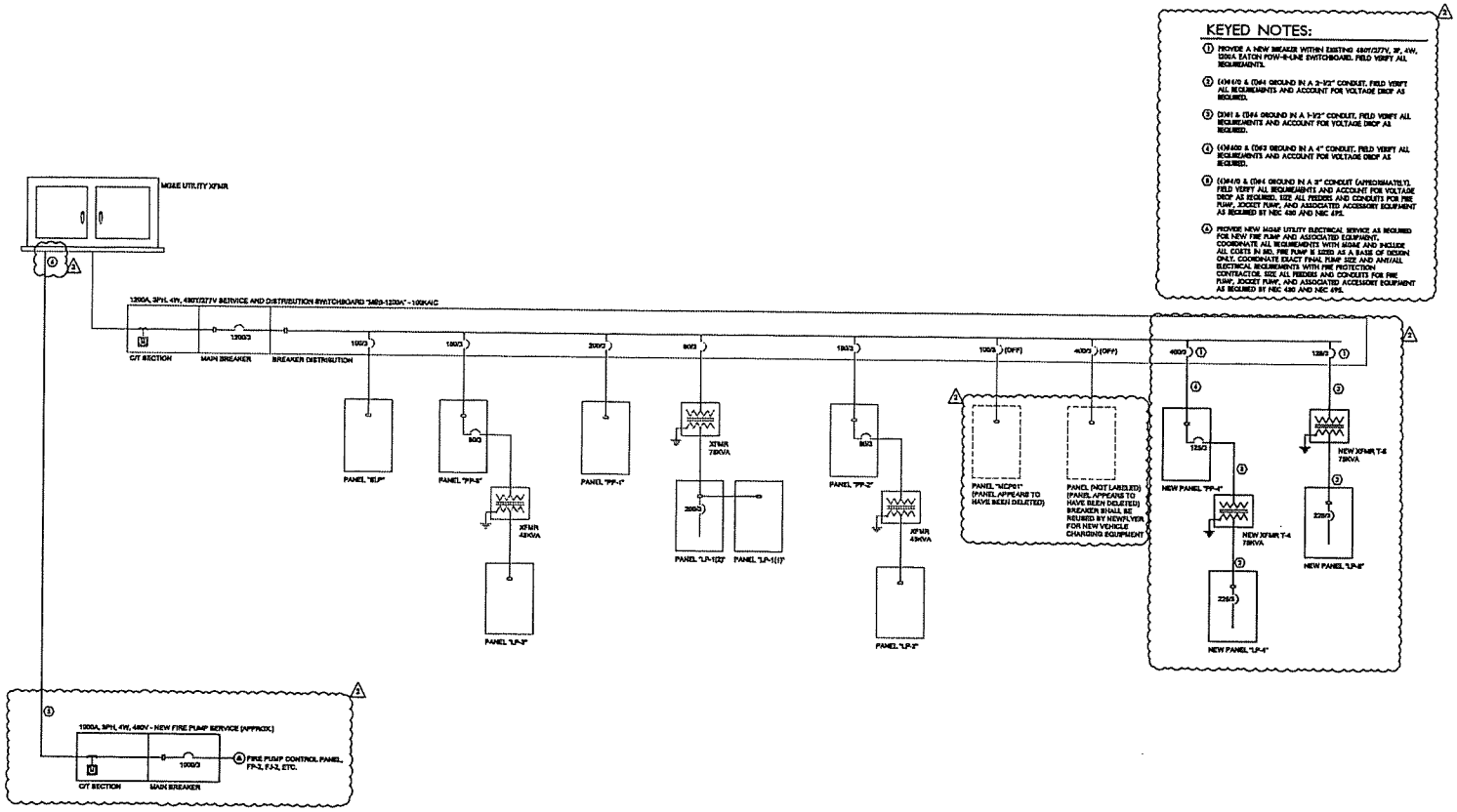
REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023

DRAWN BY EP
CHECKED BY MK

NEW PANEL SCHEDULES - 3829 MAINT. BLDG.

E300B



1 E400 3829 MAINTENANCE BUILDING - ONE LINE DIAGRAM

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023

DRAWN BY EP
CHECKED BY MK

ONE LINE DIAGRAM - 3829 MAINT. BLDG.

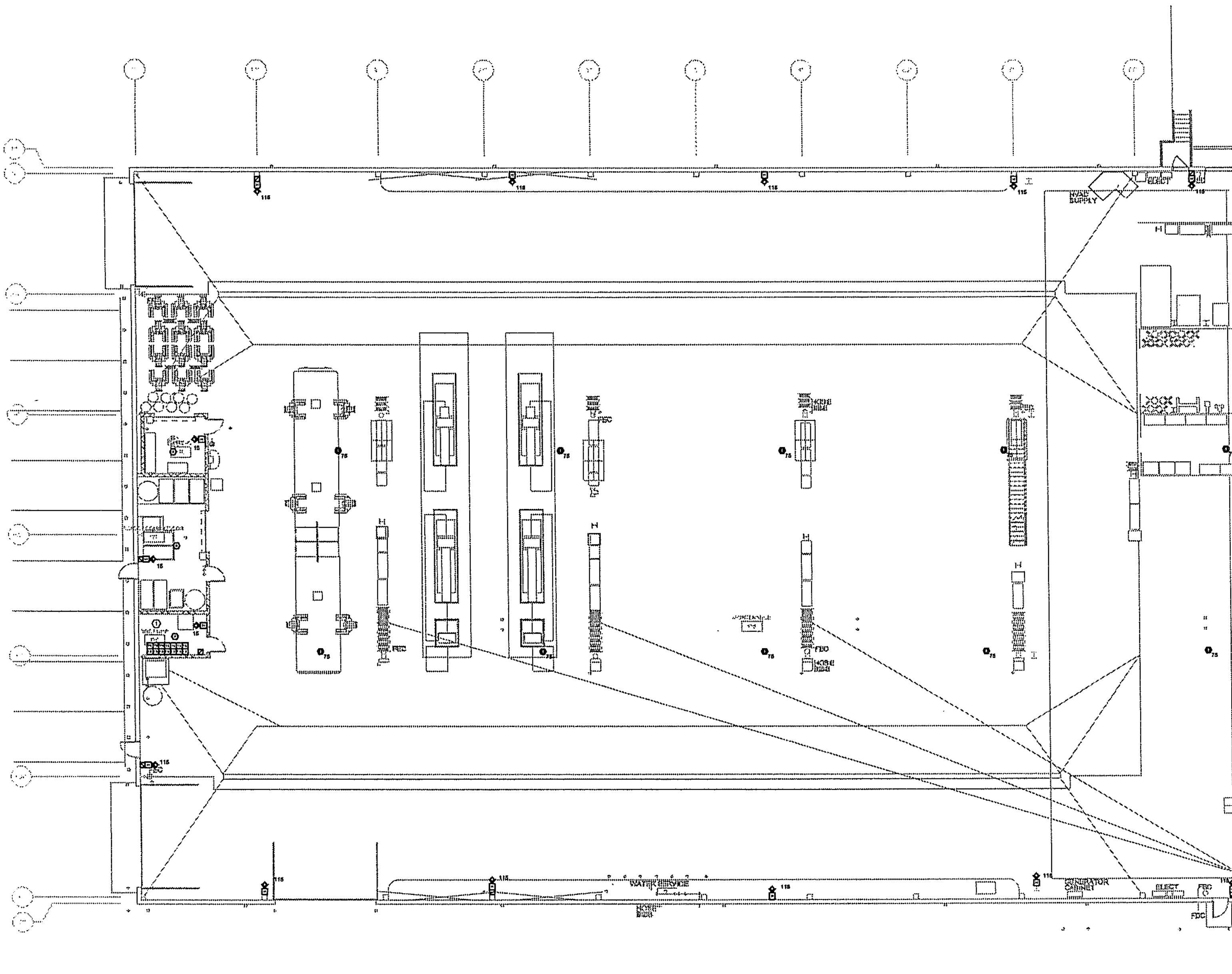
E400

FIRE ALARM GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 30 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION UNTIL NEW SYSTEM IS INSTALLED, INSPECTED, APPROVED, AND ONLINE/OPERATIONAL. REMOVE ANY/ALL EXISTING FIRE ALARM DEVICES ONCE THE NEW SYSTEM IS ONLINE/OPERATIONAL. PROVIDE FIRE WATCH, ETC. AS REQUIRED BY LOCAL AHJ DURING CONSTRUCTION.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.

FIRE ALARM KEYED NOTES:

① PROVIDE FIRE PUMP ALARM AND SIGNALS AS REQUIRED BY NFPA 20:
- PUMP OR MOTOR RUNNING
- LOSS OF PHASE
- PHASE REVERSAL
- CONTROLLER OR SYSTEM TROUBLE (GROUND-FAULT, PRESSURE-SENSING, VARIABLE SPEED TROUBLE, FAIL-TO-START.)



① FIRE ALARM NEW WORK PLAN - 3829 MAINT. BLDG. SECTION A

SCALE 1/8" = 1'-0"

Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.0

ISSUED FOR:

BID SET 9/18/2023

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2	ADDENDUM 2	10/14/2023

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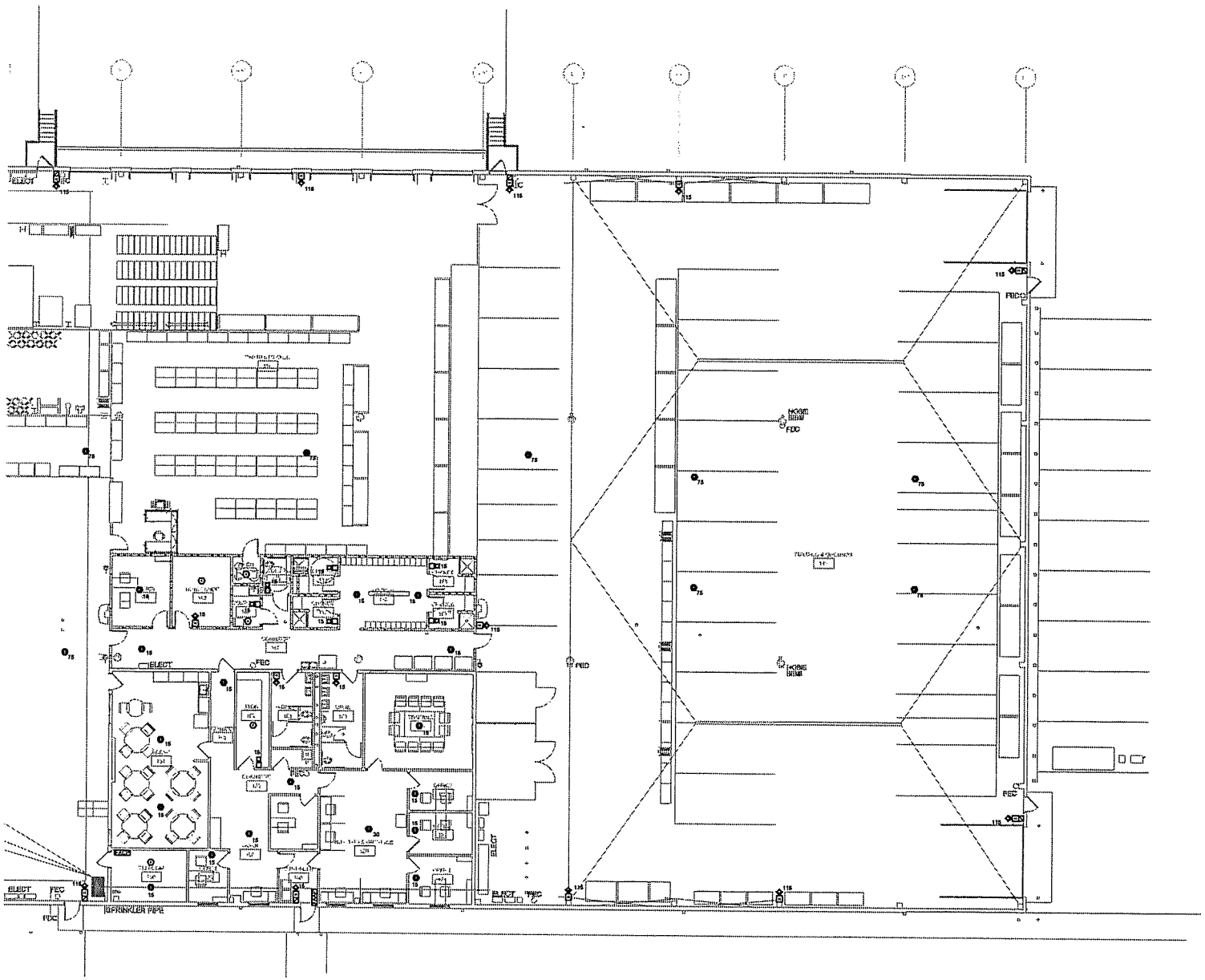
FIRE ALARM NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION A

KEYPLAN

THIS SHEET ADDED

E500A



FIRE ALARM NEW WORK - 3829 MAINT. BLDG. - SECTION B
SCALE: 1/8" = 1'-0"

FIRE ALARM GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (PER) AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS. RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS, IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 25 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION UNTIL NEW SYSTEM IS INSTALLED, INSPECTED, APPROVED, AND ONLINE/OPERATIONAL. REMOVE ANY/ALL EXISTING FIRE ALARM DEVICES ONCE THE NEW SYSTEM IS ONLINE/OPERATIONAL. PROVIDE FIRE WATCH, ETC. AS REQUIRED BY LOCAL AHJ DURING CONSTRUCTION.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.

FIRE ALARM KEYED NOTES:

1. PROVIDE FIRE PUMP ALARM AND SIGNALS AS REQUIRED BY NFPA 20:
   - PUMP OR MOTOR RUNNING
   - LOSS OF PHASE
   - PHASE REVERSAL
   - CONTROLLER OR SYSTEM TROUBLE (GROUND-FAULT, PRESSURE-SENSING, VARIABLE SPEED TROUBLE, FAIL-TO-START)

THIS SHEET ADDED

Engberg Anderson ARCHITECT
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.01

ISSUED FOR:
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NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/14/2023

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FIRE ALARM NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION B

KEYPLAN

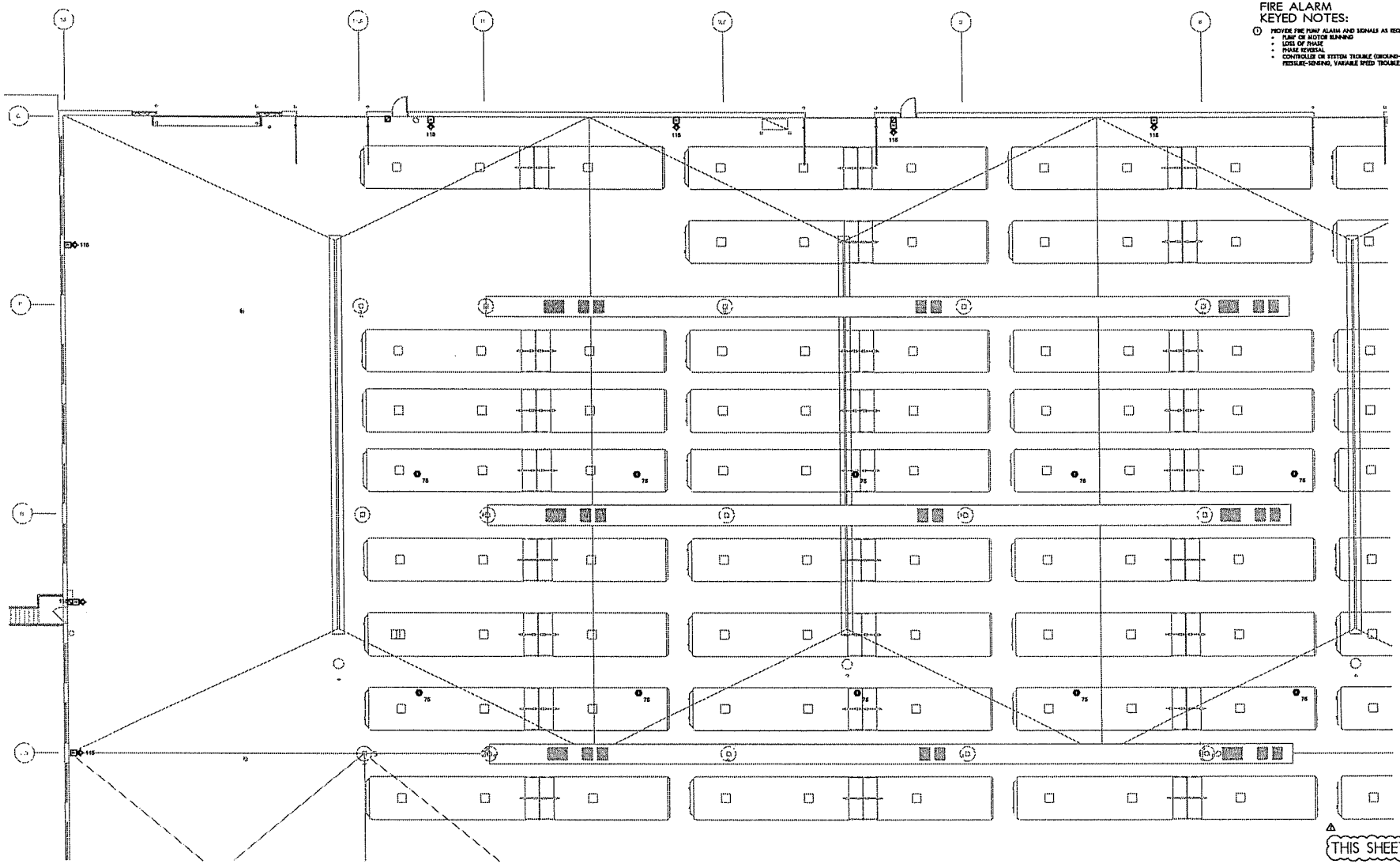
E500B

FIRE ALARM GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (2ND AND 3RD/4TH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED BACKGROUND COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 30 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION UNTIL NEW SYSTEM IS INSTALLED, INSPECTED, APPROVED, AND ONLINE/OPERATIONAL. REMOVE ANY/ALL EXISTING FIRE ALARM DEVICES ONCE THE NEW SYSTEM IS ONLINE/OPERATIONAL. PROVIDE FIRE WATCH, ETC. AS REQUIRED BY LOCAL AND DURING CONSTRUCTION.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.

FIRE ALARM KEYED NOTES:

1. PROVIDE FIRE PUMP ALARM AND SIGNALS AS REQUIRED BY NFPA 20:
   - FLOW OR MOTOR RUNNING
   - LOSS OF PHASE
   - PHASE REVERSAL
   - CONTROLLER OR SYSTEM TROUBLE (GROUND-FAULT, PRESSURE-SENSING, VARIABLE SPEED TROUBLE, FAIL-TO-START.)



1 FIRE ALARM NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION A
SCALE: 1/8" = 1'-0"

THIS SHEET ADDED

Engberg Anderson ARCHITECT
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.01

ISSUED FOR:
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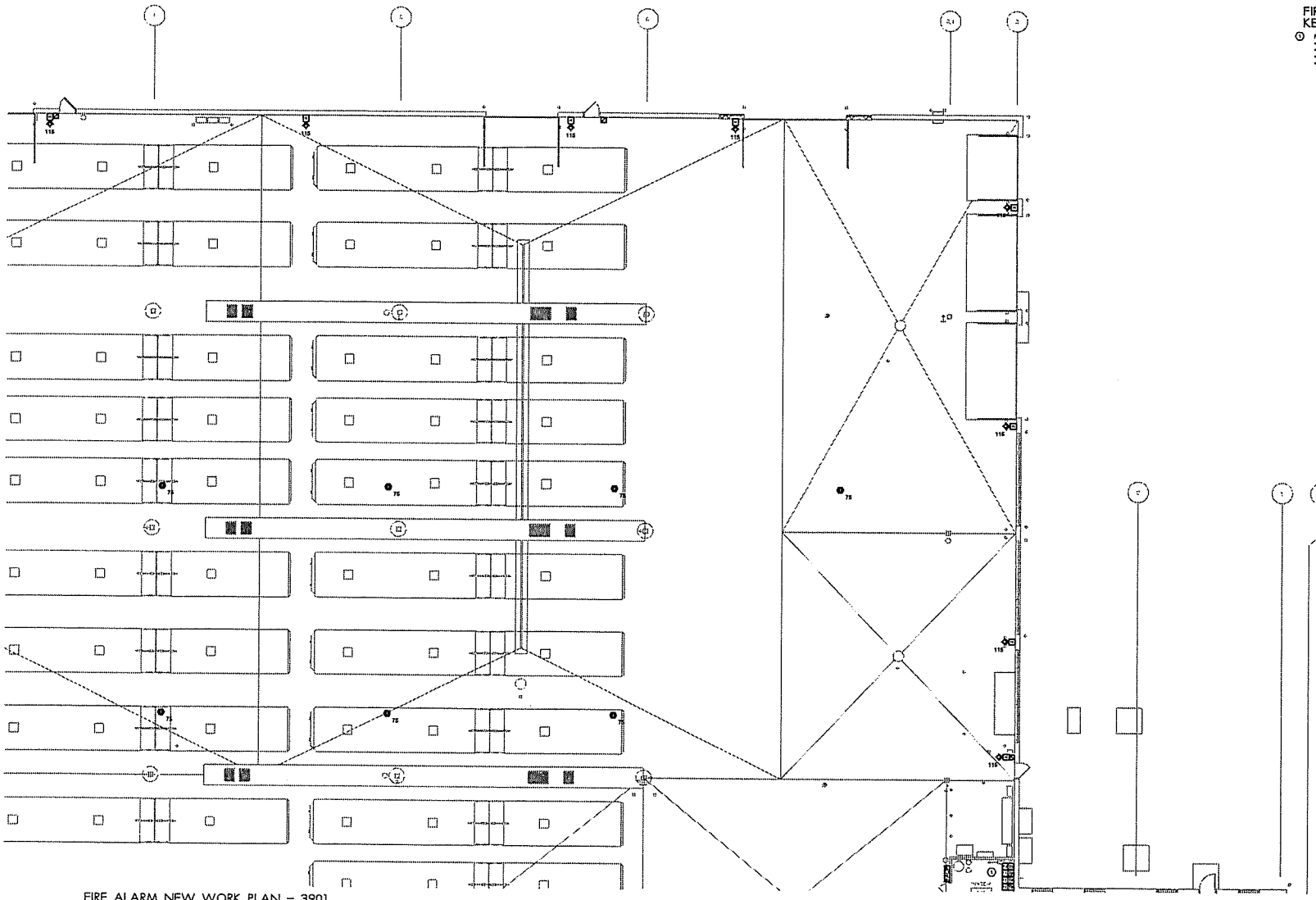
FIRE ALARM NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION A

KEYPLAN

E501A



FIRE ALARM NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION B

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

N

FIRE ALARM GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (PER3 AND 4WAY/4 NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 30 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
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   - CONTROLLER OR SYSTEM TROUBLE (GROUND-FAULT, PRESSURE-SENSING, VARIABLE SPEED TROUBLE, FAIL-TO-START.)

Engberg Anderson ARCHITECT

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #301
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	9/15/2023

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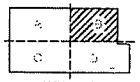
FIRE ALARM NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B



KEYPLAN

2 THIS SHEET ADDED

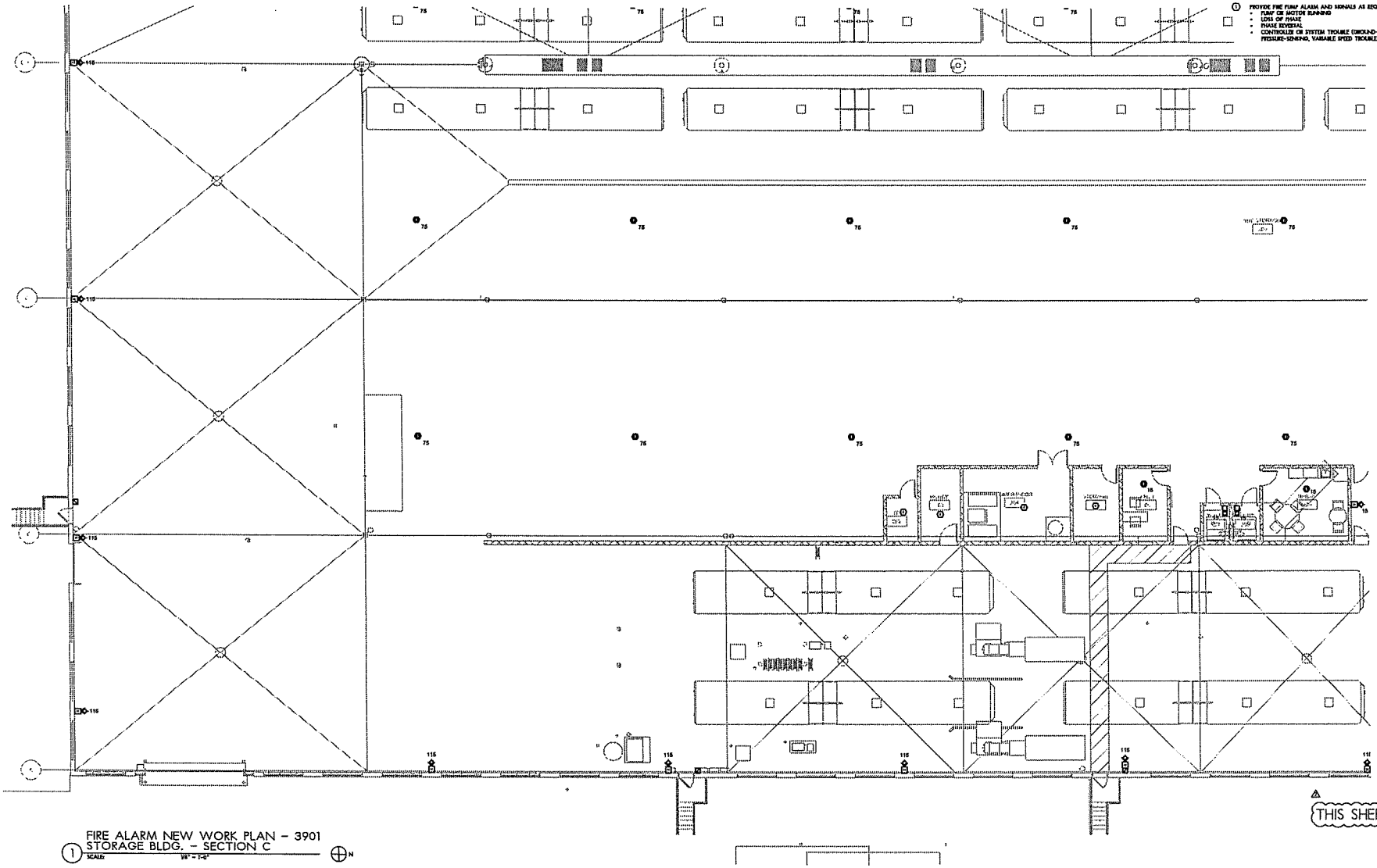
E501B

FIRE ALARM GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS, IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FIRE AR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION UNTIL NEW SYSTEM IS INSTALLED, INSPECTED, APPROVED, AND ONLINE/OPERATIONAL. REMOVE AND FAIL EXISTING FIRE ALARM DEVICES ONCE THE NEW SYSTEM IS ONLINE/OPERATIONAL. PROVIDE FIRE WATCH, ETC. AS REQUIRED BY LOCAL AHJ DURING CONSTRUCTION.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.

FIRE ALARM KEYED NOTES:

1. PROVIDE FIRE PUMP ALARM AND SIGNALS AS REQUIRED BY NFPA 20:
   - PUMP OR MOTOR RUNNING
   - LOSS OF PHASE
   - PHASE REVERSAL
   - CONTROLLER OR SYSTEM TROUBLE (GROUND FAULT, PRESSURE SENSING, VARIABLE SPEED TROUBLE, FAIL-TO-START.)



FIRE ALARM NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION C
SCALE: 1/8" = 1'-0"

THIS SHEET ADDED

Engberg Anderson ARCHITECT
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3629-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213119.01

ISSUED FOR:
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FIRE ALARM NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION C

KEYPLAN

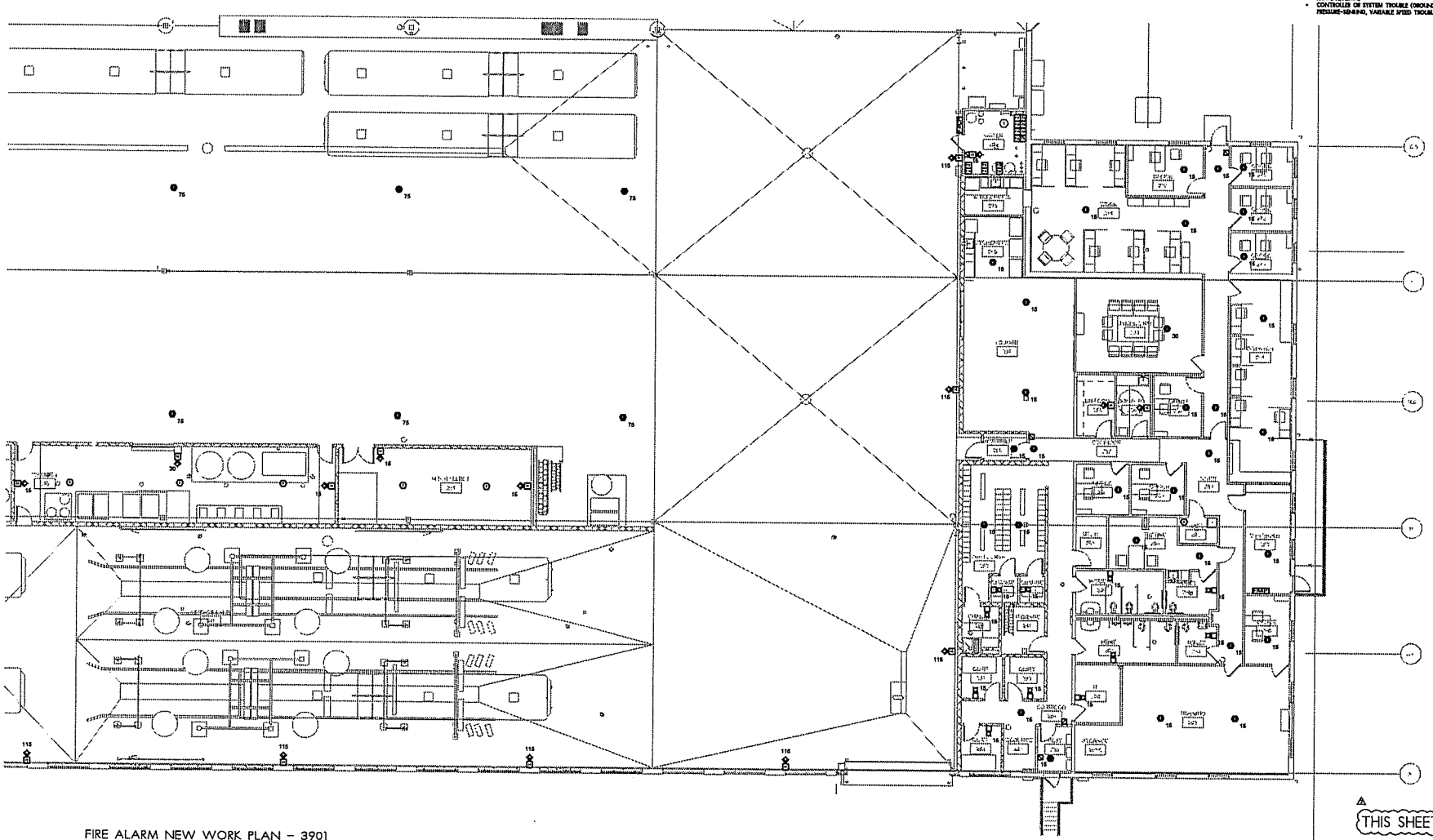
E501C

FIRE ALARM GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (TYPE) AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION UNTIL NEW SYSTEM IS INSTALLED, INSPECTED, APPROVED, AND ON-LINE/OPERATIONAL. REMOVE ANY/ALL EXISTING FIRE ALARM DEVICES ONCE THE NEW SYSTEM IS ONLINE/OPERATIONAL. PROVIDE FIRE WATCH, ETC. AS REQUIRED BY LOCAL AHJ DURING CONSTRUCTION.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.

FIRE ALARM KEYED NOTES:

1. PROVIDE FIRE PUMP ALARM AND SIGNALS AS REQUIRED BY NFPA 20:
   - PUMP OR MOTOR RUNNING
   - LOSS OF PHASE
   - PHASE REVERSAL
   - CONTROLLER OR SYSTEM TROUBLE (GROUND-FAULT, PRESSURE-SENSING, VARIABLE SPEED TROUBLE, FAIL-TO-START)



1 FIRE ALARM NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION D
SCALE 1/8" = 1'-0"

THIS SHEET ADDED

Engberg Anderson ARCHITECT
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.01

ISSUED FOR:

BID SET	9/15/2023

REVISION FOR:

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DRAWN BY Author
CHECKED BY Checker

FIRE ALARM NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D

KEYPLAN

E501D

LIGHT FIXTURE SCHEDULE

TAG	DESCRIPTION	MOUNTING	VOLTAGE	INPUT WATTS	LAMP TYPE	MANUFACTURER	CATALOG NUMBER	NOTES
A	HIGH BAY	SUSPENDED	277	190	LED	CURRENT (GE) STAYLITE	ABC1439481D0041MCW	6
A1	HIGH BAY	SUSPENDED	277	190	LED	CURRENT (GE) BRANDS	ABC1439481D0041MCWEM	1,6
B1	2X2 FLAT PANEL, THIN DIMMABLE, EMERGENCY	RECESSED	277	34	LED	CURRENT (GE) BRANDS	LFL2X2G0SMAEMVOLTWHTE + ULSAVF	2,6
B2	2X2 FLAT PANEL	CHEESLE-4H	277	34	LED	CURRENT (GE) BRANDS	LFL2X2G0SMAEMVOLTWHTE	6
C	WET RATED HIGH BAY	WALL	277	398	LED	CURRENT (GE) BRANDS	PRC2G2R60841LDVSTAOB	6
C1	WET RATED HIGH BAY	CEILING	277	295	LED	CURRENT (GE) BRANDS	PRC2G2D60841LDVSTAOB	6
D	4' LINEAR STRIP LIGHT	WALL	277	28	LED	CURRENT (GE) BRANDS	KLWD4TD4T4810SDOOSTKDW	6
F	4' LINEAR STRIP LIGHT	SURFACE/ SUSPENDED	277	28	LED	CURRENT (GE) BRANDS	KLWD4TD4T4810SDOOSTHDW	2,6
F1	8' LINEAR STRIP LIGHT	SURFACE/ SUSPENDED	277	52	LED	CURRENT (GE) BRANDS	KLWD8TD8T4810SDOOSTHDW	2,6
G	4" RECESSED DOWNLIGHT - WET RATED	RECESSED	277	9	LED	CURRENT (GE) BRANDS	LDGD/R4 8T 8 CWRD - FRAME-IN	6
R1	EXTERIOR	WALL MOUNT	277	119	LED	CURRENT (GE) BRANDS	EWL4G03SAAF742AVSWBZ	6
R2	EXTERIOR WALL PACK	WALL MOUNT	277	17	LED	CURRENT (GE) BRANDS	EWL1G03SAAF742AVSWBZ	6
R3	EXTERIOR WALL PACK	WALL MOUNT	277	119	LED	CURRENT (GE) BRANDS	EWM0T1E4AF742AVSWHDZ	6
EM	BATTERY OPERATED EMERGENCY LIGHT	SUSPENDED	277	4	LED	ELP	EXIT3-E-LED-RD	4,6
EM1	OUTDOOR EMERGENCY LIGHT	WALL	277	11.6	LED	ELP	DEW1-LED-RR-ACEM-PC	2,6
EM2	WET RATED EMERGENCY LIGHT	WALL	277	1.8	LED	ELP	HU2-LED	6
EMEM	EXIT SIGN/DOPPLER LIGHT WITH BATTERY	SUSPENDED	277	4	LED	ELP	RCSEITWHG-RD	4,6

NOTES:
1. WITH EMERGENCY BATTERY PACK.
2. WITH EMERGENCY BATTERY.
3. FIT CABLE, USE CORD AT TWIST LOCKING FOR SUSPENDED MOUNT.
4. VERIFY MOUNTING METHOD.
5. VERIFY OPERATION.
6. EQUIVALENT LIGHT FIXTURES AND ASSOCIATED CONTROL SYSTEMS WILL BE CONSIDERED. ALL PROPOSED SUBSTITUTIONS SHALL BE REVIEWED AND APPROVED IN WRITING BY OWNER/ARCHITECT/ENGINEER AT LEAST 5 DAYS PRIOR TO B.O. NO SUBSTITUTIONS WILL BE CONSIDERED AFTER THIS DATE HAS PASSED.

MOTOR AND EQUIPMENT SCHEDULE

EQUIP. TAG	EQUIPMENT	LOAD					SOURCE OF POWER		PROTECTION	STARTER		DISCONNECT		NOTES
		VOLTS	PHASE	H.P.	AMP	KVA	PANEL	CIRCUIT, NO.	(AMPS)	SIZE	TYPE	SIZE	TYPE	
CP-1	CIRCULATION PUMP	120	1	-	-	55W	LP-1	23	15A-1P	-	-	-	-	
CP-2	CIRCULATION PUMP	120	1	-	-	99W	LP-1	15	15A-1P	-	-	-	-	
EF-20	EXHAUST FAN	115	1	3/19 1Hi	-	-	LP-1	28	20A-1P	-	-	BY MC	BY MC	
EF-21	EXHAUST FAN	115	1	1/4	-	-	LP-1	33	20A-1P	-	-	BY MC	BY MC	
EF-22	EXHAUST FAN	480	3	7.5	-	-	PP-1	19,21,23	15A-3P	1	COMBO	30	3R	
ERV-1	ENERGY RECOVERY UNIT	480	3	-	10.5	-	PP-1	22,24,26	20A-3P	1	COMBO	30	3R	
ERV-2	ENERGY RECOVERY UNIT	208	1	-	-	4KW	LP-2	35,37	35A-2P	-	-	-	-	
EWH-1	ELECTRIC WATER HEATER	208	3	-	-	6KW	LP-1	10,12,14	35A-3P	-	-	-	-	
EWH-2	ELECTRIC WATER HEATER	208	2	-	-	6KW	LP-2	9,11,13	20A-2P	-	-	-	-	
FC-1	FAN COIL UNIT	230	1	-	80	-	LP-1	3,5	80A-2P	-	-	FACTORY	INSTALLED	
FP-2	FIRE PUMP	480	3	125	-	-	ASCLE	-		-	-	-	-	
FSD	FIRE/SMOKE DAMPER	120	1				LP-1	4						1
HP-1	HEAT PUMP	230	1	-	30	-	LP-1	2,4	45A-2P	-	-	-	-	
IP-1	JOCKEY PUMP	480	3	10	-	-	PP-1	13,15,17	20A-3P					
AC-3-1	AIR COMPRESSOR	480	3	80	-	-	PP-1	7,9,11	110A-3P	-	-	-	-	
AC-3-2	AIR COMPRESSOR			80			PP-1	2,4,6	110A-3P	-	-	-	-	
RAD-2-1	AIR DRYER	480	3	-	35	-	PP-1	8	20A-1P	-	-	-	-	
RAD-2-2	AIR DRYER	480	3				PP-1	6	20A-1P	-	-	-	-	
ES	EV BATTERY TENDER	480	3	-		3A	SEE PLAN	SEE PLAN	20A-3P	-	-	-	-	
TC	LIFT CONTROL	208	3	(3) @5	-	-	SEE PLAN	SEE PLAN	80A-3P	-	-	-	-	
24	50' HOSE REEL	120	1	-	-	-	SEE PLAN	SEE PLAN	20A-1P	-	-	-	-	
31	TIRE CAROUSEL	208	3	-	35	-	LP-3	13,15,17	20A-3P	-	-	-	-	
32	TIRE CHANGER	240	3	-	14.5	-	LP-3	20,22,24	30A-3P	-	-	-	-	
33	ENCLOSED TIRE INFLATION CAGE	120	1	-	15	-	LP-3	21	20A-1P	-	-	-	-	
35	FIDDLER STANDING DRILL PRESS	120	1	-	15	-	LP-3	16	20A-1P	-	-	-	-	
36	SHOP PRESS	480	3	3		-	PP-3	22,24,26	20A-2P	-	-	-	-	
38	RECEIVING COUNTER	120	1	-		-	LP-3	23	20A-1P	-	-	-	-	
40	TOOL CONSUMABLE VENDING	120	1	-	15	-	SEE PLAN	SEE PLAN	20A-1P	-	-	-	-	
42	BATTERY BENCH	120	1	-	15	-	LP-4	1	20A-1P	-	-	-	-	
43	FUEL MANAGEMENT PEDESTAL	120	1	-		-	LP-1	40	20A-1P	-	-	-	-	
45	OIL FILTER CRUSHER	120	1	-	25	-	LP-4	6	20A-1P	-	-	-	-	
47	MULTI FUNCTION PRINTER	120	1	-	5	-	LP-3	76	20A-1P	-	-	-	-	
75	FUEL DISPENSER PUMP	230	3	5	-	-	LP-1	40	20A-1P	-	-	-	-	
76	1000 GALLON ABOVE GROUND FUEL TANK	120	1	-	-	-	LP-1	40	20A-1P	-	-	-	-	
77	EMERGENCY FUEL SHUT OFF	120	1	-	-	-	LP-1	40	20A-1P	-	-	-	-	

NOTES:
1. CONNECT TO NEW FIRE ALARM SYSTEM. PROVIDE CONTROL MODULES, ETC. AS REQUIRED.

FEEDER SCHEDULE

FEEDER AMPACITY	CONDUCTOR SIZE (cu)		CONDUIT SIZE	
	ø & N	GRD	(3) & (3G)	(4) & (4G)
80	#4	#10	1"	1"
75	#4	#8	1-1/4"	1-1/4"
80	#3	#8	1-1/4"	1-1/4"
100	#1	#6	1-1/2"	2"
70	#2	#4	1-1/4"	1-1/2"
115	#1	#6	1-1/2"	2"
130	1/0	#6	1-1/2".	2"
175	#2/0	#6	2"	2"
200	#3/0	#6	2"	2-1/2"
225	#4/0	#4	2"	2-1/2"
230	#250	#4	2-1/2"	3"
200	#350	#4	2"	3"
230	#300	#3	2"	3-1/2"
260	#300	#3	2"	3-1/2"
400	(2) # 3/0	(2) # 8	(2) 2"	(2) 2-1/2"
450	(2) # 4/0	(2) # 2	(2) 2"	(2) 2-1/2"
500	(2) # 250	(2) # 2	(2) 2-1/2"	(2) 3"
600	(2) # 350	(1) # 1	(2) 3"	(2) 3"
700	(2) # 500	(2) # 1/0	(2) 3"	(2) 3-1/2"
800	(2) # 600	(2) # 1/0	(2) 3-1/2"	(2) 4"
1000	(3) # 400	(2) # 2/0	(3) 3"	(3) 3-1/2"
1200	(3) # 500	(3) # 3/0	(3) 3-1/2"	(3) 4"
1600	(3) # 600	(4) # 4/0	(3) 3-1/2"	(4) 4"
2000	(3) # 600	(3) # 250	(3) 3-1/2"	(3) 4"

GENERAL NOTES:
1. THE ABOVE FEEDER SCHEDULE IS A SCHEDULE OF TYPICAL FEEDERS AND SOME SIZES MAY NOT BE UTILIZED.
2. ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 310-16 OF THE NEC FOR COPPER CU-CONDUCTOR TYPE THWN/THWN-2.
3. FEEDER SIZES SHOWN ON THE RISER DIAGRAM INDICATE FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR TYE DERATION FACTORS REQUIRED BY CODE AND/OR ARE OVERSIZED FOR VOLTAGE DROP.

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HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER: 2124119.00

ISSUED FOR:
BID SET 8/15/2022

REVISION FOR:

NO.	DESCRIPTION	DATE
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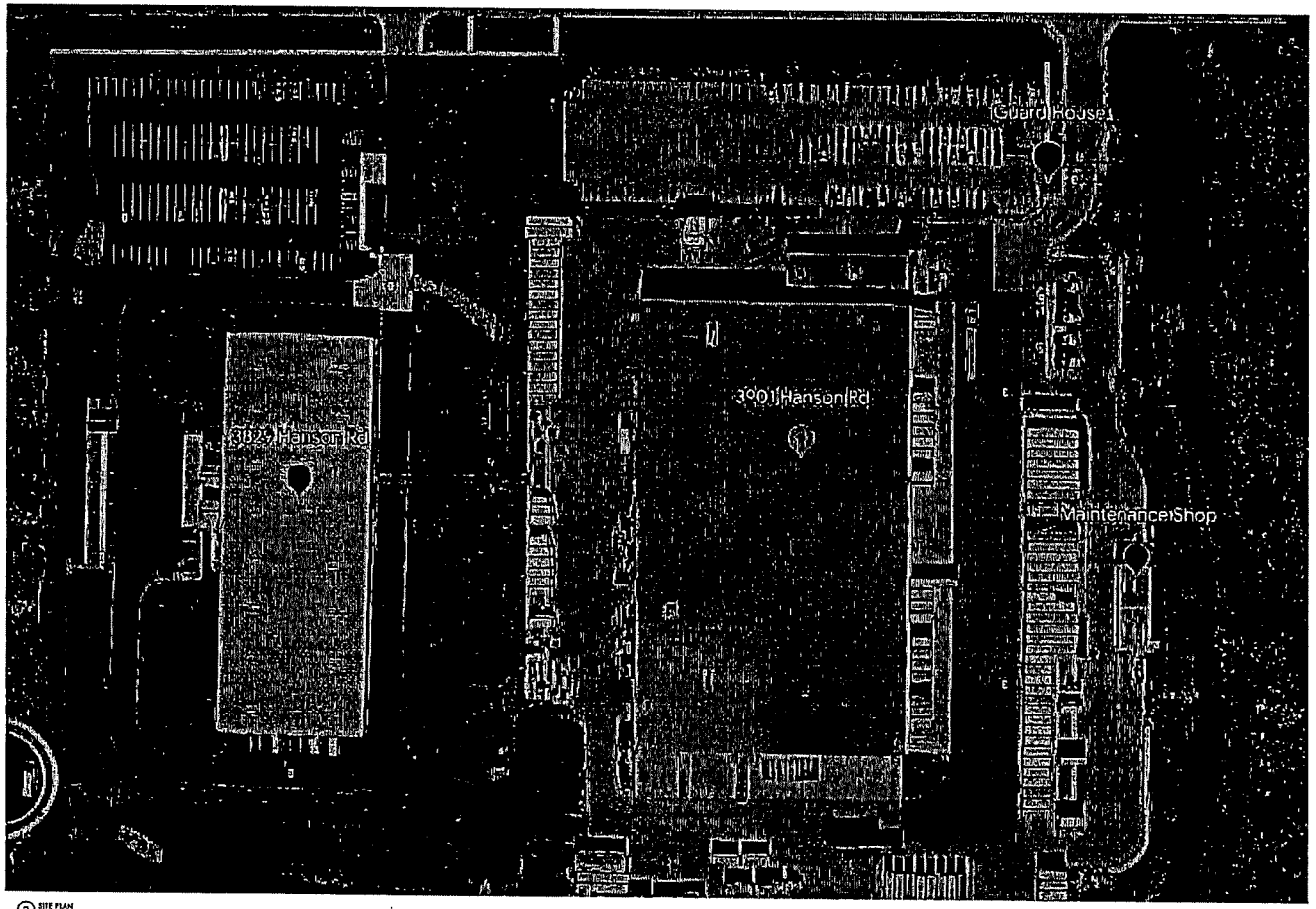
CHECKED BY: MK

MOTOR AND EQUIPMENT SCHEDULES - 3829 MAINT. BLDG.

E600



3 SITE PLAN
SCALE 1/8" = 1'-0"

TECHNOLOGY ABBREVIATIONS

Key Name	Comments
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AV	AUDIO VISUAL
BET	BUILDING ENTRANCE TERMINAL
BFC	BELOW FINISHED CEILING
C	CONDUIT
CCTV	CLOSED CIRCUIT TELEVISION
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
DVR	DIGITAL VIDEO RECORDER
EC	ELECTRICAL CONTRACTOR
ER	TELECOMMUNICATIONS ENTRANCE ROOM
FO	FIBER OPTIC
GC	GENERAL CONTRACTOR
HC	HVAC CONTRACTOR
HH	HAND HOLE
LEC	LOCAL EXCHANGE CARRIER
MDF	MAIN DISTRIBUTION FRAME
MH	MANHOLE
MM	MULTIMODE FIBER OPTIC CABLE
MON	MONITOR
MTR	MAIN TELECOMMUNICATIONS ROOM
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OSP	OUTSIDE PLANT
PP	PATCH PANEL
PR	PAIR
PS	PRINTER STATION
RR	RELAY RACK
RU	RACK UNIT
SIO	STANDARD INFORMATION OUTLET
SM	SINGLEMODE FIBER OPTIC CABLE
STP	SHIELDED TWISTED PAIR
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TGB	TELECOMMUNICATIONS GROUND BUS
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS
TR	TELECOMMUNICATIONS ROOM
TV	TELEVISION
UTP	UNSHIELDED TWISTED PAIR
WAP	WIRELESS ACCESS POINT

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SATELLITE BUS FACILITY REMODEL

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METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER: 213419.00

ISSUED FOR:
BID SET 09/19/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10-13-23

REVISION

LEGEND			
●	WIRELESS ACCESS POINT - 2 CAT6A DATA CABLES	A	AUDIBLE ALARM -
△	DATA JACK - 2 CAT6 DATA CABLES	E	ELECTRIC STRIKE -
S	SPEAKER	ACS	ACCESS CONTROL SYSTEM -
PH	PAGING HORN - ETR	GO	GATE OPERATOR -
W ▼	WALL PHONE - 1 CAT6 DATA CABLE @ 48" A.F.F.	ACP	ACCESS CONTROL PANEL -
TV	TV - 2 CAT6 DATA CABLE - VERIFY EXACT MTG. HT.	SEC	SECURITY BYSTEM DISPLAY -
R	CARDREADER -	TGB	COMMUNICATIONS GROUND BUS BAR -
K	KEYPAD -		2-POST TELECOMMUNICATIONS EQUIPMENT RACK
M	MOTION DETECTOR		SURFACE RACEWAY - REFER TO KEYED NOTES & SPECIFICATIONS FOR TYPES
DS	DOOR POSITION SWITCH		

GENERAL NOTES

A. WORK PERFORMED INCLUDES ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO INSTALL COMPLETE TECHNOLOGY SYSTEMS AS INDICATED ON THESE DRAWINGS AND AS SPECIFIED.

B. ALL TELECOMMUNICATIONS OUTLETS SHALL BE MOUNTED AT HEIGHTS ABOVE FINISH FLOOR AS SHOWN IN THE DEVICE MOUNTING HEIGHT DETAIL U.N.O..

C. SEE ELECTRICAL SPECIFICATIONS FOR LOCATIONS WHERE GRS CONDUIT SHALL BE USED, OR WHERE IMC, EMT, OR PVC CONDUIT MAY BE USED.

D. BOXES LOCATED ON OPPOSITE SIDES OF NON-RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE-RATED WALLS SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU-TH-WALL" BOXES SHALL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.

E. TECHNOLOGY SYSTEMS EQUIPMENT/DEVICES SHALL BE MOUNTED SO AS TO ALLOW ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF TECHNOLOGY SYSTEMS EQUIPMENT/DEVICES ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR SHALL BE COORDINATED WITH AND APPROVED BY THAT CONTRACTOR IN ADVANCE OF INSTALLATION.

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENING SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS. PENETRATIONS THROUGH FLOORS AND FIRE-RATED WALLS SHALL BE FIRESTOPPED IN A MANNER THAT MAINTAINS THE RATING OF THE FLOOR OR WALL PENTRATED.

G. ALL TELEPHONE AND DATA JACKS SHALL BE TERMINATED WITH ALL 4 PAIRS TO ALLOW FOR INTERCHANGABILITY.

H. ALL CONDUIT STUBS SHALL HAVE PLASTICE NYLON BUSHINGS INSTALLED PRIOR TO THE INSTALLATION OF CABLES.

KEY NOTES

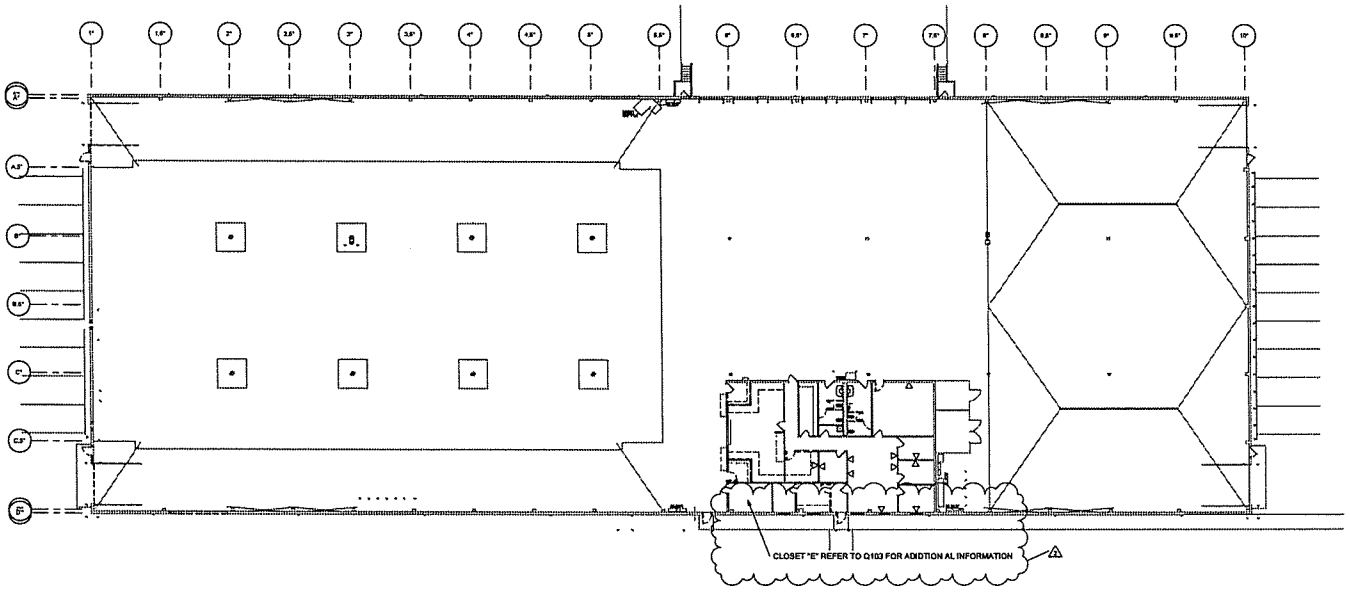
1. GATE CONTROL 3829.
2. ~~GATE CONTROL 3901.~~
3. POLE MOUNTED CAMERA, POLE LOCATIONS AND PROPOSED PATHWAYS IDENTIFIED ON SHEET G601.

Sheet List	
Sheet Number	Sheet Name
G001	NOTES, SYMBOLS, AND ABREVIATIONS
G100	OVERALL BUILDING 3829 PLAN
G101	OFFICE AREA BUILDING 3829 PLAN
G102	AV BUILDING 3829 PLAN
G103	ENLARGED IT ROOM BUILDING 3829 PLAN
G200	OVERALL BUILDING 3901 PLAN
G201	OFFICE AREA BUILDING 3901 PLAN
G202	AV BUILDING 3901 PLAN
G203	AV - BUILDING 3901 PLAN
G204	ENLARGED IT ROOM BUILDING 3901 PLAN
G501	DETAILS
G502	DETAILS
G691	SCHEDULES - CARD ACCESS AND CAMERA
G701	ONE LINE DRAWINGS
GD100	BUILDING 3829 DEMOLITION PLAN
GD200	BUILDING 3901 DEMOLITION PLAN

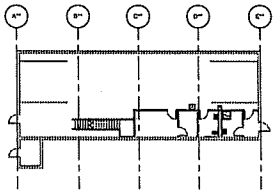
DRAWN BY: Author
CHECKED BY: Checker

NOTES, SYMBOLS, AND ABREVIATIONS

Q001



1 DATA- DEMO-FLOOR PLAN-3829
SCALE: 1/16" = 1'-0"



3 DATA- DEMO-FLOOR PLAN-MAINTENANCE
SCALE: 1/16" = 1'-0"

2 DATA- DEMO-FLOOR PLAN-GUARDHOUSE
SCALE: 1/16" = 1'-0"

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SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #301
MADISON, WI 53703

PROJECT NUMBER 213419.00

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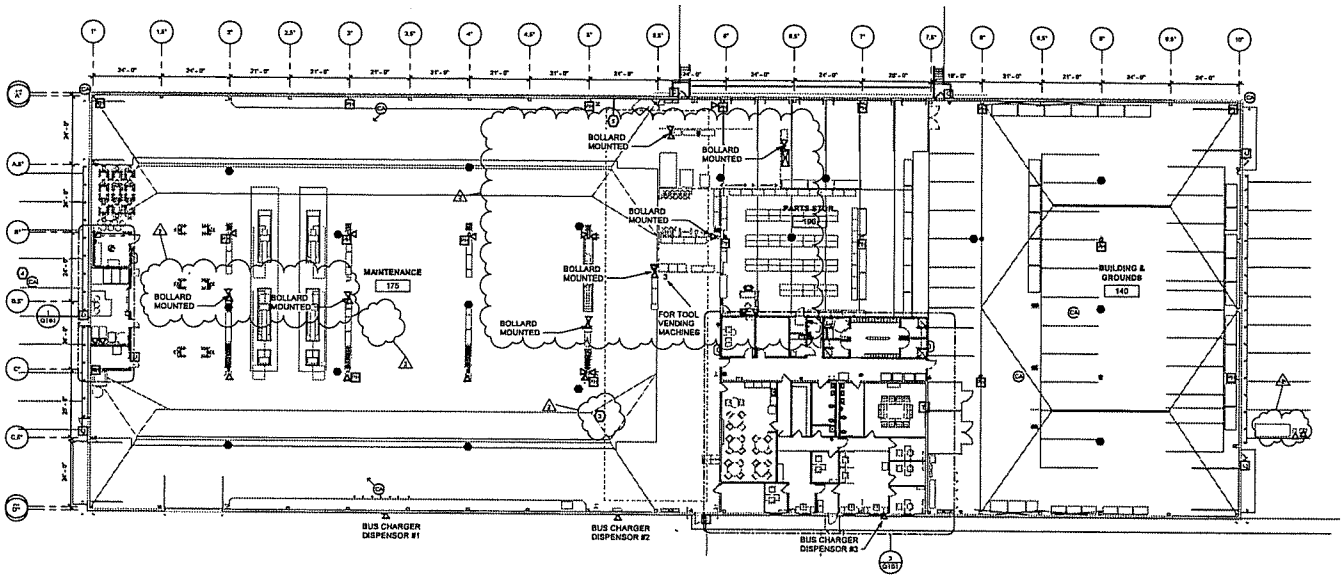
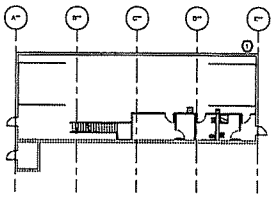
BUILDING 3829
DEMOLITION PLAN

QD100



1 DATA- NEW WORK-FLOOR PLAN 3829
SCALE 1/16" = 1'-0"



3 DATA- NEW WORK-FLOOR PLAN-MAINTENANCE
SCALE 1/16" = 1'-0"

2 DATA- NEW WORK-FLOOR PLAN-GUARDHOUSE
SCALE 1/16" = 1'-0"

KEY NOTES

1. LOCATION OF FIBER CONDUIT ENTRANCE.
2. LOCATION OF CONDUIT ENTRANCE.
3. ADD 9 DATA FOR CRANE LOCATIONS. COORDINATE FINAL PLACEMENT WITH EQUIPMENT DRAWINGS.
4. COORDINATE CAMERA LOCATION PRIOR TO CABLE INSTALLATION.
5. INSTALL NEMA RATED CABINET AT 4' A.F.F., SEE DETAIL 2 ON SHEET Q701.

NORTH

LEGEND			
●	WIRELESS ACCESS POINT - 2 CAT6A DATA CABLES	A	AUDIBLE ALARM -
△	DATA JACK - 2 CAT6 DATA CABLES	E	ELECTRIC STRIKE -
S	SPEAKER	ACS	ACCESS CONTROL SYSTEM -
PH	PAGING HORN - ETR	GO	GATE OPERATOR -
▼ W	WALL PHONE - 1 CAT6 DATA CABLE @ 48" A.F.F.	ACP	ACCESS CONTROL PANEL -
TV	TV - 2 CAT6 DATA CABLE - VERIFY EXACT MTG. HT.	SPD	SECURITY SYSTEM DISPLAY -
C	CARDREADER -	CGB	COMMUNICATIONS GROUND BUS BAR -
K	KEYPAD -.		2-POST TELECOMMUNICATIONS EQUIPMENT RACK
M	MOTION DETECTOR		SURFACE RACEWAY - REFER TO KEYED NOTES & SPECIFICATIONS FOR TYPES
DS	DOOR POSITION SWITCH		

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SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
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1245 E WASHINGTON AVE #201
MADISON, WI 53703

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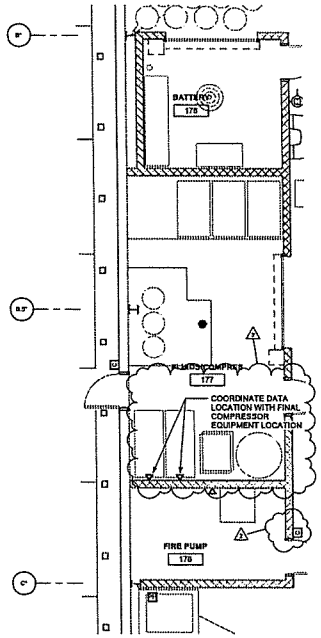
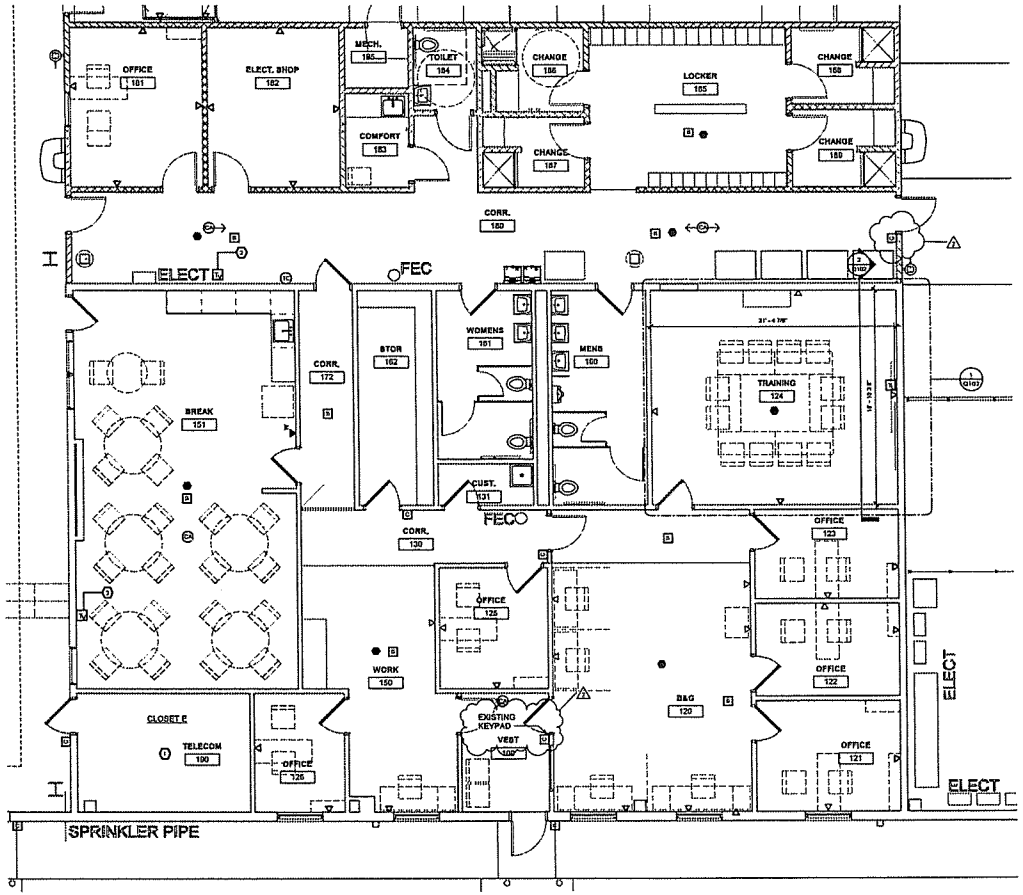
OVERALL BUILDING 3829 PLAN

REVISION

Q100



1 DATA- NEW WORK-FLOOR PLAN 3829 - Callout 2
SCALE 1/4" = 1'-0"



2 DATA- NEW WORK-FLOOR PLAN 3829 - Callout 1
SCALE 1/4" = 1'-0"

KEY NOTES

1. SEE SHEET Q103 DRAWING 1 FOR ROOM LAYOUT.
2. CONTRACTOR TO MOUNT OWNER PROVIDED BRIGHT UNIT.

LEGEND			
●	WIRELESS ACCESS POINT - 2 CAT6A DATA CABLES	A	AUDIBLE ALARM -
△	DATA JACK - 2 CAT6 DATA CABLES	E	ELECTRIC STRIKE -
S	SPEAKER	ACS	ACCESS CONTROL SYSTEM -
PH	PAGING HORN - ETR	GO	GATE OPERATOR -
W ▼	WALL PHONE - 1 CAT6 DATA CABLE @ 48" A.F.F.	ACP	ACCESS CONTROL PANEL -
TV	TV - 2 CAT6 DATA CABLE - VERIFY EXACT MTG. HT.	SSD	SECURITY SYSTEM DISPLAY -
C	CARDREADER -	TGB	COMMUNICATIONS GROUND BUS BAR -
K	KEYPAD -		2-POST TELECOMMUNICATIONS EQUIPMENT RACK
M	MOTION DETECTOR		SURFACE RACEWAY - REFER TO KEYED NOTES & SPECIFICATIONS FOR TYPES
DS	DOOR POSITION SWITCH		

HOLTN

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SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419 00

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BID SET 09/19/2025

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NO. DESCRIPTION DATE
2 ADDENDUM 2 10-13-25

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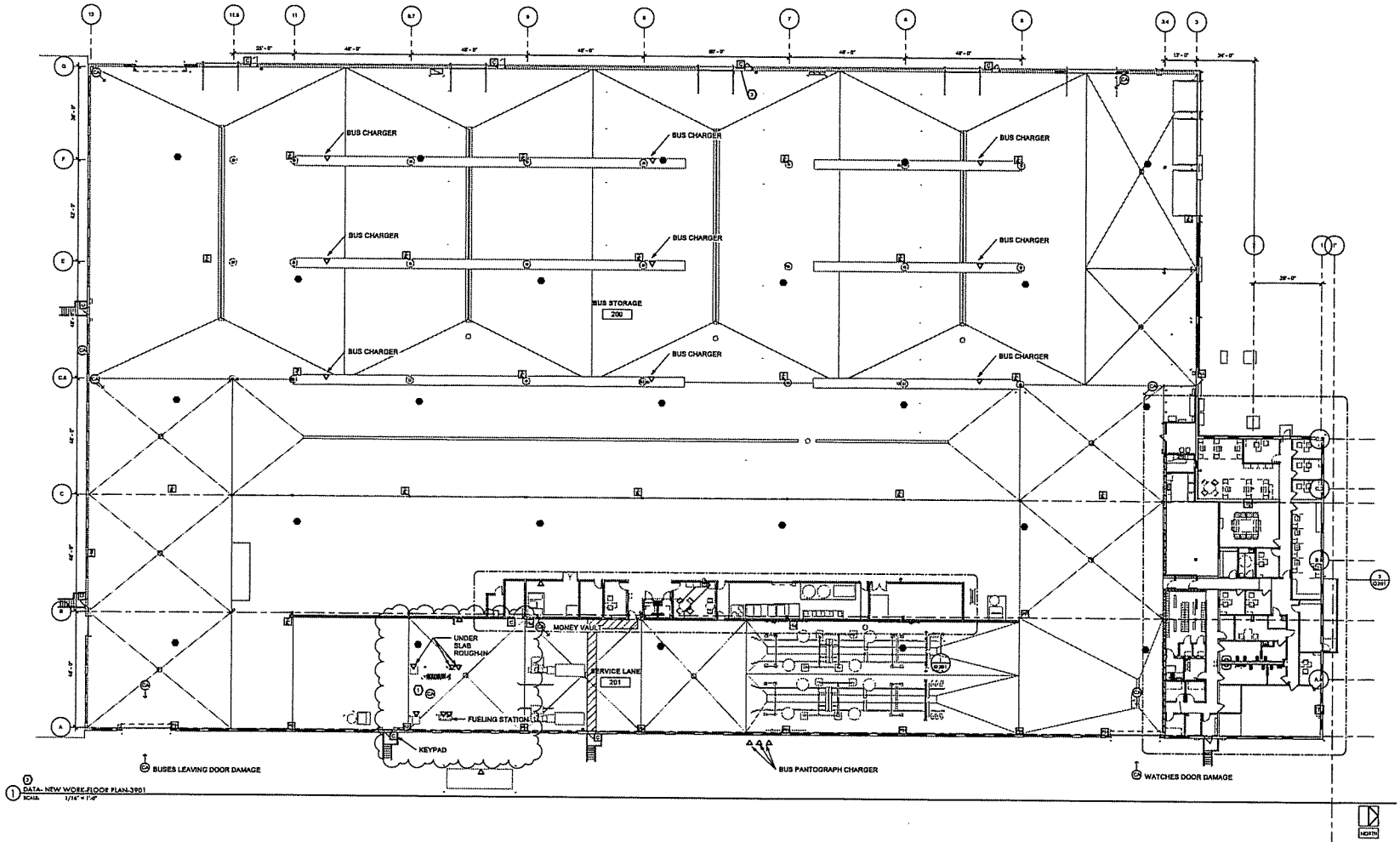
OFFICE AREA BUILDING
3829 PLAN

Q101



1 DATA- NEW WORK-FLOOR PLAN-3901
SCALE 1/16" = 1'-0"

KEY NOTES

1. CAMERA TO MONITOR FUELING STATION. COORDINATE EXACT LOCATION PRIOR TO INSTALL.
2. INSTALL NEMA RATED CABINET AT 4' A.F.F., SEE DETAIL 1 ON SHEET Q701.
3. COORDINATE CAMERA PLACEMENT.

LEGEND			
●	WIRELESS ACCESS POINT - 2 CAT6A DATA CABLES	A	AUDIBLE ALARM -
△	DATA JACK - 2 CAT6 DATA CABLES	E	ELECTRIC STRIKE -
S	SPEAKER	ACS	ACCESS CONTROL SYSTEM -
PH	PAGING HORN - ETR	GO	GATE OPERATOR -
W ▼	WALL PHONE - 1 CAT6 DATA CABLE @ 48" A.F.F.	ACP	ACCESS CONTROL PANEL -
TV	TV - 2 CAT6 DATA CABLE - VERIFY EXACT MTG. HT.	SEC	SECURITY SYSTEM DISPLAY -
C	CARDREADER -	TGB	COMMUNICATIONS GROUND BUS BAR -
K	KEYPAD -		2-POST TELECOMMUNICATIONS EQUIPMENT RACK
M	MOTION DETECTOR		SURFACE RACEWAY - REFER TO KEYED NOTES & SPECIFICATIONS FOR TYPES
DP	DOOR POSITION SWITCH		

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SATELLITE BUS FACILITY REMODEL

3609-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

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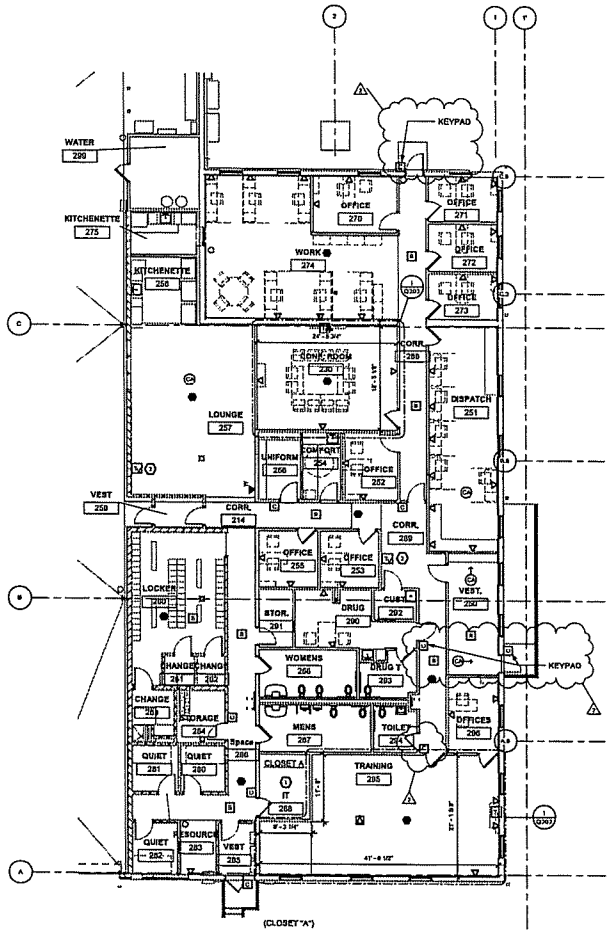
OVERALL BUILDING 3901 PLAN

Q200



DATA- NEW WORK-FLOOR PLAN-3901 -
Callout 1
SCALE 1/8" = 1'-0"

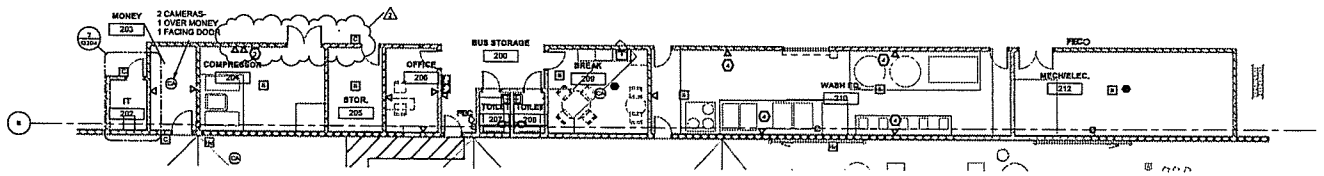
LEGEND			
●	WIRELESS ACCESS POINT - 2 CAT6A DATA CABLES	A	AUDIBLE ALARM -
△	DATA JACK - 2 CAT6 DATA CABLES	E	ELECTRIC STRIKE -
S	SPEAKER	ACS	ACCESS CONTROL SYSTEM -
PH	PAGING HORN - ETR	GO	GATE OPERATOR -
W ▼	WALL PHONE - 1 CAT6 DATA CABLE @ 48" A.F.F.	ACP	ACCESS CONTROL PANEL -
TV	TV - 2 CAT6 DATA CABLE - VERIFY EXACT MTG. HT.	SYS	SECURITY SYSTEM DISPLAY -
C	CARDREADER -	TGB	COMMUNICATIONS GROUND BUS BAR -
K	KEYPAD -		2-POST TELECOMMUNICATIONS EQUIPMENT RACK
M	MOTION DETECTOR	▲	SURFACE RACEWAY - REFER TO KEYED NOTES & SPECIFICATIONS FOR TYPES
DS	DOOR POSITION SWITCH		

GENERAL NOTES

A. REFER TO CARD ACCESS SCHEDULE ON Q601 AND DOOR HARDWARE SECTION FOR EXACT DOOR REQUIREMENTS.

KEY NOTES

1. SEE SHEET Q203 FOR IT ROOM LAYOUT.
2. CONTRACTOR TO MOUNT OWNER PROVIDED BRIGHT UNIT.
3. COORDINATE DATA LOCATION WITH FINAL COMPRESSOR EQUIPMETN LAYOUT.
4. COORDINATE LOCATIONS WITH FINAL WASH EQUIPMENT LAYOUT.



DATA- NEW WORK-FLOOR PLAN-3901 -
Callout 2
SCALE 1/8" = 1'-0"

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SATELLITE BUS FACILITY REMODEL

3629-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
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MADISON, WI 53703

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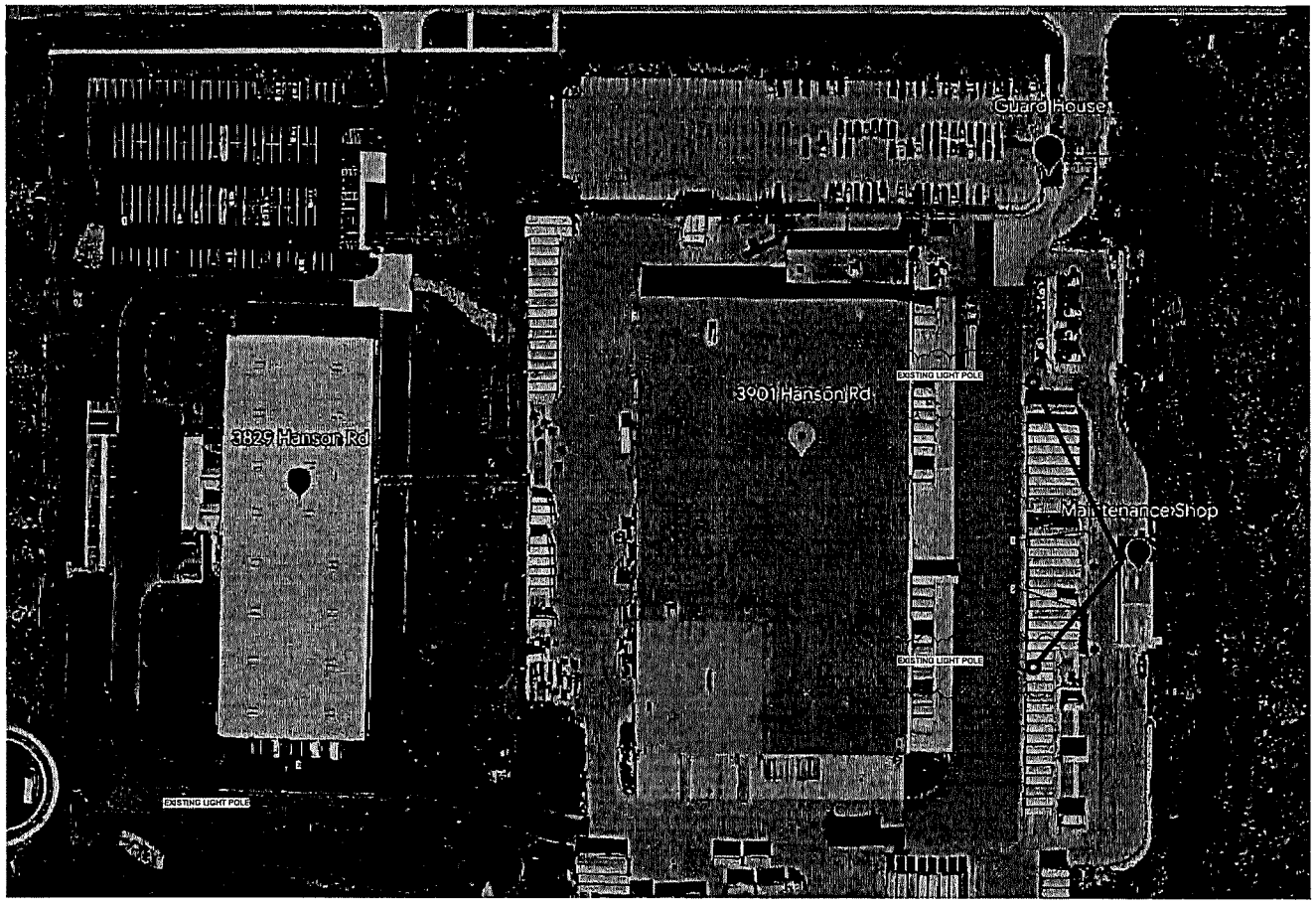
OFFICE AREA BUILDING
3901 PLAN

REVISION

Q201



3 CAMERA - SITE PLAN
SCALE 1/8" = 1'-0"

KEY NOTES

1. CONTRACTOR TO PROVIDE BORING SERVICES TO COMPLETE THE OUTSIDE CABLING FOR OUTSIDE CAMERAS. BORE FROM MAINTENANCE BUILDING TO DESIGNATED LIGHTPOLE (APPROX. 100 FEET STRAIGHT BORE).
   - A. RUN CAT 6 OUTSIDE RATED CABLE FROM MAINTENANCE PATCH PANEL THRU HDPE INNERDUCT TO LIGHT POLE. LEAVE 40 FEET AT POLE.
   - B. CONTRACTOR IS RESPONSIBLE FOR PENETRATION INTO BUILDING, BORING, HDPE INNERDUCT AND CABLE RUN.
   - C. OWNER WILL PROVIDE CAMERA, MOUNT AND PATHWAY.
2. CONTRACTOR TO PROVIDE BORING SERVICES TO COMPLETE THE OUTSIDE CABLING FOR OUTSIDE CAMERAS. BORE FROM MAINTENANCE BUILDING TO DESIGNATED LIGHTPOLE (APPROX. 200 FEET STRAIGHT BORE).
   - A. RUN CAT 6 OUTSIDE RATED CABLE FROM MAINTENANCE PATCH PANEL THRU HDPE INNERDUCT TO LIGHT POLE. LEAVE 40 FEET AT POLE.
   - B. CONTRACTOR IS RESPONSIBLE FOR PENETRATION INTO BUILDING, BORING, HDPE INNERDUCT AND CABLE RUN.
   - C. OWNER WILL PROVIDE CAMERA, MOUNT AND PATHWAY.
3. CONTRACTOR TO PROVIDE BORING SERVICES TO COMPLETE THE OUTSIDE CABLING FOR OUTSIDE CAMERAS.BORE FROM BUILDING 3829 BUILDING TO DESIGNATED LIGHTPOLE (APPROX. 80 FEET STRAIGHT BORE).
   - A. RUN CAT 6 OUTSIDE RATED CABLE FROM CABINET LOCATED ON WEST WALL PATCH PANEL THRU BUILDING, HDPE INNERDUCT TO CAMERA POLE. LEAVE 40 FEET AT POLE.
   - B. CONTRACTOR IS RESPONSIBLE FOR PENETRATION INTO BUILDING, BORING, HDPE INNERDUCT AND CABLE RUN.
   - C. OWNER WILL PROVIDE CAMERA, MOUNT AND PATHWAY. POLE FOR CAMERA MOUNTING WILL BE PROVIDED IN CIVIL CONTRACT.
   - D. COORDINATE POLE LOCATION WITH OWNER.

Camera #	Location	View	Building
1	OUTSIDE - ON BUILDING	North West Corner	3829
2	OUTSIDE - ON BUILDING	Back Entrance	3829
3	INSIDE - WAREHOUSE	Bus Lane	3829
4	INSIDE - WAREHOUSE	Bus Lane	3829
5	INSIDE - WAREHOUSE	Building and Ground Area	3829
6	INSIDE - WAREHOUSE	Building and Ground Area	3829
7	OUTSIDE - ON BUILDING	Parking Lot and Rd	3829
8	INSIDE - WAREHOUSE	Bus Lane	3901
9	INSIDE - WAREHOUSE	Bus Lane	3901
10	INSIDE - WAREHOUSE	Bus Lane	3901
11	INSIDE - WAREHOUSE	Side Bus Entrance	3901
12	INSIDE - WAREHOUSE	Exit Garage Door	3901
13	OUTSIDE - POLE (New)	Exit Garage Door	3901
14	OUTSIDE - ON BUILDING	Rear 3901	3901
15	OUTSIDE - ON BUILDING	Rear 3901	3901
16	OUTSIDE - POLE (New)	Side Bus Entrance	3901

2 CAMERA SCHEDULE
SCALE 1/8" = 1'-0"

CARD ACCESS SCHEDULE

Door	Description	Door Number	Keyway	Reader Yes/No	Pwr Load	Door Contact	Rqt Rel	Rqt Exit	Notes
160	Outside Door Bldg 3829	X				X	Y	Y	
160A	Outside Door Bldg 3829	X				X			
160C	Outside Door Bldg 3829	X				X			
160D	Outside Door Bldg 3829	X				X		X	
175A	Outside Door Bldg 3829	X				X		X	
175D	Outside Door Bldg 3829	X				X			
177A	Outside Door Bldg 3829	X				X		X	
177J	Outside Door Bldg 3829	X				X			
189	Office	X				X		@ exiting	
191	Office	X				X			
217	Mother	X				X			
278	Fire Pump	X				P		X	
280A	Vestibule	X				X			
290	IT Room	X				X			
291	Fire Pump Room	X				X			
300A	Outside Door Bldg 3901	X				X			
300C	Outside Door Bldg 3901	X				X		X	
300D	Outside Door Bldg 3901	X				X			
300J	Outside Door Bldg 3901	X				X			
300K	Outside Door Bldg 3901	X				X			
300M	Outside Door Bldg 3901	X				X		X	
300N	Outside Door Bldg 3901	X				X			
300P	Outside Door Bldg 3901	X				X			
300W	Outside Door Bldg 3901	X				X			
288	IT Room	X				X			
288	Vestry Room	X				X			
296	Storeroom	X				X			
296A	Admin Entrance	X				X		X	
214	Uniform Room	X				X			
244	Storage	X				X			
268	IT Room	X				X			
274	Office Spare Entrance	X				X		X	
295A	South Outside Door	X				X		X	
238	Classroom Hallway	X				X		X	* need to be able to be released from this room
240	Locking	X				X		X	
295	Training Room	X				X			

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

KMTECHNOLOGYDESIGN

REVISION

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 09/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10-13-23

DRAWN BY Author
CHECKED BY Checker

SCHEDULES - CARD ACCESS AND CAMERA

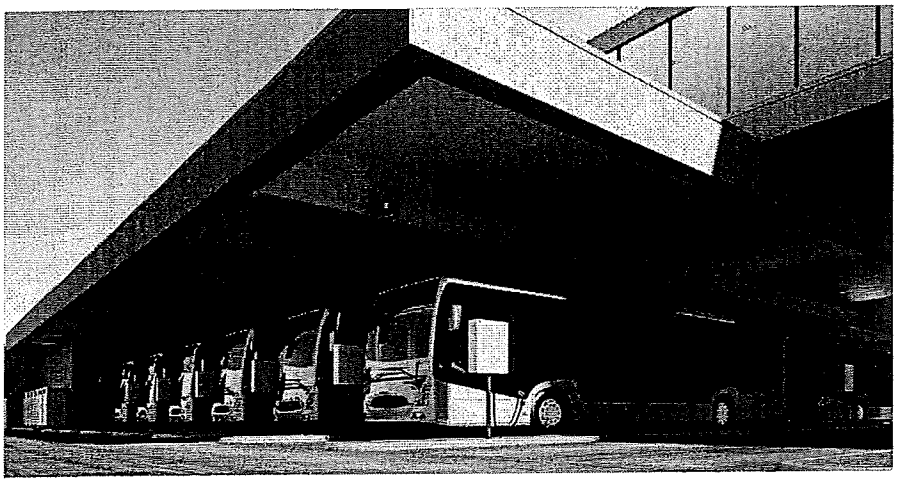
Q601

For Reference Only
Owner Furnished/Owner Installed

PRODUCT LEAFLET

Electric Vehicle Infrastructure

HVC Depot (UL) charging for electric fleets



HVC Depot Boxes and power cabinets, lined up at a depot site.

ABB HVC-C Depot charging systems offer a highly reliable, intelligent and cost-effective solution to charge large EV fleets such as buses, trucks and other commercial vehicles.

A practical solution for busy depots
ABB Heavy Vehicle Charger (HVC) products enable electric buses and trucks to charge at the depot ensuring flexibility and scale for every fleet operation that is transitioning to zero-emission transportation.

Key Benefits
+ Smart charging
+ Small infrastructure footprint at vehicle interface
+ Flexible design for roof and floor mounting
+ SAE J1772 CCS and OCPP 1.6 compliant
+ Remote diagnostics and management tools

Sequential Charging
Improving total cost of ownership is easy using the sequential charging feature offered by ABB's depot chargers. This feature allows connection of up to three depot charge boxes with a single power cabinet and vehicles are charged sequentially over time. The system can follow an embedded, predefined charging process or remote triggers sent by a fleet management system via OCPP 1.6.

- Vehicles are charged with high power, maximizing vehicle availability
- The required grid connection is smaller, reducing upfront investments and operational costs
- The compact depot box is easy to install at sites with space constraints
- Optimal utilization of installed infrastructure meaning lower investments in charging equipment.

Buy America
ABB can offer the HVC-C Depot Charging Solution with compliance to the Buy America Act Rule 49 CFR Part 661.5.

Future-proof modular design
Power cabinets can be upgraded from 100 or 150 kW in the field, as well as add additional depot charge boxes, allowing operators to scale their operation and to spread investments over time.

Safe and reliable operation
ABB fast chargers are designed to the highest international electrical, safety, and quality standards, and are certified by notified bodies - guaranteeing safe and reliable operation.

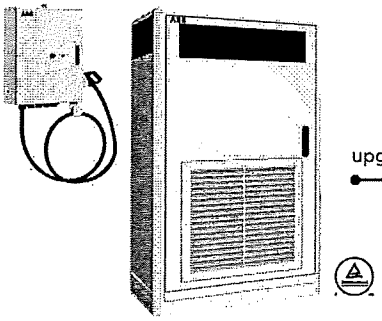
Connectivity and remote services
ABB chargers come with an extensive suite of connectivity features including remote services such as monitoring, management, diagnostics and software upgrades. These advanced services provide equipment owners with powerful insights into their charging operations while enabling high uptime.

ABB E-mobility is your experienced partner
ABB HVC products are based on a decade of high power experience in EV charging solutions. ABB has sold over 30,000 DC fast charging systems in more than 85 countries – and is the leading EV infrastructure technology supplier globally.

Overnight charging 100 kW - 150 kW

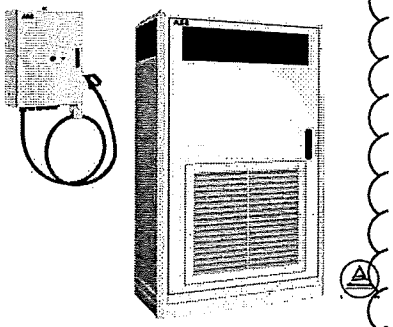
A field upgradeable system with future proof reliability

HVC 100C



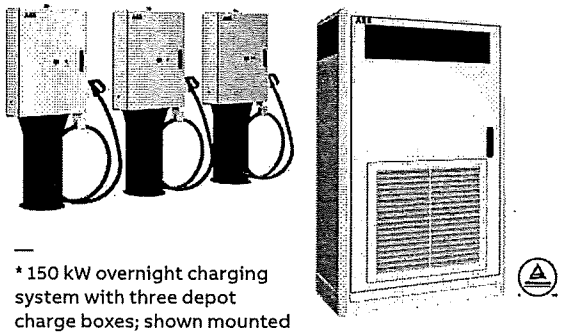
upgradable

HVC 150C



A power upgrade can be done in the field by adding an extra power module. No groundworks, digging and disturbance to the site are required.

HVC 150C*



* 150 kW overnight charging system with three depot charge boxes; shown mounted on pedestal option.

Technical specifications			
Configurations		**HVC 100C**	**HVC 150C**
Maximum output power		100 kW	150 kW
AC Input voltage		UL: 3-phase, 480Y/277 VAC +/- 10% (60 Hz) CSA: 3-phase, 600Y/347 VAC +/-10% (60 Hz)	
AC Input connection		L1, L2, L3, GND (no neutral)	
Rated input power		117 kVA	170 kVA
Rated input current		UL: 132 A / CSA: 108 A	UL: 198 A / CSA: 168 A
Recommended upstream circuit breaker(s)		UL: 1 x 200 A / CSA: 1 x 150 A	UL: 1 x 250 A / CSA: 1 x 250 A
Output voltage range		150 – 850 VDC	
Maximum DC output current		166 A	200 A
Vehicle connection interface		CCS/Combo Type 1 Connector	
Cable length		3.5 m (11.5 ft) standard; 7 m (23 ft) optional	
DC connection standard		SAE J1772 - IEC 61851-23 / DIN 70121 - ISO 15118	
Environment		Indoor/Outdoor	
Operating temperature		Standard: -10 °C to +50 °C (de-rating characteristic applies) Optional: -35 °C to +50 °C	
Protection		Power Cabinet: IP54 – IK10 (equivalent to NEMA 3R) Depot Charge Box: IP65 - IK10	
Network connection		GSM/3G modem | 10/100 base-T Ethernet	
Compliance and Safety		CSA No. 107.1-16 and UL 2202 certified by TUV BA Rule 49 CFR Part 661.5 (Optional)	
Dimensions			
Power Cabinet	Dimensions (H x W x D)	2030 x 1170 x 770 mm / 79.9 x 46.1 x 30.3 in	
	Weight	1340 kg / 2954 lbs	
Depot Charge Box (without pedestal)	Dimensions (H x W x D)	800 x 600 x 210 mm / 31.5 x 23.6 x 8.3 in	
	Weight	61 kg / 134.5 lbs (with 7 m / 23 ft cable)	
Depot Charge Box (with pedestal)	Dimensions (H x W x D)	1914 x 600 x 400 mm / 75.4 x 23.6 x 16.3 in	
	Weight	181 kg / 398 lbs (with 7 m / 23 ft cable)	

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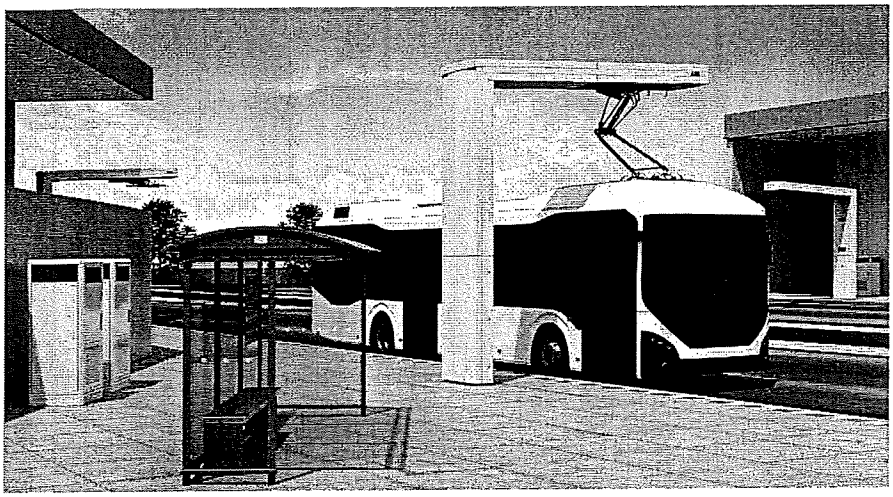
Owner Furnished/Owner Installed

PRODUCT LEAFLET

Electric Vehicle Infrastructure

HVC-PD UL opportunity charging for electric buses



ABB's HVC-PD opportunity charging system offers high-power charging via an automated rooftop connection. With typical charge times of 3 to 6 minutes the system can be easily integrated in existing operations by installing chargers at endpoints, terminals and intermediate stops.

The HVC-PD charging system leverages an automated connection to enable extremely fast charge times.

A practical solution for route charging
ABB's Heavy Vehicle Charger (HVC) system architecture offers an ideal solution for opportunity charging, ensuring zero-emission public transit during the day without impacting daily route operations.

Key Benefits
+ Charge in 3 to 6 minutes
+ One charger serves many vehicle makes and models
+ Safe and reliable fully automated connection
+ SAE J3105-1 and OCPP 1.6 compliant
+ Remote diagnostics and management tools

Future-proof modular design
Additional power cabinets can be installed at any time, allowing operators to scale their operation and flexibly spread out infrastructure investments as their fleet grows.

Safe and reliable operation
ABB fast chargers are designed to the highest international electrical, safety, and quality standards, and are certified by notified bodies - ensuring safe and reliable operation.

Interoperability
ABB HVC chargers are based on international standards for operational compatibility with multiple vehicle types and brands. This allows operators to select vehicles from multiple vendors and not be locked into a single supplier.

Connectivity and remote services
ABB chargers come with an extensive suite of connectivity features including remote services such as monitoring, diagnostics and software upgrades. These advanced services provide equipment owners with powerful insights into their charging operations while delivering high uptime.

OCPP 1.6
ABB HVC-PD charging systems can be connected to standardized charging infrastructure management platforms using OCPP 1.6. ABB's HVC suite supports OCPP 1.6 Core and Smart Charging Profiles.

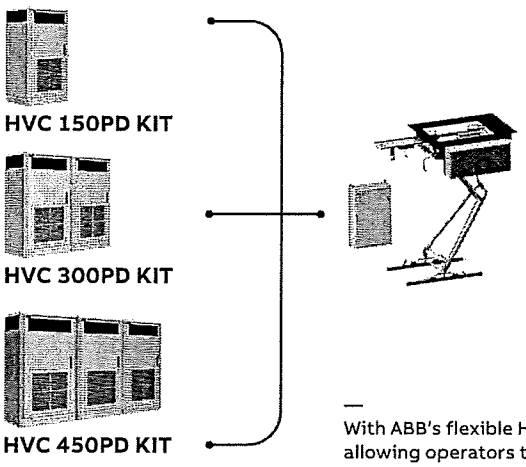
Buy America
ABB can offer the HVC-PD Depot Charging Solution with compliance to the Buy America Act, Rule 49 CFR Part 661.5.

ABB is your experienced partner
ABB HVC products are based on a decade of high-power experience in EV charging solutions. ABB has installed over 50,000 fast charging systems in more than 85 countries – and is the leading EV infrastructure technology supplier globally.

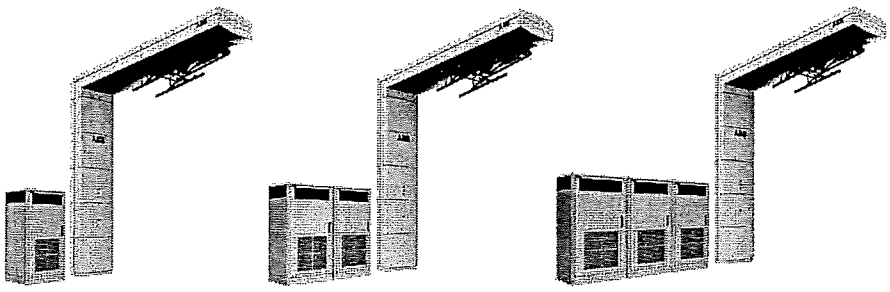
Opportunity charging 150 kW to 450 kW

A scalable system with future-proof reliability

Charging on existing structure



Charging on route



With ABB's flexible HVC architecture, power capability can be expanded over time, allowing operators to spread out infrastructure investments as their fleet grows.

Technical specifications

Configurations		HVC 150PD	HVC 300PD	HVC 450PD
Maximum output power		150 kW	300 kW	450 kW
Input AC connection		UL: 3-phase, 480Y/277 VAC +/- 10 % (60 Hz); CSA: 3-phase, 600Y/347 VAC +/-10% (60 Hz)		
Rated input power		170 kVA	2x 170 kVA	3x 170 kVA
Rated input current		UL: 198 A CSA: 168 A	UL: 2x 198 A CSA: 2x 168 A	UL: 3x 198 A CSA: 3x 168 A
Recommended upstream circuit breaker(s)		1 x 250 A	2 x 250 A	3 x 250 A
Output voltage range		150 – 850 VDC		
Maximum DC output current		250 A	500 A	600 A*
Vehicle connection interface		Inverted crossrail pantograph - OppCharge		
DC connection standard		SAE J3105-1 - IEC 61851-23-1 - ISO 15118		
Environment		Indoor/Outdoor		
Operating temperature		Standard: -10 °C to +50 °C (de-rating characteristic applies); Optional: -35 °C to +50 °C		
Protection		IP54 – IK10 (NEMA 3R)		
Network connection		GSM/3G/4G modem | 10/100 base-T Ethernet		
Compliance and safety		CSA No. 107.1-16 and UL 2202, certified by TUV BA Rule 49 CFR Part 661.5 (Optional)		
Dimensions				
Power cabinet (each)	Number of Power Cabinets	1	2	3
	Dimensions (H x W x D)	2030 x 1170 x 770 mm / 79.9" x 46.1" x 30.3"		
	Weight	1340 kg / 2954 lbs		
Charge pole (includes Pantograph & ACM)	Dimensions (H x W x D)	5240 x 1040 x 300 mm / 206.3" x 40.9" x 11.8"		
	Outreach	4670 mm / 183.9" x 30.3"		
	Weight	1706 kg / 3762 lbs		
ACM Control Module KIT	Dimensions (H x W x D)	1600 x1000 x 476.9 mm / 63" x 39.4" x 18.8"		
	Weight	193 kg / 425 lbs		
Pantograph KIT	Dimensions (H x W x D)	(resting position / bolt-hole pattern) 574 x 1300 x 900mm / 22.6"H x 51.2"W x 35.4"D		
	Weight	387 kg / 854 lbs		

* Limited by inverted pantograph contact ratings

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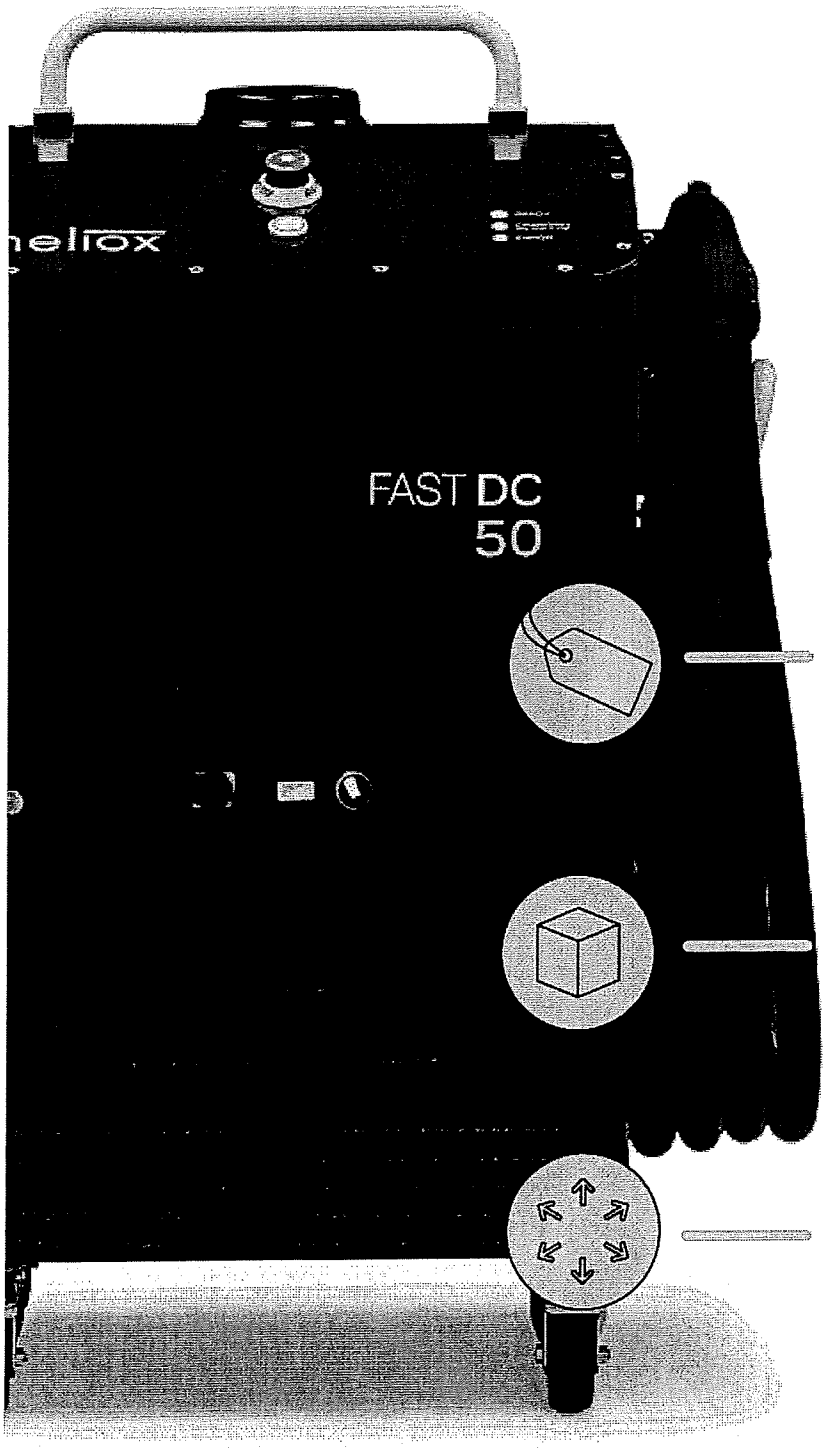
For Reference Only
Owner Furnished/Owner Installed

Mobile 50 kW

Simple. Durable. Portable.

With durable and portable design, the Heliox Mobile DC charger is built with the daily activities of service and maintenance personnel in mind. And with no fixed installation required, you'll save thousands on infrastructure costs as well.



Manufactured and tested in the United States ensuring Buy America Act compliance.

Perfect for getting started with EV or scaling up. Simply connect to a 480V AC wall socket and start charging.

With a compact design and no fixed installation, Mobile 50 can be moved to charge anywhere it can be plugged in.

ll product designs and specifications are subject to change without notice

Mobile 50 kW

Durable: A strong metal casing and wheel system means Mobile 50 kW stands up to daily wear and tear in ways other portable chargers simply cannot. And with a NEMA 3R rated enclosure, Mobile can be safely operated both indoors and outside.

Future-proof: The Mobile 50 kW is the perfect EV charging companion, now and in the future. No matter what direction your business is headed, this charger will always be by your side, providing reliable charging when and where you need it.

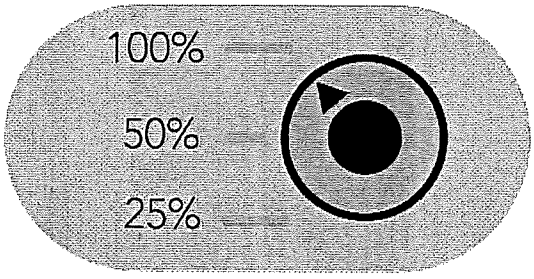
96.2%
Efficiency

General

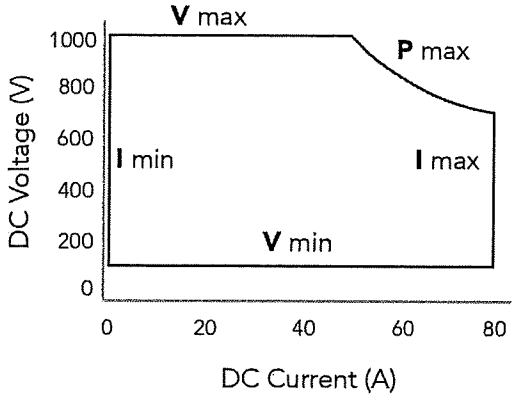
Charging standard:	SAE J1772 (CCS type-1)
Communication standard:	DIN70121 / ISO15118-1/2/3
Compliance and safety:	UL 2202 / UL 2231
Power factor above 50% rated:	>0.98
Peak efficiency:	96.2%
Dielectric withstand:	3000 V
Network cellular:	4G modem
Back office:	OCPP 1.6J
Temperature range:	-4 to 104 °F
Operational noise level:	<55 dB(A) @ 40"
System weight:	270 lbs.
Dimensions:	H: 36", W: 20", D 20"
Protection	NEMA 3R
Environment operating:	ISO 12944: C4 H

One charger, three settings

Raise or lower your charger input with the turn of a dial, enabling you to activate sessions in situations where power supply may be limited.



Actual power maybe impacted due to vehicle parameters



Input

Input connections, Frequency:	3P + G, 47-63 Hz
Input current limit values:	15 A / 25 A / Max. (user selected)
Full load / idle input power:	54 kVA / 15 VA
Input line-line voltage range:	480 V AC +/- 10%, 60 Hz
Input max. AC phase current:	65 A, inrush current limited

Output

Output DC voltage range:	100 - 1000 V
Rated DC output power:	50 kW
Output power limits:	11 kW (@ 15 A AC input current) 19 kW (@ 25 A AC input current) 50 kW (@ Max. input current)
Maximum DC output current:	80 A

heliox

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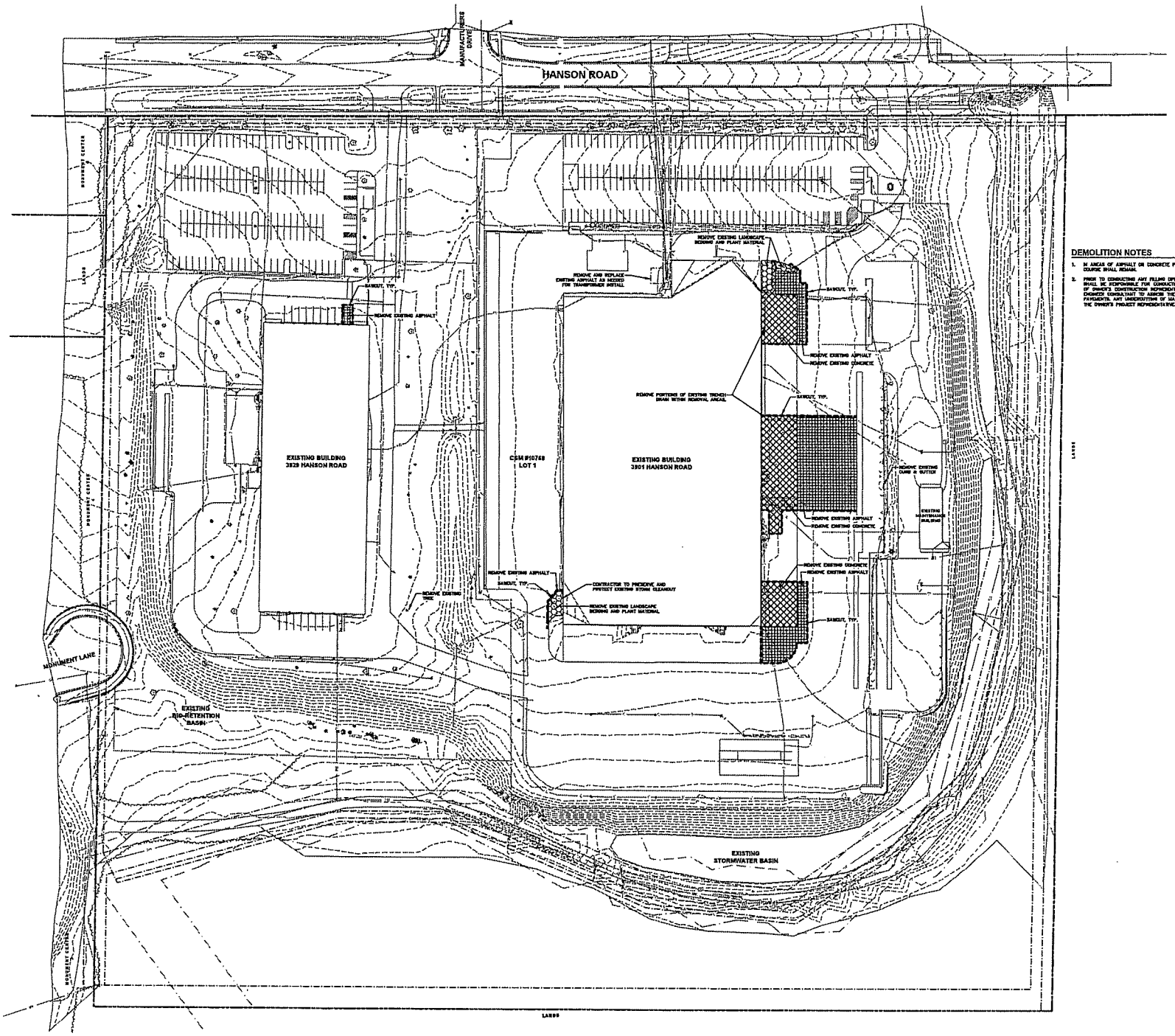
info@heliox-energy.com



DEMOLITION NOTES

1. IN AREAS OF ASPHALT OR CONCRETE PAVEMENT REMOVAL ALL EXISTING BASE COURSE SHALL REMAIN.
2. PRIOR TO CONDUCTING ANY FILLING OPERATION IN PAVED AREAS, CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING A PROOF-ROLL IN THE PRESENCE OF OWNER'S CONSTRUCTION REPRESENTATIVE AND/OR OWNER'S GEOTECHNICAL ENGINEER CONSULTANT TO ASSESS THE STABILITY AND STRENGTH OF EXISTING PAVEMENTS. ANY UNDERCUTTING OF MATERIAL SHALL BE AT THE DIRECTION OF THE OWNER'S PROJECT REPRESENTATIVE.

north
SCALE IN FEET
50' 0 50'

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

JSD

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY CHD / MA
CHECKED BY MRH / KJY

DEMOLITION PLAN

C200

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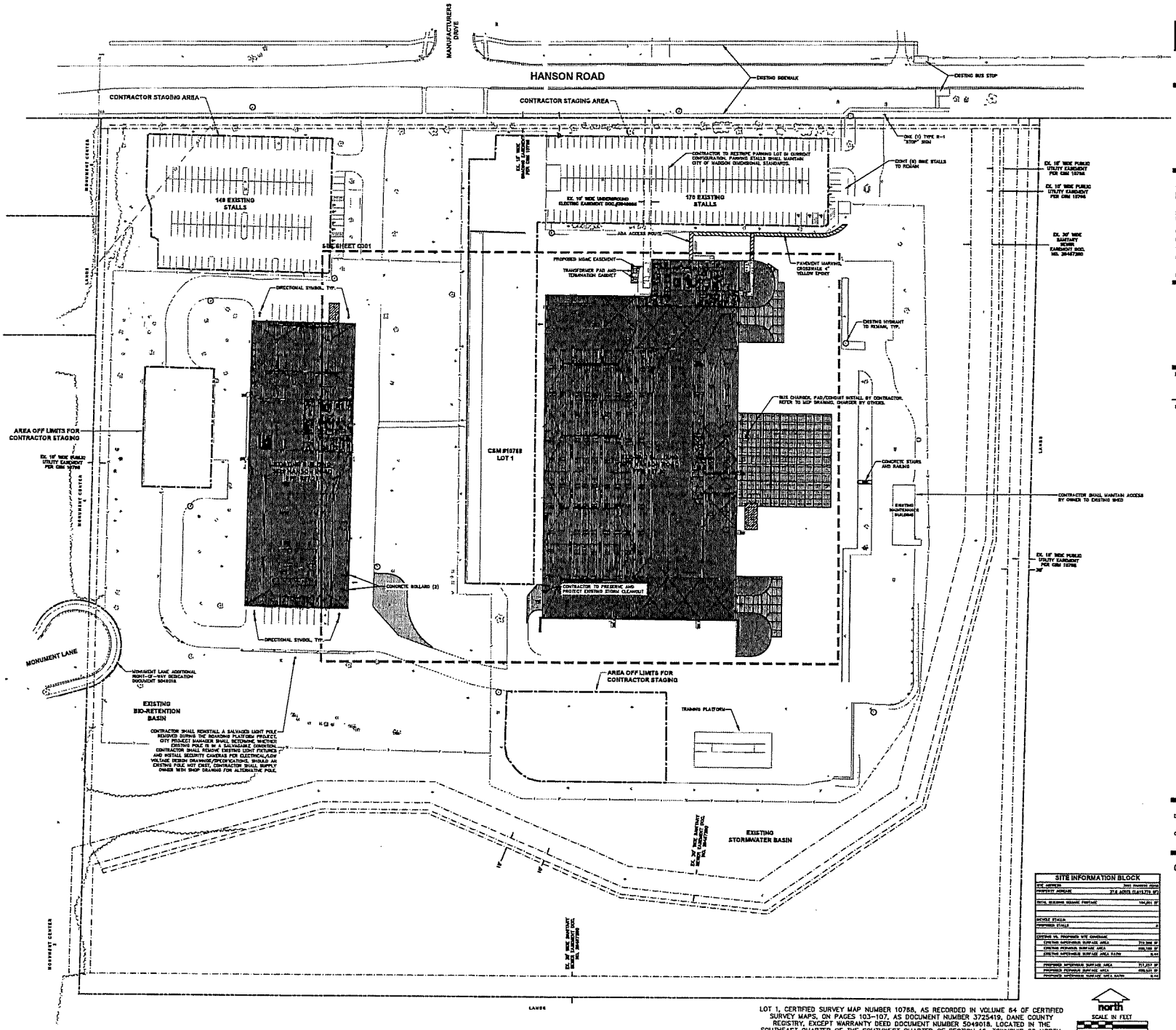

SITE INFORMATION BLOCK	
SITE ADDRESS	3601 HANSON ROAD
PROPERTY ACREAGE	27.6 ACRES (1,613,771 SF)
TOTAL BUILDING SQUARE FOOTAGE	104,861 SF
BICYCLE STALLS	
PROPOSED STALLS	4
EXISTING VS. PROPOSED SITE COVERAGE	
EXISTING IMPERVIOUS SURFACE AREA	719,366 SF
EXISTING PERVIOUS SURFACE AREA	894,105 SF
EXISTING IMPERVIOUS SURFACE AREA RATIO	0.44
PROPOSED IMPERVIOUS SURFACE AREA	717,257 SF
PROPOSED PERVIOUS SURFACE AREA	896,513 SF
PROPOSED IMPERVIOUS SURFACE AREA RATIO	0.44

LOT 1, CERTIFIED SURVEY MAP NUMBER 10788, AS RECORDED IN VOLUME 64 OF CERTIFIED SURVEY MAPS, ON PAGES 103–107, AS DOCUMENT NUMBER 3725419, DANE COUNTY REGISTRY, EXCEPT WARRANTY DEED DOCUMENT NUMBER 5049018, LOCATED IN THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 16, TOWNSHIP 08 NORTH, RANGE 10 EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

JSD

SATELLITE BUS FACILITY REMODEL

3826-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY CHD / MA
CHECKED BY MRH / RJY

OVERALL SITE PLAN

C300

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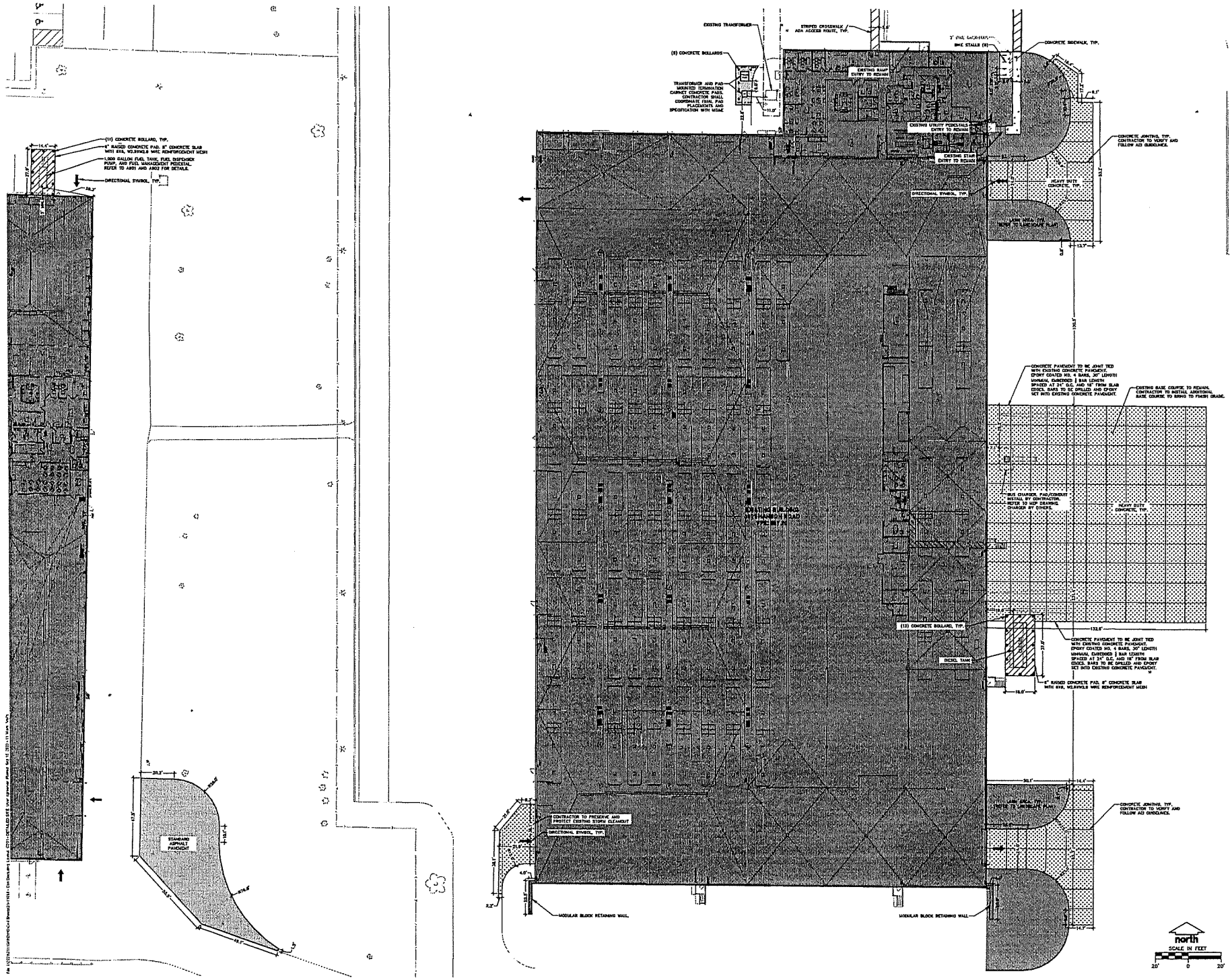

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MILWAUKEE | MADISON | CHICAGO

JSD

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

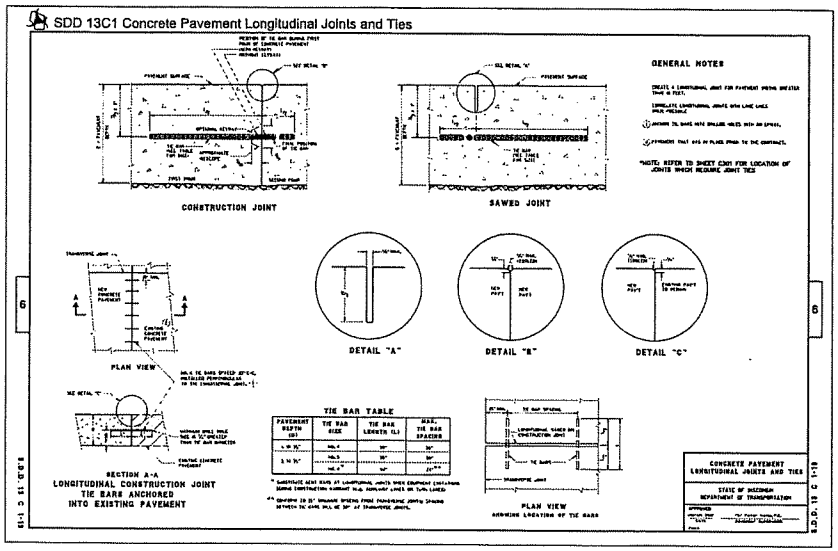
DRAWN BY CHD / MA
CHECKED BY MRH / KJV

EAST BUILDING DETAILED SITE PLAN

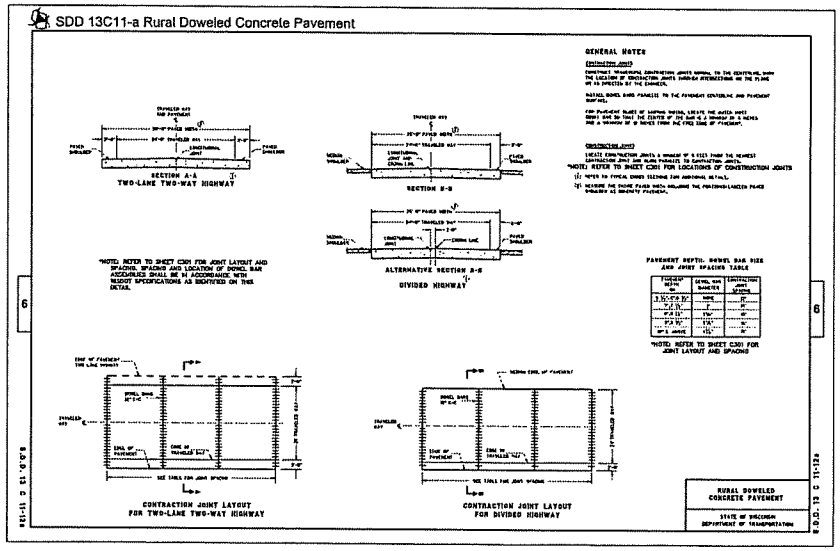
ORIGINAL

C301

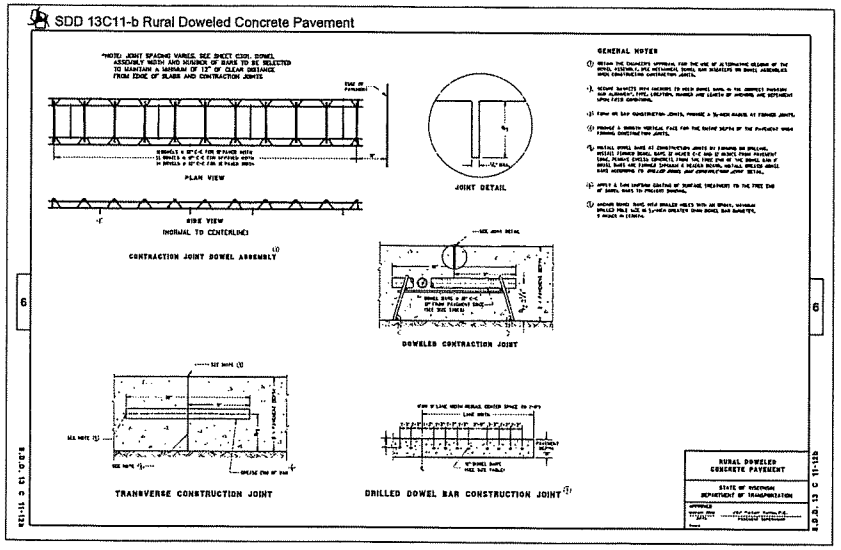
SDD 13C1 Concrete Pavement Longitudinal Joints and Ties



SDD 13C11-a Rural Doweled Concrete Pavement



SDD 13C11-b Rural Doweled Concrete Pavement



Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

JSD

SATELLITE BUS
FACILITY REMODEL

3829-3901 HANSON ROAD
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ORIGINAL

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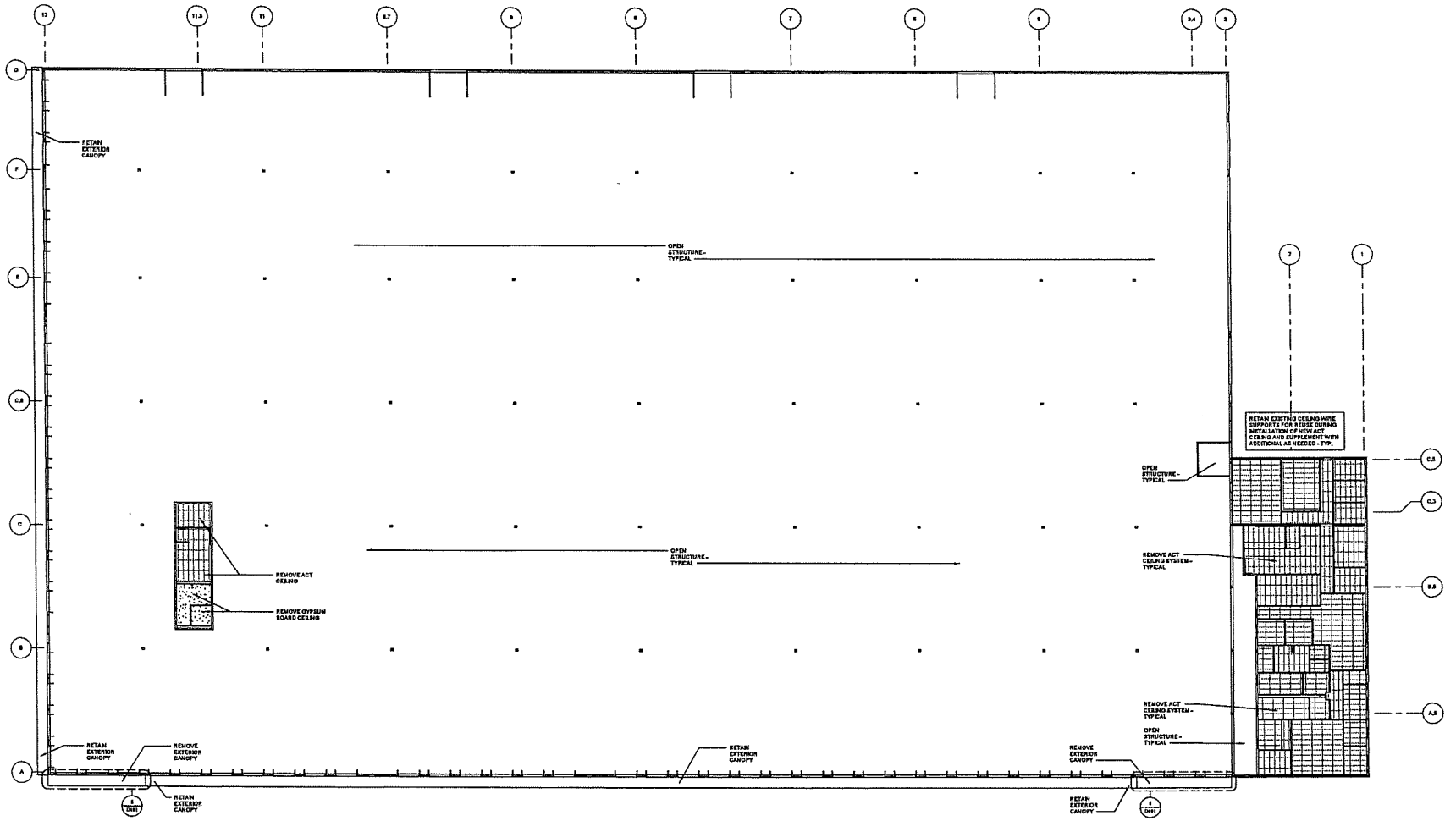
DETAILS

C501



1 CEILING DEMOLITION PLAN - STORAGE BUILDING
SCALE: 1/16" = 1'-0"

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ORIGINAL

SATELLITE BUS FACILITY REMODEL

3826-3861 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
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1245 E WASHINGTON AVE #201
MADISON, WI 53703

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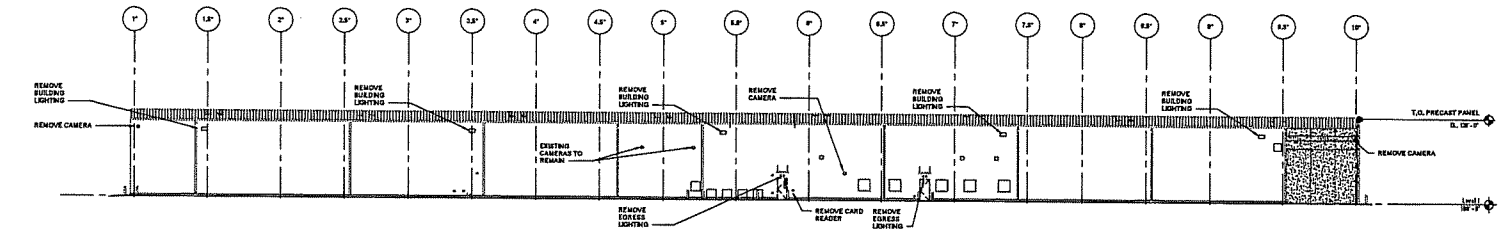
DRAWN BY JTS
CHECKED BY JH

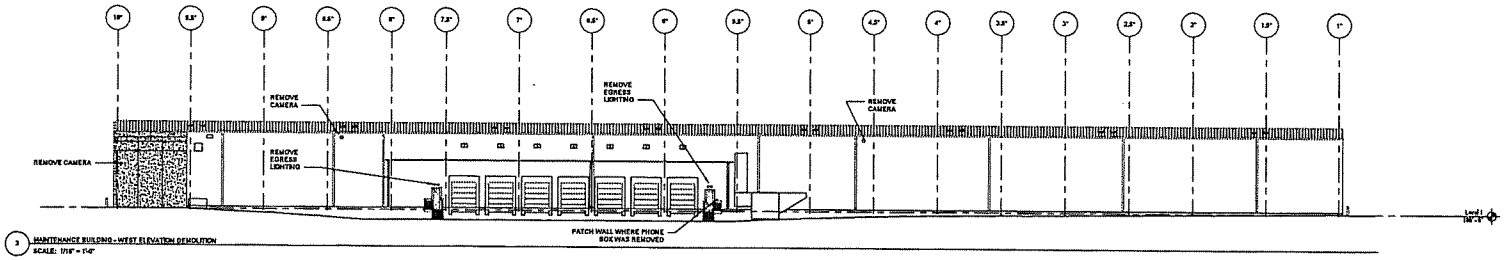
DEMOLITION REFLECTED CEILING PLAN - STORAGE BUILDING

NORTH

D201

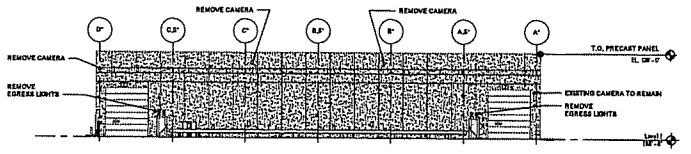


1 MAINTENANCE BUILDING - EAST ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"

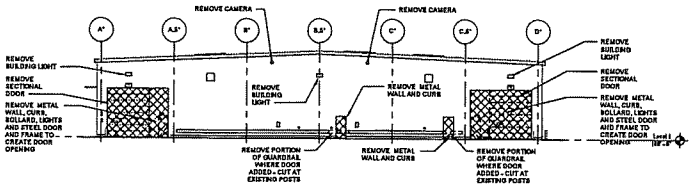


3 MAINTENANCE BUILDING - WEST ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"

SEE ELECTRICAL AND TECHNOLOGY FOR ADDITIONAL INFORMATION



3 MAINTENANCE BUILDING - NORTH ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"



4 MAINTENANCE BUILDING - SOUTH ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"

Engberg Anderson ARCHITECTS
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SATELLITE BUS FACILITY REMODEL

3838-3901 HANSON ROAD
MADISON, WI 53704

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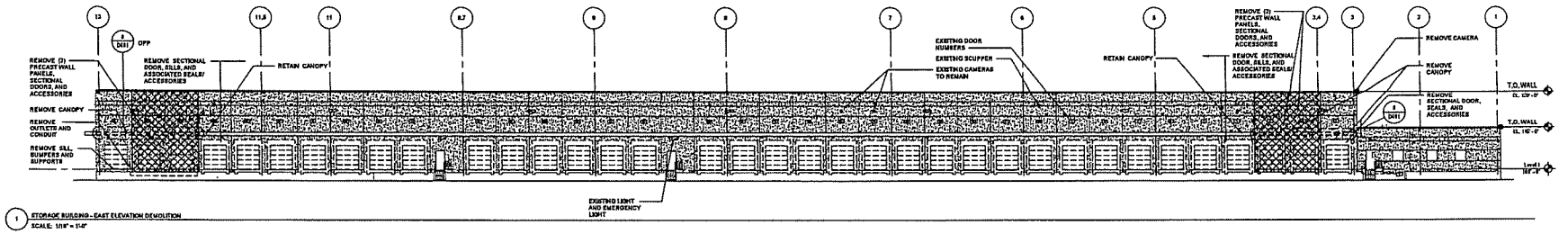
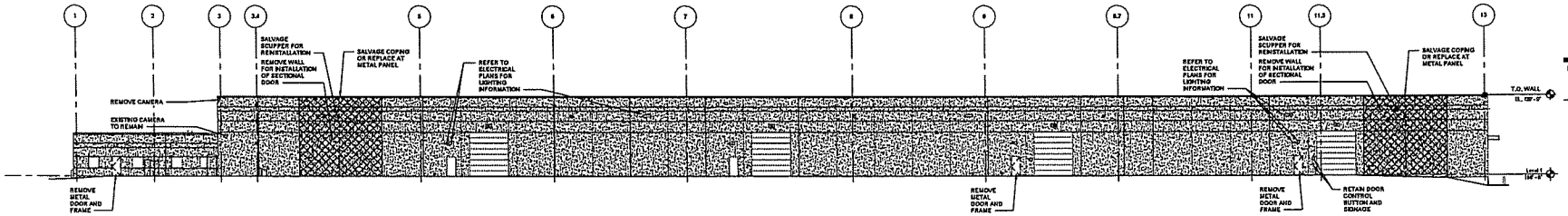
DRAWN BY JTB
CHECKED BY JH

DEMOLITION ELEVATIONS - MAINTENANCE BUILDING

D400

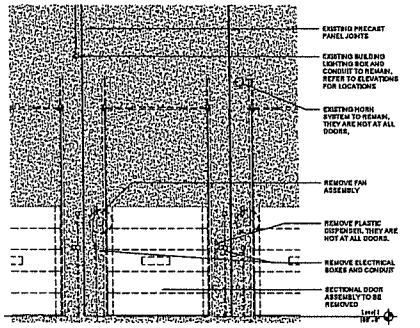


1 STORAGE BUILDING - EAST ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"

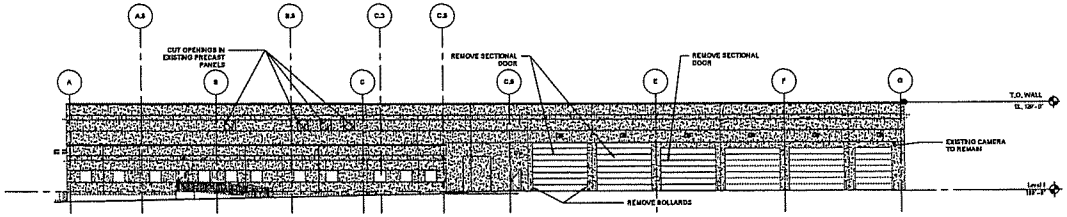


2 STORAGE BUILDING - WEST ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"

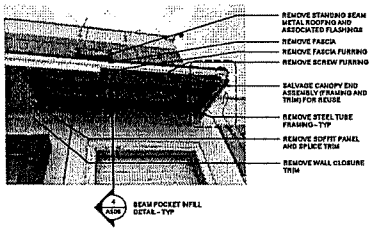
SEE ELECTRICAL AND TECHNOLOGY FOR ADDITIONAL INFORMATION



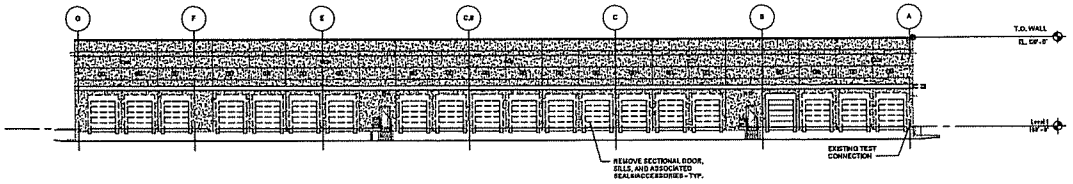
4 OVERHEAD DOOR INTERIOR DEMOLITION ELEVATION
SCALE: 1/4" = 1'-0"



3 STORAGE BUILDING - NORTH ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"



5 CANOPY DEMOLITION DETAIL
SCALE: 1 1/2" = 1'-0"



6 STORAGE BUILDING - SOUTH ELEVATION DEMOLITION
SCALE: 1/16" = 1'-0"

Engberg Anderson ARCHITECTS
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ORIG / 1142

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
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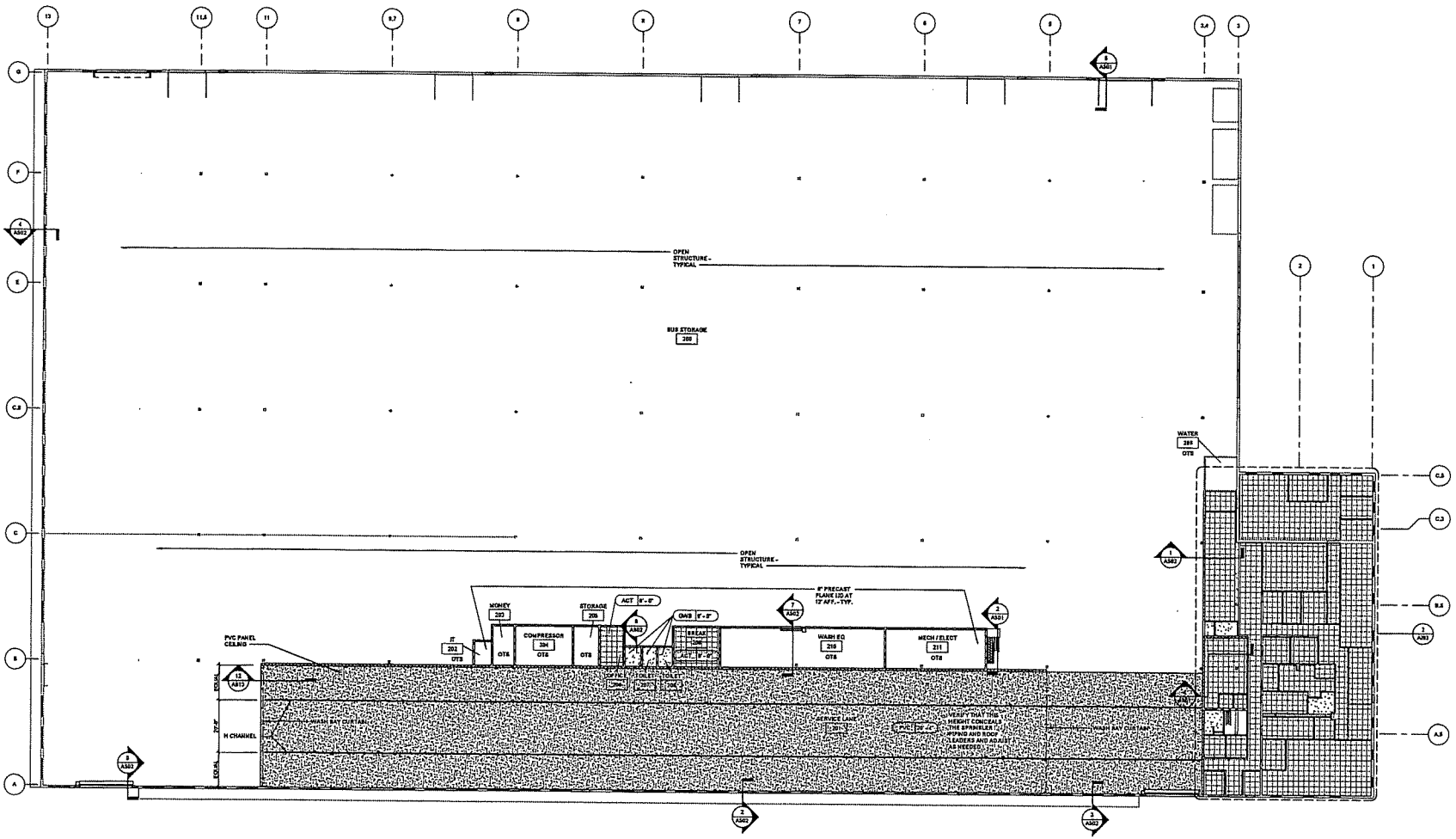
DEMOLITION ELEVATIONS - STORAGE BUILDING

D401



1 REFLECTED CEILING PLAN - STORAGE BUILDING
SCALE: 1/16" = 1'-0"

REFLECTED CEILING PLAN LEGEND

- GWB CEILING
- PVC CEILING
- ACOUSTIC CEILING TILE

GENERAL NOTES - REFLECTED CEILING PLANS:

1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. PATCH AND REPAIR EXISTING WALLS WHERE CEILINGS, SOFFITS/HEADS, AND OTHER ITEMS WERE REMOVED DURING DEMOLITION TO MATCH ORIGINAL.
3. SIZE CEILING TILES EQUALLY ON OPPOSITE ENDS OF THE ROOM UNLESS NOTED OTHERWISE.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3629-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341R.00

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DRAWN BY JFB
CHECKED BY JH

REFLECTED CEILING PLAN - STORAGE BUILDING

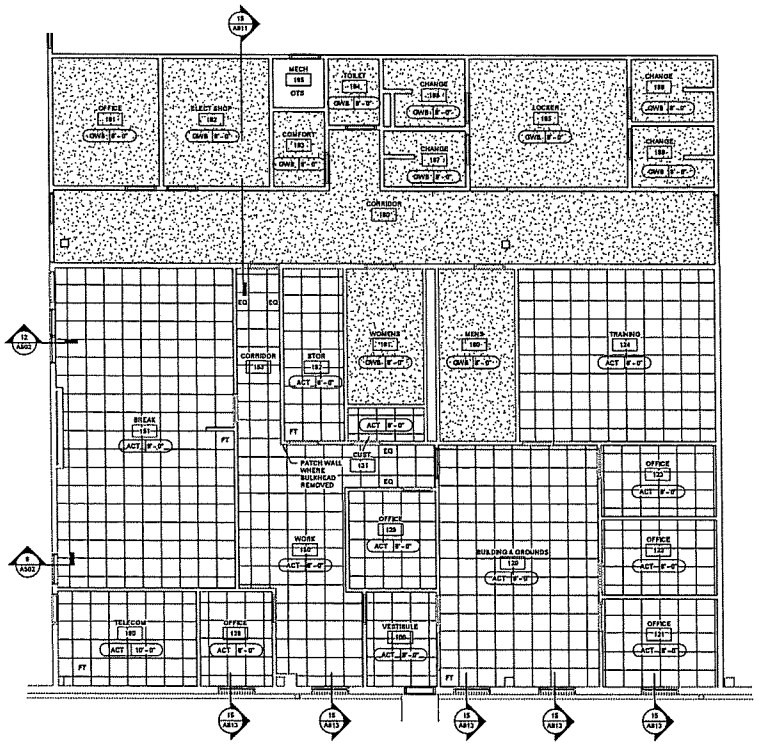
A201

REFLECTED CEILING PLAN LEGEND

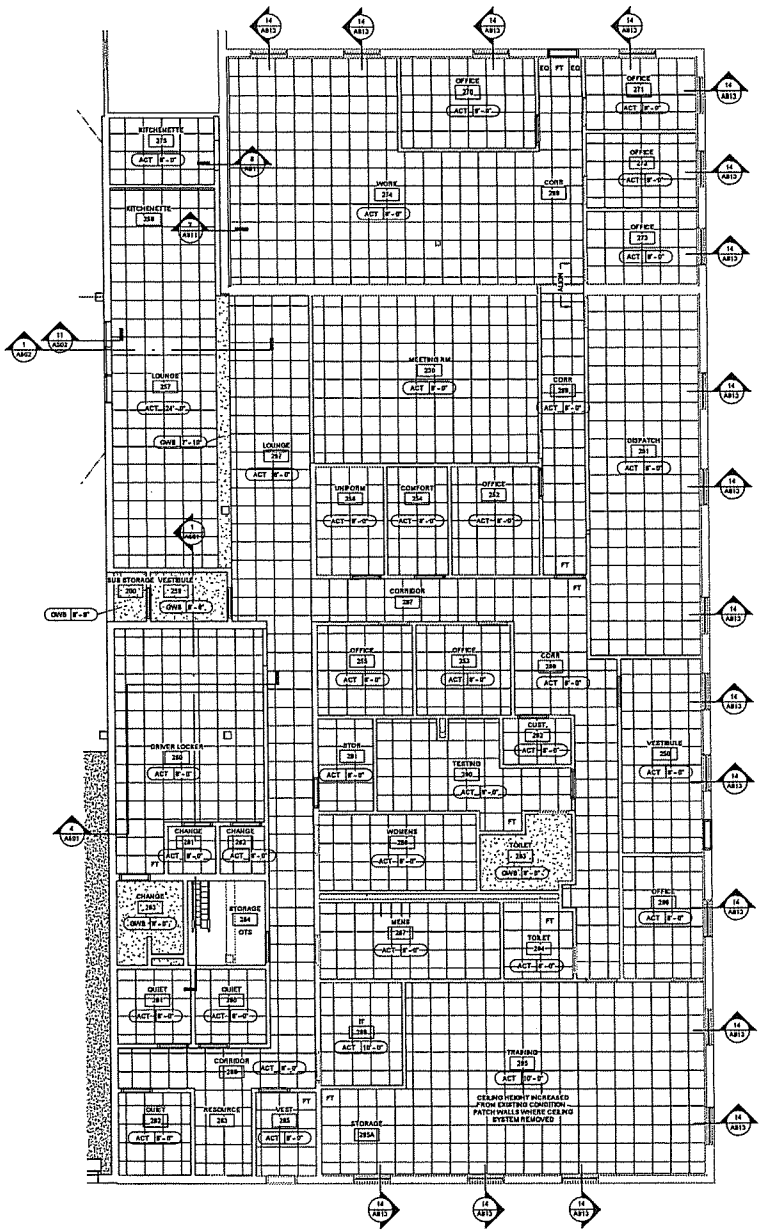
- GWB CEILING
- PVC CEILING
- ACOUSTIC CEILING TILE

GENERAL NOTES - REFLECTED CEILING PLANS:

1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. PATCH AND REPAIR EXISTING WALLS WHERE CEILINGS, BULKHEADS, AND OTHER ITEMS WERE REMOVED DURING DEMOLITION TO MATCH ORIGINAL.
3. SIZE CEILING TILES EQUALLY ON OPPOSITE ENDS OF THE ROOM UNLESS NOTED OTHERWISE.



1 ENLARGED REFLECTED CEILING PLAN - MAINTENANCE BUILDING
SCALE: 3/16" = 1'-0"



2 ENLARGED REFLECTED CEILING PLAN - STORAGE BUILDING
SCALE: 3/16" = 1'-0"

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ORIGINAL

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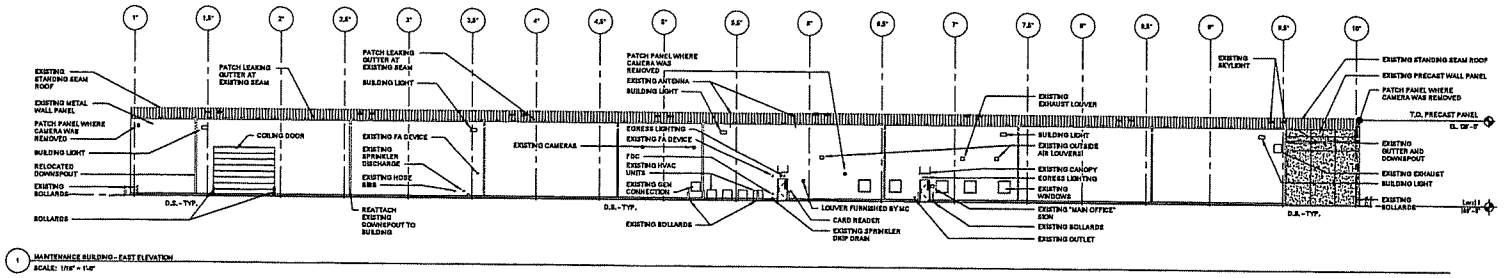
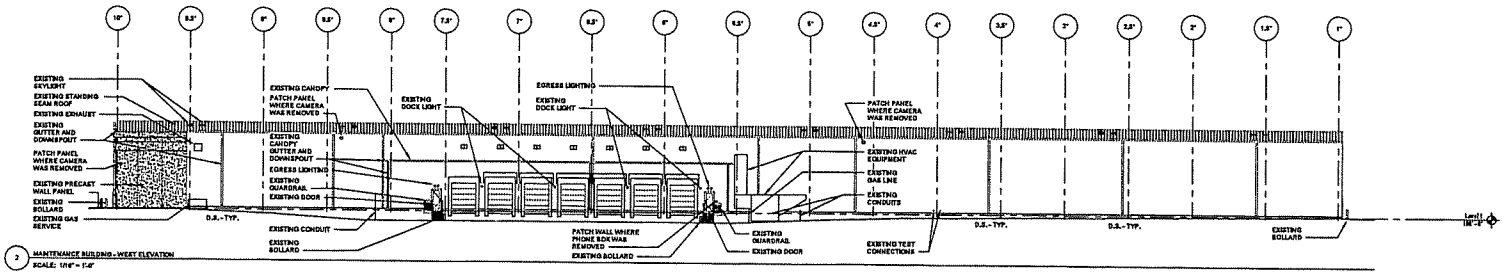
ENLARGED CEILING PLANS

A202

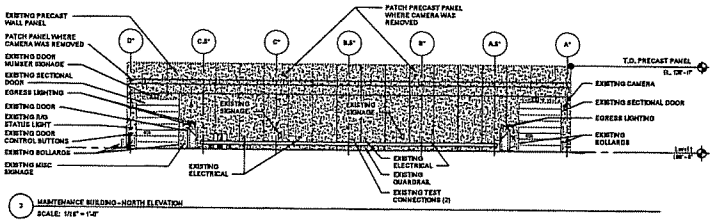


1 MAINTENANCE BUILDING - EAST ELEVATION
SCALE: 1/16" = 1'-0"

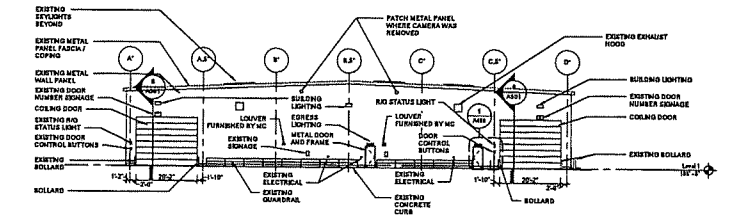


2 MAINTENANCE BUILDING - WEST ELEVATION
SCALE: 1/16" = 1'-0"

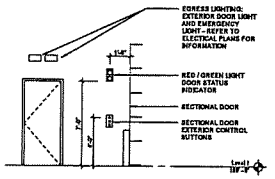
SEE ELECTRICAL AND TECHNOLOGY FOR ADDITIONAL INFORMATION - PATCH EXTERIOR PENETRATIONS WHERE ELECTRICAL AND TECHNOLOGY ITEMS REMOVED WITH NON-SHRINK GROUT AND PAINT TO MATCH EXISTING WALL



3 MAINTENANCE BUILDING - NORTH ELEVATION
SCALE: 1/16" = 1'-0"



4 MAINTENANCE BUILDING - SOUTH ELEVATION
SCALE: 1/16" = 1'-0"



6 DOOR LIGHT ELEVATION DETAIL
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

ORIGINAL

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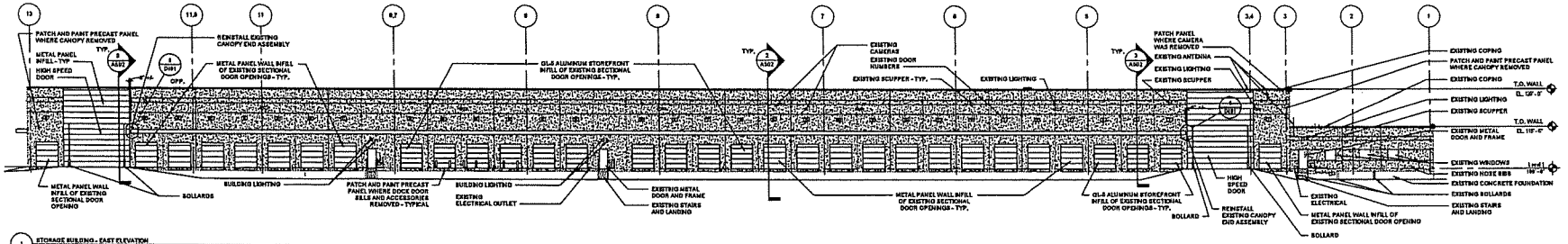
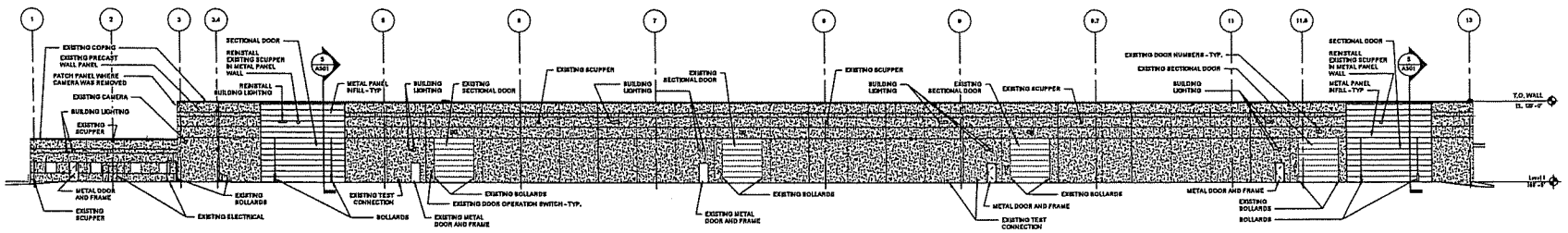
ELEVATIONS - MAINTENANCE BUILDING

A400

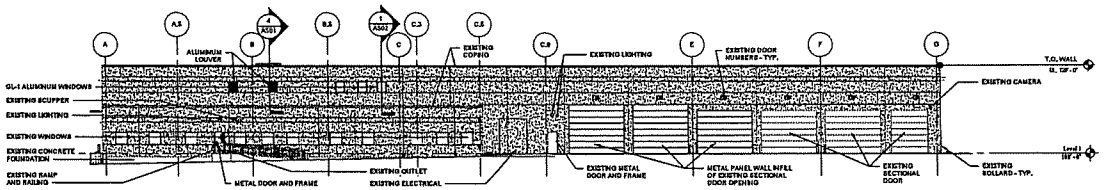


1 STORAGE BUILDING - EAST ELEVATION
SCALE: 1/16" = 1'-0"

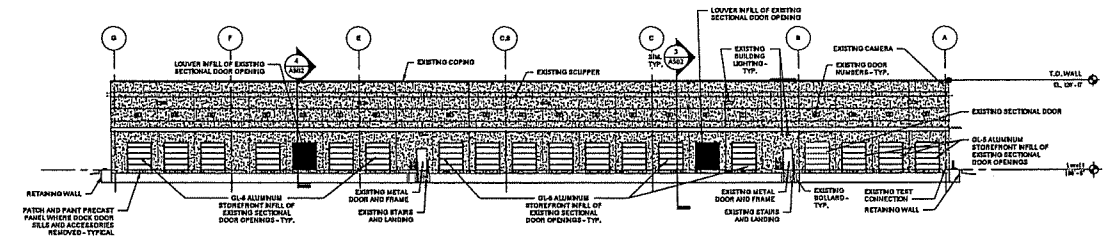


4 STORAGE BUILDING - WEST ELEVATION
SCALE: 1/16" = 1'-0"

SEE ELECTRICAL AND TECHNOLOGY FOR ADDITIONAL INFORMATION - PATCH EXTERIOR PENETRATIONS WHERE ELECTRICAL AND TECHNOLOGY ITEMS REMOVED WITH NON-SHRINK GROUT AND PAINT TO MATCH EXISTING WALL



2 STORAGE BUILDING - NORTH ELEVATION
SCALE: 1/16" = 1'-0"



3 STORAGE BUILDING - SOUTH ELEVATION
SCALE: 1/16" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3928-3951 HANSON ROAD
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ELEVATIONS - STORAGE BUILDING

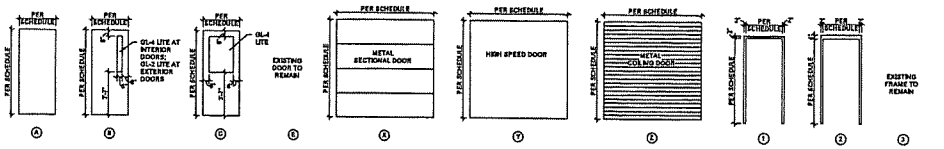
A401

DOOR AND FRAME SCHEDULE - MAINTENANCE BUILDING

NUMBER	DOOR TYPE	DOOR MATL	DOOR FINISH	DOOR WIDTH	DOOR HEIGHT	FRAME TYPE	FRAME MATL	FRAME FINISH	DETAIL THRESH	DETAIL JAMB	DETAIL HEAD	LABEL	HARDWARE	REMARKS	NUMBER
100	B	ALUM	PAINTED	3'-0"	7'-0"	1	ALUM	PAINTED	4IA801	4IA536	3IA535		1	REPLACE DOOR AND FRAME IN EXISTING OPENING	100
120	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		37		120
121	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		2		121
123	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		3		123
123	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		3		123
124B	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		3		124B
125	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		3		125
126	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		3		126
130	C	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	3IA601	3IA601		4		130
131	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		2		131
145A	E		EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		6		145A
145B	E			14'-0"	16'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	145B
145C	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		6		145C
145D	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		6		145D
145E	E			14'-0"	16'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	145E
150	C	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	3IA601	3IA601		6		150
151A	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		7		151A
151B	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		7		151B
152	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		7		152
153	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		7		153
160	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		8		160
161	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		8		161
170A	B	ALUM	PAINTED	3'-0"	7'-0"	1	ALUM	PAINTED	4IA801	4IA536	3IA535		9	REPLACE DOOR AND FRAME IN EXISTING OPENING	170A
170B-1	X			30'-0"	14'-0"				BASSS SIM.	3IA536	3IA535		-	INSTALL DOOR AND FRAME IN EXISTING WALL	170B-1
170B-2	X			30'-0"	16'-0"				BASSS SIM.	3IA536	3IA535		-	INSTALL DOOR AND FRAME IN EXISTING WALL	170B-2
170C-1	X			30'-0"	16'-0"				BASSS SIM.	3IA536	3IA535		-	INSTALL DOOR AND FRAME IN EXISTING WALL	170C-1
170C-2	X			30'-0"	16'-0"				BASSS SIM.	3IA536	3IA535		-	INSTALL DOOR AND FRAME IN EXISTING WALL	170C-2
170D	A	ALUM	PAINTED	3'-0"	7'-0"	1	ALUM	PAINTED	4IA801	4IA536	3IA535		8	INSTALL DOOR AND FRAME IN EXISTING WALL	170D
170E-1	X			30'-0"	16'-0"				BASSS SIM.	3IA536	3IA535		-	INSTALL DOOR AND FRAME IN EXISTING WALL	170E-1
170E-2	X			30'-0"	16'-0"				BASSS SIM.	3IA536	3IA535		-	INSTALL DOOR AND FRAME IN EXISTING WALL	170E-2
170F	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		5		170F
170G	E			6'-0"	6'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	170G
170H	E			6'-0"	6'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	170H
171J	E			9'-0"	8'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	171J
171K	E			9'-0"	8'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	171K
171L	E			6'-0"	8'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	171L
171M	C			9'-0"	8'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	171M
171N	E			6'-0"	8'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	171N
178	A	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA881	1IA801		14		178
177A	A	ALUM	PAINTED	3'-0"	7'-0"	1	ALUM	PAINTED	4IA801	4IA536	3IA535		9	INSTALL DOOR AND FRAME IN EXISTING WALL	177A
177B	A	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		13		177B
177C	E			6'-0"	6'-0"				-	6IA811	7IA561 SIM.		-		177C
178A	A	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801	60 MIN	13		178A
178B	E			6'-0"	6'-0"				-	6IA811	7IA561 SIM.	90 MIN	-	PROVIDE SMOKE SEAL AT JAMBS	178B
180A	B	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		14		180A
180B	B	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		8		180B
181	C	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		15		181
182	C	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		15		182
183	A	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		18		183
186	A	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		17		186
188	A	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		18		188
187	A	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		18		187
188	A	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		18		188
189	A	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		18		189
192	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		38		192
195	A	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		19		195
196	B	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		10		196

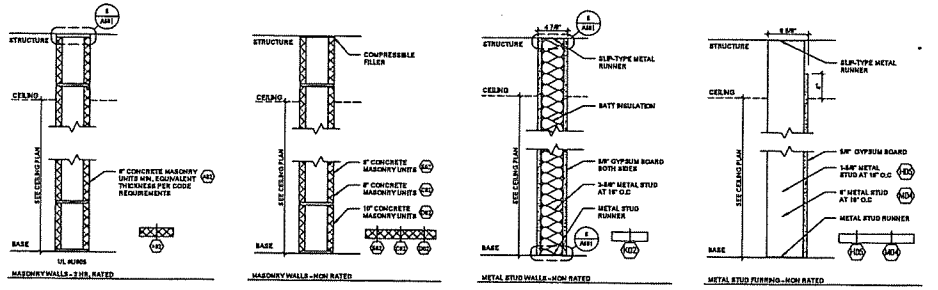
DOOR AND FRAME SCHEDULE - STORAGE BUILDING

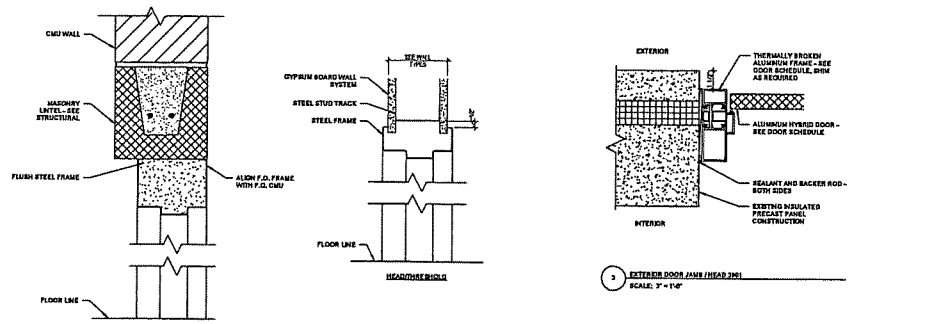
#	DOOR TYPE	DOOR MATL	DOOR FINISH	DOOR WIDTH	DOOR HEIGHT	FRAME TYPE	FRAME MATL	FRAME FINISH	DETAIL THRESH	DETAIL JAMB	DETAIL HEAD	LABEL	HARDWARE	REMARKS	NUMBER
300A-1	Y			30'-0"	16'-0"				BASSS SIM.	11IA536	12IA536		-		300A-1
300A-2	Y			30'-0"	16'-0"				BASSS SIM.	11IA536	12IA536		-		300A-2
300B	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		28		300B
300C	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		29		300C
300D-1	Y			30'-0"	16'-0"				BASSS SIM.	11IA536	12IA536		-		300D-1
300D-2	Y			30'-0"	16'-0"				BASSS SIM.	11IA536	12IA536		-		300D-2
300E	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		-	EXISTING SECTIONAL DOOR	300E
300F	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		28		300F
300G	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		28		300G
300H	E			30'-0"	16'-0"				BASSS	7IA536	BASSS		-		300H
300J	E			14'-0"	16'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	300J
300K	A	ALUM	PAINTED	3'-0"	7'-0"	1	ALUM	PAINTED	4IA801	3IA801	3IA801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	300K
300L	E			14'-0"	16'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	300L
300M	A	ALUM	PAINTED	3'-0"	7'-0"	1	ALUM	PAINTED	4IA801	3IA801	3IA801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	300M
300N	E			14'-0"	16'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	300N
300P	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		28		300P
300Q	E			14'-0"	16'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	300Q
300R	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		28		300R
300S	X			30'-0"	16'-0"				BASSS	7IA536	BASSS		-		300S
300T	E			12'-0"	14'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	300T
300U	E			12'-0"	14'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	300U
300V	E			16'-0"	14'-0"				-	-	-		-	EXISTING SECTIONAL DOOR	300V
300W	E	HM	EXIST	3'-0"	7'-0"	E	HM	EXIST	-	-	-		28		300W
301	B	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		8		301
302	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		20		302
303	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		11		303
304	A	HM	PAINTED (3)	3'-0"	8'-0"	2	HM	PAINTED	-	1IA801	7IA801		21		304
306	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		11		306
306	C	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		22		306
307	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		38		307
308	A	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		17		308
309	C	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		6		309
310A	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		6		310A
310B	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		6		310B
310C	X			6'-0"	6'-0"				-	6IA811	7IA561		-		310C
310D	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		6		310D
311	A	HM	PAINTED (3)	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		24		311
330	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		3		330
350A	B	ALUM	PAINTED	3'-0"	7'-0"	1	ALUM	PAINTED	4IA801	3IA801	3IA801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	350A
350B	C	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	3IA801	3IA801		25		350B
251	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		3		251
252	C	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	3IA801	3IA801		22	INSTALL DOOR AND FRAME IN EXISTING WALL	252
353	C	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		25		353
354	A	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	3IA801	3IA801		18	INSTALL DOOR AND FRAME IN EXISTING WALL	354
355	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		26		355
359	A	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	3IA801	3IA801		11	INSTALL DOOR AND FRAME IN EXISTING WALL	359
359A	B	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		27		359A
359B	C	HM	PAINTED	3'-0"	7'-0"	2	HM	PAINTED	-	1IA801	1IA801		6		359B
361	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		18		361
363	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		18		363
363	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		18		363
364	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		11		364
366	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		6		366
367	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		6		367
368	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		38		368
370	C	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	3IA801	3IA801		22	INSTALL DOOR AND FRAME IN EXISTING WALL	370
371	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		25		371
372	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		32		372
373	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		33		373
374	B	ALUM	PAINTED	3'-0"	7'-0"	1	ALUM	PAINTED	4IA801	3IA801	3IA801		8	REPLACE DOOR AND FRAME IN EXISTING OPENING	374
380	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		38		380
381	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		38		381
382	A	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		38		382
385A	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		31		385A
385B	C	HM	PAINTED	3'-0"	7'-0"	3	HM	PAINTED	-	1IA801	1IA801		8		385B
389	C	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	3IA801	3IA801		11		389
390	A	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	3IA801	3IA801		11		390
391	A	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	3IA801	3IA801		28	INSTALL DOOR AND FRAME IN EXISTING WALL	391
392	A	HM	PAINTED	3'-0"	7'-0"	1	HM	PAINTED	-	3IA801	3IA801		28	INSTALL DOOR AND FRAME IN EXISTING WALL	392
393	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		8		393
394	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		6		394
395	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		33		395
396	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		38		396
398	E	HM	PAINTED	3'-0"	7'-0"	E	HM	PAINTED	-	-	-		28		398
399	A	HM	PAINTED (3)	3'-0"	8'-0"	2	HM	PAINTED	-	1IA801	1IA801		24		399

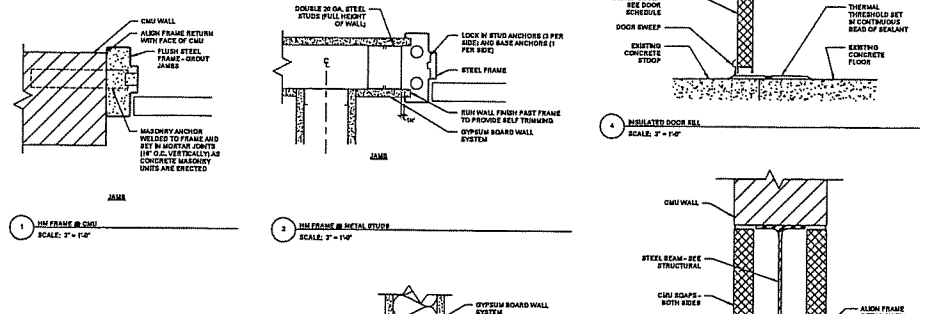


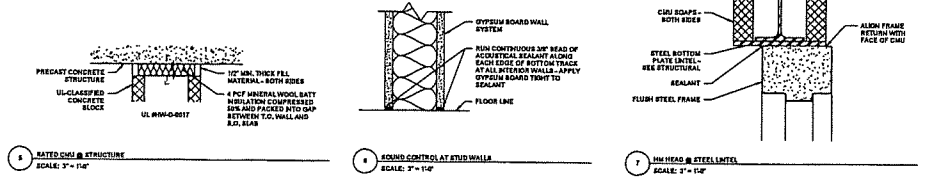
DOOR TYPES

FRAME TYPES









Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

SATELLITE BUS FACILITY REMODEL

3928-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY JPB
CHECKED BY JH

DOOR SCHEDULE & WALL TYPES

A601

FINISH SCHEDULE - MAINTENANCE BUILDING

RM #	ROOM NAME	FLOORS FINISH	BASE FINISH	WALL FINISH NORTH	WALL FINISH EAST	WALL FINISH SOUTH	WALL FINISH WEST	CEILING FINISH	REMARKS	RM #
100	VESTIBULE	WM-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		100
120	BUILDING & GROUNDS	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		120
121	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		121
122	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		122
123	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		123
124	TRAINING	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		124
125	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		125
126	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1		126
130	CORRIDOR	RF-1	RB-1	PT-3	PT-4	PT-3	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	130
131	CUST.	-	-	-	-	-	-	ACT-1	-	131
140	BUILDING & GROUNDS	SC-1	RB-1	-	-	PT-1	-	-	RB-1 AND PT-1 AT OFFICE WING	140
150	WORK	RF-1	RB-1	PT-3 / PT-4	PT-3	PT-3 / PT-7	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	150
151	BREAK	RF-1	RB-1	PT-3 / PT-4	PT-3	PT-3 / PT-4	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	151
152	STOR.	-	-	-	-	-	-	ACT-1	-	152
153	CORRIDOR	RF-1	RB-1	PT-3	PT-3	PT-7	PT-3	ACT-1	-	153
160	MENS	CT-2	CT-2	PT-1	PT-1	CT-4	PT-1	PT-1	REINSTALL EXISTING SIGNAGE	160
161	WOMENS	CT-2	CT-2	CT-4	PT-1	PT-1	PT-1	PT-1	REINSTALL EXISTING SIGNAGE	161
175	MAINTENANCE	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	RB-1 AND PT-1 AT OFFICE AND FIRE PUMP WING	175
176	FIRE PUMP	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	ID-03 SIGNAGE	176
177	FLUID / COMPRESSOR	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	177
178	BATTERY	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	ID-01, ID-04, AND ID-05 SIGNAGE	178
180	CORRIDOR	SC-3	RB-1	PT-3	PT-4	PT-3	PT-3	PT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	180
181	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	PT-1	-	181
182	ELECT SHOP	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	PT-1	-	182
183	COMFORT	RF-1	RB-1	PT-3	PT-3	PT-3	PT-4	PT-1	-	183
184	TOILET	CT-1	CT-1	PT-3	PT-3	PT-3	PT-3	PT-1	ID-03 SIGNAGE	184
185	LOCKER	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	PT-1	-	185
186	SHOWER	CT-1	CT-1	PT-3	ESM-1 / PT-3	ESM-1 / PT-3	ESM-1 / PT-3	PT-1	FULL-HEIGHT ESM-1 WALLS IN SHOWER	186
187	CHANGE	CT-1	CT-1	PT-3	ESM-1 / PT-3	ESM-1 / PT-3	ESM-1 / PT-3	PT-1	FULL-HEIGHT ESM-1 WALLS IN SHOWER	187
188	CHANGE	CT-1	CT-1	ESM-1 / PT-3	ESM-1 / PT-3	PT-3	ESM-1 / PT-3	PT-1	FULL-HEIGHT ESM-1 WALLS IN SHOWER	188
189	CHANGE	CT-1	CT-1	ESM-1 / PT-3	ESM-1 / PT-3	PT-3	ESM-1 / PT-3	PT-1	FULL-HEIGHT ESM-1 WALLS IN SHOWER	189
190	TELECOM	-	-	PT-1	PT-1	PT-1	PT-1	ACT-1	-	190
195	WEST	SC-3	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	195
196	PARTS STORAGE	SC-1	RB-1	-	PT-1	-	-	-	RB-1 AND PT-1 AT OFFICE WING	196

Grand total: 54

FINISH SCHEDULE - STORAGE BUILDING

RM #	ROOM NAME	FLOORS FINISH	BASE FINISH	WALL FINISH NORTH	WALL FINISH EAST	WALL FINISH SOUTH	WALL FINISH WEST	CEILING FINISH	REMARKS	RM #
200	BUS STORAGE	SC-1	RB-1	PT-1	PT-1	-	-	PVC-1	RB-1 AND PT-1 AT OFFICE WING	200
201	SERVICE LANE	SC-1	RB-1	-	-	-	PT-1	PVC-1	RB-1 AND PT-1 AT OFFICE WING	201
202	IT	RF-1	RB-1	PT-1	PT-1	PT-1	PT-1	PT-1	-	202
203	MONEY	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	PT-1	-	203
204	COMPRESSOR	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	204
205	STORAGE	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	205
206	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	206
207	TOILET	CT-1	CT-1	PT-3	PT-3	PT-3	PT-3	PT-1	ID-03 SIGNAGE	207
208	TOILET	CT-1	CT-1	PT-3	PT-3	PT-3	PT-3	PT-1	ID-03 SIGNAGE	208
209	BREAK	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	209
210	WASH EQ	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	210
211	WEIGHT / ELECT	SC-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	ID-06 SIGNAGE	211
230	MEETING RM	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	230
250	VESTIBULE	WM-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	250
251	DISPATCH	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	251
252	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	252
253	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	253
254	COMFORT	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	254
255	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	255
256	UNIFORM	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	256
257	LOUNGE	RF-1	RB-1	PT-4	PT-3	PT-3	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	257
258	KITCHENETTE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	258
259	VESTIBULE	WM-1	RB-1	PT-3	PT-3	PT-3	PT-3	PT-1	-	259
260	DRIVER LOCKER	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	260
261	CHANGE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	261
262	CHANGE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	262
263	CHANGE	CT-1	CT-1	ESM-1 / PT-3	ESM-1 / PT-3	ESM-1 / PT-3	PT-3	PT-1	FULL-HEIGHT ESM-1 WALLS IN SHOWER	263
264	STORAGE	SC-1	RB-1	PT-3	PT-3	PT-3	PT-3	-	FINISHES AVAIL IN MECHANICAL MEZZANINE	264
268	WOMENS	-	-	-	-	-	-	ACT-1	REINSTALL EXISTING SIGNAGE	268
267	MENS	-	-	-	-	-	-	ACT-1	REINSTALL EXISTING SIGNAGE	267
268	IT	-	-	PT-3	PT-3	PT-3	PT-3	ACT-1	-	268
270	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	270
271	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	271
272	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	272
273	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	273
274	WORK	RF-1	RB-1	MR	PT-3	PT-3	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	274
275	KITCHENETTE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-4	ACT-1	-	275
280	QUIET	CP-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	280
281	QUIET	CP-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	281
282	QUIET	CP-1	RB-1	PT-3	PT-4	PT-3	PT-3	ACT-1	-	282
283	RESOURCE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	283
285	VEST	WM-1	RB-1	PT-4	PT-3	PT-3	PT-3	ACT-1	ID-08 SIGNAGE	285
286	CORRIDOR	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	286
287	CORRIDOR	RF-1	RB-1	PT-3	PT-3	PT-3	PT-4	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	287
288	CORR	RF-1	RB-1	PT-4	PT-3	PT-3 / PT-7	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	288
289	CORR	RF-1	RB-1	PT-3 / PT-4	PT-3	PT-3	PT-3 / PT-4	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	289
290	TESTING	RF-1	RB-1	PT-3	PT-3 / PT-4	PT-7	PT-3	ACT-1	-	290
291	STOR	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	291
292	DUST	-	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	EXISTING STRIP WAINSCOT AT MOP BASIN WALLS	292
293	TOILET	-	CT-1	PT-1	-	PT-1	PT-1	PT-1	USE ATTIC STOCK AND SALVAGED BASEWALL TILE TO PATCH FINISHES WHERE REQUIRED - SEE ENLARGED PLANS AND BASE PHOTO	293
294	TOILET	-	CT-1	-	-	-	-	ACT-1	SEE BASE PHOTO FOR ADDITIONAL INFORMATION	294
295	TRAINING	RF-1	RB-1	PT-4	PT-3	PT-4	PT-3	ACT-1	SEE ENLARGED PLANS FOR CORNER GUARD LOCATIONS	295
295A	STORAGE	RF-1	RB-1	NR	PT-3	PT-3	PT-3	ACT-1	-	295A
298	OFFICE	RF-1	RB-1	PT-3	PT-3	PT-3	PT-3	ACT-1	-	298
299	WATER	-	-	-	-	-	-	-	ID-03 SIGNAGE	299

FINISH KEY

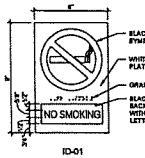
TAG	PRODUCT	MANUFACTURER	DISTRIBUTOR	STYLE	PRODUCT NO.	COLOR	FINISH	SIZE	NOTES
ACT-1	ACOUSTICAL CEILING TILE	ARMSTRONG		CALLA	3934	WHITE		24" X 24"	9/16" SQUARE TEGULAR
CG-1	CORNER GUARD	INPRO		130 HIGH IMPACT CORNER GUARD		GALLA 0385			
CP1-1	CARPET	J&J FLOORING		URBAN AVENUE	1843	TERRITORY 3838		24" X 24"	
CT-1	TILE	DALTILE		KEYSTONES	0328	SUEDE GRAY SPECKLE	MATTE	3" X 3"	GT-1 GROUT
CT-2	TILE	DELCONCA	CERAMIC TILEWORKS	ESCENTIAL		GRAY HEIGE	MATTE	12" X 24"	GT-3 GROUT
CT-3	TILE								ATTIC STOCK
CT-4	TILE	CERAMICHE CAMPODALLIANO	CERAMIC TILEWORKS	GLACCEAURE BLOCK		BLU	GLOSSY	4" X 12"	GT-3 GROUT
CT8-1	TILE BASE	DALTILE		KEYSTONES		SUEDE GRAY SPECKLE	MATTE		GT-1 GROUT
GT-1	GROUT								MATCH BOSTIK SHADOW H186
GT-3	GROUT								MATCH BOSTIK STORM H188
GT-5	GROUT								MATCH BOSTIK WHITE H153
PLAM-1	PLASTIC LAMINATE	WILSONART		BEECHWOOD	7950-60		MATTE		
PT-1	PAINT	SHERWIN WILLIAMS				SHOWBOUND SW 7604			
PT-2	PAINT	SHERWIN WILLIAMS				IRON ORE SW 7069			DOORS AND FRAMES TO BE PAINTED PT-3
PT-3	PAINT	SHERWIN WILLIAMS				ON THE ROCKS SW 7671			
PT-4	PAINT	SHERWIN WILLIAMS				BREEZY SW 7610			
PT-5	PAINT	SHERWIN WILLIAMS				LABRADORITE SW 7619			
PT-7	PAINT	SHERWIN WILLIAMS				DISTANCE SW 9343			
PT-9	PAINT	SHERWIN WILLIAMS				CAVERN CLAY SW 7701			
PVC-1									SEE SPECIFICATIONS
RB-1	RUBBER BASE	JOHNSONITE		GUARDEVE		BURNT UMBER 93		4"	
RF-1	RUBBER FLOOR	MOHA		GRANO	ARTICLE 1880	FERUGINEEA 5307		3.8 MM TILE	
SC-1									SEE SPECIFICATIONS
SC-2									SEE SPECIFICATIONS
SSM-1	SOLID SURFACE MATERIAL	CORIAN		DOVE					SHOWER WALL
SSM-2	SOLID SURFACE MATERIAL	CORIAN		CARBON CONCRETE					COUNTERTOP
WM-1	WALKOFF MAT	J&J FLOORING		RICOCHITO	7089	INTELLIGENCE 1841		24" X 24"	

GENERAL NOTES - FINISHES

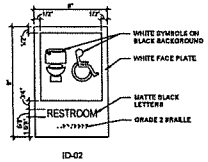
1. REFER TO INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.
2. "-" ON THE FINISH SCHEDULE INDICATES THAT THE EXISTING FINISH IS TO REMAIN.
3. PAINT HOLLOW METAL DOORS AND FRAMES PT-3. SEE DOOR SCHEDULE FOR LOCATIONS.
4. SEE FLOORING TRANSITION DETAILS FOR ADDITIONAL INFORMATION. REMOVE AND REPLACE TRANSITION STRIP IN AREAS WHERE TILE FLOORING IS TO REMAIN.
5. "TRUE" CARDINAL DIRECTIONS ARE INDICATED IN THE FINISH SCHEDULE (I.E.).

SIGNAGE NOTES:

1. SEE FINISH SCHEDULE FOR LOCATIONS OF SIGNS ID-01 THROUGH ID-06.
2. ID-07 SIGNAGE TO BE INSTALLED AT DOORS 108 AND 250A.
3. ID-08 SIGNAGE TO BE INSTALLED AT DOORS 106, 145A, 145C, 145D, 175A, 175D, 178F, 177A, 230B, 230C, 230F, 250D, 250G, 250H, 250K, 250P, 250R, 250A, 274, AND 285A.
4. ID-09, ID-10, AND ID-11 SIGNAGE TO BE INSTALLED AT ALL PEDESTRIAN ENTRIES THROUGH EXTERIOR GATES AROUND THE SITE.
5. TYPEFACE ON ALL SIGNS SHALL BE HELVETICA BOLD.
6. COLOR CHANGES TO BE RAISED 1/32" FROM BACKGROUND.



ID-01



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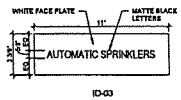

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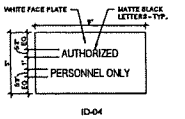

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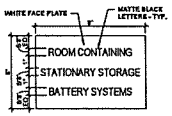

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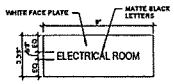
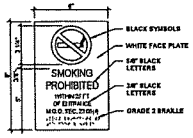


ID-06

ID-07



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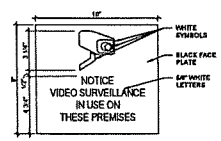
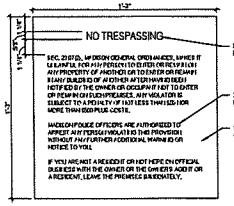
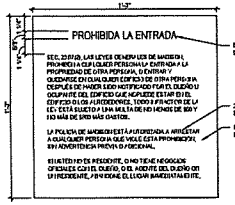


ID-09

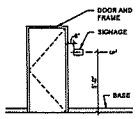


ID-10

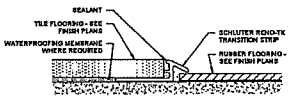


ID-11

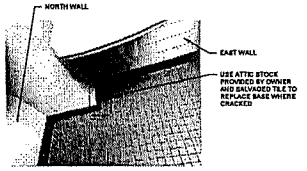
1 SIGNAGE SCHEDULE
NOT TO SCALE



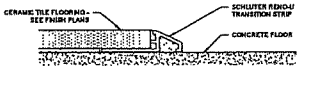
2 SIGN MOUNTING
NOT TO SCALE



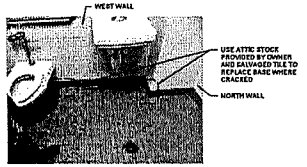
3 TILE TO RUBBER FLOORING TRANSITION
SCALE: 12" = 1'-0"



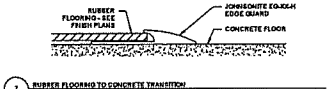
5 TOILET 293 BASE REPLACEMENT
NOT TO SCALE



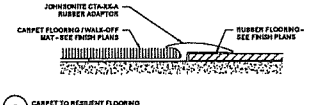
6 TILE TO CONCRETE TRANSITION
SCALE: 12" = 1'-0"



4 TOILET 294 BASE REPLACEMENT
NOT TO SCALE



7 RUBBER FLOORING TO CONCRETE TRANSITION
SCALE: 12" = 1'-0"



8 CARPET TO RESILIENT FLOORING
SCALE: 12" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

SATELLITE BUS FACILITY REMODEL

3939-3901 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY JFS
CHECKED BY JH

INTERIOR FINISHES & SCHEDULES

A701

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

01/26/2024

SATELLITE BUS FACILITY REMODEL

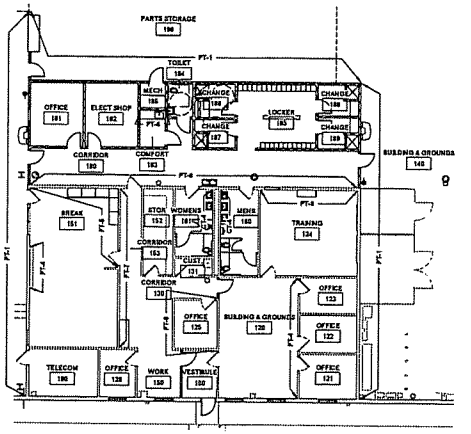
2328-2901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

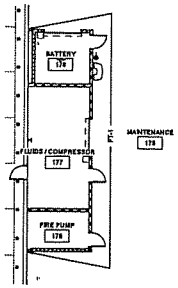
PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 8/15/2023

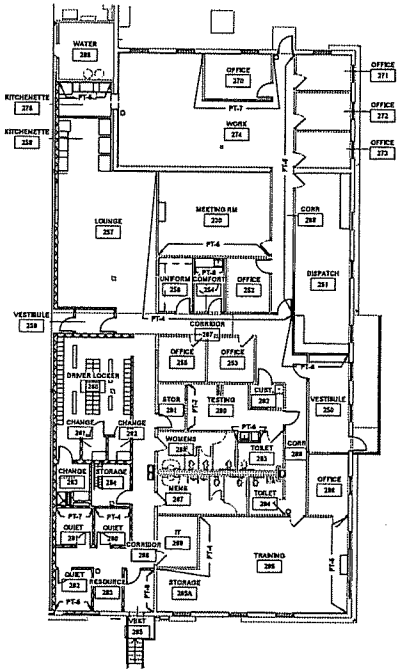
REVISION FOR:
NO. DESCRIPTION DATE



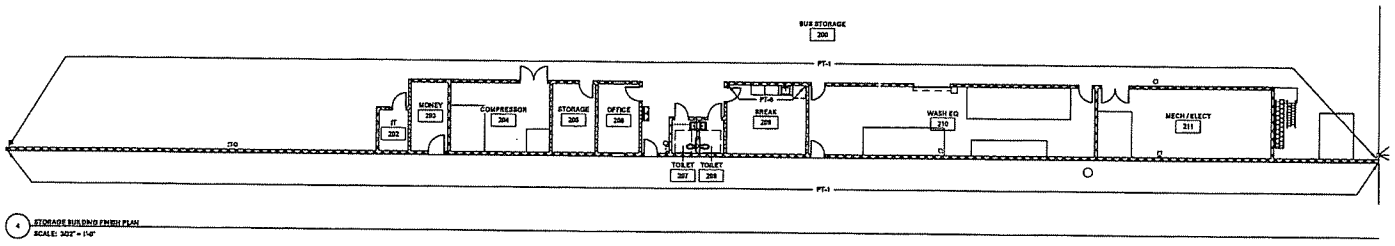
1 MAINTENANCE BUILDING FINISH PLAN
SCALE: 3/32" = 1'-0"



2 MAINTENANCE BUILDING FINISH PLAN
SCALE: 3/32" = 1'-0"



3 STORAGE BUILDING FINISH PLAN
SCALE: 3/32" = 1'-0"



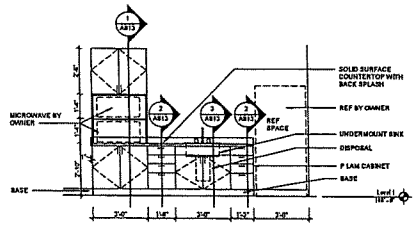
4 STORAGE BUILDING FINISH PLAN
SCALE: 3/32" = 1'-0"

DRAWN BY JFB
CHECKED BY JH

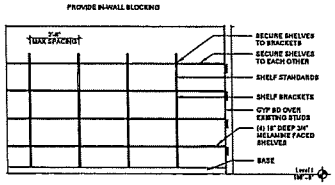
INTERIOR FINISH PLANS

NORTH

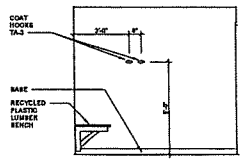
A702



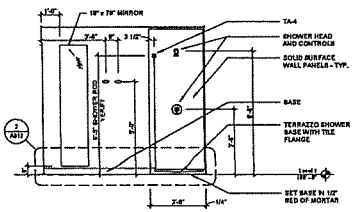
9 LOUNGE KITCHENETTE
SCALE: 3/8" = 1'-0"



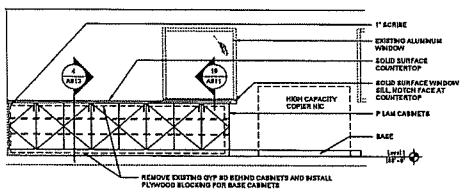
10 UNIFORM STORAGE 2
SCALE: 3/8" = 1'-0"



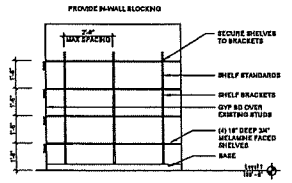
18 SHOWER ELEVATION C
SCALE: 3/8" = 1'-0"



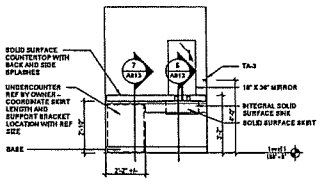
20 SHOWER ELEVATION B
SCALE: 3/8" = 1'-0"



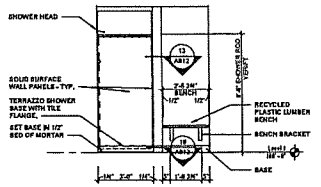
4 DISPATCH ELEVATION
SCALE: 3/8" = 1'-0"



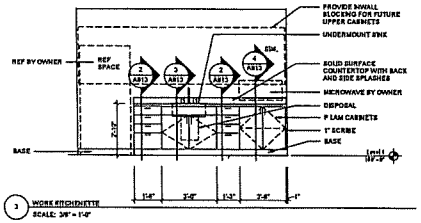
8 UNIFORM STORAGE 1
SCALE: 3/8" = 1'-0"



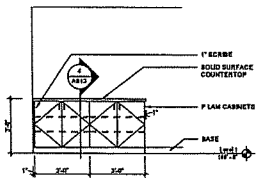
14 MAINTENANCE COMFORT ROOM
SCALE: 3/8" = 1'-0"



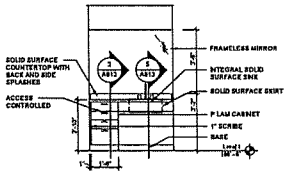
16 SHOWER ELEVATION A
SCALE: 3/8" = 1'-0"



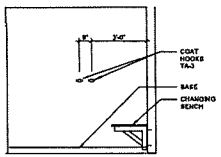
3 WORK KITCHENETTE
SCALE: 3/8" = 1'-0"



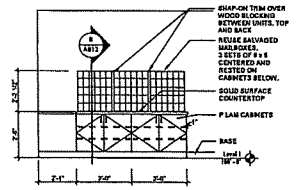
6 MAINTENANCE WORK ELEVATION
SCALE: 3/8" = 1'-0"



15 TESTING ROOM CASEWORK
SCALE: 3/8" = 1'-0"



17 ACCESSIBLE SHOWER ELEVATION C
SCALE: 3/8" = 1'-0"



2 DISPATCH MAILBOXES
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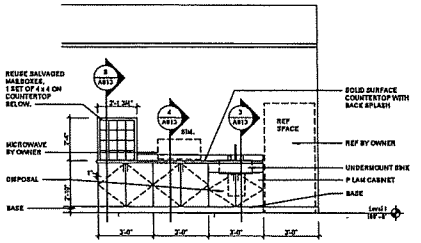

7 SERVICE LANE KITCHENETTE
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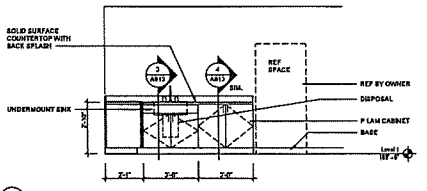

12 MAINTENANCE BREAK ROOM 2
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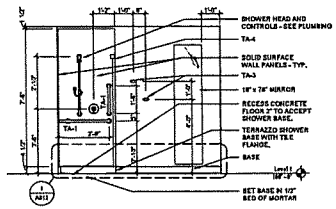
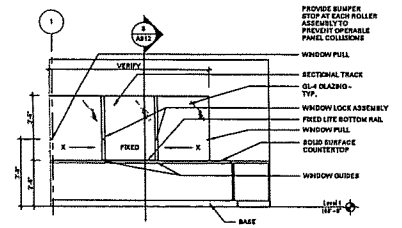
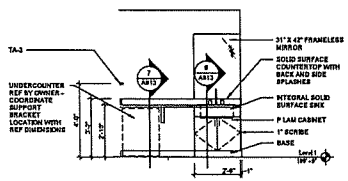


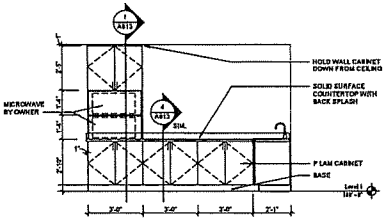
19 ACCESSIBLE SHOWER ELEVATION B
SCALE: 3/8" = 1'-0"



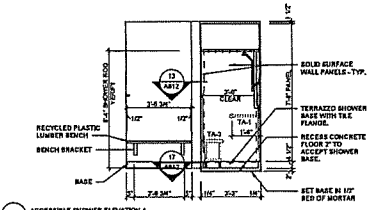
1 CHECK-IN WINDOW ELEVATION
SCALE: 3/8" = 1'-0"



4 OPERATIONS COMFORT ROOM
SCALE: 3/8" = 1'-0"



11 MAINTENANCE BREAK ROOM 1
SCALE: 3/8" = 1'-0"



13 ACCESSIBLE SHOWER ELEVATION A
SCALE: 3/8" = 1'-0"

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

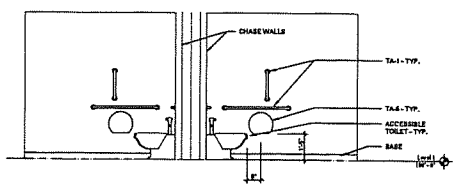
ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

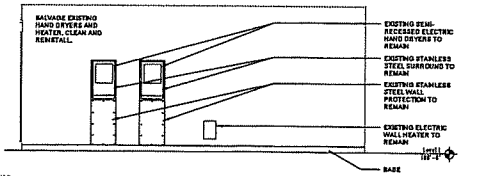
DRAWN BY JFB
CHECKED BY JH

INTERIOR ELEVATIONS

A801



8 MENS / WOMENS C
SCALE: 3/8" = 1'-0"



5 MENS ELEVATION B
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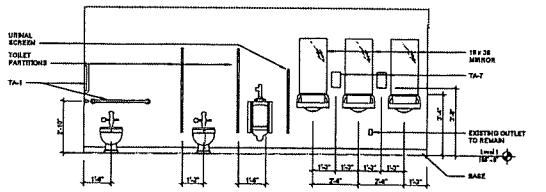

4 MENS ELEVATION A
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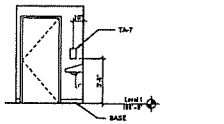
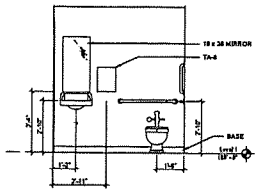


3 TOILET ELEVATION C
SCALE: 1/4" = 1'-0"



2 TOILET ELEVATION B
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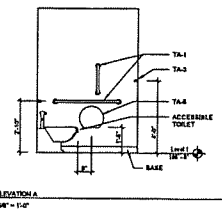
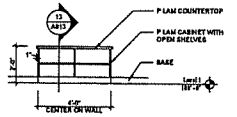


1 TOILET ELEVATION A
SCALE: 3/8" = 1'-0"



11 CONF ROOM CASEWORK
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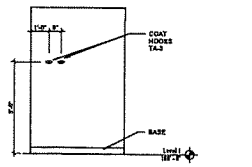
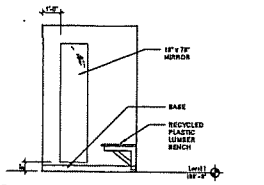
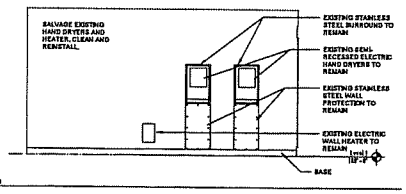


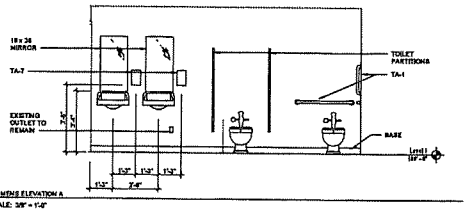
10 CHANGING ELEVATION B
SCALE: 3/8" = 1'-0"



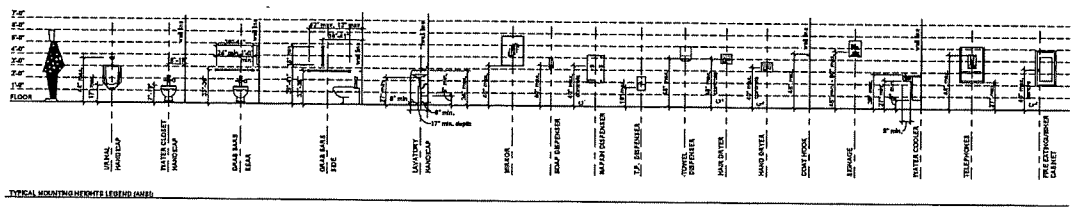
9 CHANGING ELEVATION A
SCALE: 3/8" = 1'-0"



6 WOMENS ELEVATION B
SCALE: 3/8" = 1'-0"



7 WOMENS ELEVATION A
SCALE: 3/8" = 1'-0"



TYPICAL MOUNTING HEIGHTS LEGEND (ANSI)

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

012624 INFAC

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	9/15/2023

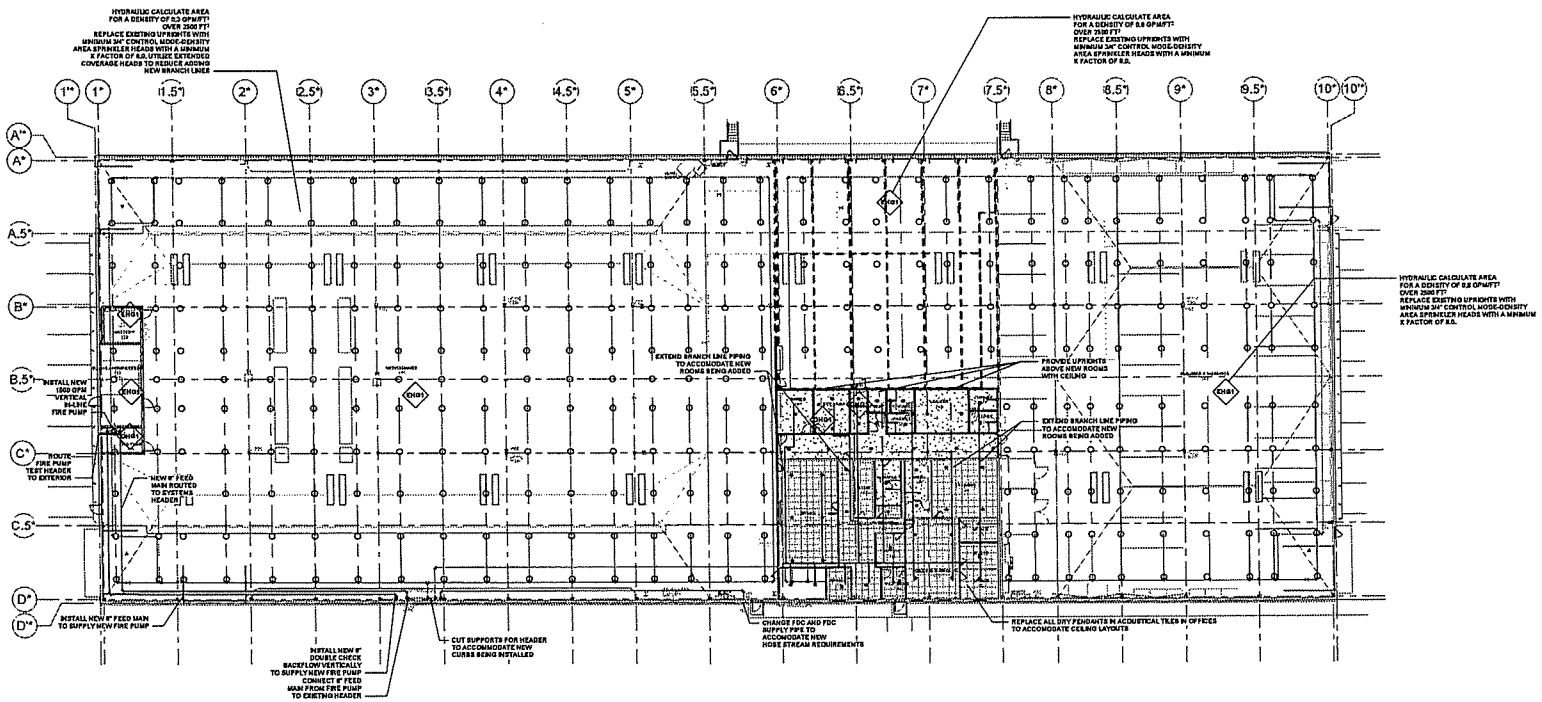
REVISION FOR:

NO.	DESCRIPTION	DATE

DRAWN BY	JFR
CHECKED BY	JH

INTERIOR ELEVATIONS

A802



1 FIRST FLOOR FIRE PROTECTION PLAN - 3829

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

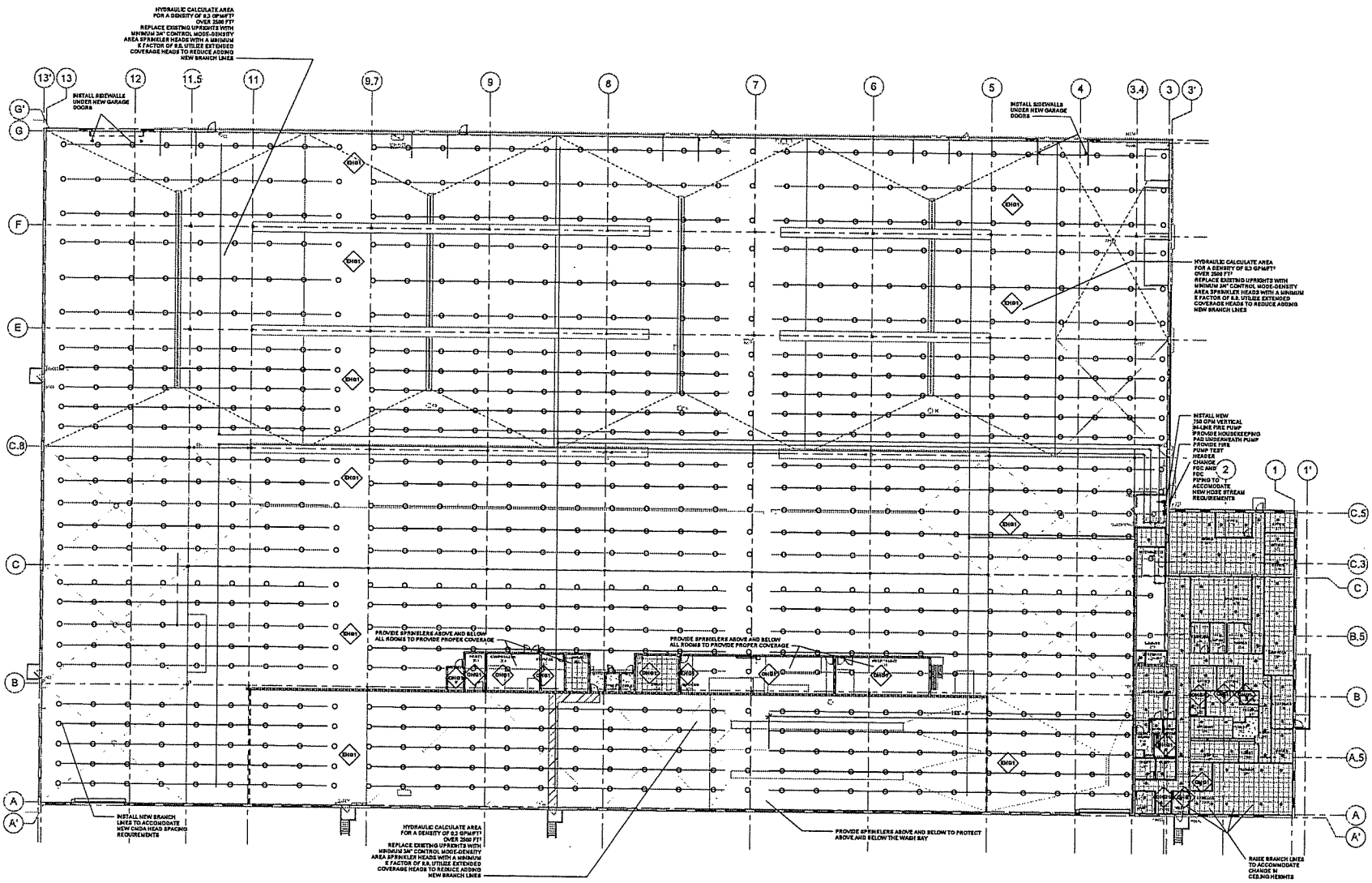
ISSUED FOR:
BID SET 06/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

FIRST FLOOR PLAN
MAINTENANCE BUILDING
FIRE PROTECTION

F100



1 FIRST FLOOR FIRE PROTECTION PLAN - 3901

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET 09/15/2023

REVISION FOR:

NO. DESCRIPTION DATE

DRAWN BY Author

CHECKED BY Checker

FIRST FLOOR PLAN
STORAGE BUILDING FIRE PROTECTION

F101

GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL GENERAL NOTES WHICH WILL APPLY HERE.
2. NOTES ON DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
3. THE CONTRACTOR MUST VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING SITE AND BUILDING CONDITIONS WHICH WILL BE AFFECTED DURING CONSTRUCTION PRIOR TO SUBMITTING HIS BID PROPOSAL. CONTRACTOR IS CAUTIONED THAT THE PROJECT IS A REMODELING JOB AND IT IS ASSUMED THAT HE HAS INCLUDED FUNDS IN HIS BID TO COVER UNFORESEEN ITEMS WHICH MUST BE MOVED, RELOCATED OR ADJUSTED TO FIT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY EXTRA WORK CAUSED BY FAILURE TO VISIT, EXAMINE OR VERIFY.
4. ALL EXISTING EQUIPMENT IS TO REMAIN OPERATIONAL DURING CONSTRUCTION PERIOD. ALL TEMPORARY WIRING OR REROUTING OF CIRCUITRY TO ACHIEVE THIS IS BY THE ELECTRICAL CONTRACTOR. SHUTDOWN OF EXISTING SERVICES SHALL ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE OWNER AND THEN ONLY FOR THAT DATE AND DURATION AGREED UPON. INCLUDE ALL PREMIUM TIME CHARGES IN THE BASE BID.
5. EXISTING CONDUIT IN SAME PLACE MAY BE REUSED WHERE POSSIBLE. PULL NEW WIRE AS REQUIRED. ALL UNUSED CONDUIT, WIRE, JUNCTION BOXES, ETC. WILL BE REMOVED. RELOCATED EXISTING CONDUIT SHALL NOT BE ALLOWED.
6. BOXES LOCATED ON OPPOSITE SIDES OF NON-FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALL SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU THE WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
7. ELECTRICAL CONTRACTOR SHALL VERIFY TOTAL CONNECTED LOAD/HP WITH ALL OTHER TRADES PRIOR TO WIRING OF ALL OTHER TRADES' EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES AND FEEDER SIZE PER ELECTRICAL CODE AS REQUIRED.
8. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
9. PROVIDE SLEEVES/CONDUITS FOR LOW VOLTAGE CABLES WHEN THEY TRAVERSE ABOVE NON ACCESSIBLE CEILING SPACE. ALSO, PROVIDE SLEEVES THROUGH MASONARY WALLS FOR LOW VOLTAGE CABLES. VERIFY SLEEVE/CONDUIT SIZE REQUIREMENTS AND LOCATION WITH THE CONTRACTOR INSTALLING LOW VOLTAGE SYSTEM.
10. ALL FIRE ALARM SYSTEM WIRING SHALL BE INSTALLED IN CONDUITS INCLUDING WIRING ABOVE ACCESSIBLE CEILING. ALL OTHER LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT EXCEPT SUCH WIRING ABOVE ACCESSIBLE CEILING SHALL BE EXPOSED. PROVIDE "J" HOOKS AS REQUIRED. USE CABLE TRAY WHERE APPLICABLE.
11. UNLESS NOTED OTHERWISE, THE CONDUITS AND BACK BOXES SHALL BE CONCEALED WITHIN ALL DRY WALLS, NEW MASONRY WALLS AND IN CEILING. SURFACE METAL RACEWAY SHALL BE USED FOR DEVICES ON EXISTING MASONRY WALLS AND ON EXISTING DRY WALL OR PLASTERED WALL, AS MUCH AS PRACTICAL. WHEREVER FEASIBLE, INSTALL CONDUITS BEHIND A WALL IN AN UNFINISHED ROOM AND PENETRATE INTO AN ELECTRICAL DEVICE TO BE INSTALLED IN FINISHED AREA. IF THIS IS NOT FEASIBLE, PROVIDE SURFACE METAL RACEWAY, IN THE ROOM WHERE ELECTRICAL DEVICE NEEDS TO BE INSTALLED. THE SURFACE METAL RACEWAY SHALL BE ROUTED IN THE CORNER AND/OR ADJACENT TO WINDOW, DOOR FRAMEWORK ETC. SO IT IS AS INCONSPICUOUS AS POSSIBLE. FOR SAKE OF SIMPLICITY ONLY THE TERM "CONDUIT" IS USED IN MOST CASES IN THIS DOCUMENT. HOWEVER, BASED UPON ABOVE, THE SURFACE METAL RACEWAY AND CONDUIT SHALL BE USED, AS APPLICABLE. WHERE SURFACE METAL RACEWAY IS USED ONE TWO CHANNEL RACEWAY WITH DIVIDER CAN BE USED (FOR POWER & LOW VOLTAGE) WHERE APPLICABLE.
12. WHERE POWER AND LOW VOLTAGE OUTLETS (SUCH AS DATA OUTLETS) ARE SHOWN TOGETHER ON DRAWINGS, PROVIDE THEM ADJACENT TO EACH OTHER.
13. PROVIDE CONCRETE PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. (SUCH AS SWITCHBOARDS, PANELS, TRANSFORMER ETC.)
14. FOR THE AREA TO BE DEMOLISHED, THE DEMOLITION OF LIGHT FIXTURES, OUTLETS OR ANY OTHER ELECTRICAL EQUIPMENT/DEVICES SHALL BE PERFORMED AS REQUIRED. SEE ARCHITECTURAL DRAWINGS AND THE RESPECTIVE FLOOR PLANS IN ELECTRICAL DRAWINGS FOR DEMOLITION. ELECTRICAL CONTRACTOR SHALL REMOVE ALL ASSOCIATED RACEWAYS AND WIRING AS REQUIRED. ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND DISCONNECT APPLICABLE WIRING TO FACILITATE SAFE DEMOLITION.
15. THE EXISTING EQUIPMENT IS SHOWN BASED UPON THE INFORMATION OBTAINED THROUGH BRIEF SURVEY OF THE FACILITY. CONTRACTOR IS TO SURVEY THE EXISTING FACILITY IN ORDER TO DETERMINE THE FULL EXTENT OF WORK AND BE COMPLETELY FAMILIAR WITH ALL THE EXISTING CONDITIONS INCLUDING PLUMBING, HVAC, ELECTRICAL, ETC. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY IN RESPECT TO THE ACCURACY OF SUCH INFORMATION SHOWN ON THE DRAWINGS. CONTRACTOR SHALL MAKE ADEQUATE ALLOWANCE IN HIS BID FOR SOME DEVIATIONS TO SUCH INFORMATION.
16. WHERE EXISTING CONDITIONS PREVENT PROPER INSTALLATION OF PROPOSED WORK, REROUTE, EXTEND OR ALTER EXISTING WORK SO AS TO ACCOMMODATE PROPOSED WORK REQUIREMENTS.
17. CIRCUIT NUMBERS SHOWN FOR EXISTING PANELS ARE FOR REFERENCE ONLY. USE NEXT AVAILABLE CIRCUITS AND PROVIDE APPROPRIATE SIZE BREAKERS.
18. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT & DEVICES. THE ELECTRICAL DRAWINGS ARE FOR CONCEPT ONLY.
19. IN GENERAL, DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED, LIGHT SOLID LINES INDICATE ITEMS TO REMAIN AND DARK SOLID LINES INDICATE NEW ITEMS.
20. WHERE EXISTING WIRING DEVICE (SUCH AS RECEPTACLE, SWITCH, ETC.) IS INDICATED TO REMAIN, REUSE EXISTING JUNCTION BOX, RACEWAY, BUT PROVIDE NEW DEVICE AND ASSOCIATED COVERPLATE. RECONNECT THIS DEVICE TO NEW CIRCUIT AS INDICATED.
21. THE SYSTEMS PROVIDED BY THIS CONTRACTOR SHALL BE COMPLETELY OPERATIONAL REGARDLESS OF OMISSION OF MINOR ITEMS, SUCH AS CIRCUIT NUMBER FOR RELAY, A CIRCUIT NUMBER NEXT TO A LIGHTING FIXTURE, ETC.
22. ALL OUTDOOR DEVICES SUCH AS RECEPTACLES, DISCONNECTS, SPEAKERS, LIGHTING FIXTURES, JUNCTION BOXES, ETC. SHALL BE OUTDOOR TYPE.
23. THE EXIT SIGNS ARE PROVIDED FOR BIDDING PURPOSE. FINAL LOCATION SHALL BE AS DETERMINED BY LOCAL FIRE MARSHALL. IF REQUIRED BY FIRE MARSHALL, PROVIDE ADDITIONAL EXIT SIGNS WITHOUT ADDITIONAL COST TO OWNER.
24. PROVIDE LOCKING CLIPS ON CIRCUIT BREAKERS SERVING EMERGENCY LIGHTING, FIRE ALARM SYSTEM, PA/INTERCOMM, TELEPHONE SYSTEM AND SECURITY SYSTEM LOAD.
25. WHERE A NEW WALL IS TO BE BUILT PERPENDICULAR TO EXISTING WALL, AND IF THERE IS AN EXISTING RECEPTACLE ON THE EXISTING WALL, RELOCATE THIS RECEPTACLE AS REQUIRED.
26. IN CERTAIN CASES LARGER SIZE CABLES ARE SPECIFIED IN ORDER TO COMPENSATE FOR VOLTAGE DROP. PROVIDE OVERSIZE AND/OR MULTIPLE LUGS AT THE LINE AND LOAD SIDE OF EQUIPMENT TO INCORPORATE LARGER AND ADDITIONAL CABLES. IF REQUIRED, PROVIDE SPLICE BOXES AT EITHER END OF CABLE TO INTERCEPT CHANGE IN THE CABLES.
27. PROVIDE LABEL ON MAIN ELECTRICAL SERVICE PANEL/SWITCHBOARD INDICATING THAT IT IS LISTED AND LABLED AS A SUITABLE CONNECTION TO AN ONSITE RENEWABLE ENERGY SOURCE TO COMPLY WITH ARTICLE 608.12 OF IGCC (INTERNATIONAL GREEN CONSTRUCTION CODE).
28. PROVIDE TYPED PANEL DIRECTORY INDICATING LOAD SERVED.
29. UNO, ALL OVERCURRENT PROTECTION DEVICES 800 AMP AND LARGER SHALL BE 100% RATED.
30. AS REQUIRED EXTEND EXISTING RECEPTACLES WHERE EXISTING WALLS ARE FURRED OUT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF THIS WORK.
31. DUE TO THE SMALL SCALE AND INTERFERENCE OF EXISTING EQUIPMENT, EACH AND EVERY ITEM IS NOT SHOWN. SHOWN INFORMATION IS INTENDED AS A GUIDE. CONTRACTOR SHALL VERIFY INFORMATION AND CONDITIONS IN THE FIELD.
32. RECONFIGURE LIGHTING FIXTURES AND OUTLETS IN MECHANICAL ROOMS TO BE COMPATIBLE WITH EQUIPMENT LAYOUT AS REQUIRED.
33. COORDINATE THE FINAL LOCATION OF RECEPTACLES IN TELECOMMUNICATION CLOSETS WITH TELECOMMUNICATION EQUIPMENT VENDOR.
34. ALL RECEPTACLES LOCATED WITHIN 6' OF SOURCE OF WATER (SUCH AS SINK) AND ALL OUTDOOR RECEPTACLES SHALL BE GFI TYPE, WHETHER SPECIFICALLY INDICATED OR NOT.
35. WHERE THE OUTLETS ARE SHOWN ON FURNITURE/DESK THEY SHALL BE PROVIDED EITHER UNDER THE DESK OR AS A PART OF MILLWORK AS INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONDUITS AND WIRING UNDER OR WITHIN THE FURNITURE/DESK. THE QUANTITY AND LOCATION OF INDICATED OUTLETS IS APPROXIMATE. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT AND MILLWORK VENDOR. IF FURNITURE/DESK IS NEXT TO WALL, THE ROUGH-IN SHALL BE PROVIDED FROM WALLS. IF FURNITURE/DESK IS FREE STANDING, THE ROUGH-IN SHALL BE PROVIDED FROM FLOOR. THE POWER POLE IS NOT ALLOWED UNLESS SPECIFICALLY INDICATED.
36. IN ORDER TO FACILITATE THE REPLACEMENT OF EXISTING OR INSTALLATION OF NEW DUCTWORK AND/OR PIPING, REMOVE EXISTING LIGHTING FIXTURE AND/OR SMOKE /HEAT DETECTORS AS REQUIRED. THIS WORK IS NOT SHOWN ON DRAWINGS. ONCE THE INSTALLATION OF DUCTWORK, PIPING ETC IS COMPLETED, REINSTALL ELECTRICAL EQUIPMENT/DEVICES. PROVIDE ADEQUATE ALLOWANCE IN THE BID FOR THIS WORK.
37. PROVIDE EXPANSION FITTINGS FOR ALL ELECTRICAL RACEWAYS AT EVERY EXPANSION JOINT. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATION OF EXPANSION JOINTS.
38. COORDINATE THE INSTALLATION OF ELECTRICAL EQUIPMENT SUCH AS PANELS, SWITCHBOARD, MOTOR CONTROL CENTER, TRANSFORMER ETC. WITH OTHER TRADES SUCH THAT NO DUCTWORK, PIPING ETC. IS LOCATED ABOVE THEM.
39. ELECTRICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC., FOR REMOVING EQUIPMENT AND MATERIAL OUT OF BUILDING. ELECTRICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION REQUIRED TO FACILITATE EXITING OF HIS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER COMPLETION.
40. VERIFY QUANTITY AND SIZE OF LUGS PROVIDED IN OTHER TRADE'S EQUIPMENT (FOR EXAMPLE, CHILLER, ELEVATOR, FIRE PUMP ETC) BEFORE STARTING ANY WORK ASSOCIATED WITH SUCH EQUIPMENT. IF THEIR LUGS CANNOT ACCOMMODATE THE CABLES INDICATED IN ELECTRICAL DOCUMENT, PROVIDE LUG FITTINGS TO ACCOMMODATE CHANGE IN THE CABLES. PROVIDE SUCH FITTINGS IN A JUNCTION BOX AS CLOSE AS POSSIBLE TO THEIR EQUIPMENT. IF ALLOWED BY THE EQUIPMENT MANUFACTURER, SUCH FITTINGS MAY BE INSTALLED IN THEIR EQUIPMENT RATHER THAN IN A SEPARATE JUNCTION BOX.
41. MAIN SERVICE ENTRANCE EQUIPMENT SHALL HAVE LABEL FOR SERVICE ENTRANCE TYPE, AND SHALL BE GROUNDED PER ELECTRICAL CODE.
42. AS A MINIMUM, USE #10 FOR ALL EMERGENCY LIGHTING.
43. PROVIDE SEPARATE DEDICATED GROUNDING CONDUCTOR IN EACH FEEDER AND BRANCH CIRCUIT WIRING CIRCUIT.
44. PROVIDE FIRE SEALANTS FOR ALL PENETRATIONS THRU FIRE RATED FLOORS AND WALLS.
45. THE ELECTRICAL DRAWINGS SHOW DIRECT PRINCIPLE WORK WHICH MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INDIRECT AND INCIDENTAL WORK WILL ALSO BE NECESSARY DUE TO CHANGES AFFECTING EXISTING ARCHITECTURAL, MECHANICAL, PLUMBING OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INSPECT THOSE AREA, AND ASCERTAIN WORK NEEDED AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.
46. PROVIDE WIRELESS COMMUNICATOR AT FIRE ALARM CONTROL PANEL FOR DIALING OUT WHETHER SPECIFICALLY INDICATED OR NOT. THE COMMUNICATOR SHALL BE DSC MODEL LE 4010CF WITH ANTENNA MODEL LTE-5SANT OR APPROVED EQUAL. PROVIDE 120 VOLT POWER TO IT FROM NEAREST GENERATOR CIRCUIT IF THERE IS A GENERATOR. IF THERE IS NO GENERATOR PROVIDE POWER FROM NORMAL CIRCUIT. PROVIDE CAT 5 CABLE BETWEEN COMMUNICATOR AND FACP AND CABLE BETWEEN ANTENNA AND COMMUNICATOR. PROVIDE AN ADDITIONAL CAT 6 CABLE TO FACP FROM IT BACK AS A BACK UP TO COMMUNICATOR. IN LIEU OF COMMUNICATOR PROVIDE TWO PHONE LINES IF ACCEPTED BY OWNER AND LOCAL FIRE MARSHALL. COORDINATE APPLICABILITY OF COMMUNICATOR OR PHONE LINES WITH OWNER.
47. PROVIDE SMOKE DETECTOR WITHIN 5 FEET OF FIRE ALARM CONTROL PANEL, WHETHER SPECIFICALLY INDICATED OR NOT.
48. PROVIDE REMOTE TEST AND INDICATING STATION IN A READILY ACCESSIBLE AND VISIBLE SPACE FOR EACH DUCT SMOKE DETECTOR. VERIFY ITS EXACT LOCATION WITH OWNER AND LOCAL FIRE MARSHALL.
49. WHERE "VIF" IS INDICATED NEXT TO A DEVICE, CONTRACTOR SHALL VERIFY ITS REQUIREMENT IN FIELD. THIS INCLUDES VERIFICATION OF DEVICE TYPE, LOCATION, WIRING CONDUIT AND CIRCUIT BREAKER ETC. PROVIDE APPROPRIATE DEVICE, WIRING, CONDUIT, CIRCUIT BREAKER ETC. AS REQUIRED.
50. PROVIDE RED PLASTIC SIGN AT MAIN WATER SERVICE METER INDICATING "MAIN GROUND LOCATION."
51. AIC (AVAILABLE INTERRUPTING CAPACITY) RATING OF PANELS, SWITCHBOARDS, BUSWAY, MCC ETC. ARE SHOWN BASED UPON PRELIMINARY CALCULATIONS. THE FINAL RATING OF THE EQUIPMENT SHALL BE BASED UPON THE ARC-FLASH AND SHORT CIRCUIT COORDINATION STUDY. PROVIDE POWER DISTRIBUTION EQUIPMENT TO MEET THE RATING INDICATED IN THE STUDY. THE STUDY SHALL BE BASED UPON THE ULTIMATE CAPABILITY OF THE MAIN SERVICE EQUIPMENT AND NOT THE INITIAL TRANSFORMER PROVIDED BY THE UTILITY COMPANY.
52. PROVIDE ARC-FLASH LABELS ON NEW EQUIPMENT IN ACCORDANCE WITH NEC.
53. WHERE EQUIPMENT DEVICES ARE INDICATED TO BE REMOVED, REMOVE ACCESSIBLE, UNUSABLE CONDUITS & WIRING. IF CONDUITS ARE NOT ACCESSIBLE THEY MAY BE ABANDONED. MAINTAIN CONTINUITY TO THE LOAD WHICH IS TO REMAIN.
54. CONNECT FIRE ALARM SYSTEM DEVICES TO EXISTING SYSTEM. UPGRADE/MODIFY EXISTING HEAD-END EQUIPMENT AS REQUIRED.
55. WHERE EXISTING HVAC EQUIPMENT IS SHOWN TO BE REMOVED, REMOVE ITS ASSOCIATED STARTER, DISCONNECT SWITCH, CONDUIT WIRING ETC. FIELD VERIFY LOCATION OF STARTER, DISCONNECT, ETC.
56. ONLY OCCUPANCY/VACANCY SENSORS & REQUIRED SWITCHES ARE INDICATED. PROVIDE POWER PACKS (CONTROL RELAYS) AS REQUIRED. LOCATE SENSORS TO PROVIDE OPTIMUM COVERAGE OF THE DEVICE.
57. PROVIDE GROUND BUS BAR IN EACH PANEL WHETHER SPECIFICALLY INDICATED OR NOT.
58. ARMORED (BX) CABLES OR MC CABLES ARE NOT ALLOWED.
59. ELECTRICAL DEVICES SUCH AS SMOKE/HEAT DETECTORS, OCCUPANCY SENSORS, DAY LIGHT SENSOR ETC. SHALL BE LOCATED IN AS CENTER AND AS UNIFORMLY IN ROOM AS POSSIBLE. THEY ARE NOT ALWAYS SHOWN IN CENTER OF A ROOM OR UNIFORMLY IN A ROOM TO AVOID CONFLICT WITH ROOM NUMBER TAGS.
60. PROVIDE DUCT SMOKE DETECTORS FOR ANY AIR HANDLING UNIT HAVING 2000 CFM OR MORE. PROVIDE TWO DUCT SMOKE DETECTORS FOR ANY AIR HANDLING UNIT HAVING 15000 CFM OR MORE. THE DUCT SMOKE DETECTOR SHALL BE FURNISHED, INSTALLED AND TESTED UNDER DIVISION 26. ITS ASSOCIATED REMOTE TEST AND INDICATING STATION SHALL ALSO BE FURNISHED, INSTALLED, WIRED AND TESTED UNDER DIVISION 26. "COMPLETE WARRANTY OF THESE PRODUCTS SHALL ALSO BE PROVIDED UNDER DIVISION 26. THE WIRING OF THESE PRODUCTS TO FIRE ALARM CONTROL PANEL SHALL BE PROVIDED UNDER DIVISION 26. WIRING FOR FAN SHUTDOWN SHALL BE PROVIDED UNDER DIVISION 23. REQUIRED RELAY FOR FAN SHUTDOWN SHALL BE PROVIDED UNDER DIVISION 26.
61. SERIES RATING OF PANELS IS ACCEPTABLE FOR THEIR SHORT CIRCUIT RATING.
62. LUGS FOR CIRCUIT BREAKERS AND SWITCHES SHALL BE RATED FOR TERMINATION OF 60 DEGREE C AND 75 DEGREE C RATED CONDUCTORS. THIS SHALL ALLOW USE OF CONDUCTORS BASED UPON AMPACITIES OF ONLY 75 DEGREE C.
63. OUTDOOR RECEPTACLES SHALL BE INSTALLED IN AN "IN USE" TYPE COVER. SUCH RECEPTACLES SHALL BE TYPE "WR" WEATHER-RESISTANT RECEPTACLES.
64. PROVIDE ARC ENERGY REDUCING FEATURES IN CIRCUIT BREAKERS RATED 1200 AMP OR LARGER TO MEET NEC 240.87.
65. IDENTIFY LOCATION OF CIRCUIT DISCONNECTS FOR FIRE ALARM PANEL PER NFPA 72, 10.5.
66. PER NFPA 72, 10.5.5.2; CIRCUIT BREAKERS FEEDING FIRE ALARM PANELS AND ASSOCIATED EQUIPMENT SHALL HAVE RED MARKING AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT" AND SHALL HAVE LOCK-ON DEVICE.
67. ALL LOW VOLTAGE WIRING SHALL BE IN CONDUITS EXCEPT WIRING ABOVE ACCESSIBLE CEILING. WIRING ABOVE ACCESSIBLE CEILING SHALL BE EXPOSED UNLESS REQUIRED BY CODE TO BE IN CONDUITS. COORDINATE WITH LOW VOLTAGE SYSTEM VENDORS ROUTING OF THEIR CABLING AND PROVIDE CONDUITS/RACEWAYS AS REQUIRED. ALL FIRE ALARM SYSTEM WIRING SHALL BE IN CONDUITS.
68. FOR DATA WIRING, PROVIDE CONDUITS PER FOLLOWING, (BASED UPON CAT6 CABLES HAVING 0.3" DIAMETER CABLES)

CONDUIT	NUMBER OF CABLES
3/4"	2
1"	4
1 1/4"	6
1 1/2"	10
2"	17

69. PROVIDE CAT6E OR EQUIVALENT CABLING SYSTEM FOR OCCUPANCY SENSORS, VACANCY SWITCHES/SENSORS, POWER PACKS, DIMMER SWITCHES, DAY LIGHT SENSORS ETC. AS REQUIRED.
70. UNLESS NOTED OTHERWISE, WHEN DETERMINING THE DIAMETER FOR DATA WIRING OF FEEDER CONDUITS FROM THE CABLE ORIGINATION POINT CONDUIT SIZING SHALL ALLOW FOR 50% ADDITIONAL CAPACITY FOR OWNERS FUTURE DATA NEEDS.
71. FOR EACH FLUSH MOUNTED PANEL, PROVIDE THREE 1" SPARE EMPTY CONDUITS AND TERMINATE ABOVE ACCESSIBLE CEILING SPACE FOR FUTURE USE.
72. LIGHTING FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING SYSTEM BY AT LEAST TWO WIRES ON OPPOSITE CORNERS OF THE FIXTURES.
73. ALL WORK SHALL COMPLY WITH ALL LOCAL CODES.
74. UNLESS NOTES OTHERWISE, COLOR OF WIRING DEVICES (OUTLETS, SWITCHES AND COVER PLATES) SHALL BE WHITE. VERIFY FINAL COLOR WITH THE ARCHITECT BY PROVIDING SUBMITTAL.

ELECTRICAL SYMBOLS

- MULTI-OUTLET ASSEMBLY
- CABLE TRAY
- MANHOLE
- HANDHOLE
- PULL BOX
- JUNCTION BOX- EXPOSED OR IN CEILING
- JUNCTION BOX – WALL MOUNTED
- JUNCTION BOX WITH FLEXIBLE CONDUIT AND FINAL CONNECTION TO EQUIPMENT.
- HAND DRYER
- LIGHTING FIXTURE. SIZE AND TYPE AS INDICATED ON SCHEDULE.
- STRIP LIGHTING FIXTURE. SIZE AND TYPE AS INDICATED ON SCHEDULE.
- DOWNLIGHT LIGHTING FIXTURE. SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL MOUNTED LIGHTING FIXTURE. SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL MOUNTED LIGHTING FIXTURE. SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL WASH LIGHTING FIXTURE- SIZE AND TYPE AS INDICATED ON SCHEDULE.
- EMERGENCY LIGHTING FIXTURE
- LIGHTING STANDARD – SINGLE FIXTURE, POLE MOUNTED. NUMBER IDENTIFIES FIXTURE
- LIGHTING STANDARD – MULTI FIXTURE, POLE MOUNTED. NUMBER IDENTIFIES FIXTURE

LIGHTING FIXTURES:
"A" UPPER CASE LETTER INDICATES LIGHTING FIXTURE TYPE. REFER TO LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION AND MOUNTING.
"1" NUMBER INDICATES BRANCH CIRCUIT NUMBER(S)
"a" LOWER CASE LETTER INDICATES SWITCH CONTROL(S)

- TRACK LIGHTING
- BATTERY PACK, EMERGENCY LIGHTING UNIT
- REMOTE HEAD CONNECTED TO BATTERY PACK.
- COMBINATION EXIT SIGN AND EMERGENCY LIGHTING UNIT
- "X1" INDICATES FIXTURE. SHADED QUADRANTS INDICATES DIRECTION OF LIGHTED FACES. ARROWS INDICATE DIRECTION OF ARROWS.
- LIGHT SWITCH, SINGLE POLE UNLESS NOTED OTHERWISE:

"a"	SWITCHED	"WP"	WEATHERPROOF
"D"	DIMMER SWITCH	"2P"	TWO POLE
"EP"	EXPLOSION PROOF	"3P"	THREE POLE
"K"	KEY OPERATED	"3W"	THREE-WAY
"P"	PILOT LIGHT	"4W"	FOUR-WAY
"XX"	CIRCUIT NUMBER	"MC"	MOMENTARY CONTACT
"T"	THERMAL OVERLOAD PROTECTION	"VC"	VACANCY SENSOR
"VS"	VACANCY SWITCH	"OC"	OCCUPANCY SENSOR

- DAYLIGHT SENSOR
- OCCUPANCY SENSOR
- VACANCY SENSOR
- TIME CLOCK
- PHOTOCELL

WALL	CEILING MOUNTED	FLUSH FLOOR MOUNTED	ABOVE COUNTER	
				SINGLE RECEPTACLE
				QUADPLEX RECEPTACLE
				DUPLEX RECEPTACLE
				DUPLEX RECEPTACLE – SPLIT WIRED
				DUPLEX RECEPTACLE – CRITICAL BRANCH
				DUPLEX RECEPTACLE – DEDICATED CIRCUIT
				TELE- DATA SYSTEMS OUTLET
				VOICE ONLY

- JUNCTION BOX WITH FLEXIBLE CONDUIT TO FINAL EQUIPMENT OR FURNITURE SYSTEM POWER CONNECTION

ADJACENT LETTERS IN THE SYMBOLS ABOVE INDICATE THE FOLLOWING:

"EP"	RECEPTACLE IS EXPLOSION PROOF
"GF"	RECEPTACLE HAS GROUND FAULT CIRCUIT INTERRUPTER
"IG"	RECEPTACLE HAS ISOLATED GROUND
"TP"	TAMPER PROOF (SAFETY TYPE)
"TVSS"	RECEPTACLE HAS TRANSIENT VOLTAGE SURGE SUPPRESSION
"WP"	RECEPTACLE HAS WATERPROOF COVER
"XX"	RECEPTACLE CIRCUIT NUMBER
"USB"	RECEPTACLE WITH 2 USB PLUGS.

- SPECIAL PURPOSE OUTLET – SEE SCHEDULE "XX" INDICATES OUTLET TAG
- 4FT. MULTI RECEPTACLE STRIP
- PUSH-BUTTON STATION
- GARAGE DOOR OPENER PUSH-BUTTON STATION
- PUSH PLATE STATION
- ENCLOSED CIRCUIT BREAKER
- TECHNOLOGY GROUND BAR- 1/4" X 4" X 12" COPPER
- REMOTE INDICATOR MODULE
- MOTOR OR EQUIPMENT
- FUSED DISCONNECT SWITCH, "AS" INDICATES AMPERE RATING OF SWITCH AND "AF" INDICATES AMPERE RATING OF FUSE
- NON-FUSED DISCONNECT SWITCH, CIRCUIT BREAKER IN ENCLOSURE,
- CONTACTOR-SEE SCHEDULE
- SWITCHGEAR, SWITCHBOARD OR MOTOR CONTROL CENTER, DASHED LINES INDICATE FUTURE SECTIONS, ARROW INDICATES FRONT
- SURFACE MOUNTED DISTRIBUTION PANELBOARD
- SURFACE MOUNTED NORMAL BRANCH CIRCUIT PANELBOARD
- RECESSED MOUNTED NORMAL BRANCH CIRCUIT PANELBOARD
- TRANSFORMER

TECHNOLOGY SYMBOLS

- INFORMATION DATA OUTLET
- COMCAST EQUIPMENT CABINET
- COMCAST SPLITTER JUNCTION POINT
- TELEVISION OUTLET-WITH LOW VOLTAGE JACK AND RECEPTACLE
- FIRE ALARM CONTROL PANEL
- TECHNOLOGY GROUND BAR, 12" L X 2" H X 0.25" T COPPER BAR WITH HOLES FOR LUGS
- FIRE ALARM MANUAL PULL STATION
- FIRE ALARM HORN WITH VISUAL STROBE
- VISUAL STROBE
- FIRE ALARM SPEAKER
- FIRE ALARM HEAT DETECTOR
- SMOKE DETECTOR
- MULTI STATION TYPE FIRE ALARM SMOKE/CO DETECTOR (STAND ALONE WITH LOCAL ALERT)
- FIRE ALARM SMOKE/CO DETECTOR (PART OF THE FIRE ALARM SYSTEM)
- FIRE ALARM SYSTEM SPRINKLER TAMPER SWITCH
- FIRE ALARM SYSTEM SPRINKLER FLOW SWITCH
- FIRE ALARM ROTATING BEACON
- FIRE ALARM DUCT DETECTOR
- FIRE ALARM RELAY
- SPEAKER – LOCAL SOUND SYSTEM
- EQUIPMENT CABINET
- PROJECTOR MOUNT
- RESCUE ASSISTANCE CALL STATION
- RESCUE ASSISTANCE CONTROL PANEL
- INTERCOM STATION
- DOME CAMERA

ELECTRICAL ABBREVIATIONS

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AIC	AVAILABLE INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BFS	BOILER FEED SYSTEM
C	CONDUIT
CCTV	CLOSED CIRCUIT TV
DW	DISHWASHER
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EL	ELEVATOR
EM	EMERGENCY
EDH	ELECTRIC DUCT HEATER
ESUH	ELECTRIC SUSPENDED UNIT HEATER
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EWH	ELECTRICAL WATER HEATER
E	EXISTING
FBO	FURNISHED BY OTHERS
FLA	FULL LOAD AMPS
FVNR	FULL VOLTAGE NON REVERSING
GF	GROUND FAULT INTERRUPTER
GRD	GROUND
HP	HORSE POWER
JB	JUNCTION BOX
KW	KILOWATTS
KVA	KILO VOLT AMPS
LTG	LIGHTING
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MFG	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
MV	MERCURY VAPOR
MW	MICROWAVE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NL	NIGHT LIGHT
NO	NORMALLY OPEN
P	PRESENT TO REMAIN
PX	PRESENT TO BE REMOVED
PH	PHASE (ø)
PNL	PANEL
PRE	POWER ROOF EXHAUST
RF	REFRIGERATOR
RTU	ROOF TOP UNIT
STV	STOVE
SW	SWITCH
TTC	TELEPHONE TERMINAL CABINET
UNO	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
UH	UNIT HEATER
V	VOLTS
VCP	VACUUM CONDENSATE PUMP
VAV	VARIABLE AIR VOLUME
VIF	VERIFY IN FIELD
W	WIRE
WE	WITH EQUIPMENT
WP	WEATHER PROOF
XP	EXISTING TO BE REPLACED
XR	EXISTING TO BE RELOCATED
XN	EXISTING RELOCATED IN NEW LOCATION

ELECTRICAL PROJECT GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW THE EXACT LOCATIONS OF EQUIPMENT OR FIXTURES, CONDUIT ROUTING, ETC. THE CONTRACTOR MUST REFER TO ARCHITECTURAL AND MECHANICAL PLANS, DETAILS, AND SPECS TO OBTAIN COMPLETE INFORMATION.
2. PROVIDE LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED FOR COMPLETE AND FUNCTIONING SYSTEMS, FULLY TESTED AND READY FOR USE.
3. ALL WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, STATE, AND WITH REGULATIONS AND REQUIREMENTS OF ALL LOCAL AND NATIONAL CODES AS THEY MAY APPLY TO THE PROJECT AND TO THE PUBLIC SAFETY.
4. THE CONTRACTOR IS RESPONSIBLE FOR SEEING THAT NEC CLEARANCES AROUND AND ABOVE ELECTRICAL EQUIPMENT ARE MAINTAINED. REFER TO NEC 110-26 FOR SPECIFIC INFORMATION.
5. VERIFY ANY AND ALL CONFIGURATIONS, DIMENSIONS AND ELEVATIONS BY FIELD MEASUREMENTS AND COORDINATE WITH ARCHITECTURAL DRAWINGS AND STRUCTURAL CONDITIONS.
6. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. ALL RACEWAY WITHIN THE STRUCTURE ABOVE THE FLOOR SLAB SHALL BE METAL. RACEWAY BELOW THE FLOOR SLAB AND UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE SHALL BE PVC AT A MINIMUM. CONDUIT LEAVING THE SLAB SHALL TRANSITION TO RIGID METAL CONDUIT (RMC) PRIOR TO EXITING THE SLAB.
7. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON THWN INSULATION, 40°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
8. CONDUCTORS IN WITHIN UNINSULATED CEILING SPACES AND OUTDOORS MUST BE DERATED BASED UPON THE AMBIENT TEMPERATURE. THE CONTRACTOR IS RESPONSIBLE FOR REVISING CONDUCTOR SIZE IF ACTUAL CONDUIT ROUTING DIFFERS FROM THE CONSTRUCTION DOCUMENTS.
9. EXACT TYPE OF MECHANICAL DEVICES AND EQUIPMENT LOCATIONS SHALL BE COORDINATED WITH MECHANICAL CONTRACTOR(S).
10. ALL MATERIALS, EQUIPMENT, AND APPARATUS INSTALLED ON THE PROJECT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS AND THE MANUFACTURER. IN THE CASE OF EXCEPTIONS, THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL CERTIFY IN WRITING TO THE OWNER'S REPRESENTATIVE, THAT THE INSTALLATION HAS BEEN MADE IN ACCORDANCE WITH SUCH PRINTED INSTRUCTIONS AND REQUIREMENTS.
11. MODEL NUMBERS INDICATED ON THE DRAWINGS ARE ONLY FOR REFERENCE AND CONVENIENCE. CONFIRM THE ACCURACY OF ALL MODEL NUMBERS SO AS TO MEET THE SPECIFIC PROJECT REQUIREMENTS AND MINIMUM INDICATED PERFORMANCE DATA. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT EQUIPMENT FITS WITHIN THE SPACE ALLOTTED.
12. COORDINATE AND VERIFY LOCATIONS, ROUGH-IN REQUIREMENTS AND INSTALLATION REQUIREMENTS OF EQUIPMENT FURNISHED BY THE OWNER.

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Engberg Anderson ARCHITECTS
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HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/18/2023

REVISION FOR:
NO. DESCRIPTION DATE

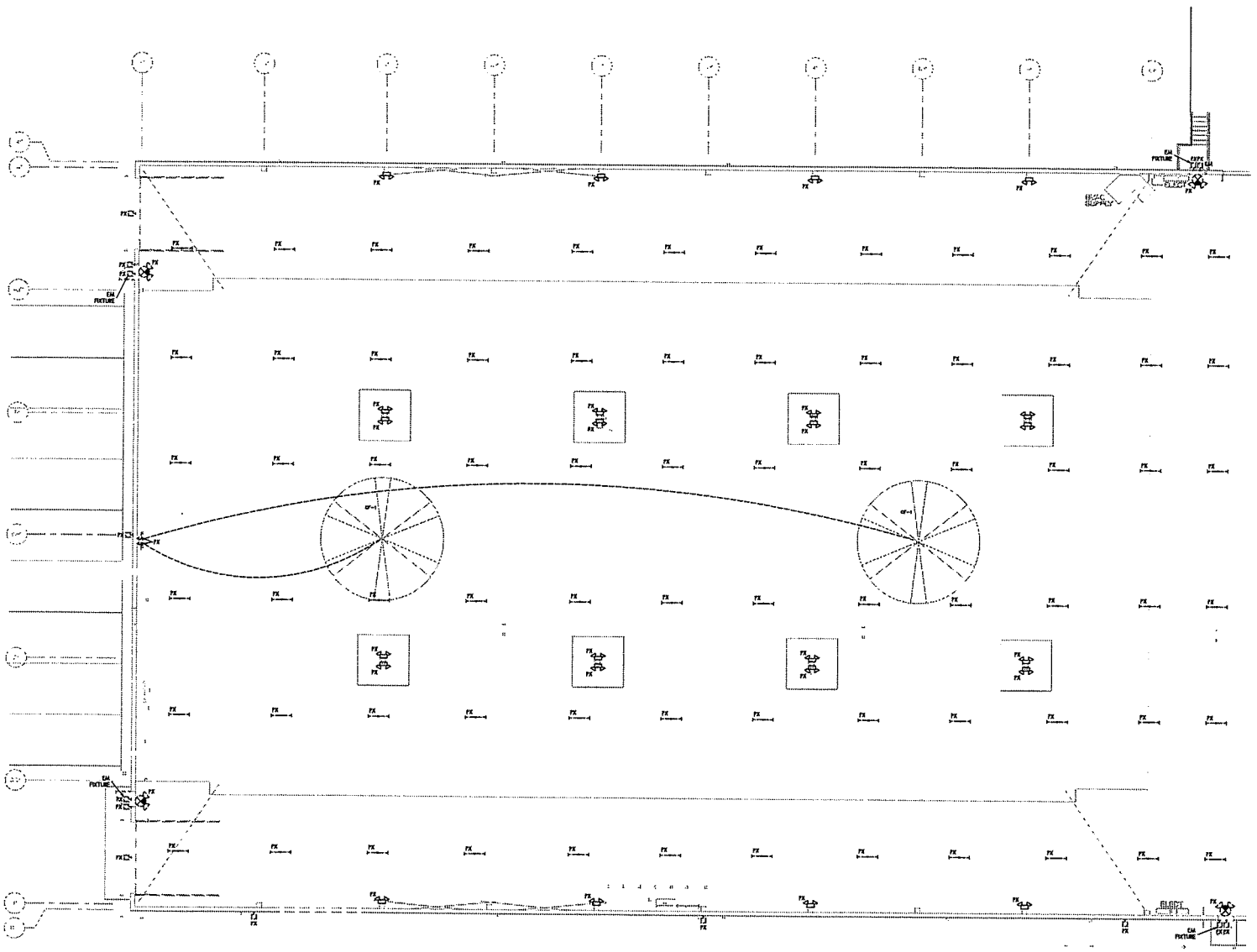
DRAWN BY Author
CHECKED BY Checker

NOTES, SYMBOLS, ABREVIATIONS & SHEET INDEX

E001

LIGHTING DEMOLITION GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION IN DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT ONLY MAY BE REUSED.
4. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BASEBAND SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED), DURING CONSTRUCTION AND SHALL BE REINSTALLED AT APPROXIMATE ORIGINAL LOCATIONS. SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
5. ALL ELECTRICAL CONDUCTORS AND CONDUITS SERVING REMOVED EQUIPMENT AND DEVICES SHALL BE COMPLETELY REMOVED. CONDUIT AND CONDUCTORS SHALL NOT BE ABANDONED IN PLACE. EXISTING CONDUITS AND PATHWAYS MAY BE REUSED, FOR NEW WORK. EXISTING CONDUCTORS MAY NOT BE REUSED, UNLESS SPECIFICALLY NOTED.
6. DISCONNECT AND REMOVE ANY AND ALL ELECTRICAL EQUIPMENT AND DEVICES, ETC. WITHIN DEMOLISHED AREAS AS REQUIRED, UNLESS NOTED OTHERWISE.
7. ANY/ALL EXISTING ELECTRICAL BOXES, RACEWAYS, WIRING, ETC. THAT IS NOT ACTIVE AND ENERGIZED BEFORE, DURING, OR AFTER THE PROJECT COMPLETION SHALL BE DISCONNECTED AND REMOVED COMPLETE. NO ABANDONED BOXES OR RACEWAYS SHALL REMAIN IN THE BUILDING AT PROJECT COMPLETION.



1 LIGHTING DEMO PLAN – 3829 MAINT. BLDG – SECTION A
SCALE: 1/8" = 1'-0"

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SATELLITE BUS FACILITY REMODEL

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CITY OF MADISON
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1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

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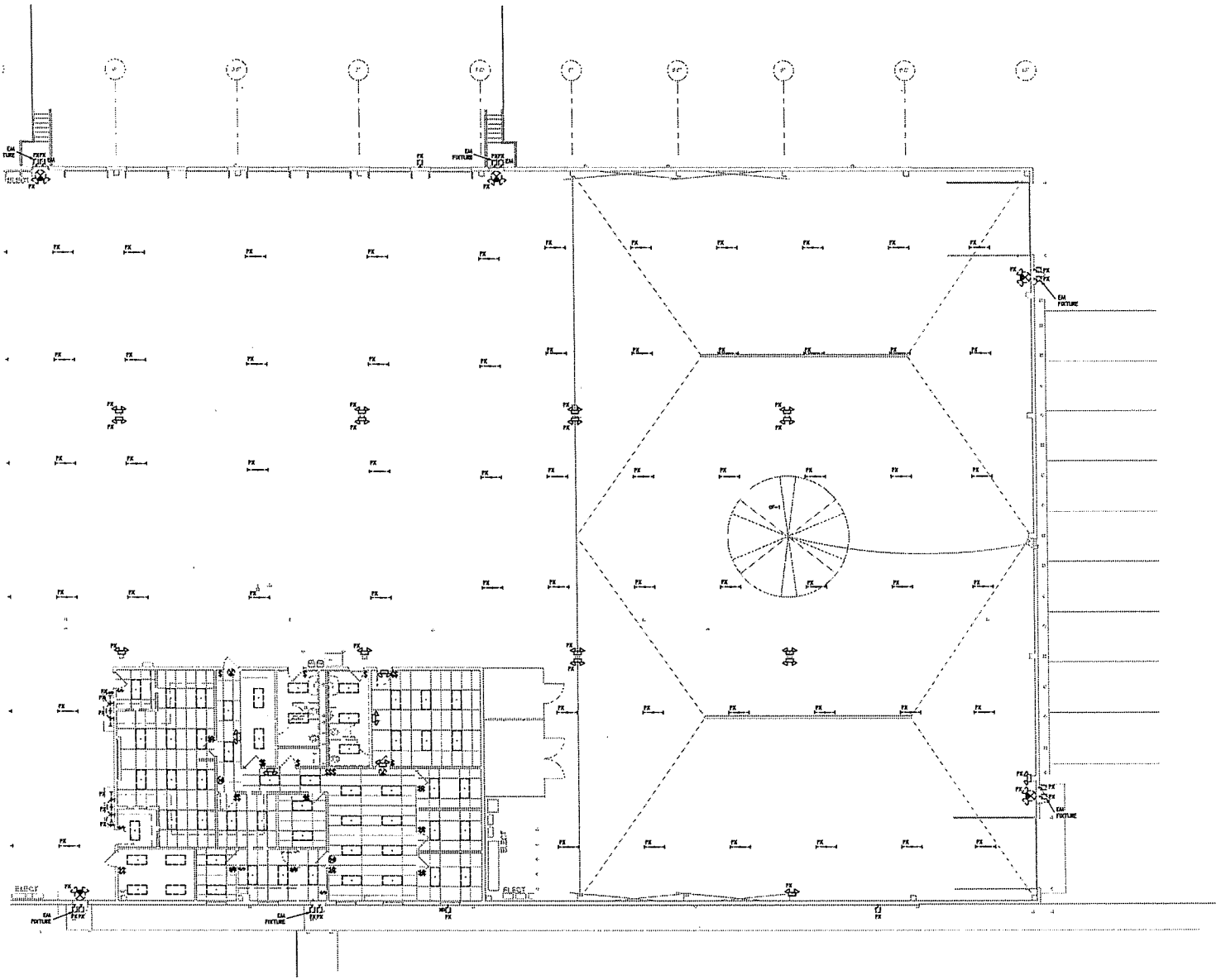
LIGHTING DEMO PLAN - 3829 MAINT. BLDG. - SECTION A

A B
KEYPLAN

ED100A



LIGHTING DEMO PLAN – 3829 MAINT. BLDG. – SECTION B
1 SCALE 1/8" = 1'-0"

LIGHTING DEMOLITION GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION IN DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT ONLY MAY BE REUSED.
4. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED), DURING CONSTRUCTION AND SHALL BE REINSTALLED AT APPROXIMATE ORIGINAL LOCATIONS. SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
5. ALL ELECTRICAL CONDUCTORS AND CONDUITS SERVING REMOVED EQUIPMENT AND DEVICES SHALL BE COMPLETELY REMOVED. CONDUIT AND CONDUCTORS SHALL NOT BE ABANDONED IN PLACE. EXISTING CONDUITS AND PATHWAYS MAY BE REUSED. FOR NEW WORK, EXISTING CONDUCTORS MAY NOT BE REUSED, UNLESS SPECIFICALLY NOTED.
6. DISCONNECT AND REMOVE ANY AND ALL ELECTRICAL EQUIPMENT AND DEVICES, ETC. WITHIN DEMOLISHED AREAS AS REQUIRED, UNLESS NOTED OTHERWISE.
7. ANY/ALL EXISTING ELECTRICAL BOXES, RACEWAYS, WIRING, ETC. THAT IS NOT ACTIVE AND ENERGIZED BEFORE, DURING, OR AFTER THE PROJECT COMPLETION SHALL BE DISCONNECTED AND REMOVED COMPLETE. NO ABANDONED BOXES OR RACEWAYS SHALL REMAIN IN THE BUILDING AT PROJECT COMPLETION.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 9/15/2023

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NO. DESCRIPTION DATE

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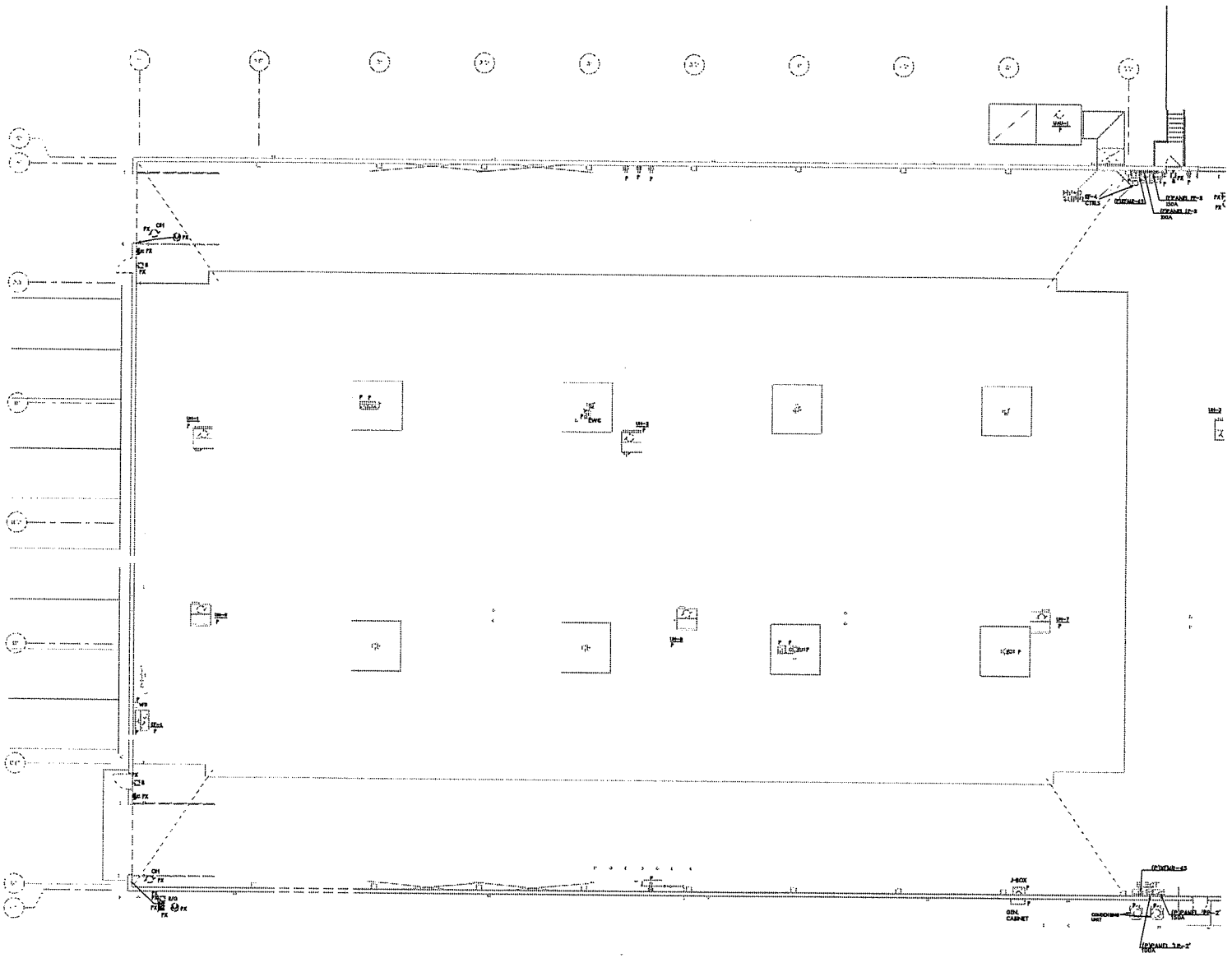
LIGHTING DEMO PLAN - 3829 MAINT. BLDG. - SECTION B

KEYPLAN

ED100B



POWER DEMO PLAN - 3829 MAINT. BLDG. - SECTION A
1 SCALE 1/8" = 1'-0"

POWER DEMOLITION GENERAL NOTES:

1. REFER TO SHEET E0.1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION IN DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT ONLY MAY BE REUSED.
4. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED), DURING CONSTRUCTION AND SHALL BE REINSTALLED AT APPROXIMATE ORIGINAL LOCATION(S). SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
5. ALL ELECTRICAL CONDUCTORS AND CONDUITS SERVING REMOVED EQUIPMENT AND DEVICES SHALL BE COMPLETELY REMOVED. CONDUIT AND CONDUCTORS SHALL NOT BE ABANDONED IN PLACE. EXISTING CONDUITS AND PATHWAYS MAY BE REUSED, FOR NEW WORK. EXISTING CONDUCTORS MAY NOT BE REUSED, UNLESS SPECIFICALLY NOTED.
6. DISCONNECT AND REMOVE ANY AND ALL ELECTRICAL EQUIPMENT AND DEVICES, ETC. WITHIN DEMOLISHED AREAS AS REQUIRED, UNLESS NOTED OTHERWISE.
7. ANY/ALL EXISTING ELECTRICAL BOXES, RACEWAYS, WIRING, ETC. THAT IS NOT ACTIVE AND ENERGIZED BEFORE, DURING, OR AFTER THE PROJECT COMPLETION SHALL BE DISCONNECTED AND REMOVED COMPLETE. NO ABANDONED BOXES OR RACEWAYS SHALL REMAIN IN THE BUILDING AT PROJECT COMPLETION.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341900

ISSUED FOR:
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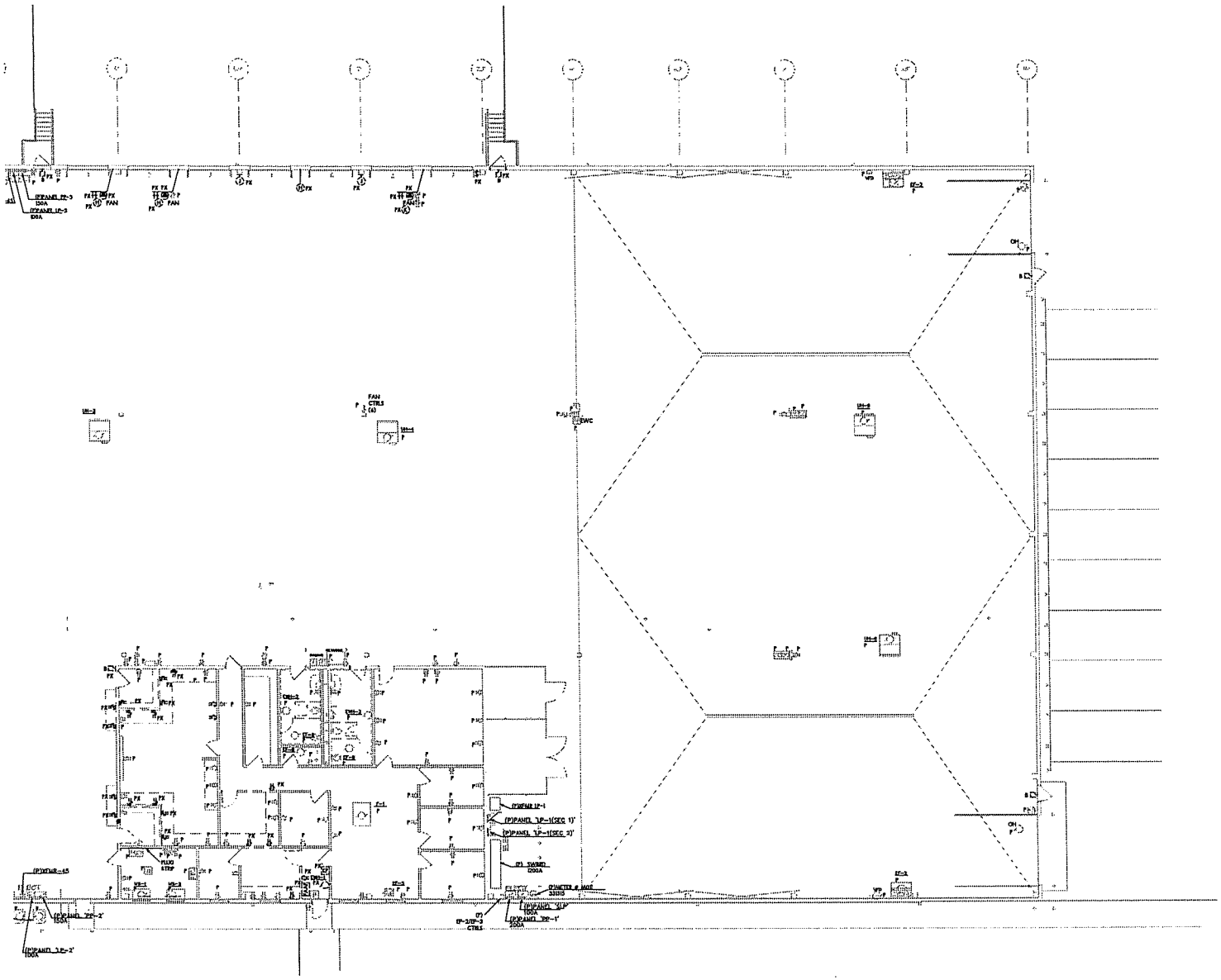
POWER DEMO PLAN - 3829 MAINT. BLDG. - SECTION A

KEYPLAN

ED200A



POWER DEMO PLAN – 3829 MAINT. BLDG. – SECTION B

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

POWER DEMOLITION GENERAL NOTES:

1. REFER TO SHEET E0.1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION IN DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT ONLY MAY BE REUSED.
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5. ALL ELECTRICAL CONDUCTORS AND CONDUITS SERVING REMOVED EQUIPMENT AND DEVICES SHALL BE COMPLETELY REMOVED. CONDUIT AND CONDUCTORS SHALL NOT BE ABANDONED IN PLACE. EXISTING CONDUITS AND PATHWAYS MAY BE REUSED, FOR NEW WORK. EXISTING CONDUCTORS MAY NOT BE REUSED, UNLESS SPECIFICALLY NOTED.
6. DISCONNECT AND REMOVE ANY AND ALL ELECTRICAL EQUIPMENT AND DEVICES, ETC. WITHIN DEMOLISHED AREAS AS REQUIRED, UNLESS NOTED OTHERWISE.
7. ANY/ALL EXISTING ELECTRICAL BOXES, RACEWAYS, WIRING, ETC. THAT IS NOT ACTIVE AND ENERGIZED BEFORE, DURING, OR AFTER THE PROJECT COMPLETION SHALL BE DISCONNECTED AND REMOVED COMPLETE. NO ABANDONED BOXES OR RACEWAYS SHALL REMAIN IN THE BUILDING AT PROJECT COMPLETION.

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

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POWER DEMO PLAN - 3829 MAINT. BLDG. - SECTION B

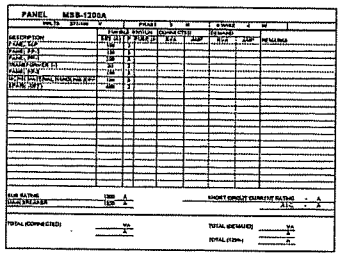
KEYPLAN

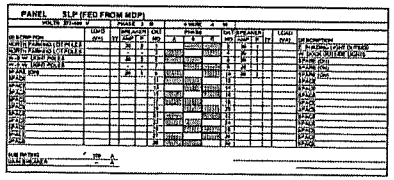
A B

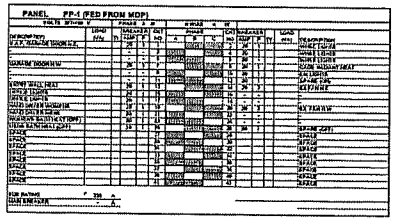
ED200B

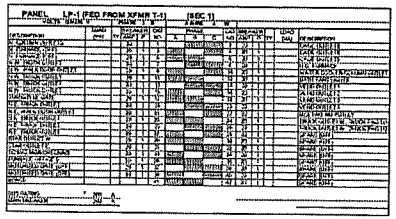
PANEL SCHEDULE GENERAL NOTES:

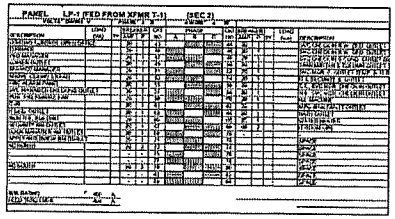
1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE EXISTING CONDITIONS AND ARE INCLUDED FOR REFERENCE ONLY TO ASSIST IN COMMUNICATING AVAILABLE CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE ANY/ALL POTENTIAL USE/RELIEF.

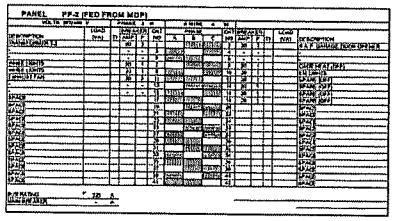


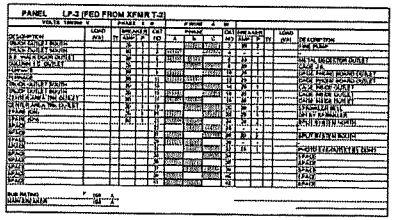


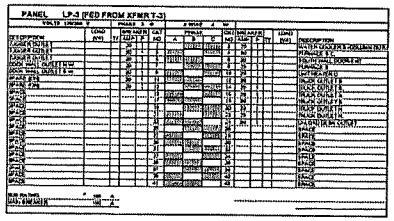


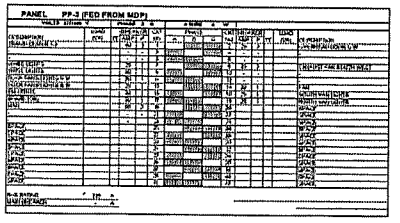












Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEIN Engineering Group

01216 INAL

SATELLITE BUS FACILITY REMODEL

3829-3901 MANSION ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

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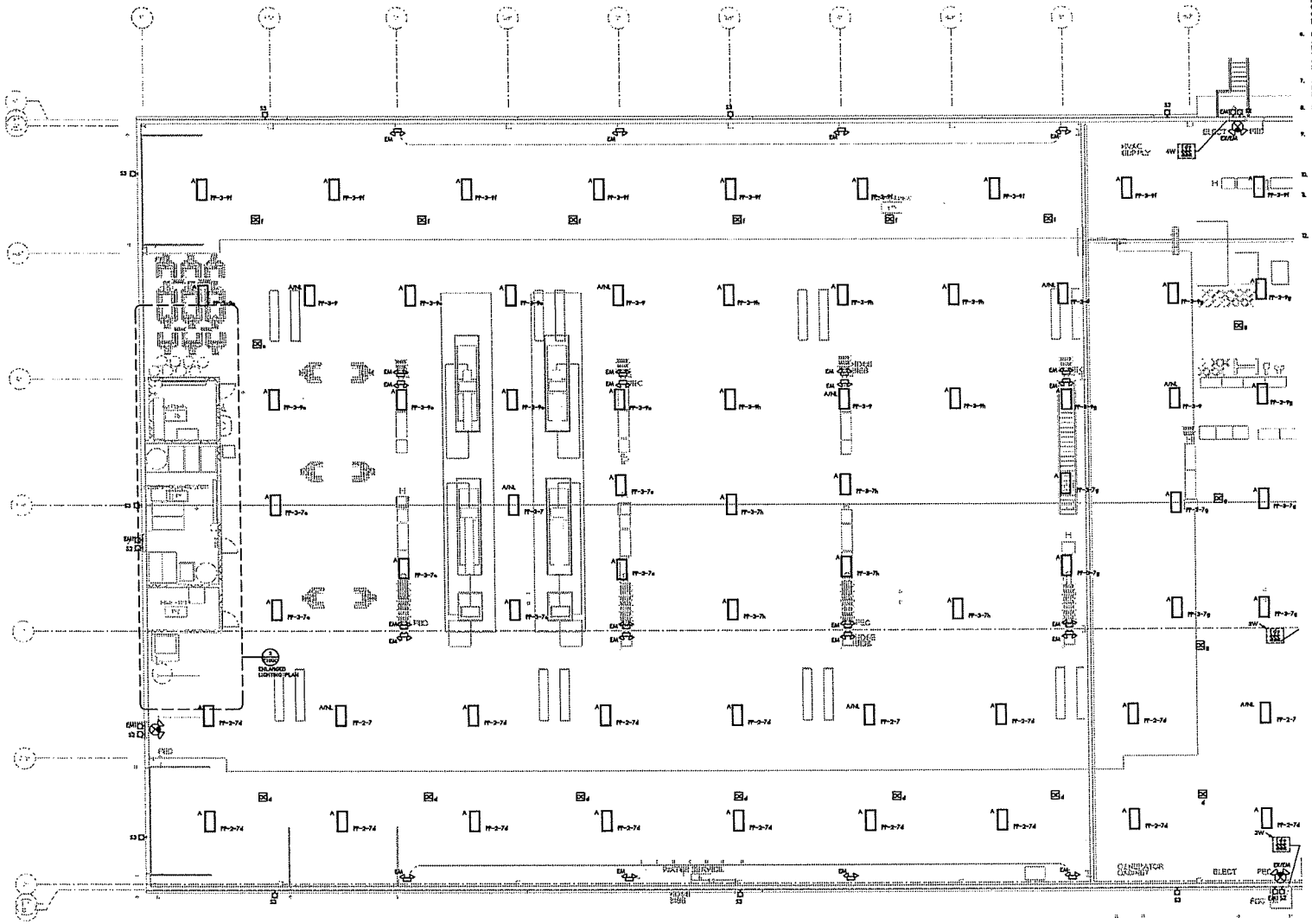
EXISTING PANEL SCHEDULES - 3829 MAINTENANCE BUILDING

ED300



LIGHTING GENERAL NOTES:

1. REFER TO SHEET E0.0 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/GENERAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE/EGRESS LIGHTING AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. UNLESS SPECIFIED OTHERWISE REUSE EXISTING CIRCUITS FOR NEW LIGHTING FIXTURES.
11. IN GENERAL, THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED, AND REPLACED. ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 20'-0" A.F.F.
12. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS. LUTRON ENERGI SAVE WIRELESS NODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUBS, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341900

ISSUED FOR:
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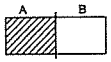
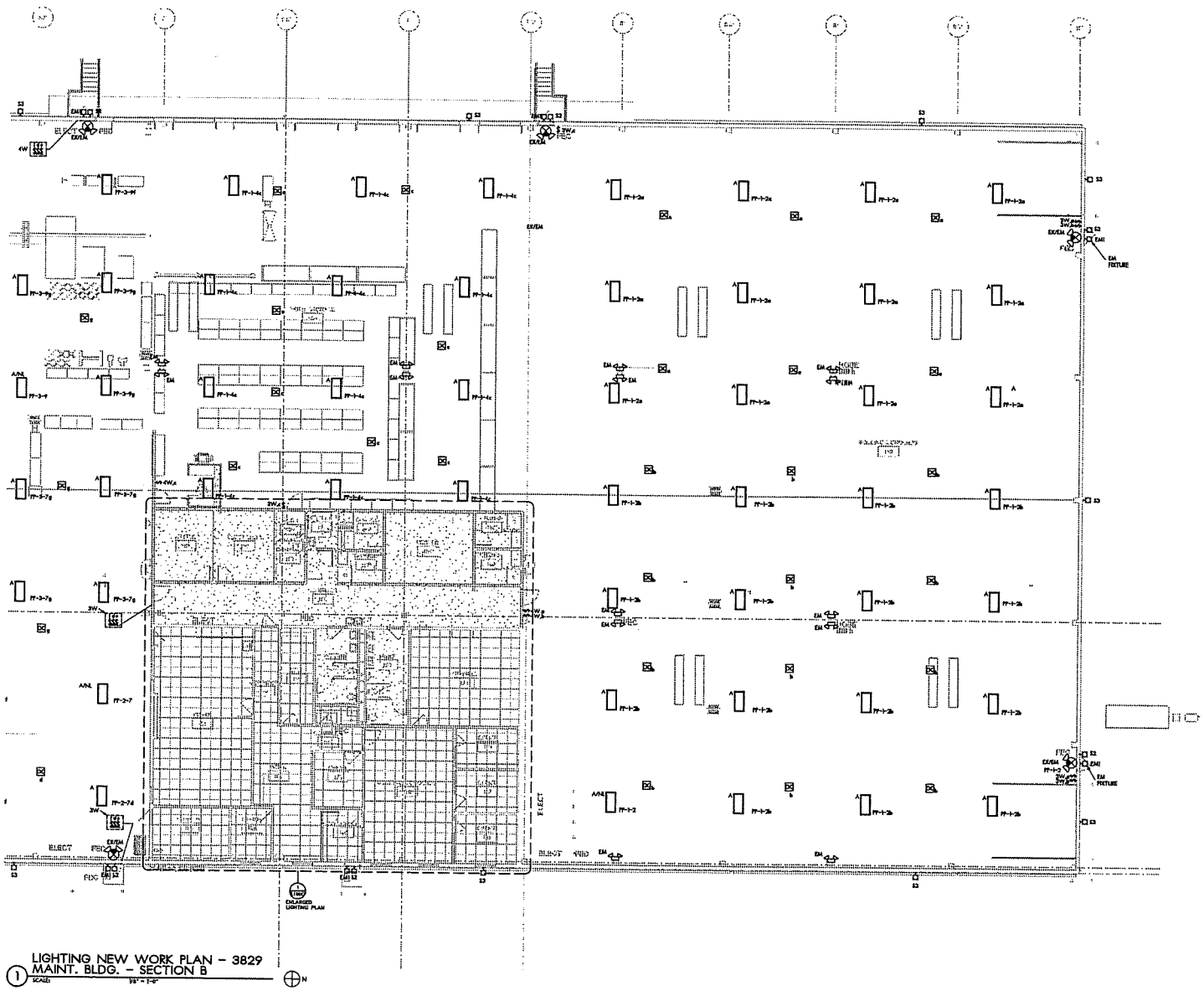
LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. SECTION A



KEYPLAN

1 LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION A
SCALE: 1/8" = 1'-0"

E100A



LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION B

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

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E0.0 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FIXED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/GENERAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE/EGRESS LIGHTING AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. UNLESS SPECIFIED OTHERWISE REUSE EXISTING CIRCUITS FOR NEW LIGHTING FIXTURES.
11. IN GENERAL, THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED, AND REPLACED. ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 30'-0" A.F.F.
12. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TASKLOOK FUNCTIONS. LUTRON ENERGI SAVE WIRELESS NODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUBS, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

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LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. SECTION B

KEYPLAN

E100B

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E0.0 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
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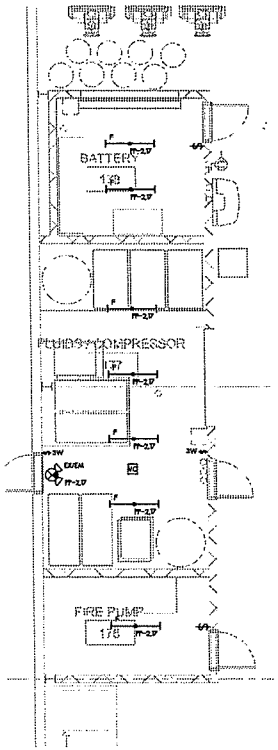
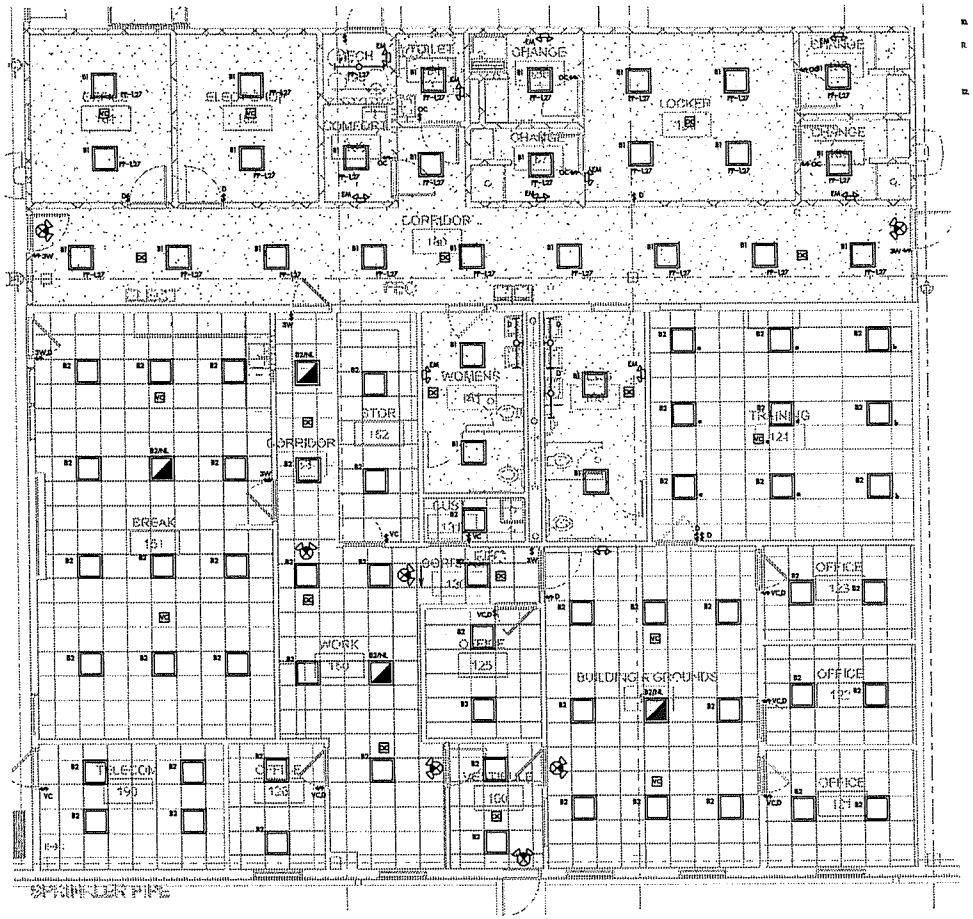
11. IN GENERAL, THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED, AND REPLACED. ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 20'-0" A.F.F.
12. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS. LUTRON ENERGI SAVR WIRELESS MODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUBS, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.



2 MAINTENANCE BUILDING
BATTERY RM, BULK FLUIDS/ COMPRESSOR, FIRE PUMP RM.
SCALE: 1/4" = 1'-0"



1 MAINTENANCE BUILDING
OFFICE AREA
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL 2/10

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

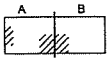
PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/15/2022

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

LIGHTING NEW WORK - 3829 MAINT. BLDG. ENLARGED PLANS

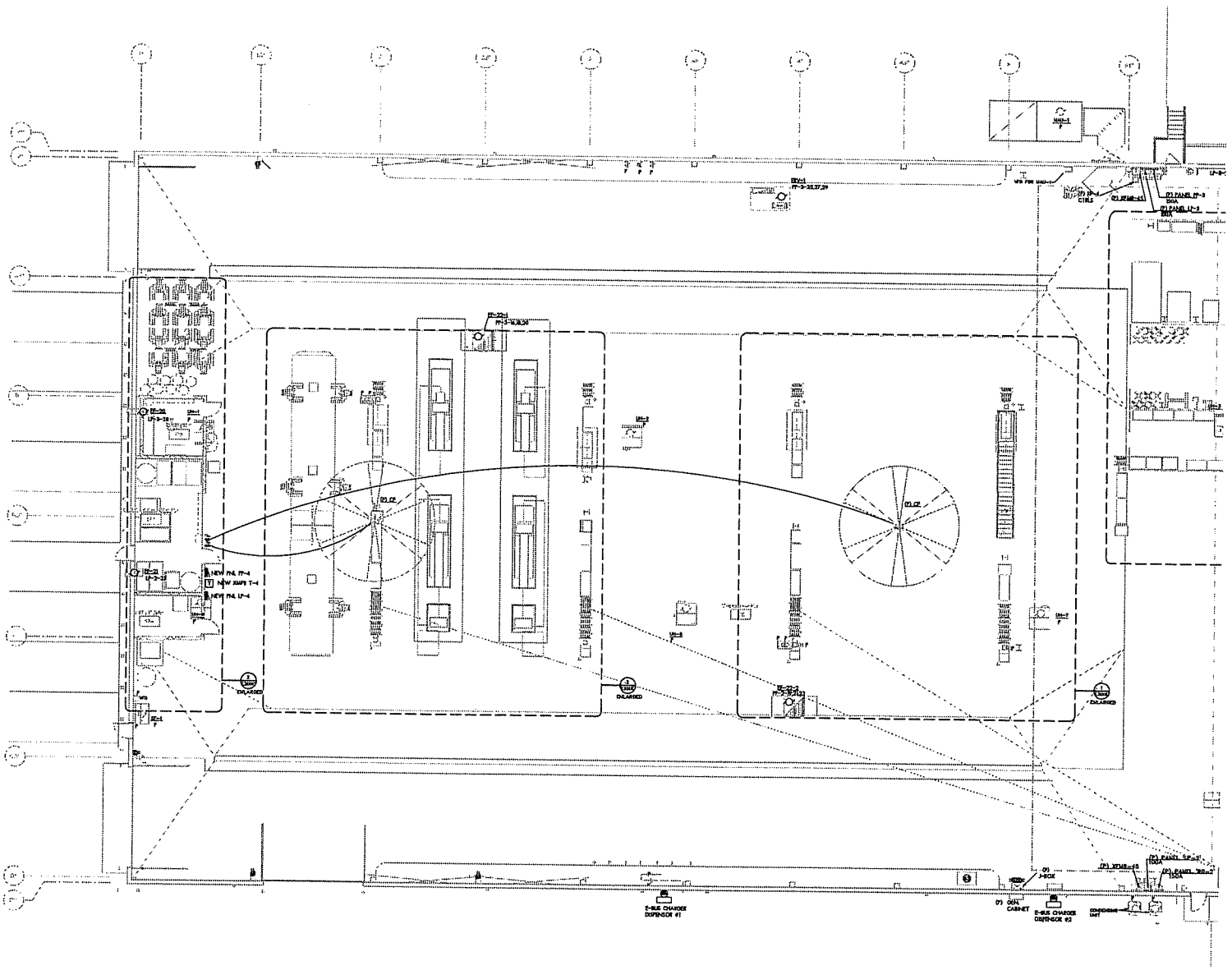


KEYPLAN

E100C

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (3RD) AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS. RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 30 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED), DURING CONSTRUCTION AND SHALL BE RE-INSTALLED AS APPROXIMATE ORIGINAL LOCATIONS). SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT ENTIRE CONSTRUCTION PERIOD.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.



1 POWER NEW WORK PLAN – 3829 MAINT. BLDG. SECTION A
SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3861 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 2134.19.00

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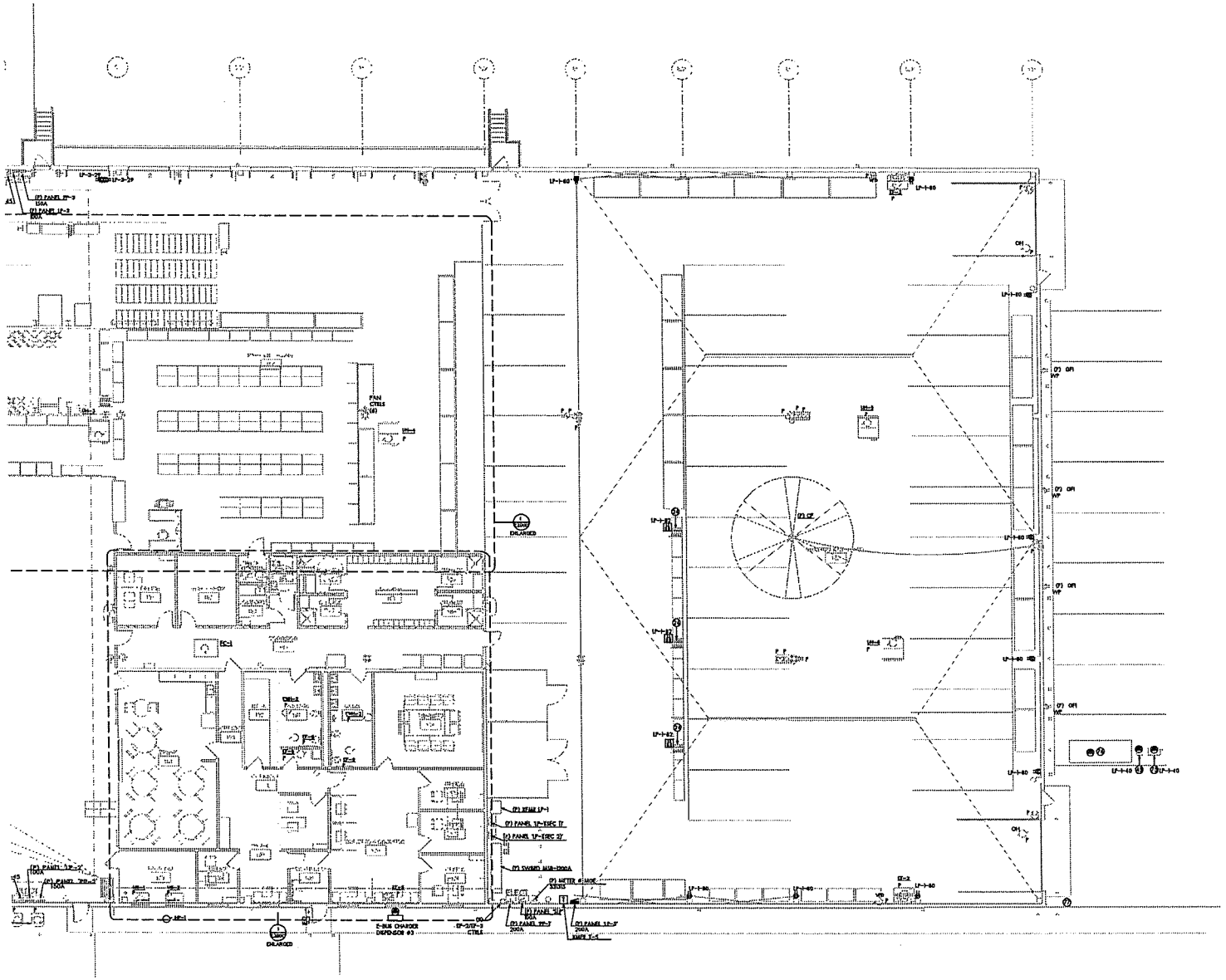
POWER NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION A

KEYPLAN

E200A



POWER NEW WORK - 3829 MAINT. BLDG. - SECTION B

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

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BASEMENT SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED), DURING CONSTRUCTION AND SHALL BE REINSTALLED AS APPROXIMATE ORIGINAL LOCATION(S). SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT ENTIRE CONSTRUCTION PERIOD.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

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POWER NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION B

KEYPLAN

E200B

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
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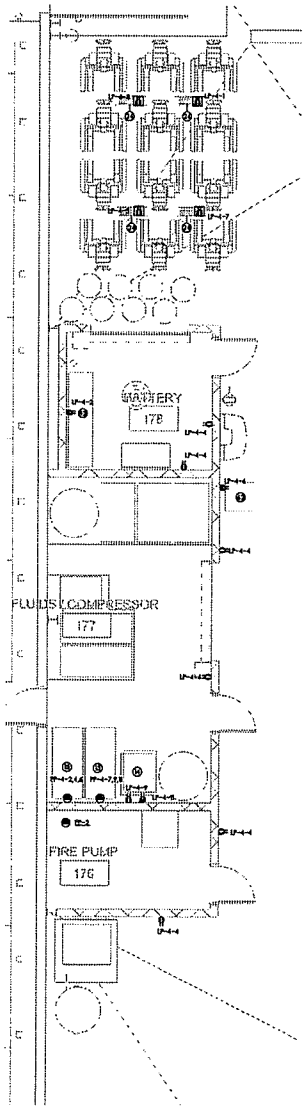
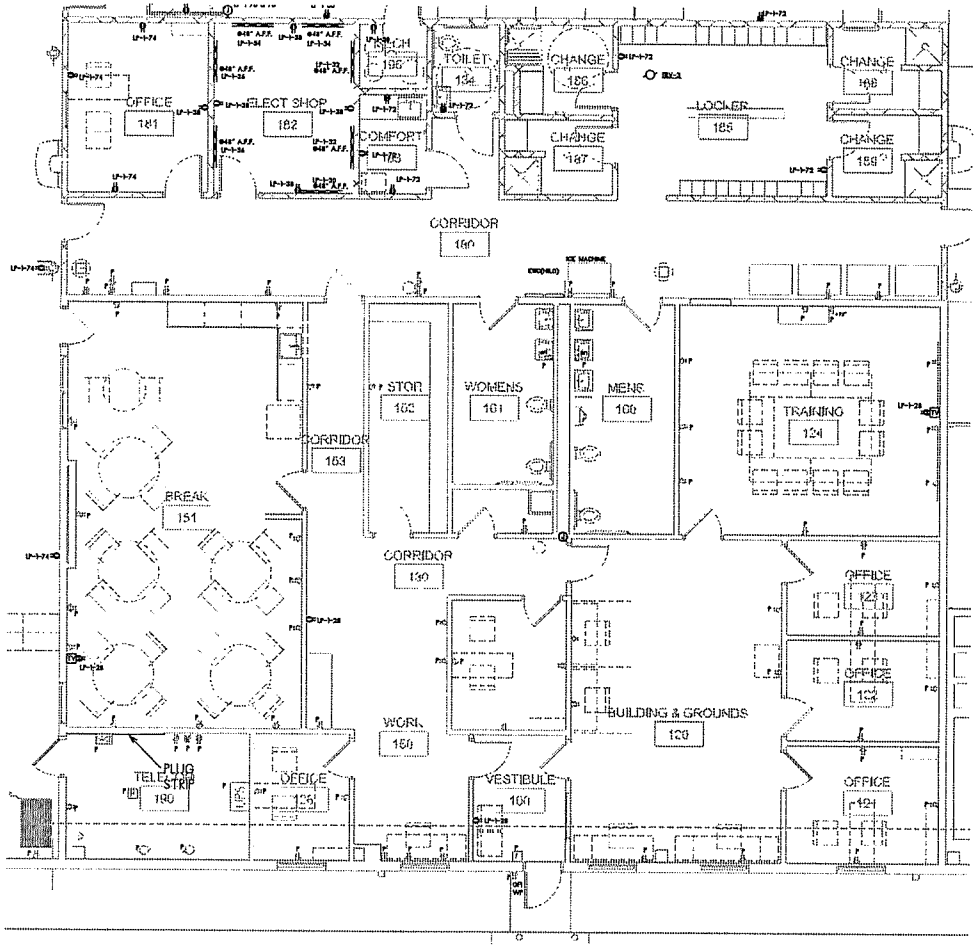
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED). DURING CONSTRUCTION AND SHALL BE REINSTALLED AS APPROXIMATE ORIGINAL LOCATIONS). SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT ENTIRE CONSTRUCTION PERIOD.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.



2 MAINTENANCE BUILDING
BATTERY RM, BULK FLUIDS/ COMPRESSOR, FIRE PUMP RM.
SCALE: 1/4" = 1'-0"



1 MAINTENANCE BUILDING
OFFICE AREA
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341B.00

ISSUED FOR:
BID SET 6/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

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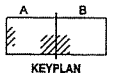
CHECKED BY Checker

POWER NEW WORK
ENLARGED PLANS - 3829
MAINT. BLDG. .



KEYPLAN

E200C

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
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6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 56 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AND AHJ'S(S). CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED), DURING CONSTRUCTION AND SHALL BE REINSTALLED AS APPROXIMATE ORIGINAL LOCATION(S). SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT ENTIRE CONSTRUCTION PERIOD.
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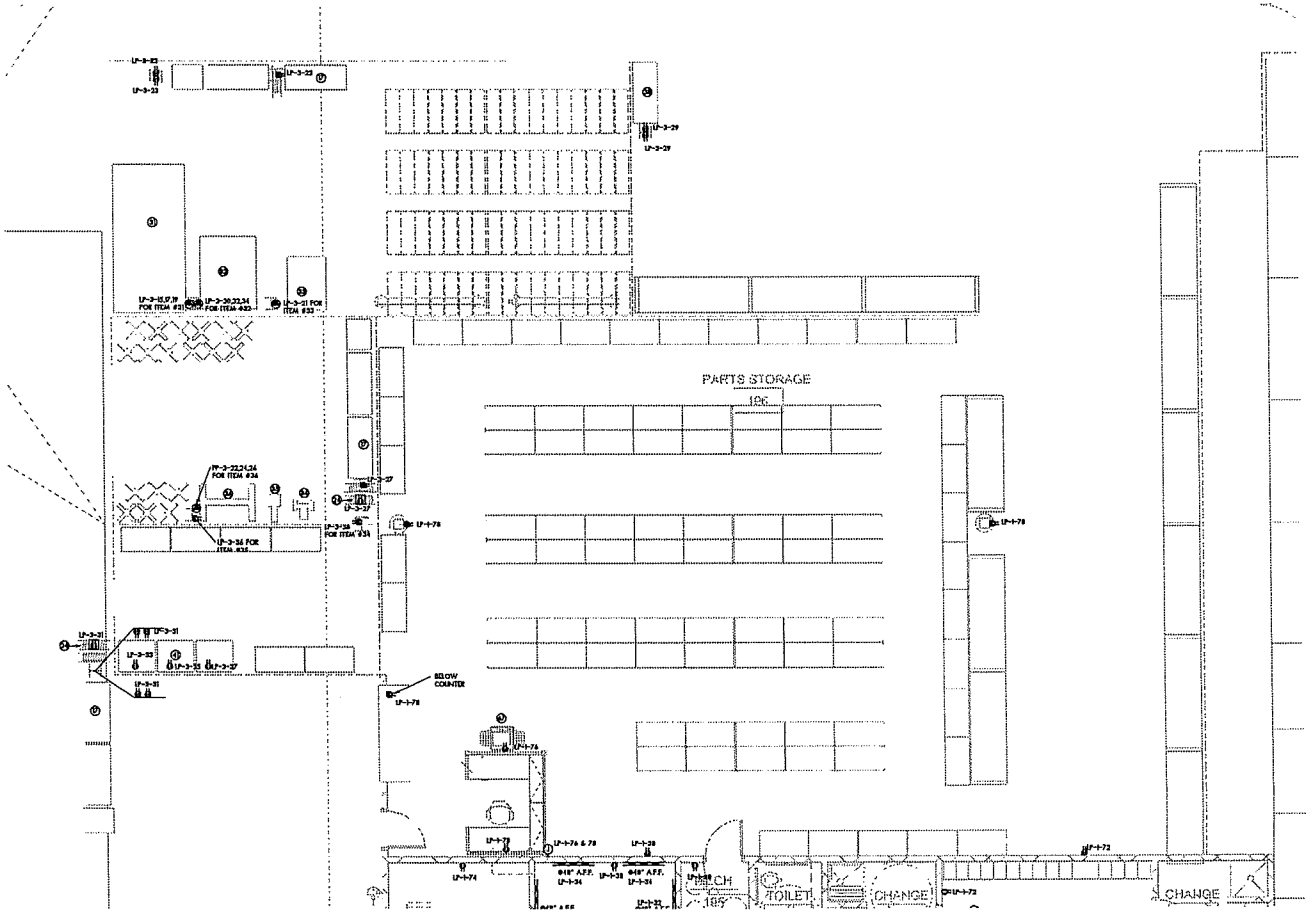

1 SHOP AND PARTS
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

01218/INAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 212419.00

ISSUED FOR:
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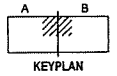
POWER NEW WORK
ENLARGED PLANS - 3829
MAINT. BLDG.



KEYPLAN

E200D

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
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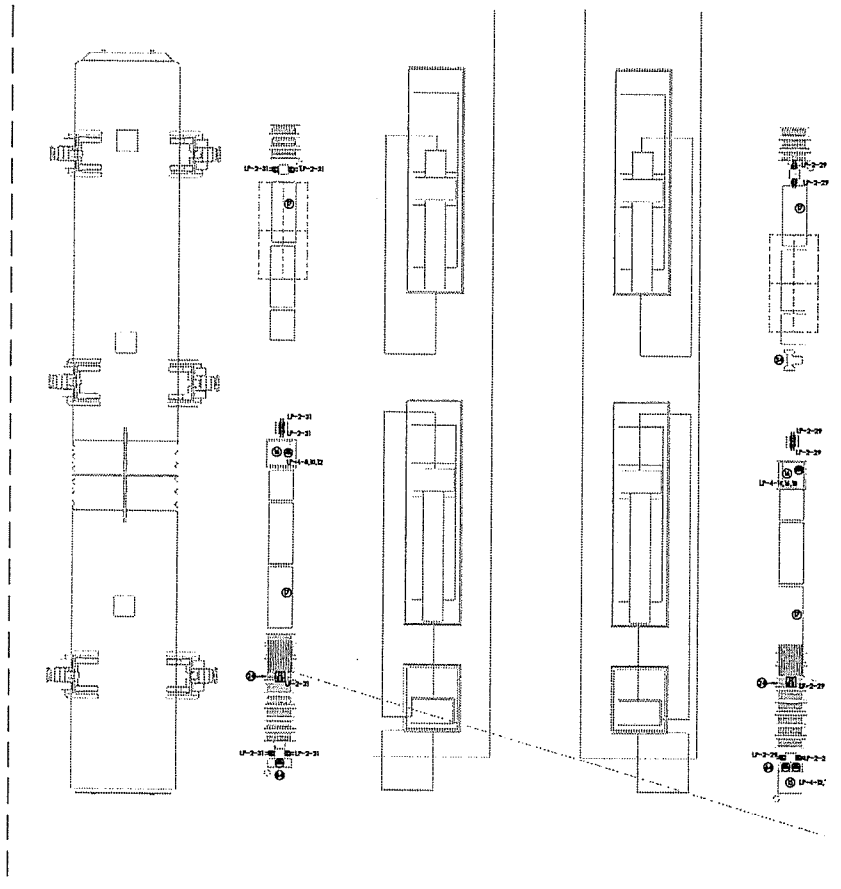
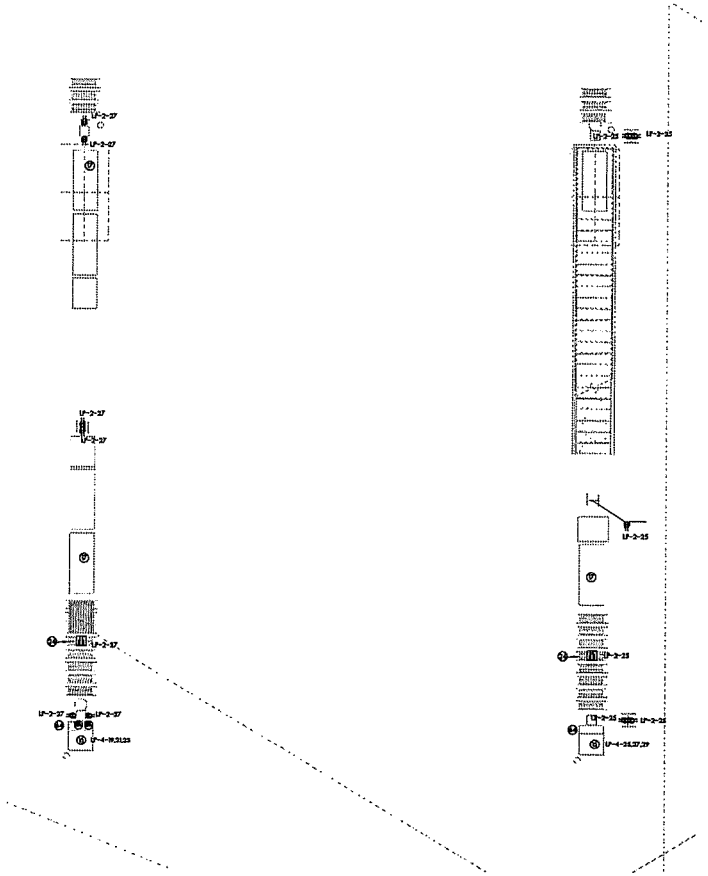
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.



2 WORK BAYS
SCALE: 1/4" = 1'-0"



1 WORK BAY WITH ROOF ACCESS
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG
HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

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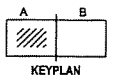
POWER NEW WORK
ENLARGED PLANS - 3829
MAINT. BLDG.

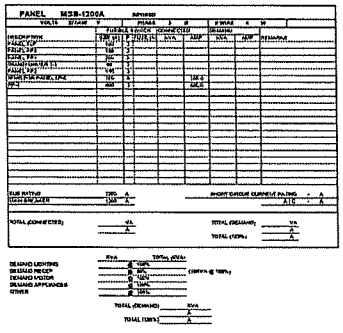


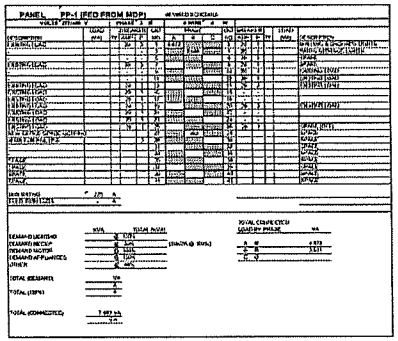
KEYPLAN

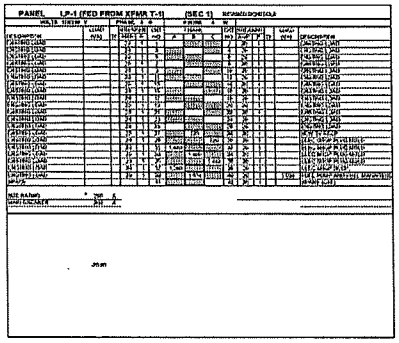
E200E

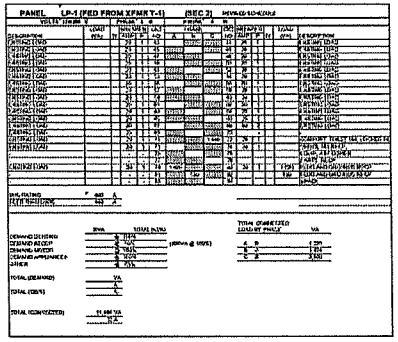
PANEL SCHEDULE GENERAL NOTES:

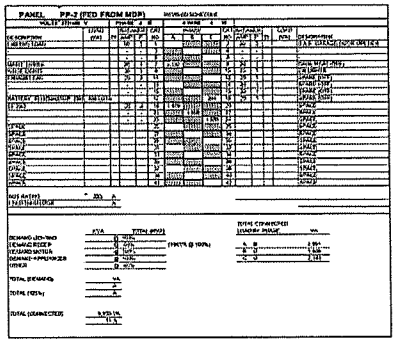
1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE NEW WORK CONDITIONS AND ARE INCLUDED TO ASSIST IN COMMUNICATING AVAILABLE AND NEW WORK CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE AVAILABILITY FOR POTENTIAL USE/REUSE. PANEL SCHEDULES FOR ANY/ALL NEW PANELS PROVIDED AS PART OF THIS PROJECT ARE ALSO REFLECTED ON THIS SHEET.

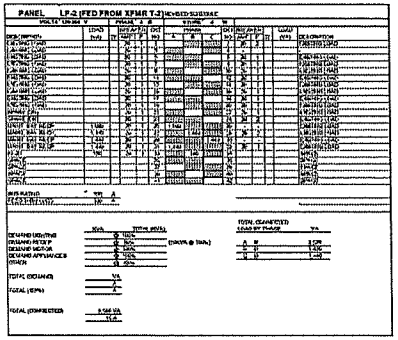


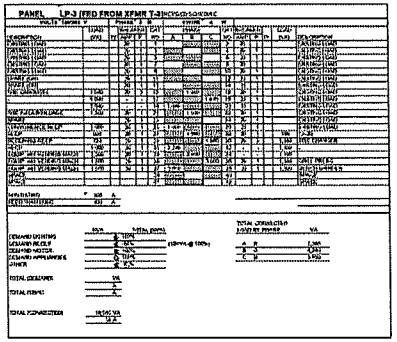


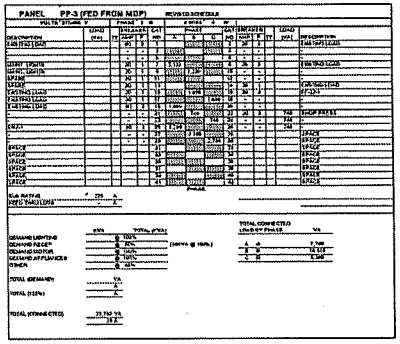












Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
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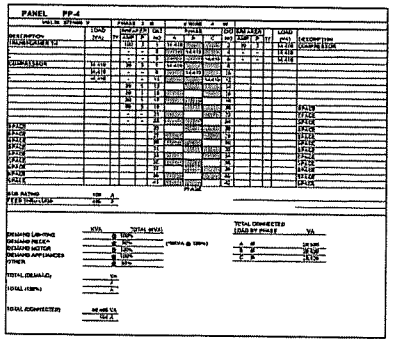
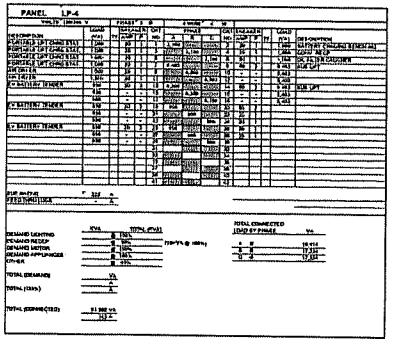
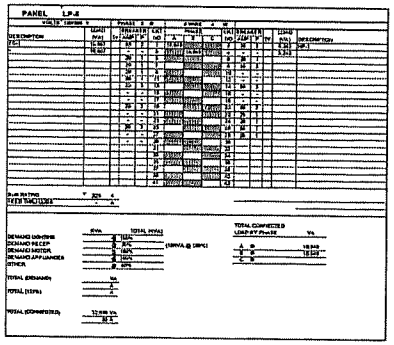
EXISTING REVISED PANEL SCHEDULES - 3829 MAINT. BLDG.

E300A







PANEL SCHEDULE GENERAL NOTES:

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Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

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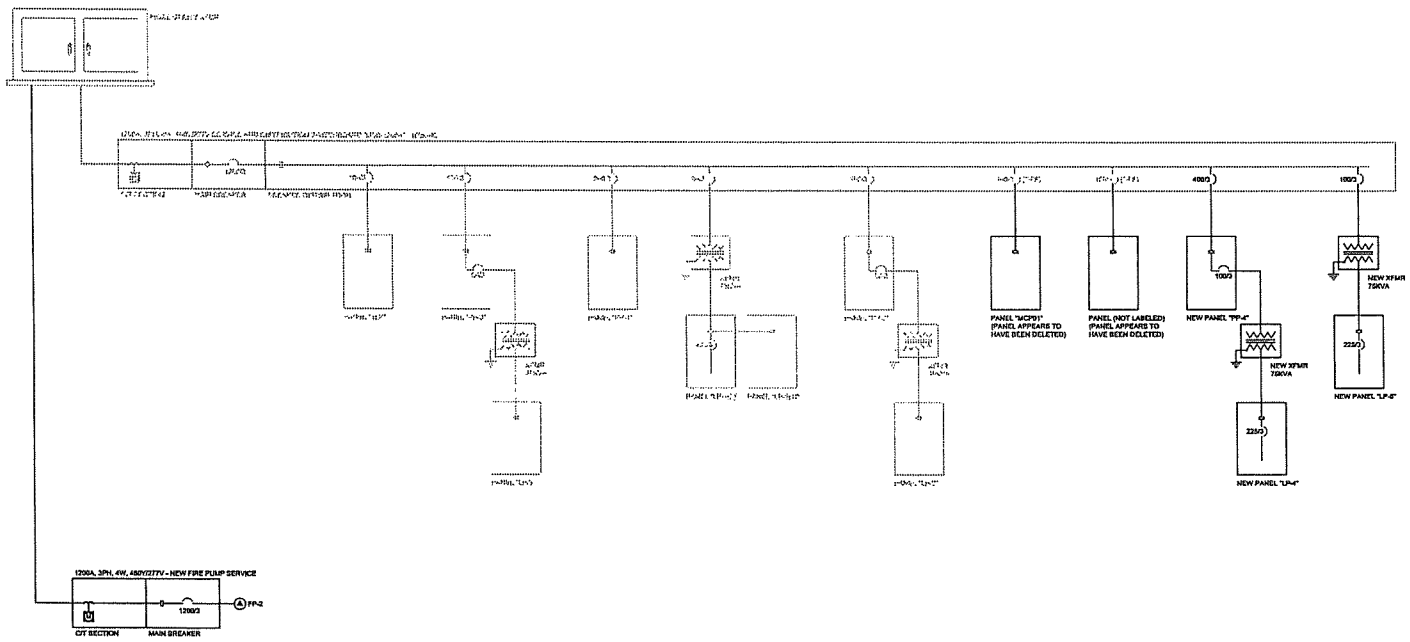
NEW PANEL SCHEDULES - 3829 MAINT. BLDG.

E300B



1 E400 3829 MAINTENANCE BUILDING - ONE LINE DIAGRAM

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS
FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 215419.00

ISSUED FOR:
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REVISION FOR:
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DRAWN BY Author
CHECKED BY Checker

ONE LINE DIAGRAM - 3829 MAINT. BLDG.

E400

LIGHT FIXTURE SCHEDULE

TAG	DESCRIPTION	MOUNTING	VOLTAGE	INPUT WATTS	LAMP TYPE	MANUFACTURER	CATALOG NUMBER	NOTES
A	HIGH BAY	SUSPENDED	277	-	LED	CURRENT	ABC140841DQ041ACW	
A1	HIGH BAY	SUSPENDED	277	-	LED	CURRENT	ABC140841DQ041ACWAWN	1
B1	2X2 FLAT PANEL WITH DRYWALL ADAPTOR	RECESSED	277	-	LED	CURRENT	LFL22DSSWMSXXXCLTWHTE + DEBKIT	2
B2	2X2 FLAT PANEL	CIRCULAR-M	277	-	LED	CURRENT	LFL22DSSWMSXXXCLTWHTE	
C	WET RATED HIGH BAY	WALL	277	-	LED	CURRENT	PRO2DSWMWLGWTACB	
C1	WET RATED HIGH BAY	CEILING	277	-	LED	CURRENT	PRO2DSWMWLGWTACB	
D	4' LINEAR STRIP LIGHT	WALL	277	-	LED	CURRENT	ALWRHTNT4181SDDDSTADW	
F	4' LINEAR STRIP LIGHT	SURFACED/ SUSPENDED	277	-	LED	CURRENT	ALWRHTNT4181SDDDSTADW	3
F1	8' LINEAR STRIP LIGHT	SURFACED/ SUSPENDED	277	-	LED	CURRENT	ALWRHTNT4410SDDDSTADW	3
S1	EXTERIOR	WALL MOUNT	277	-	LED	CURRENT	EALE30LA4T140AWDXEZ	
S2	EXTERIOR WALL PACK	WALL MOUNT	277	-	LED	CURRENT	EWL80D26AF74HNTMDXEZ	
S3	EXTERIOR WALL PACK	WALL MOUNT	277	-	LED	CURRENT	EWA80181E44F74HNTMDXEZ	
EM	BATTERY OPERATED EMERGENCY LIGHT	SUSPENDED	277	4	LED	EELP	EMBS-E-HO-SD	4
EM1	OUTDOOR EMERGENCY LIGHT	WALL	277	11.8	LED	EELP	DEHALED-SER-ACEM-PC	6
EM2	WET RATED EMERGENCY LIGHT	WALL	277	1.8	LED	EELP	WLEM-LED	
EXEM	EXIT SIGN COMPACT EM. LIGHT WITH BATTERY	SUSPENDED	277	4	LED	EELP	ACSERW-HO-SD	4

NOTES:
1. WITH LUTRON ATHENA MODE
2. WITH DRYWALL MOUNT KIT
3. 8FT CORD, 4FT CORD AT TWIST LOCK PLUG FOR SUSPENDED MOUNT
4. VERIFY MOUNTING METHOD
5. VERIFY OPERATION

EQUIPMENT SCHEDULE

NO.	DESCRIPTION	QTY	MANUF	OWNER FURNISHED OWNER INSTALLED	OWNER FURNISHED GC INSTALLED	GC FURNISHED GC INSTALLED	AIR	DATA	POWER	NOTES
1	PARTS WASHER	4	SMARTWASHER	X	-	-	-	-	X	MOBILE PARTS WASHER
2	AIR COMPRESSOR	4	SEE SPEC	-	-	X	X	X	X	
14	AIR DRYER	4	SEE SPEC	-	-	X	X	-	X	INSTALL UNITS STACKED VERTICALLY
15	LV BATTERY TENDER	3	SEE SPEC	-	-	X	-	-	X	
16	LIFT CONTROL PEDESTAL	2	SEE SPEC	-	-	X	X	-	X	WIRED REMOTE
17	STEEL WORKBENCH	11	-	X	-	-	-	X	X	
20	INGROUND VEHICLE SCISSOR LIFT	2	SEE SPEC	-	-	X	X	-	X	
24	50' HOSE REEL - POWER	2	SEE SPEC	-	-	X	-	-	X	
29	MOBILE PORT. VEHICLE LIFT	2	STERTIL KONI	X	-	-	-	-	X	
31	TIRE CAROUSEL	1	SEE SPEC	-	-	X	-	-	X	
32	TIRE CHANGER	1	-	X	-	-	-	-	X	
33	ENCLOSED TIRE INFLATION CAGE	1	-	X	-	-	X	-	X	
34	PEDESTAL BENCH GRINDER	2	-	-	-	-	-	-	X	
35	FLOOR STANDING DRILL PRESS	1	-	X	-	-	-	-	X	
36	SHOP PRESS	1	-	X	-	-	-	-	X	
39	RECEIVING COUNTER	1	-	X	-	-	-	X	X	
41	TOOL AND CONSUMABLE VENDING	1	-	X	-	-	-	X	X	
42	BATTERY BENCH	1	-	X	-	-	-	-	X	
44	FARE COLLECTION SYSTEM	1	-	-	X	-	-	-	X	
45	FUEL MANAGEMENT PEDESTAL	2	SEE SPEC	-	-	X	-	X	X	
46	FUEL DISPENSER PUMP W/ 2 HOSES	1	SEE SPEC	-	-	X	-	X	X	WITH HIGH FLOW NOZZLE
51	BUS VACUUM SYSTEM	1	SEE SPEC	-	-	X	X	-	X	WITH 1 DZ TO SEP. HOPPER MOBILE HOPPER
53	FUTURE BUS VACUUM SYSTEM	1	SEE SPEC	-	-	-	X	-	X	SEE SPEC FOR REQUIREMENTS
55	BUS WASH SYSTEM	1	SEE SPEC	-	-	X	X	-	X	
56	FUTURE BUS WASH SYSTEM	1	SEE SPEC	-	-	X	X	-	X	SEE SPEC FOR REQUIREMENTS
57	BUS WASH AND WATER RECLAIM EQUIPMENT	1	SEE SPEC	-	-	X	X	-	X	
58	PRESSURE WASH UNIT	2	SEE SPEC	-	-	X	-	-	X	
61	3 TON BRIDGE CRANE	1	SEE SPEC	-	-	X	-	-	X	WITH REMOTE
62	OIL FILTER CRUSHER	1	-	-	-	X	X	-	X	55 GAL DRUM PMD TO WASTE OIL TANK EXTRACTION PUMP
64	EV CHARGING STATION	4	ABB		X					ABB DEPOT CHARGE BOX - FINAL LOCATION AND NUMBER BY OWNER
65	EV CHARGING CABINET	1	ABB	-	X	-	-	X	X	ABB POWER CABINET
67	MULTI-FUNCTION FENTER	1	-	X	-	-	-	X	X	
69	FUTURE FARE COLLECTION SYSTEM	1	-	-	X	-	-	X	X	
69	FUTURE FUEL DISPENSER HOSE	1	SEE SPEC	-	-	X	-	X	X	SEE SPEC FOR REQUIREMENTS
70	FUTURE FUEL MANAGEMENT PEDESTAL	1	SEE SPEC	-	-	X	-	X	X	SEE SPEC FOR REQUIREMENTS
71	FUTURE FUEL DISPENSER PUMP W/ 2 HOSES	1	SEE SPEC	-	-	X	-	X	X	SEE SPEC FOR REQUIREMENTS
72	UNDERCARRIAGE WASH EQUIPMENT	2	SEE SPEC	-	-	X	-	-	X	SEE SPEC FOR REQUIREMENTS
76	FUEL DISPENSER PUMP W/ 2 HOSES	1	SEE SPEC	-	-	X	-	X	X	DSL AND DEF - STANDARD FLOW NOZZLE
77	EMERGENCY FUEL SHUT-OFF	2	SEE SPEC	-	-	X	-	-	X	SEE FIRE CODE FOR MINIMUM AND MAXIMUM DISTANCE

MOTOR AND EQUIPMENT SCHEDULE

EQUIP. TAG	EQUIPMENT	LOAD					SOURCE OF POWER		PROTECTION	STARTER		DISCONNECT		NOTES
		VOLTS	PHASE	H.P.	AMP	KVA	PANEL	CCT. NO.	(AMPS)	SIZE	TYPE	SIZE	TYPE	
EF-20	EXHUAST FAN	115	1	1/15 TH			LP-3	32	20A-1P					
EF-21	EXHUAST FAN	115	1	1/4			LP-2	33	20A-1P					
EF-32-1	EXHUAST FAN	460	3	7.5			PP-2	19,21,23	20A-3P					
EF-32-2	EXHUAST FAN	460	3	7.5			PP-3	16,18,20	20A-3P					
ERV-1	ENERGY RECOVERY UNIT	460	3		10.5		PP-3	25,27,29	70A-3P					
FC-1	FAN COIL UNIT	230	1		60		LP-5	3,5,	80A-2P					
HP-1	HEAT PUMP	230	1		30		LP-5	2,4	45A-2P					

FEEDER SCHEDULE

FEEDER AMPACITY	CONDUCTOR SIZE Cu=6		CONDUIT SIZE	
	# & N	GRD	(3) & (3G)	(4) & (4G)
60	#6	#10	1"	1"
70	#4	#8	1-1/4"	1-1/4"
80	#3	#8	1-1/4"	1-1/4"
100	#1	#8	1-1/2"	2"
110	#2	#6	1-1/4"	1-1/2"
125	#1	#6	1-1/2"	2"
150	#1/0	#6	1-1/2"	2"
175	#2/0	#6	2"	2"
200	#3/0	#6	2"	2-1/2"
225	#4/0	#4	2"	2-1/2"
250	#250	#4	2-1/2"	3"
300	#250	#4	3"	3"
350	#500	#3	3"	3-1/2"
380	#500	#3	3"	3-1/2"
400	(2) # 3/0	(2) # 3	(2) 2"	(2) 2-1/2"
450	(2) # 4/0	(2) # 2	(2) 2"	(2) 2-1/2"
500	(2) # 250	(2) # 2	(2) 2-1/2"	(2) 3"
600	(2) # 350	(2) # 1	(2) 3"	(2) 3"
700	(2) # 500	(2) # 1/0	(2) 3"	(2) 3-1/2"
800	(2) # 600	(2) # 1/0	(2) 3-1/2"	(2) 4"
1000	(3) # 400	(3) # 2/0	(3) 3"	(3) 3-1/2"
1200	(3) # 600	(3) # 3/0	(3) 3-1/2"	(3) 4"
1600	(4) # 600	(4) # 4/0	(4) 3-1/2"	(4) 4"
2000	(5) # 600	(5) # 250	(5) 3-1/2"	(5) 4"

GENERAL NOTES:
1. THE ABOVE FEEDER SCHEDULE IS A SCHEDULE OF TYPICAL FEEDERS AND SOME SIZES MAY NOT BE UTILIZED.
2. ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 310-16 OF THE NEC FOR COPPER CONDUCTOR TYPE THW/THWN.
3. FEEDER SIZES SHOWN ON THE RISER DIAGRAM INDICATE FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR THE DERATION FACTORS REQUIRED BY CODE AND/OR ARE OVERSIZED FOR VOLTAGE DROP.

Engberg Anderson ARCHITECTS
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HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 2134.19.00

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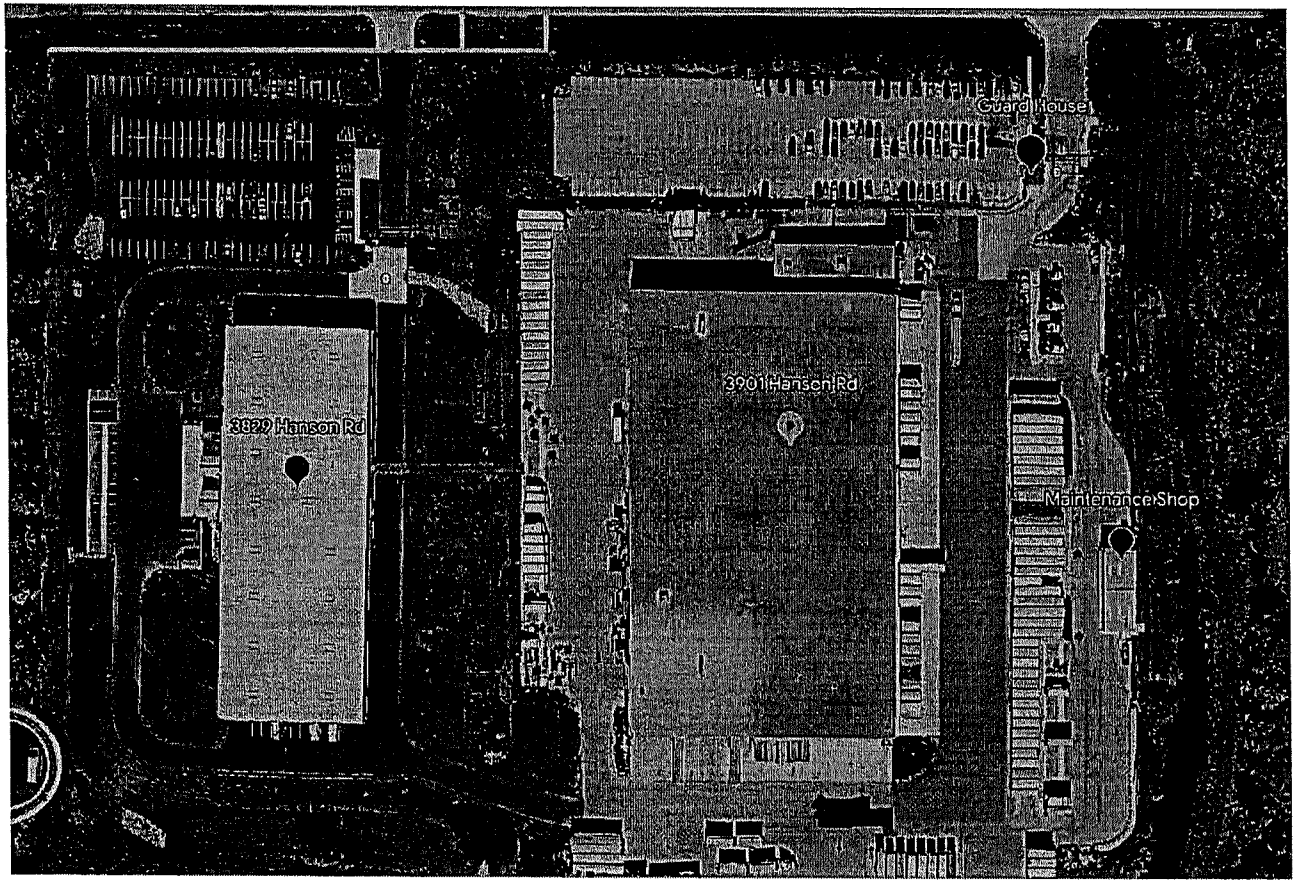
MOTOR AND EQUIPMENT SCHEDULES - 3829 MAINT. BLDG.

E600



3 SITE PLAN
SCALE 1/16" = 1'-0"

TECHNOLOGY ABBREVIATIONS

Key Name	Comments
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AV	AUDIO VISUAL
BET	BUILDING ENTRANCE TERMINAL
BFC	BELOW FINISHED CEILING
C	CONDUIT
CCTV	CLOSED CIRCUIT TELEVISION
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
DVR	DIGITAL VIDEO RECORDER
EC	ELECTRICAL CONTRACTOR
ER	TELECOMMUNICATIONS ENTRANCE ROOM
FO	FIBER OPTIC
GC	GENERAL CONTRACTOR
HC	HVAC CONTRACTOR
HH	HAND HOLE
LEC	LOCAL EXCHANGE CARRIER
MDF	MAIN DISTRIBUTION FRAME
MH	MANHOLE
MM	MULTIMODE FIBER OPTIC CABLE
MON	MONITOR
MTR	MAIN TELECOMMUNICATIONS ROOM
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OSP	OUTSIDE PLANT
PP	PATCH PANEL
PR	PAIR
PS	PRINTER STATION
RR	RELAY RACK
RU	RACK UNIT
SIO	STANDARD INFORMATION OUTLET
SM	SINGLEMODE FIBER OPTIC CABLE
STP	SHIELDED TWISTED PAIR
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TGB	TELECOMMUNICATIONS GROUND BUS
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS
TR	TELECOMMUNICATIONS ROOM
TV	TELEVISION
UTP	UNSHIELDED TWISTED PAIR
WAP	WIRELESS ACCESS POINT

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SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
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PROJECT NUMBER 21241900

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0126 / NAE

LEGEND			
●	WIRELESS ACCESS POINT - 2 CAT6A DATA CABLES	A	AUDIBLE ALARM -
△	DATA JACK - 2 CAT6 DATA CABLES	E	ELECTRIC STRIKE -
S	SPEAKER	ACS	ACCESS CONTROL SYSTEM -
PH	PAGING HORN - ETR	GO	GATE OPERATOR -
W ▼	WALL PHONE - 1 CAT6 DATA CABLE @ 48" A.F.F.	ACP	ACCESS CONTROL PANEL -
TV	TV - 2 CAT6 DATA CABLE - VERIFY EXACT MTG. HT.	SEC	SECURITY SYSTEM DISPLAY -
C	CARDREADER -	TGB	COMMUNICATIONS GROUND BUS BAR -
K	KEYPAD -		2-POST TELECOMMUNICATIONS EQUIPMENT RACK
M	MOTION DETECTOR		SURFACE RACEWAY - REFER TO KEYED NOTES & SPECIFICATIONS FOR TYPES
DS	DOOR POSITION SWITCH		

GENERAL NOTES

A. WORK PERFORMED INCLUDES ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO INSTALL COMPLETE TECHNOLOGY SYSTEMS AS INDICATED ON THESE DRAWINGS AND AS SPECIFIED.

B. ALL TELECOMMUNICATIONS OUTLETS SHALL BE MOUNTED AT HEIGHTS ABOVE FINISH FLOOR AS SHOWN IN THE DEVICE MOUNTING HEIGHT DETAIL U.N.O..

C. SEE ELECTRICAL SPECIFICATIONS FOR LOCATIONS WHERE ORS CONDUIT SHALL BE USED, OR WHERE IMC, EMT, OR PVC CONDUIT MAY BE USED.

D. BOXES LOCATED ON OPPOSITE SIDES OF NON-RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE-RATED WALLS SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU-THE-WALL" BOXES SHALL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.

E. TECHNOLOGY SYSTEMS EQUIPMENT/DEVICES SHALL BE MOUNTED SO AS TO ALLOW ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF TECHNOLOGY SYSTEMS EQUIPMENT/DEVICES ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR SHALL BE COORDINATED WITH AND APPROVED BY THAT CONTRACTOR IN ADVANCE OF INSTALLATION.

F. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENING SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS. PENETRATIONS THROUGH FLOORS AND FIRE-RATED WALLS SHALL BE FIRESTOPPED IN A MANNER THAT MAINTAINS THE RATING OF THE FLOOR OR WALL PENTRATED.

G. ALL TELEPHONE AND DATA JACKS SHALL BE TERMINATED WITH ALL 4 PAIRS TO ALLOW FOR INTERCHANGABILITY.

H. ALL CONDUIT STUBS SHALL HAVE PLASTICE NYLON BUSHINGS INSTALLED PRIOR TO THE INSTALLATION OF CABLES.

KEY NOTES

1. GATE CONTROL 3829.
2. GATE CONTROL 3901.

Sheet List	
Sheet Number	Sheet Name
Q001	NOTES, SYMBOLS, AND ABREVIATIONS
Q100	OVERALL BUILDING 3829 PLAN
Q101	OFFICE AREA BUILDING 3829 PLAN
Q102	AV BUILDING 3829 PLAN
Q103	ENLARGED IT ROOM BUILDING 3829 PLAN
Q200	OVERALL BUILDING 3901 PLAN
Q201	OFFICE AREA BUILDING 3901 PLAN
Q202	AV BUILDING 3901 PLAN
Q203	AV - BUILDING 3901 PLAN
Q204	ENLARGED IT ROOM BUILDING 3901 PLAN
Q301	DETAILS
Q302	DETAILS
Q601	SCHEDULES - CARD ACCESS AND CAMERA
Q701	ONE LINE DRAWINGS
Q0100	BUILDING 3829 DEMOLITION PLAN
Q0200	BUILDING 3901 DEMOLITION PLAN

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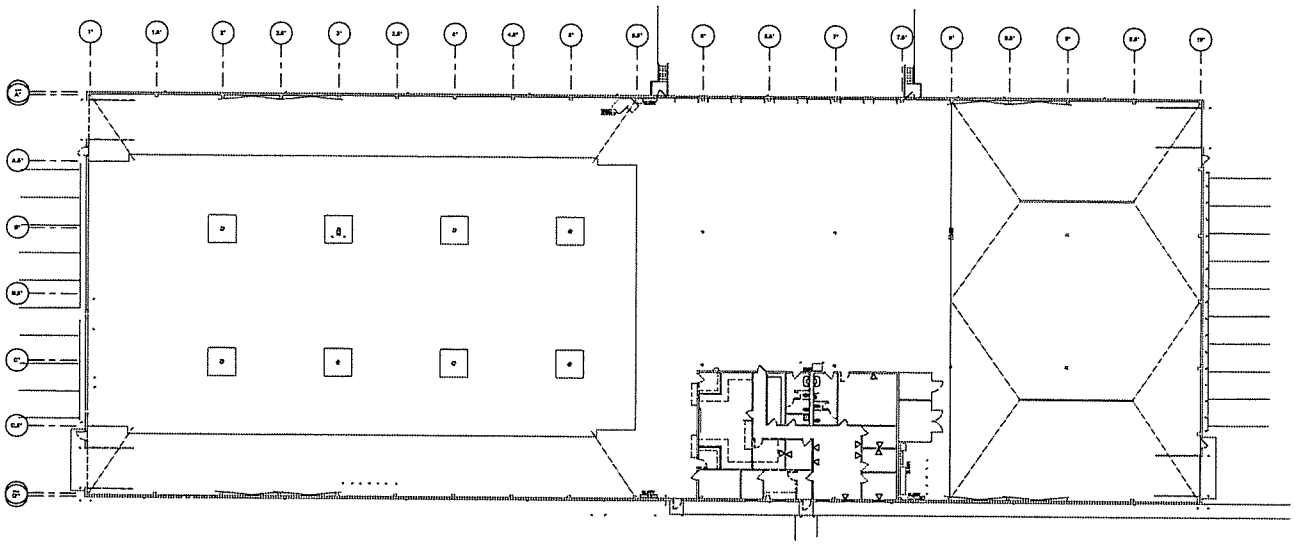
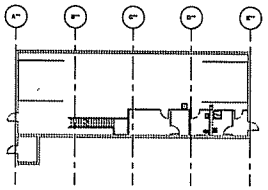
NOTES, SYMBOLS, AND ABREVIATIONS

Q001



1 DATA- DEMO-FLOOR PLAN-3829
SCALE: 1/16" = 1'-0"



3 DATA- DEMO-FLOOR PLAN-MAINTENANCE
SCALE: 1/16" = 1'-0"

2 DATA- DEMO-FLOOR PLAN-GUARDHOUSE
SCALE: 1/16" = 1'-0"

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KMTECHNOLOGYDESIGN

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
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1245 E WASHINGTON AVE #201
MADISON, WI 53703

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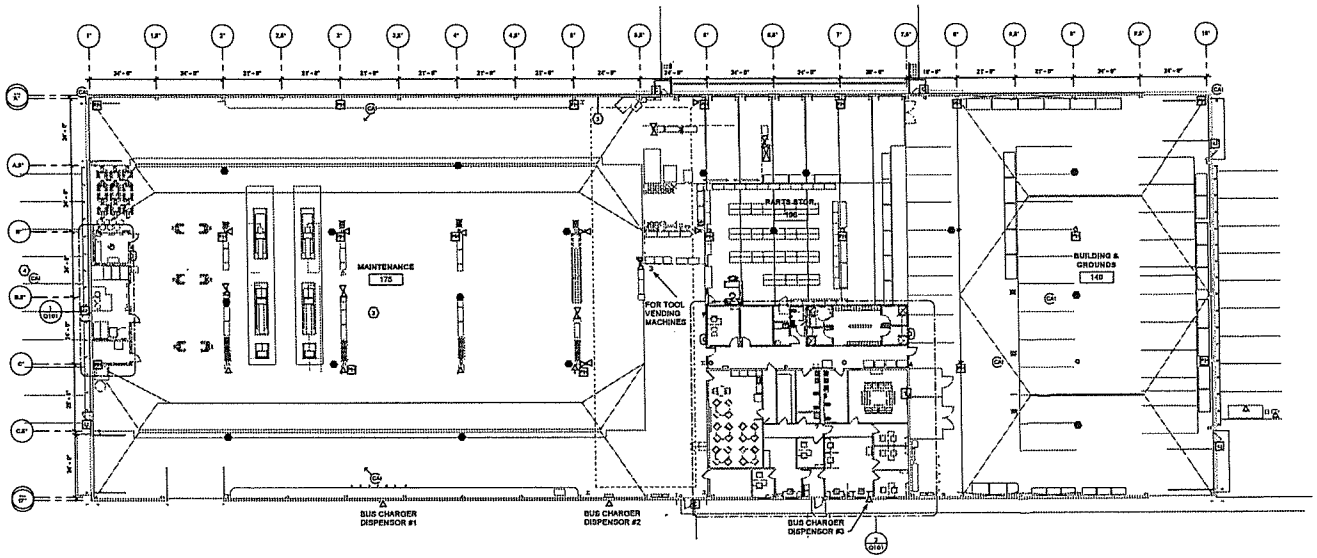
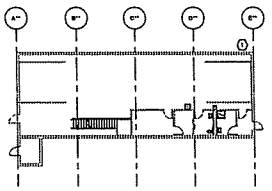
BUILDING 3829
DEMOLITION PLAN

QD100

ORIG / NEW



1 DATA- NEW WORK-FLOOR PLAN 3829
SCALE: 1/16" = 1'-0"



3 DATA- NEW WORK-FLOOR PLAN-MAINTENANCE
SCALE: 1/16" = 1'-0"

2 DATA- NEW WORK-FLOOR PLAN-GUARDHOUSE
SCALE: 1/16" = 1'-0"

NORTH

KEY NOTES

1. LOCATION OF FIBER CONDUIT ENTRANCE.
2. LOCATION OF CONDUIT ENTRANCE.
3. ADD 9 DATA FOR CRANE LOCATIONS. COORDINATE FINAL PLACEMENT WITH EQUIPMENT DRAWINGS.
4. COORDINATE CAMERA LOCATION PRIOR TO CABLE INSTALLATION.
5. INSTALL NEMA RATED CABINET AT 4' A.F.F., SEE DETAIL 2 ON SHEET G701.

LEGEND			
	WIRELESS ACCESS POINT - 2 CAT6A DATA CABLES	A	AUDIBLE ALARM -
△	DATA JACK - 2 CAT6 DATA CABLES	E	ELECTRIC STRIKE -
S	SPEAKER	ACS	ACCESS CONTROL SYSTEM -
PH	PAGING HORN - ETR	GO	GATE OPERATOR -
W	WALL PHONE - 1 CAT6 DATA CABLE @ 48" A.F.F.	ACP	ACCESS CONTROL PANEL -
TV	TV - 2 CAT6 DATA CABLE - VERIFY EXACT MTG. HT.	SDS	SECURITY SYSTEM DISPLAY -
C	CARDREADER -	TGB	COMMUNICATIONS GROUND BUS BAR -
K	KEYPAD -		2-POST TELECOMMUNICATIONS EQUIPMENT RACK
M	MOTION DETECTOR		SURFACE RACEWAY - REFER TO KEYED NOTES & SPECIFICATIONS FOR TYPES
DS	DOOR POSITION SWITCH		

Engberg Anderson ARCHITECTS
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KNITECHNOLOGYDESIGN

SATELLITE BUS FACILITY REMODEL

3829-3901 HAMMOND ROAD
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1245 E WASHINGTON AVE #201
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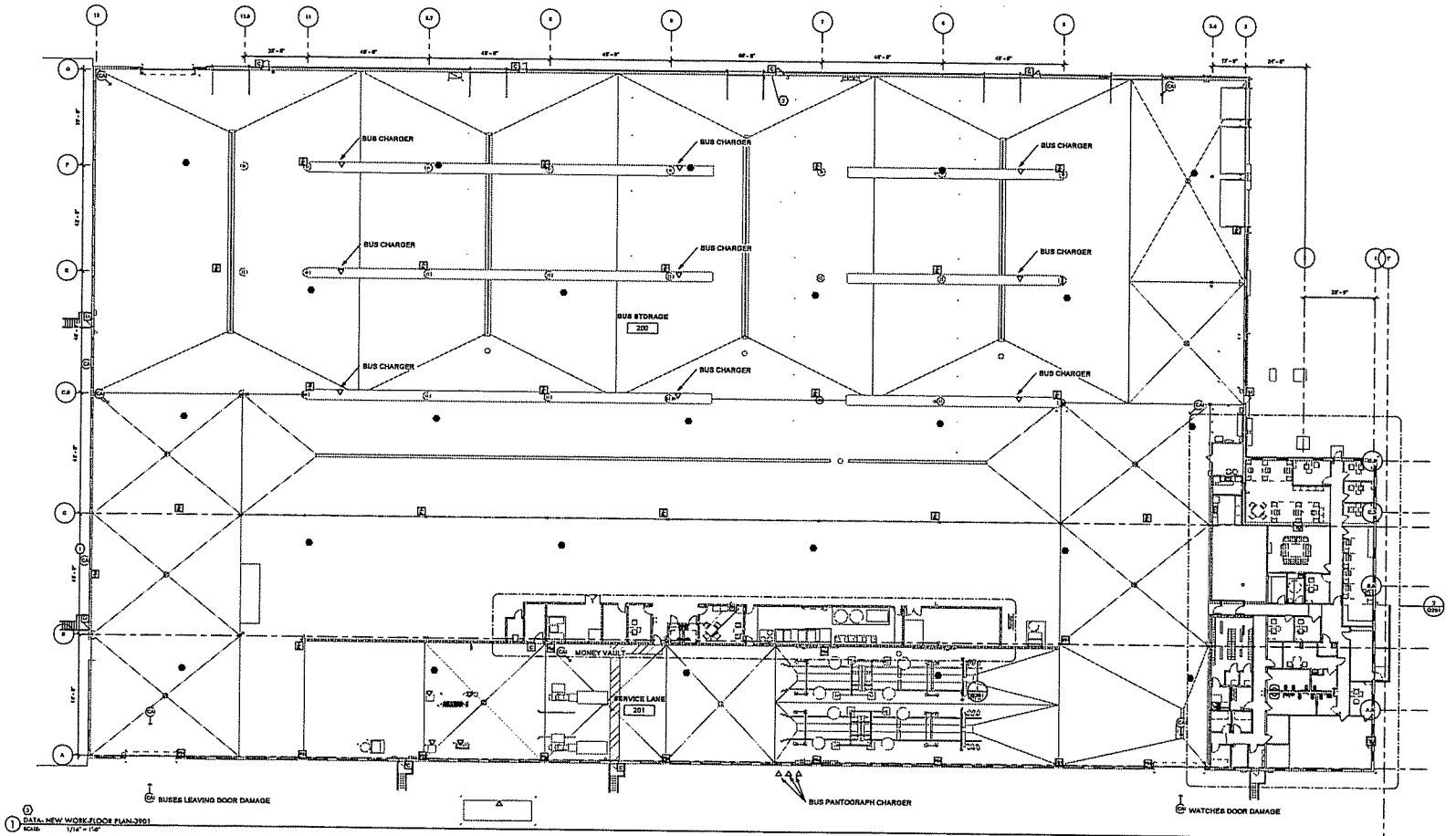
OVERALL BUILDING 3829 PLAN

Q100



1 DATA- NEW WORK-FLOOR PLAN-3901
SCALE: 1/16" = 1'-0"

KEY NOTES

1. CAMERA TO MONITOR FUELING STATION. COORDINATE EXACT LOCATION PRIOR TO INSTALL.
2. INSTALL NEMA RATED CABINET AT 4' A.F.F., SEE DETAIL 1 ON SHEET G701.
3. COORDINATE CAMERA PLACEMENT.

LEGEND			
●	WIRELESS ACCESS POINT - 2 CAT6A DATA CABLES	A	AUDIBLE ALARM -
△	DATA JACK - 2 CAT6 DATA CABLES	E	ELECTRIC STRIKE -
S	SPEAKER	ACS	ACCESS CONTROL SYSTEM -
PH	PAGING HORN - ETR	GO	GATE OPERATOR -
W ▼	WALL PHONE - 1 CAT6 DATA CABLE @ 48" A.F.F.	ACP	ACCESS CONTROL PANEL -
TV	TV - 2 CAT6 DATA CABLE - VERIFY EXACT MTG. HT.	SEC	SECURITY SYSTEM DISPLAY -
C	CARDREADER -	TGB	COMMUNICATIONS GROUND BUS BAR -
K	KEYPAD -		2-POST TELECOMMUNICATIONS EQUIPMENT RACK
M	MOTION DETECTOR		SURFACE RACEWAY - REFER TO KEYED NOTES & SPECIFICATIONS FOR TYPES
DS	DOOR POSITION SWITCH		

Engberg Anderson ARCHITECTS
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KMTECHNOLOGYDESIGN

SATELLITE BUS FACILITY REMODEL

3939-3961 HAMMON ROAD
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1245 E WASHINGTON AVE #201
MADISON, WI 53703

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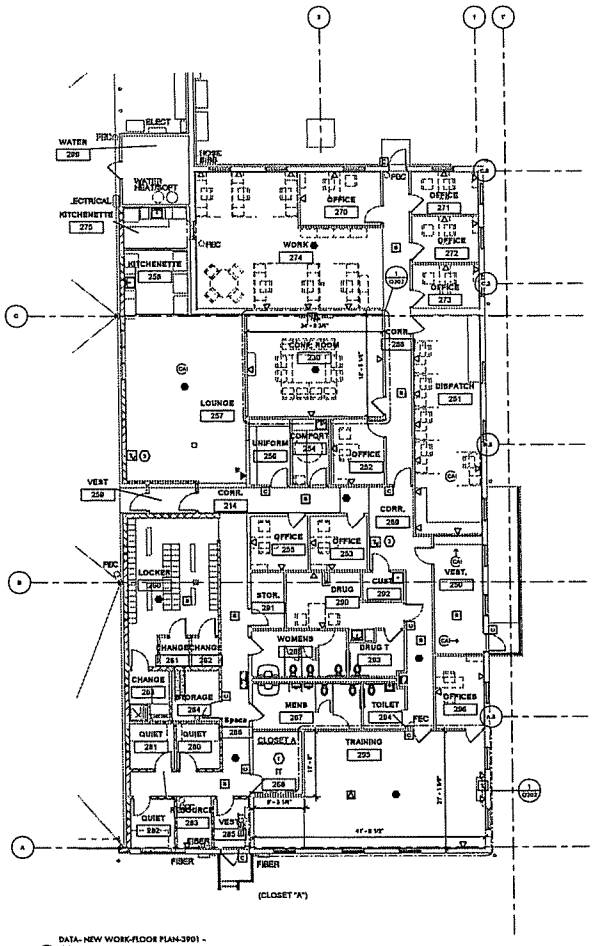
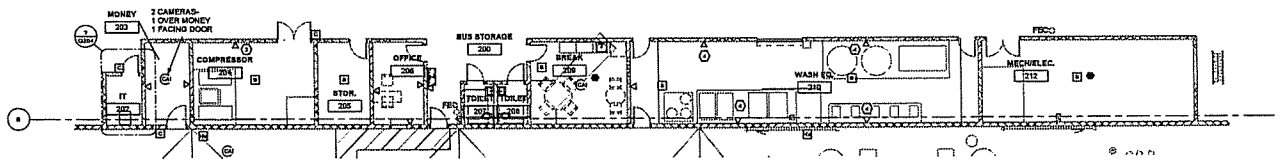
OVERALL BUILDING 3901 PLAN

Q200

ORIGINAL



DATA- NEW WORK-FLOOR PLAN-3901 -
Callout 1
SCALE 1/8" = 1'-0"



DATA- NEW WORK-FLOOR PLAN-3901 -
Callout 2
SCALE 1/8" = 1'-0"

LEGEND			
⬢	WIRELESS ACCESS POINT - 2 CAT6A DATA CABLES	A	AUDIBLE ALARM -
△	DATA JACK - 2 CAT6 DATA CABLES	E	ELECTRIC STRIKE -
S	SPEAKER	ACR	ACCESS CONTROL SYSTEM -
PH	PAGING HORN - ETR	GO	GATE OPERATOR -
W	WALL PHONE - 1 CAT6 DATA CABLE @ 48" A.F.F.	ACP	ACCESS CONTROL PANEL -
TV	TV - 2 CAT6 DATA CABLE - VERIFY EXACT MTG. HT.	SEC	SECURITY SYSTEM DISPLAY -
C	CARDREADER -	TGB	COMMUNICATIONS GROUND BUS BAR -
K	KEYPAD -		2-POST TELECOMMUNICATIONS EQUIPMENT RACK
M	MOTION DETECTOR		SURFACE RACEWAY - REFER TO KEYED NOTES & SPECIFICATIONS FOR TYPES
DS	DOOR POSITION SWITCH		

KEY NOTES

1. SEE SHEET Q203 FOR IT ROOM LAYOUT.
2. CONTRACTOR TO MOUNT OWNER PROVIDED BRIGHT UNIT.
3. COORDINATE DATA LOCATION WITH FINAL COMPRESSOR EQUIPMETN LAYOUT.
4. COORDINATE LOCATIONS WITH FINAL WASH EQUIPMENT LAYOUT.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

KMTECHNOLOGYDESIGN

SATELLITE BUS FACILITY REMODEL

3635-3901 HAMILTON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 08/15/2023

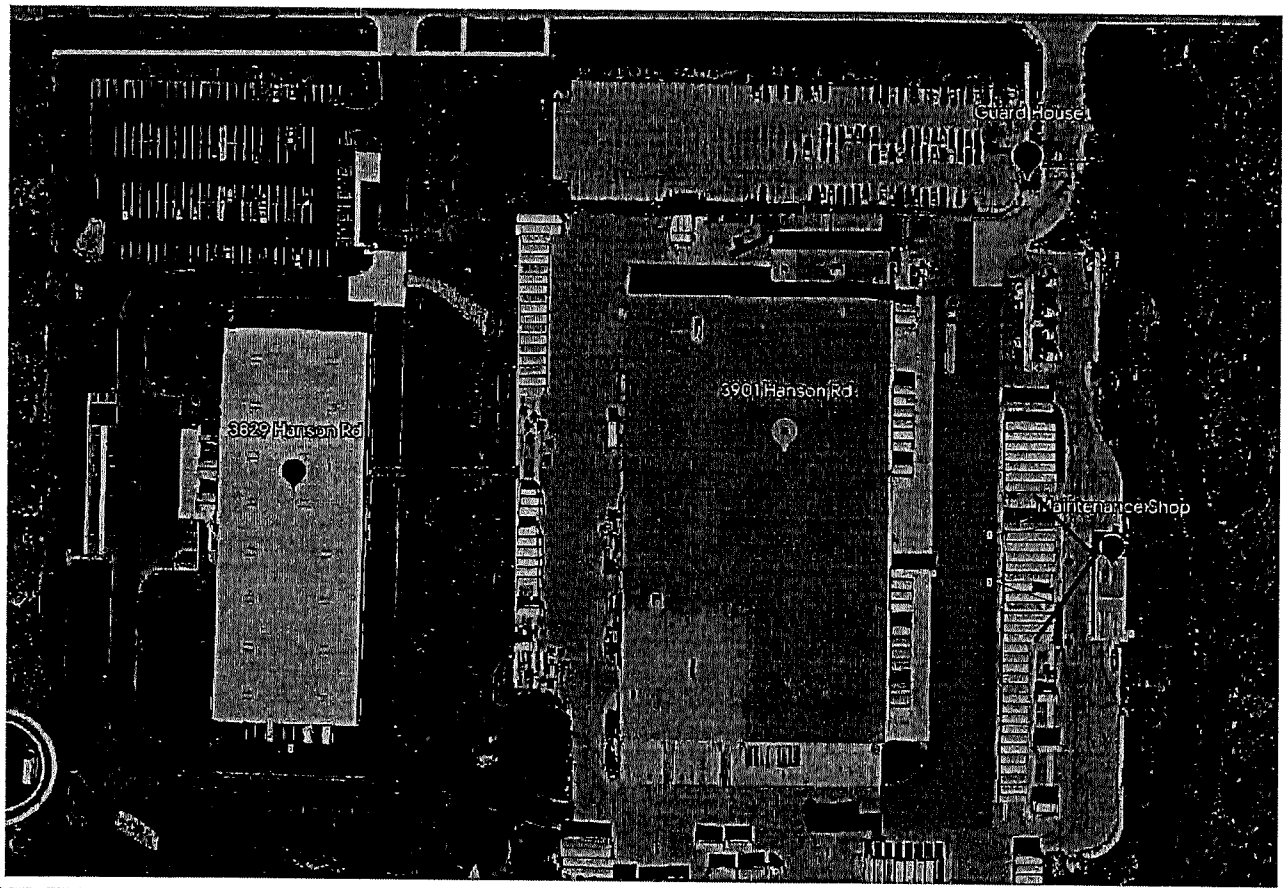
REVISION FOR:
NO. DESCRIPTION DATE

ORIGINAL

DRAWN BY Author
CHECKED BY Checker

OFFICE AREA BUILDING
3901 PLAN

Q201



3 CAMERA - SITE PLAN
SCALE 1/8" = 1'-0"

KEY NOTES

1. CONTRACTOR TO PROVIDE BORING SERVICES TO COMPLETE THE OUTSIDE CABLING FOR OUTSIDE CAMERAS. BORE FROM MAINTENANCE BUILDING TO DESIGNATED LIGHTPOLE (APPROX. 100 FEET STRAIGHT BORE).
   A. RUN CAT 6 OUTSIDE RATED CABLE FROM MAINTENANCE PATCH PANEL THRU HDPE INNERDUCT TO LIGHT POLE. LEAVE 40 FEET AT POLE.
   B. CONTRACTOR IS RESPONSIBLE FOR PENETRATION INTO BUILDING, BORING, HDPE INNERDUCT AND CABLE RUN.
   C. OWNER WILL PROVIDE CAMERA, MOUNT AND PATHWAY.
2. CONTRACTOR TO PROVIDE BORING SERVICES TO COMPLETE THE OUTSIDE CABLING FOR OUTSIDE CAMERAS. BORE FROM MAINTENANCE BUILDING TO DESIGNATED LIGHTPOLE (APPROX. 200 FEET STRAIGHT BORE).
   A. RUN CAT 6 OUTSIDE RATED CABLE FROM MAINTENANCE PATCH PANEL THRU HDPE INNERDUCT TO LIGHT POLE. LEAVE 40 FEET AT POLE.
   B. CONTRACTOR IS RESPONSIBLE FOR PENETRATION INTO BUILDING, BORING, HDPE INNERDUCT AND CABLE RUN.
   C. OWNER WILL PROVIDE CAMERA, MOUNT AND PATHWAY.
3. CONTRACTOR TO PROVIDE BORING SERVICES TO COMPLETE THE OUTSIDE CABLING FOR OUTSIDE CAMERAS.BORE FROM BUILDING 3829 BUILDING TO DESIGNATED LIGHTPOLE (APPROX. 80 FEET STRAIGHT BORE).
   A. RUN CAT 6 OUTSIDE RATED CABLE FROM CABINET LOCATED ON WEST WALL PATCH PANEL THRU BUILDING, HDPE INNERDUCT TO CAMERA POLE. LEAVE 40 FEET AT POLE.
   B. CONTRACTOR IS RESPONSIBLE FOR PENETRATION INTO BUILDING, BORING, HDPE INNERDUCT AND CABLE RUN.
   C. OWNER WILL PROVIDE CAMERA, MOUNT AND PATHWAY. POLE FOR CAMERA MOUNTING WILL BE PROVIDED IN CIVIL CONTRACT.
   D. COORDINATE POLE LOCATION WITH OWNER.

Camera #	Location	View	Building
1	OUTSIDE - ON BUILDING	North West Corner	3829
2	OUTSIDE - ON BUILDING	East Entrance	3829
3	INSIDE - WAREHOUSE	Bus Lane	3829
4	INSIDE - WAREHOUSE	Bus Lane	3829
5	INSIDE - WAREHOUSE	Building and Surround Area	3829
6	INSIDE - WAREHOUSE	Building and Surround Area	3829
7	OUTSIDE - ON BUILDING	Parking Lot and Rd	3829
8	INSIDE - WAREHOUSE	Bus Lane	3901
9	INSIDE - WAREHOUSE	Bus Lane	3901
10	INSIDE - WAREHOUSE	Bus Lane	3901
11	INSIDE - WAREHOUSE	Side Bus Entrance	3901
12	INSIDE - WAREHOUSE	Exit Garage Door	3901
13	OUTSIDE - POLE (New)	Exit Garage Door	3901
14	OUTSIDE - ON BUILDING	Rear 3901	3901
15	OUTSIDE - ON BUILDING	Rear 3901	3901
16	OUTSIDE - POLE (New)	Side Bus Entrance	3901

2 CAMERA SCHEDULE
SCALE 1/8" = 1'-0"

CARD ACCESS SCHEDULE

		Card Reader	Request to Exit	Door Contact	Door Strike	Door Access	Door Alarm
3171	Elevator Room (Bldg 3829)	1				1	
3164	Corridor Room (Bldg 3829)	1				1	
3165	Corridor Room (Bldg 3829)	1				1	
3166	Mechanical Room (Bldg 3829)	1				1	
3154	Stairwell Room (Bldg 3829)	1				1	1
3154	Stairwell Room (Bldg 3829)	1				1	1
3154	Stairwell Room (Bldg 3829)	1				1	1
3154	Elevator Room (Bldg 3829)	1				1	1
3201	Office	1				1	
3211	Office	1				1	
3212	Storage	1				1	
3213	Breakroom	1				1	
3200	IT Room	1				1	
3900	Stairwell Room (Bldg 3901)	1				1	
3901	Stairwell Room (Bldg 3901)	1				1	
3902	Stairwell Room (Bldg 3901)	1				1	
3903	Stairwell Room (Bldg 3901)	1				1	
3904	Stairwell Room (Bldg 3901)	1				1	
3905	Stairwell Room (Bldg 3901)	1				1	
3906	Stairwell Room (Bldg 3901)	1				1	
3907	Stairwell Room (Bldg 3901)	1				1	
3908	Stairwell Room (Bldg 3901)	1				1	
3909a	Elevator Room (Bldg 3901)	1				1	
3909b	Elevator Room (Bldg 3901)	1				1	
3910	IT Room	1				1	
3911	Breakroom	1				1	
3912	Breakroom Room	1				1	
3913	Breakroom	1				1	
3914	Breakroom Room	1				1	
3915	Breakroom	1				1	
3916	Breakroom Room	1				1	
3917	Breakroom	1				1	
3918	Breakroom Room	1				1	
3919	Breakroom	1				1	
3920	Breakroom Room	1				1	
3921	Breakroom	1				1	
3922	Breakroom Room	1				1	
3923	Breakroom	1				1	
3924	Breakroom Room	1				1	
3925	Breakroom	1				1	
3926	Breakroom Room	1				1	
3927	Breakroom	1				1	
3928	Breakroom Room	1				1	
3929	Breakroom	1				1	
3930	Breakroom Room	1				1	
3931	Breakroom	1				1	
3932	Breakroom Room	1				1	
3933	Breakroom	1				1	
3934	Breakroom Room	1				1	
3935	Breakroom	1				1	
3936	Breakroom Room	1				1	
3937	Breakroom	1				1	
3938	Breakroom Room	1				1	
3939	Breakroom	1				1	
3940	Breakroom Room	1				1	
3941	Breakroom	1				1	
3942	Breakroom Room	1				1	
3943	Breakroom	1				1	
3944	Breakroom Room	1				1	
3945	Breakroom	1				1	
3946	Breakroom Room	1				1	
3947	Breakroom	1				1	
3948	Breakroom Room	1				1	
3949	Breakroom	1				1	
3950	Breakroom Room	1				1	
3951	Breakroom	1				1	
3952	Breakroom Room	1				1	
3953	Breakroom	1				1	
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3959	Breakroom	1				1	
3960	Breakroom Room	1				1	
3961	Breakroom	1				1	
3962	Breakroom Room	1				1	
3963	Breakroom	1				1	
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3969	Breakroom	1				1	
3970	Breakroom Room	1				1	
3971	Breakroom	1				1	
3972	Breakroom Room	1				1	
3973	Breakroom	1				1	
3974	Breakroom Room	1				1	
3975	Breakroom	1				1	
3976	Breakroom Room	1				1	
3977	Breakroom	1				1	
3978	Breakroom Room	1				1	
3979	Breakroom	1				1	
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3983	Breakroom	1				1	
3984	Breakroom Room	1				1	
3985	Breakroom	1				1	
3986	Breakroom Room	1				1	
3987	Breakroom	1				1	
3988	Breakroom Room	1				1	
3989	Breakroom	1				1	
3990	Breakroom Room	1				1	
3991	Breakroom	1				1	
3992	Breakroom Room	1				1	
3993	Breakroom	1				1	
3994	Breakroom Room	1				1	
3995	Breakroom	1				1	
3996	Breakroom Room	1				1	
3997	Breakroom	1				1	
3998	Breakroom Room	1				1	
3999	Breakroom	1				1	
4000	Breakroom Room	1				1	

1 CARD ACCESS SCHEDULE
SCALE 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

KHTECHNOLOGYDESIGN

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #501
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 09/15/2021

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

SCHEDULES - CARD ACCESS AND CAMERA

Q601

DELETE

Department of Public Works
Engineering Division
James M. Wolfe, P.E., City Engineer
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Assistant City Engineer
Bryan Cooper, AIA
Gregory T. Fries, P.E.
Chris Petykowski, P.E.
Deputy Division Manager
Kathleen M. Cryan
Principal Engineer 2
John S. Fahrney, P.E.
Janet Schmidt, P.E.
Principal Engineer 1
Mark D. Moder, P.E.
Andrew J. Zwieg, P.E.
Financial Manager
Steven B. Danner-Rivers

October 19, 2023

NOTICE OF ADDENDUM
ADDENDUM NO. 3

CONTRACT NO. 9086
Metro Transit Hanson Rd Bus Facility Remodel

This addendum is issued to modify, explain or correct the original Drawings, Specifications, or Contract Documents marked as ***Metro Transit Hanson Rd Bus Facility Remodel, City of Madison Project 10950, Contract No. 9086, as issued on September 19, 2023, Addendum #1 as issued on September 28, 2023, Addendum #2 as issued on October 13, 2023 and Addendum #3 as issued on October 19, 2023.*** The addenda are hereby made a part of the contract documents, represents clarifications of the previously released documents, consists of six (6) pages, and the referenced exhibits.

This addendum does not include a change to the bid due date.

Please acknowledge the addenda on page E1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

An electronic version of these documents can be found on the Bid Express website at
https://www.infotechinc.com/bidexpress/

If you are unable to download the plan revisions associated with the addendum please contact the Engineering office at 608-266-4751 to receive the material by another route.

For questions regarding this bid, contact:

Jim Whitney
City of Madison Engineering
Phone: 608-266-4563
Email: jwhitney@cityofmadison.com

Sincerely,

James M. Wolfe, P.E., City Engineer

Cc: Greg Fries
Bryan Cooper

GENERAL CONTRACT CONDITIONS

1. No change.

GENERAL QUESTIONS/AMSWERS AND CLARIFICATIONS

1. Sheet A905 Equipment Schedule Line Item #20 In Ground Vehicle Scissors Lift calls for (2) units whereas Specification Section 14 45 00 Heavy Duty Vehicle Lifts calls for (3) Lifting Units per 2.1, A., 1. a. Please confirm.
    a. Response: There are (2) in-ground lifts required. Each lift has 3 post type lifts that engage the bus axles. Since the buses are articulating they have 3 axles and each axle requires a post to lift it.

ACCEPTABLE EQUIVALENTS

1. No change.

SPECIFICATIONS

1. Section 11 90 05 Oil Filter Crusher:
    a. Page 11 90 05-1
        i. Add 2.1(B) Basis-of-Design: Provide Industrial Diesel Products, Inc. Model P200L or approved equal from another manufacture.
2. Section 26 05 00 Common Work Results for Electrical:
    a. Page 260500-2, Lines 27-35, Revise Sustainable Design Requirements Section reference to 01 81 13.14.
    b. Page 260500-2, Lines 27-35, Contractor to include any/all Commissioning required as part of the LEED certification, reference Section 01 91 13.
3. Section 26 05 00 Common Work Results for Electrical:
    a. Page 260500-2, Lines 37-40, Contractor to include any/all Commissioning required as part of the LEED certification, reference Section 01 91 13.
4. Add Section 26 09 43 Network Lighting Controls – Lutron Athena (Specification section attached to Addendum).
5. Section 41 21 00 Material Handling Equipment (Overhead Crane System):
    a. Page 41 21 05-1
        i. Revise 1.1(A): Section includes a 3-ton bridge crane system and VFD trolly.

DRAWINGS

1. T100 Title Sheet
    A. Add sheet E201G.
    B. Add sheet E301C.
2. Sheet D100 Demolition Floor Plan – Maintenance Building
    A. Delete existing doors 160 and 161.
    B. Add note removing base.
    C. Revise demolition note.
    D. Add bollard demolition.
    E. Revise demolition extents at crane column footings.
3. Sheet D101 Demolition Floor Plan – Storage Building
    A. Add retain existing door note.
    B. Delete existing doors 299, 266, 267, 294, 293, and 200W.
    C. Add note removing base around water room.
    D. Add gyp bd removal note to remove gypsum board and wall coverings from 2 rooms.
    E. Add metal plate removal note.
    F. Add note to retain sectional door.
    G. Add note to remove floor for footing installation.
4. Sheet A100 First Floor Plan – Maintenance Building
    A. Revise doors 160 and 161 as new
    B. Revise Training room layout.
    C. Revise dispenser and charger locations.
    D. Add note that charger and dispensers are by Owner.
    E. Add general notes 13, 14, and 15.
    F. Add wall in Fire Pump 176.
5. Sheet A101 First Floor Plan – Storage Building
    A. Add general notes 13, 14, and 15.

B. Add precast concrete patch note.
C. Delete detail 4.
D. Revise dispenser/charger curb and layout.
E. Delete guardrail detail reference and note.
F. Revise doors 266, 267, 294, 293, and 200W as new
G. Revise Meeting Room room layout.
H. Revise Training room elevation.
I. Water Room 299
    1. Revise door 299 as new.
    2. Add housekeeping pad
    3. Add 1 hour rated walls

6. A110 Roof Plan – Maintenance Building
    A. Remove exhaust fan.
    B. Revise exhaust fan location.
    C. Add (2) roof penetrations.
    D. Add (3) existing plumbing vents.
7. A111 Roof Plan – Storage Building
    A. Add (20) roof penetrations.
    B. Remove (1) roof penetration to reuse existing penetration.
    C. Revise (3) roof penetration detail callouts.
    D. Remove (3) curb-mounted mechanical units.
    E. Revise locations of (2) curb-mounted mechanical units.
    F. Add (1) curb-mounted exhaust fan.
    G. Revise detail callout at condensing unit on low roof.
    H. Add roof drain and overflow drain notes.
    I. Call out (8) existing plumbing vent locations.
    J. Revise roof patch note on low roof.
8. Sheet A301 Enlarged Plans
    A. Add general notes 13, 14, and 15.
    B. Detail 1
        1. Revise doors 266, 267, 294, and 293 as new
        2. Add gyp bd note in room 230.
        3. Water Room 299
            - Revise door 299 as new.
            - Add housekeeping pad
            - Add 1 hour rated walls
        4. Revise Meeting Room room layout.
        5. Revise Training room elevation.
    C. Detail 3
        1. Revise doors 160 and 161 as new.
        2. Revise Training room layout.
9. Sheet A302 Enlarged Plans
    A. Add general notes 13, 14, and 15.
    B. Detail 2
        1. Fire Pump 176
            - Add wall and tag in Fire Pump 176.
            - Revise wall tags for Fire Pump 176.
            - Revise room dimensions.
        2. Add housekeeping pad in room 177.
        3. Delete existing bollard and note.
    C. Detail 3
        1. Revise doors 160 and 161 as new.
10. A505 Exterior Details
    A. Details 10 and 11
        1. Revise louver note.
11. A506 Exterior Details
    A. Details 11 and 12
        1. Revise louver note.
    B. Add Detail 19.
12. Sheet A802 Interior elevations

A. Delete detail 11.
B. Add detail 12.
C. Add detail 13.

13. S001 Structural Notes and Schedules
    A. Revise footing schedule.
14. S100 Foundation and Framing Plans – Maintenance Building
    A. Revised multiple items on the floor plan.
    B. Added Masonry wall reinforcing schedule.
    C. Added safety poles to plan.
    D. Added housekeeping pad.
    E. Added masonry wall callouts.
    F. Added new footing size callouts.
    G. Updated north arrow for both plans.
    H. Revised multiple items on the mezzanine/roof framing plan.
    I. Added roof top unit supports.
    J. Added ceiling hung hose reels.
    K. Added column mounted hose reels.
    L. Added opening along grid D*
15. S101 Foundation Plan – Storage Building
    A. Revised multiple items on the foundation plan.
    B. Added Masonry wall callouts.
    C. Added Masonry wall reinforcing schedule.
    D. Updated north arrow.
16. S102 Roof Framing Plan – Storage Building
    A. Revised multiple items on the roof plan.
    B. Added roof top units and supporting details.
    C. Added Masonry wall callouts.
    D. Updated north arrow.
17. S800 Structural Details
    A. Updated detail 4/S800 to include note for trench drains.
    B. Updated Detail 9/S800 to clean up graphics for bond beam.
    C. Added details 13, 15, and 16.
    D. Updated detail 14/S800 at plank bearing and masonry wall above.
18. S801 Structural Details
    A. Re-arranged details to make room for new details.
    B. Added details 6, 7, 8, 9, 10, 11, and 12.
19. P001 Schedules
    A. Changed the SCFM to 265 to match calculations.
    B. Changed the Manufacturer and model number for RAD-1 and RAD-2.
20. PD100 First Floor Plan Maintenance Building – Plumbing Demolition
    A. Remove two keynote tags.
21. PD101 First Floor Plan Storage Building – Plumbing Demolition
    A. Remove FCO and Keynote
22. P099 Underfloor Plan Storage Building – Plumbing
    A. Added note to catch basin.
23. P100 First Floor Plan Maintenance Building – Plumbing
    A. Added air drop.
    B. Revised pipe size.
24. P101 First Floor Plan Storage Building – Plumbing
    A. Revise note.
25. P200 Enlarged Plans Maintenance Building – Plumbing
    A. Added notes to coordinate floor drain locations
    B. Changed toilet from WC-2 to WC-3
    C. Added note to HD-1
26. P201 Enlarged Plans Storage Building – Plumbing
    A. Added notes for piping to be installed above PVC ceiling.
27. P502 Compressed air & Specialty Fluids Isometrics - Plumbing
    A. Revised piping for new dropping.
28. HD100A Mechanical Demo Plan – Maintenance Building
    A. Minor changes throughout.

29. HD100B Mechanical Demo Plan – Maintenance Building
    A. Minor changes throughout.
30. HD101A Mechanical Demo Plan – Storage Building
    A. Minor changes throughout.
31. HD101B Mechanical Demo Plan – Storage Building
    A. Minor changes throughout.
32. HD101C Mechanical Demo Plan – Storage Building
    A. Minor changes throughout.
33. HD101D Mechanical Demo Plan – Storage Building
    A. Minor changes throughout.
34. HD200 Mechanical Enlarged Demo Plan – Maintenance Building
    A. Added notes to accommodate ceiling height changes and alter existing HVAC to accommodate.
    B. Minor changes throughout, in addition to item A above.
35. H100A Mechanical Floor Plan – Maintenance Building
    A. Minor changes throughout.
36. H100B Mechanical Floor Plan – Maintenance Building
    A. Minor changes throughout.
37. H101A Mechanical Floor Plan – Storage Building
    A. Minor changes throughout.
38. H101B Mechanical Floor Plan – Storage Building
    A. Minor changes throughout.
39. H101C Mechanical Floor Plan – Storage Building
    A. Minor changes throughout.
40. H101D Mechanical Floor Plan – Storage Building
    A. Added detail to VAV system for office area and mechanical mezzanine.
    B. Minor changes throughout, in addition to item A above.
41. H200 Mechanical Enlarged Plan – Maintenance Building
    A. Minor changes throughout.
42. H300 Mechanical Schedules
    A. Updated ERV-3 to 460 volt 3 phase electric preheat.
    B. Updated diffusers, registers, and grilles.
    C. Minor changes throughout, in addition to items A and B above.
43. H301 Mechanical Schedules
    A. Updated AH-1 to left hand connections and added mounting note.
    B. Updated DS-1.
    C. Added DS-2.
    D. Removed ERV-4.
    E. Added EF-33 schedule
    F. Minor changes throughout, in addition to items A through E above.
44. H400 Mechanical Schematics
    A. Minor changes throughout.
45. H500 Mechanical Details
    A. Minor changes throughout.
46. E001 Notes, Symbols, Abbreviations & Sheet Index
    A. Revise plan and notes as indicated.
47. ED101A Lighting Demo Plan – 3901 Storage Bldg. – Section A
    A. Revise plan and notes as indicated.
48. ED101B Lighting Demo Plan – 3901 Storage Bldg. – Section B
    A. Revise plan and notes as indicated.
49. ED101C Lighting Demo Plan – 3901 Storage Bldg. – Section C
    A. Revise plan and notes as indicated.
50. ED101D Lighting Demo Plan – 3901 Storage Bldg. – Section D
    A. Revise plan and notes as indicated.
51. ED201A Power Demo Plan – 3901 Storage Bldg. – Section A
    A. Revise plan and notes as indicated.
52. ED201B Power Demo Plan – 3901 Storage Bldg. – Section B
    A. Revise plan and notes as indicated.
53. ED201C Power Demo Plan – 3901 Storage Bldg. – Section C
    A. Revise plan and notes as indicated.
54. ED201D Power Demo Plan – 3901 Storage Bldg. – Section D

A. Revise plan and notes as indicated.

55. ED300 Existing Panel Schedules – 3829 Maint. Bldg.
    A. Revise plan and notes as indicated.
56. ED301A Existing Panel Schedules – 3901 Storage Bldg.
    A. Revise plan and notes as indicated.
57. ED301B Existing Panel Schedules – 3901 Storage Bldg.
    A. Revise plan and notes as indicated.
58. E100A Lighting New Work Plan – 3829 Maint. Bldg. – Section A
    A. Revise plan and notes as indicated.
59. E100B Lighting New Work Plan – 3829 Maint. Bldg. – Section B
    A. Revise plan and notes as indicated.
60. E100C Lighting New Work Plan – 3829 Maint. Bldg. – Enlarged Plans
    A. Revise plan and notes as indicated.
61. E101A Lighting New Work Plan – 3901 Storage Bldg. – Section A
    A. Revise plan and notes as indicated.
62. E101B Lighting New Work Plan – 3901 Storage Bldg. – Section B
    A. Revise plan and notes as indicated.
63. E101C Lighting New Work Plan – 3901 Storage Bldg. – Section C
    A. Revise plan and notes as indicated.
64. E101D Lighting New Work Plan – 3901 Storage Bldg. – Section D
    A. Revise plan and notes as indicated.
65. E200A Power New Work Plan – 3829 Maint. Bldg. – Section A
    A. Revise plan and notes as indicated.
66. E200C Power New Work Enlarged Plans – Maint. Bldg.
    A. Revise plan and notes as indicated.
67. E201A Power New Work Plan – 3901 Storage Bldg. – Section A
    A. Revise plan and notes as indicated.
68. E201B Power New Work Plan – 3901 Storage Bldg. – Section B
    A. Revise plan and notes as indicated.
69. E201C Power New Work Plan – 3901 Storage Bldg. – Section C
    A. Revise plan and notes as indicated.
70. E201D Power New Work Plan – 3901 Storage Bldg. – Section D
    A. Revise plan and notes as indicated.
71. E201E Power New Work Enlarged Plan – 3901 Storage Bldg.
    A. Revise plan and notes as indicated.
72. E201F Power New Work Enlarged Plan – 3901 Storage Bldg.
    A. Revise plan and notes as indicated.
73. E201G Power New Work Enlarged Plan – 3901 Storage Bldg., add new sheet complete.
74. E300A Existing Revised Panel Schedules – 3829 Maint. Bldg.
    A. Revise plan and notes as indicated.
75. E301A Existing Revised Panel Schedules – 3901 Storage Bldg.
    A. Revise plan and notes as indicated.
76. E301B Existing Revised Panel Schedules – 3901 Storage Bldg.
    A. Revise plan and notes as indicated.
77. E301C New Panel Schedules – 3901 Storage Bldg., add new sheet complete.
78. E401 One Line Diagram – 3901 Storage Bldg.
    A. Revise plan and notes as indicated.
79. E501D Fire Alarm New Work – 3901 Storage Bldg. – Section D
    A. Revise plan and notes as indicated.
80. E600 Lighting, Motor and Equipment Schedules – 3829 Maint. Bldg.
    A. Revise plan and notes as indicated.
81. E601 Lighting, Motor and Equipment Schedules – 3901 Storage Bldg.
    A. Revise plan and notes as indicated.

PROPOSAL

1. No change.

End of Contract 9086 Addendum No. 3

SECTION 26 09 43
NETWORK LIGHTING CONTROLS – LUTRON ATHENA (OR EQUIVALENT)

PART 1 – GENERAL

SECTION INCLUDES

Digital-network lighting control system and associated components:

- Lighting control modules (Lutron Energi Savr Node).
- Digital wireless fixture modules.
- Lighting management hubs and processors.
- Lighting management system software.
- Control stations.
- Wireless sensors.

RELATED REQUIREMENTS

Section 26 27 26 - Wiring Devices:

- Finish requirements for wall controls specified in this section.
- Accessory receptacles and wallplates, to match lighting controls specified in this section.

Section 26 51 13 – Interior Lighting Fixtures.

REFERENCE STANDARDS

47 CFR 15 - Radio Frequency Devices; current edition.

ANSI/ESD S20.20 - Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices); 2021.

CSA C22.2 No. 223 – Power Supplies with Extra-low-voltage Class 2 Outputs; 2015 (Reaffirmed 2020).

IEC 61000-4-2 - Electromagnetic Compatibility (EMC) - Part 4-2: Testing and Measurement Techniques - Electrostatic Discharge Immunity Test; 2008.

IEC 61000-4-5 – Electromagnetic Compatibility (EMC) – Part 4-5: Testing and Measurement Techniques – Surge Immunity Test; 2014, with Amendments, 2017.

IEEE 802.3 – IEEE Standard for Ethernet; 2022.

IEEE C62.41.2 - Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and less) AC Power Circuits; 2002 (Cor 1, 2012).

ISO 9001 – Quality Management Systems-Requirements; 2015.

NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.

NECA 130 – Standard for Installing and Maintaining Wiring Devices; National Electrical Contractors Association; 2016.

NEMA 410 - Performance Testing for Lighting Controls and Switching Devices with Electronic Drivers and Discharge Ballasts; National Electrical Manufacturers Association; 2020.

NEMA SSL 7A – Phase Cut Dimming for Solid State Lighting: Basic Compatibility; National Electrical Manufacturers Association; 2015 (Reaffirmed 2020).

NEMA WD 1 – General Color Requirements for Wiring Devices; National Electrical Manufacturers Association; 1999 (Reaffirmed 2020).

NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

UL 94 – Tests for Flammability of Plastic Materials for Parts in Devices and Appliances; Current Edition, Including All Revisions.

UL 508 – Industrial Control Equipment; Underwriters Laboratories Inc.; Current Edition, Including All Revisions.

UL 924 - Emergency Lighting and Power Equipment; Current Edition, Including All Revisions.

UL 1310 – Class 2 Power Units; Current Edition, Including All Revisions.

UL 1472 – Solid-State Dimming Controls; Current Edition, Including All Revisions.

UL 1598C - Light-Emitting Diode (LED) Retrofit Luminaire Conversion Kits; Current Edition, Including All Revisions.

UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products; Current Edition, Including All Revisions.

ADMINISTRATIVE REQUIREMENTS

Coordination:

Coordinate placement of sensors and wall controls with millwork, furniture, equipment, etc. installed under other sections or by others.

Coordinate placement of wall controls with actual installed door swings.

Coordinate placement of daylight sensors with windows, skylights, and luminaires to achieve optimum operation. Coordinate placement with ductwork, piping, equipment, or other potential obstructions to light level measurement installed under other sections or by others.

Notify Architect of conflicts or deviations from contract documents to obtain direction prior to proceeding with work.

Preinstallation Meeting: Conduct on-site meeting with lighting control system manufacturer prior to commencing work as part of manufacturer's standard startup services. Manufacturer to review with installer:

Low voltage wiring requirements.

Separation of power and low voltage/data wiring.

Wire labeling.

Lighting management hub locations and installation.

Sensor locations to be reviewed in accordance with layout provided by Lighting Control Manufacturer. Lighting Control Manufacturer may direct Contractor regarding sensor relocation should conditions require deviation from locations indicated.

Control locations.

Computer jack locations.

Load circuit wiring.

Network wiring requirements.

Connections to other equipment.

Installer responsibilities.

Lutron's standard start-up procedure for Quantum system includes on-site prewire meeting. Use the following paragraph to specify additional remote prewire meeting sessions. Edit the choice to have this additional value included

as an alternate or as part of the base bid. Edit the number of remote prewire meeting sessions required according to project requirements.
Remote Prewire Visit; Lutron LSC-PREWIRE-RMTE: Include additional costs for Lighting Control Manufacturer to provide one(1) 4-hour session(s) of additional remote prewire support.

Sequencing:
Do not install sensors and wall controls until final surface finishes and painting are complete.

SUBMITTALS

Design Documents: Lighting Control Manufacturer to provide plans indicating occupancy/vacancy and/or daylight sensor locations.

Product Data: Include ratings, configurations, standard wiring diagrams, dimensions, colors, service condition requirements, and installed features.

Occupancy/Vacancy Sensors: Include detailed basic motion detection coverage range diagrams.

Shop Drawings:

Provide schematic system riser diagram indicating component interconnections. Include requirements for interface with other systems.

Provide detailed sequence of operations describing system functions.

Manufacturer's Installation Instructions: Include application conditions and limitations of use stipulated by product testing agency. Include instructions for storage, handling, protection, examination, preparation, and installation of product.

System Performance-Verification Documentation; Lutron LSC-SPV-DOC: Include additional costs for manufacturer's enhanced documentation detailing start-up performance-verification procedures and functional tests performed along with test results.

Project Record Documents: Record actual installed locations and settings for lighting control system components.

Operation and Maintenance Data: Include detailed information on lighting control system operation, equipment programming and setup, replacement parts, and recommended maintenance procedures and intervals.

Warranty: Provide sample of manufacturer's warranty as specified in Part 1 under "WARRANTY". Submit documentation of final execution completed in Owner's name and registered with manufacturer.

QUALITY ASSURANCE

Conform to requirements of NFPA 70.

Maintain at project site one copy of each referenced document that prescribes execution requirements.

Manufacturer Qualifications:

Company with not less than 10 years of experience designing, manufacturing, and servicing wireless lighting controls; manufacturers without this qualification are not acceptable.

Maintain readily available components at local electrical distributors.

Provide services of local factory field service engineers for service reliability; manufacturers without this qualification are unacceptable.

Registered to ISO 9001, including in-house engineering for product design activities.

Qualified to supply specified products and to honor claims against product presented in accordance with warranty.

Maintenance Contractor Qualifications: Manufacturer's authorized service representative.

DELIVERY, STORAGE, AND HANDLING

Store products in clean, dry space in original manufacturer's packaging in accordance with manufacturer's written instructions until ready for installation.

FIELD CONDITIONS

Maintain field conditions within manufacturer's required service conditions during and after installation.

Lutron System Requirements, Unless Otherwise Indicated:

Ambient Temperature:

Lighting Control System Components, Except Those Listed Below: Between 32 and 104 degrees F (0 and 40 degrees C).

Relative Humidity: Less than 90 percent, non-condensing.

WARRANTY

Manufacturer's Standard Warranty, With Manufacturer Start-Up; Lutron Standard 2-Year Warranty; Lutron LSC-B2:

Manufacturer Lighting Control System Components, Except Wireless Sensors, Ballasts/Drivers and Ballast Modules:

First Two Years:

100 percent replacement parts coverage, 100 percent manufacturer labor coverage to troubleshoot and diagnose lighting issue.

First-available on-site or remote response time.

Remote diagnostics for applicable systems.

Telephone Technical Support: Available 24 hours per day, 7 days per week, excluding manufacturer holidays.

Wireless Sensors: Five years 100 percent parts coverage, no manufacturer labor coverage.

Athena Wireless Node, Drivers, and Ballast Modules: Five years 100 percent parts coverage, no manufacturer labor coverage.

PART 2 – PRODUCTS

MANUFACTURERS

Basis of Design Manufacturer: Lutron Electronics Company, Inc; Athena; www.lutron.com.

Other Acceptable Manufacturers: Equivalent lighting control systems will be considered. All proposed substitutions must be reviewed and approved in writing by Owner/Architect/Engineer at least 5 business days prior to bid. No substitutions will be considered after this date has passed.

Substitutions: Equivalent lighting control systems will be considered. All proposed substitutions must be reviewed and approved in writing by Owner/Architect/Engineer at least 5 business days prior to bid. No substitutions will be considered after this date has passed.

By using substitutions, Contractor accepts responsibility and associated costs for required modifications to related equipment and wiring. Provide complete engineered shop drawings (including power wiring) with deviations from original design highlighted in alternate color for review and approval by Architect prior to rough-in.

Source Limitations: Furnish products produced by single manufacturer and obtained from single supplier.

DIGITAL-NETWORK LIGHTING CONTROL SYSTEM - GENERAL REQUIREMENTS

Sensor Layout and Tuning: Include costs for Lighting Control Manufacturer's Sensor Layout and Tuning service; Lutron LSC-SENS-LT:

Lighting Control Manufacturer to take full responsibility for wired or wireless sensor layout and performance for sensors provided by Lighting Control Manufacturer.

Lighting Control Manufacturer to analyze reflected ceiling plans, via supplied electronic AutoCAD format, and design detailed sensor layout that provides adequate occupancy sensor coverage and ensures occupancy and daylight sensor performance per agreed upon sequence of operations. Contractor to utilize layouts for sensor placement.

During startup, Lighting Control Manufacturer to direct Contractor regarding sensor relocation, as required, should conditions require deviation from locations specified in drawings.

Lighting Control Manufacturer to provide up to two additional post-startup on-site service visits within one calendar year from Date of Substantial Completion to fine-tune sensor calibration per agreed upon sequence of operations.

Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. as suitable for purpose indicated.

Unless specifically indicated to be excluded, provide required equipment, conduit, boxes, wiring, connectors, hardware, supports, accessories, software, system programming, etc. as necessary for complete operating system that provides control intent indicated.

Design lighting control equipment for 10-year operational life while operating continually at any temperature in ambient temperature range of 32 degrees F (0 degrees C) to 104 degrees F (40 degrees C) and 90 percent non-condensing relative humidity.

Electrostatic Discharge Tolerance: Design and test equipment to withstand electrostatic discharges without impairment when tested according to IEC 61000-4-2.

Dimming and Switching/Relay Equipment:

Designed so that electrolytic capacitors operate at least 36 degrees F (20 degrees C) below capacitor's maximum temperature rating when device is under fully loaded conditions at maximum rated temperature.

Inrush Tolerance:

Utilize load-handling thyristors (SCRs and triacs), field effect transistors (FETs) and isolated gate bipolar transistors (IGBTs) with maximum current rating at least two times rated operating current of dimmer/relay.

Capable of withstanding repetitive inrush current of 50 times operating current without impacting lifetime of dimmer/relay.

Surge Tolerance: Designed and tested to withstand surges of 6,000 V, 200 amps according to IEEE C62.41.2 without impairment to performance.

Power Failure Recovery: When power is interrupted and subsequently restored, within 3 seconds lights to automatically return to same levels, e.g. dimmed setting, full on, or full off, as prior to power interruption.

Dimming Requirements:

Line Noise Tolerance: Provide real-time cycle-by-cycle compensation for incoming line voltage variations including changes in RMS voltage (plus or minus 2 percent change in RMS voltage per cycle), frequency shifts (plus or minus 2 Hz change in frequency per second), dynamic harmonics, and line noise.

Systems not providing integral cycle-by-cycle compensation to include external power conditioning equipment as part of dimming system.

Incorporate electronic "soft-start" default at initial turn-on that smoothly ramps lights up to appropriate levels within 0.5 seconds.

Utilize air gap off to disconnect load from line supply.

Control light sources in smooth and continuous manner. Dimmers with visible steps are not acceptable.

Load Types:

Assign load type to each dimmer that will provide proper dimming curve for specific light source to be controlled.

Provide capability of being field-configured to have load types assigned per circuit.

Minimum and Maximum Light Levels: User adjustable on circuit-by-circuit basis.

Line Voltage Dimmers:

Dimmers for Magnetic Low Voltage (MLV) Transformers:

Provide circuitry designed to control and provide symmetrical AC waveform to input of magnetic low voltage transformers per UL 1472.

Dimmers using unipolar load current devices, e.g. FETs or SCRs, to include DC current protection in event of single device failure.

Dimmers for Electronic Low Voltage (ELV) Transformers: Operate transformers via reverse phase control. Alternately, forward phase control dimming may be used if dimming equipment manufacturer has recommended specific ELV transformers being provided.

Dimmers for Neon and Cold Cathode Transformers:

Magnetic Transformers: Listed for use with normal (low) power factor magnetic transformers.

Electronic Transformers: Must be supported by ballast equipment manufacturer for control of specific ballasts being provided.

Switching Requirements:

Rated Life of Relays: Typical of 1,000,000 cycles at fully rated 16 A for all lighting loads.

Switch load in manner that prevents arcing at mechanical contacts when power is applied to and removed from load circuits.

Provide output fully rated for continuous duty for inductive, capacitive, and resistive loads.

RS485 Communication Between Low-Voltage Devices:

Communicate at minimum speed of 10,000 bits per second; systems with slower communication speeds are not acceptable.

Support low-voltage communication links up to 2,000 feet (610 m) with 12 AWG wiring with available low-voltage power supplies to extend links farther; systems without this capability are not acceptable.

Support both wired and wireless wall controls and sensors; systems without this capability not acceptable.

Device Finishes:

Wall Controls: To be selected by Owner/Architect.

Standard Colors: Comply with NEMA WD1 where applicable.

Color Variation in Same Product Family: Maximum delta E of 1, CIE L*a*b color units.

Visible Parts: Exhibit ultraviolet color stability when tested with multiple actinic light Lutron's Energi Savr Node with Softswitch® is a simple, programmable, smart module that controls all the lights and saves energy in a commercial space. Energi Savr Node can be used to switch third party ballasts and other non-dim loads, and connect wired and wireless occupancy/vacancy sensors, daylight sensors, and control stations to manage light

in a variety of spaces. Control a single space - up to an entire floor - with one or more Energi Savr Node modules, or link to the Lutron Athena system for total light management, entire building control, and maximum energy efficiency.

LIGHTING CONTROL MODULES (LUTRON ENERGI SAVR NODE)

Provide lighting control modules as indicated or as required to control loads as indicated.

General Requirements:

Listed to UL 508 as industrial control equipment.
Comply with NFPA 70 requirements for use in other spaces used for environmental air (plenum).

Delivered and installed as listed factory-assembled panel.

Passively cooled via free-convection, unaided by fans or other means; modules that require fan cooling not acceptable.

Mounting: Surface.

Connects to lighting management hub via RS485.

LED status indicators confirm communication with occupancy sensors and daylight sensors.

Contact Closure Input (select models):

Directly accept contact closure input from dry contact closure or solid-state output without interface to:

Activate scenes.

Scene activation from momentary or maintained closure.

Enable or disable after hours.

Automatic sweep to user-specified level after user-specified time has elapsed.

System provides occupants visual warning prior to sweeping lights to user-specified level.

Occupant can reset timeout by interacting with lighting system.

Activate or deactivate demand response (load shed).

Load shed event reduces lighting load by user-specified amount.

Emergency Contact Closure Input:

Turn all zones to full output during emergency state via direct contact closure input from UL 924 listed emergency lighting interface, security system or fire alarm system.

Allow configurable zone response during emergency state.

Disable control operation until emergency signal is cleared.

Supplies power for control link for keypads and control interfaces (select models).

Distributes sensor data among multiple lighting control modules.

Capable of being controlled via wireless sensors and controls.

No minimum load requirement.

Switching Lighting Control Modules:

Products:

Lutron SoftSwitch Energi Savr Node; Model QSN-4S16-S: 16 A continuous-use per channel.

Lutron SoftSwitch Energi Savr Node; Model QSN-4S20-S: 20 A (16 A ballast) continuous-use per channel; capable of switching 20A receptacles.

Switching:

Rated Life of Relay: Typical of 1,000,000 cycles at fully rated 16 A for all lighting loads.

Load switched in manner that prevents arcing at mechanical contacts when power is applied to and removed from load circuits.

Fully rated output continuous duty for inductive, capacitive, and resistive loads.

Module to integrate up to four individually controlled zones.

Utilize air gap off, activated when user selects "off" at any control to disconnect load from line supply.

Phase Adaptive Lighting Control Modules:

Products:

Lutron PRO LED+ Phase Adaptive Energi Savr Node; Model QSN-4A5-S; 4-zone.

Zone 1: Rated for incandescent/halogen (800 W, 120/277 V), electronic low voltage (800 W, 120/277 V), magnetic low voltage (800 VA/525 W, 120/277 V), or neon/cold cathode (800 VA/525 W, 120/277 V), Lutron Hi-lume 1% 2-wire LED Driver (120 V, maximum of 20 drivers), NEMA SSL 7A forward phase LED (400 W, 120 V), reverse phase LED (6.6 A at 120 V and 2.9 A at 277 V).

Zones 2 through 4: Each zone rated for incandescent/halogen (500 W, 120/277 V), electronic low voltage (500 W, 120/277 V), magnetic low voltage (500 VA/375 W, 120/277 V), or neon/cold cathode (500 VA/375 W, 120/277 V), Lutron Hi-lume 1% 2-wire LED Driver (120 V, maximum of 13 drivers), NEMA SSL 7A forward phase LED (200 W, 120 V), reverse phase LED (4.2 A at 120 V and 1.8 A at 277 V).

Provides leading-edge or trailing-edge dimming; automatic or manual configuration. Support auto-detect mode to detect and configure forward-phase or reverse-phase dimming for incandescent/halogen, electronic/magnetic low-voltage, and neon/cold cathode light sources; modules that do not support auto-detect mode for forward/reverse phase are not acceptable.

Output Zones: One load type per zone.

Manual Mode Operation: Provide buttons to turn loads on/off or dim loads up/down for each zone.

Manual Override Contact Closure Input: Provides activation of manual override mode; turns all loads on and disables control from other devices.

Provide cycle-by-cycle compensation for incoming line voltage variations, including changes in voltage, frequency shifts, harmonics, and line noise; accommodate up to plus/minus two percent change in frequency per second.

Comply with NEMA SSL 7A.

Capable of withstanding high-inrush LEDs, bulb blowouts, and direct shorts utilizing RTISS-ICM technology.

0-10V Lighting Control Modules:

Products:

Lutron 0-10V Energi Savr Node; Model QSN-4T16-S: 16 A continuous-use per channel.

Lutron 0-10V Energi Savr Node; Model QSN-4T20-S: 20 A (16 A ballast) continuous-use per channel; capable of switching 20A receptacles.

Coordination Between Low Voltage Dimming Module and Line Voltage Relay: Capable of being electronically linked to single zone.

Single low voltage dimming module; capable of controlling the following light sources:

0-10V analog voltage signal.

Provide Class 2 isolated 0-10V output signal conforming to IEC 60929.

Sink current per IEC 60929.

10V-0V analog voltage signal.

Provide Class 2 isolated 0-10V output signal conforming to IEC 60929.

Sink current per IEC 60929.

Switching:

Rated Life of Relay: Typical of 1,000,000 cycles at fully rated 16 A for all lighting loads.

Load switched in manner that prevents arcing at mechanical contacts when power is applied to and removed from load circuits.

Fully rated output continuous duty for inductive, capacitive, and resistive loads.

Module to integrate up to four individually controlled zones.

Utilize air gap off, activated when user selects "off" at any control to disconnect load from line supply.

DIGITAL WIRELESS FIXTURE MODULES

Factory install wireless fixture control components in luminaires.

Athena Wireless Node:

Products:

RF only (no integral sensing capability); Lutron Athena Wireless Node (RF only) Model A-WN-D01-RF.

RF with occupancy/vacancy and daylight sensing; Lutron Athena Wireless Node with Sensors Model A-WN-D01-OCC.

Enclosure:

1.12 inches (28.5 mm) wide by 1.23 inches (31.2 mm) high.

Available in white or black plastic; white lens for sensor models.

Mounting: Mounts to lighting fixture. Fits into hole 0.859-inch (21.8 mm) to 0.906-inch (23.0 mm) diameter with fixture wall thickness of 0.016-inch (0.4 mm) to 0.080-inch (2.0 mm), including fixture opening meeting Zhaga Book 20 and standard ½-inch trade size, 0.875-inch (22.5 mm) diameter knockout.

RF Range: Maximum of 75 feet (23 m) between Athena Clear Connect – Type X wireless gateway or Athena wireless processor and compatible Clear Connect – Type X wireless devices on same floor; maximum of 25 feet (7.6 m) between each Clear Connect – Type X wireless device and at least two other Clear Connect – Type X wireless devices.

UL 2043 plenum rated for use in other spaces used for environmental air (plenums).

DALI Alliance Certifications:

DALI-2 certified to parts 101 and 103; wireless fixtures modules without DALI-2 certification are not acceptable.

D4i certified for intelligent, IoT-ready luminaires.

Support control of:

Any DALI-2, Type 6 static-white and Type 8 tunable-white drivers.
0-10V (electronic off) static-white drivers complying with ANSI C137.1.
Manufacturers requiring specific drivers for functionality are not acceptable.

Occupancy/Vacancy and Daylight Sensing:

Disabled by default until programmed in system.

Occupancy/Vacancy Sensing:

Sensing Mechanism: Passive infrared coupled with technology for sensing fine motions; Lutron XCT Technology. Signal processing technology detects fine-motion passive infrared (PIR) signals without need to change sensor's sensitivity threshold.

Sensor Coverage: From 114 square feet (10.6 sq m) to 256 square feet (23.8 sq m) at mounting height of 8 feet (2.4 m) to 12 feet (3.7 m); 360 degree field of view.

Coordination Between Integral, Wired, and Wireless Sensors: Integral, wired, and wireless sensors work in conjunction for appropriate occupancy and vacancy actions.

Daylight Sensing:

Automatic calibration.

Provide linear response to changes in perceived light level.

Closed loop proportional controls scheme.

Sensor Range: 0 to 150 footcandles (0 to 1600 lux).

Coordination Between Integral, Wired, and Wireless Sensors: Integral daylight sensing is disabled when used with wired or wireless daylight sensors.

Supported System Features:

Via Lutron Athena Designer Configuration Setup Software:

Create and modify scenes and simple sequences.

Create and modify schedules for fixtures with static-white and tunable-white capabilities.

Create or modify control groups of fixtures (zones).

Fixture-Level Settings:

Selectable Minimum Light Level: Support applications, such as hallways, that may require lights to never turn off.

Configurable high- and low-end trim.

Occupancy and Daylight Sensing with Sensor Models:

Occupancy sensor timeout, sensitivity, and mode (occupancy or vacancy).

Daylight sensor enable/disable and setpoint.

Via Lutron App Mobile Application :

Modify scenes and schedules.

Override selection of scenes, intensities, and CCT for DALI-2 Device Type 8 loads.

Provide Bluetooth mobile iOS or Android app discovery; wireless fixture modules requiring scanning of bar codes are not acceptable.

Digital Bus Interface:

Product: Lutron OEM Digital Bus Interface; Model DFC-OEM-DBI.

Provides power for single Athena wireless node (18 VDC, 60mA maximum).

DALI compliant.

cULus recognized in accordance with UL 8750.

Fixture control digital interface must be mounted inside fixture; it must not be used for external/remote mounting.

LIGHTING MANAGEMENT HUBS AND PROCESSORS

Lighting Management Hubs:

Products:

Lutron Athena Light Management Hub (QP5).

1-link hub; Lutron Model QP5-1L-POE; one Athena Edge processor and one QS link.

2-link hub; Lutron Model QP5-2L-POE; one Athena Edge processor and two QS links.

4-link hub; Lutron Model QP5-4L-POE; two Athena Edge processors and four QS links.

Lutron Athena Small Area Hub (QP6).

1-link hub; Lutron Model QP6-1L; one Athena Edge processor and one QS link.

Supports connection to QS wired devices via QS links; supports connection to Athena Edge processors and Athena wireless processors via system Ethernet link.

Supports communication with Clear Connect – Type X wireless devices, including Athena Wireless Node enabled light fixtures, via Athena wireless processors.

Supports outbound cloud connection when connected to Internet. Lighting management hubs that do not support cloud connectivity or that require inbound connection from cloud server are not acceptable. Manufacturers requiring on-site servers requiring annual maintenance are not acceptable. System requiring third-party servers to be pre-approved by IT department before acceptance with written approval.

App connectivity to system for control and monitoring from iOS and Android mobile devices, including creating/editing timeclock events and editing scenes.

Automated firmware updates via outbound HTTPS requests.

Remote access, diagnostics, and service.

Cloud Athena dashboard for energy and occupancy monitoring and reporting from web browser.

Signed processor firmware ensures firmware update is authentically from Lutron. Origin of unsigned processor firmware cannot be authenticated and is not acceptable.

Supports two-way digital shade control. Lighting management hubs that do not allow two-way digital shade communication are not acceptable.

Supports time-dependent conditional programming that allows different sensor and keypad actions at different times of day. Lighting management hubs that do not allow for time dependent conditional programming are not acceptable.

Provided in pre-assembled NEMA listed enclosure with terminal blocks listed for field wiring.

Connects to controls via RS485.

Integrates control station devices, shades, and external inputs into single customizable lighting control system with:

Multiple Failsafe Mechanisms:

Power failure detection via emergency lighting interface.

Protection: Lights go to full on if ballast wires are shorted.

Distributed architecture provides fault containment. Single hub failure or loss of power does not compromise lights and shades connected to other lighting management hubs.

Manual overrides.

Automatic control.

Wireless Processor

Product: Lutron Athena Wireless Processor; Model A-RF2.

Connects to lighting management hub via system Ethernet link; powered by IEEE 802.3-compliant (af or at) Power over Ethernet (PoE) supply (QP5 hub, Q-POE-PNL Ethernet range extender, or PoE supply by others).

Enables lighting control system to communicate with up to 100 Clear Connect – Type X wireless devices, including Athena Wireless Node enabled light fixtures, and up to 50 Clear Connect – Type A wireless devices, including up to 15 occupancy/vacancy sensors and up to 5 daylight sensors.

RF Range: Maximum of 75 feet (23 m) between wireless processor and compatible Clear Connect – Type X wireless devices on same floor; maximum of 25 feet (7.6 m) between each Clear Connect – Type X wireless device and at least two other Clear Connect – Type X wireless devices; 30 feet (9 m) between wireless processor and compatible Clear Connect – Type A RF transmitting devices.

Integrates control station devices and external inputs into single customizable lighting control system with:

Multiple Failsafe Mechanisms:
Power failure detection via emergency shunt devices.

Distributed architecture provides fault containment. Single hub failure or loss of power does not compromise lights and shades connected to other lighting management hubs.

Manual overrides.

Automatic control.

Accessories:
Ethernet range extender; Lutron Model Q-POE-PNL; required for connections that exceed 328 feet (100m) between hubs or to Athena Clear Connect Gateway – Type X wireless gateways or processors; required for

connection between Athena Small Area Hub (QP6) and Athena Clear Connect Gateway – Type X wireless gateway or processor.

Supports internet connection for automated firmware updates and remote access, diagnostics, and service.

Furnished with astronomical time clock.

Maintains backup of programming in non-volatile memory capable of lasting more than ten years without power.

LIGHTING MANAGEMENT SYSTEM SOFTWARE

Provide system software and hardware that is designed, tested, manufactured, and warranted by single manufacturer.

Configuration Setup Software:

Product: Lutron Athena Designer.

Suitable to make system programming and configuration changes.

Windows-based, capable of running on either central server or remote client over TCP/IP connection.

Back-Up Project Database: Allows user to back up project database that holds configuration information for system, including keypad programming, area scenes, daylighting, occupancy programming, emergency levels, night lights, and time clock.

Publish Project Database: Allows user to send new project database to processors and devices. Project database holds configuration information for system, including keypad programming, area scenes, daylighting, occupancy programming, emergency levels, night lights, and time clock.

Allows manufacturer (either remotely or with on-site service call) and end-user (with training) to:

Capture system design:

Geographical layout.

Load schedule zoning.

Shade grouping.

Equipment schedule.

Equipment assignment to lighting management hubs.

Daylighting design.

Define configuration for the following in each area:

Lighting scenes.

Shade group presets.

Control station devices.

Interface and integration equipment.

Occupancy/after hours.

Partitioning.

Daylighting.

Emergency lighting.

Night lights.

Startup:

Addressing.

Daylighting.

Provide customized conditional programming.

API Integration:

Support communication, without requiring interface, between lighting control system and third-party systems via RESTful API.

API Integration Capabilities:

Discovery:

Areas: Area and scene names.

Zones: Zone names, minimum and maximum light levels.

Shade Groups: Shade group and preset names

Monitoring:

Area Information:

Occupancy status.

Occupancy enabled.

Lighting zone status.

Active scene.

Instantaneous and maximum lighting power.

Zone Information:

Light intensity.

Switch level.

Contact closure output status.

Correlated color temperature, where controllable.

Control:

Lighting Control:

Activate scene.

Set lighting zone level and correlated color temperature, where controllable.

Shade Group Control:

Set shade group level.

Activate shade group preset.

Mobile Application:

Product: Lutron App.

General Requirements:

Constant internet connection to Lutron Athena processors and gateways.

Support multiple platforms and devices; runs from tablet or mobile phone.

Provide functionality listed below available via single application.

System Navigation and Operation:

Support on-site and remote programming and control of multiple systems from iOS or Android mobile device.
Does not require LAN connection to operate. Operates locally or remotely with internet connection to device (e.g., laptop).

Navigate between Lutron Athena lighting control systems for control.

Administration:

Users: Allows new user accounts to be created and existing user accounts to be edited.

Share access to Lutron Athena lighting control system for one day, one week, or permanently.

Control of Lights:

Modify lighting zone levels and activate scenes, reflected in space in real time.

Make and save adjustments to scenes.

Rename scenes and zones.

Ketra Intelligent Light Sources:

Control intensity, correlated color temperature, saturated color, and vibrancy, reflected in space in real time.

Save intensity, correlated color temperature, saturated color, and vibrancy to scenes reflected in space in real time.

DALI-2 Device Type 8 Tunable-White Drivers:

Control intensity and correlated color temperature reflected in space in real time.

Save intensity and correlated color temperature to scenes reflected in space in real time.

Static-White Drivers:

Control intensity reflected in space in real time.

Save intensity to scenes reflected in space in real time.

Control of Shades:

Modify shade group levels and activate shade group presets, reflected in space in real time.

Make and save adjustments to shade presets.

Load Shedding:

Allow building manager to apply load shed reduction, thereby reducing building's power usage; load shedding triggered via Lutron Athena mobile application, BACnet or, RESTful API integration.

Scheduling: Schedule time of day and astronomic time clock events to automate functions.

Group scheduled events into timeclock groups.

Enable and disable entire timeclock groups from single place.

Create one-time or recurring scheduled events by day of week, week of month, specific date range.

Exclude scheduled events by holidays or other specific date exclusions.

Enable or disable individual scheduled events.

Data Insights Software:

Product: Lutron Athena Dashboard.

One annual license required per system.

General Requirements:

No on-site hosting server (neither physical nor virtual). Manufacturers requiring on-site servers requiring annual maintenance are not acceptable. System requiring third-party servers to be pre-approved by IT department before acceptance with written approval.

Web-based; runs on updated browsers including Edge, Chrome, and Safari.

Constant internet connection to all Lutron Athena processors and gateways.

Support multiple platforms and devices; runs from tablet, desktop, laptop.

User interface supports multi-touch gestures such as pinch to zoom, drag to pan, etc.

Utilizes HTTPS (industry-standard certificate-based encryption and authentication for security).

Provide functionality listed below via single application.

System Navigation and Operation:

Performed using graphical floor plan view or a generic system layout.

Graphical Floor Plan View: Utilize customized CAD based drawing of building. Pan and zoom feature allows for easy navigation; dynamically adjusts details presented based on zoom level.

Operate locally or remotely with internet connection.

Allow user to navigate through multiple connected Lutron Athena lighting control systems spanning multiple buildings.

Software Updates:

Provide software feature updates, enhancements, and security patches automatically with no disruption to system or space.

Occupancy:

Capable of monitoring historical area occupancy.

Monitor energy savings due to occupancy with granularity to individual area.

Reporting: Provide reporting capability that allows building manager to gather real-time and historical information about system.

Energy Reports: Show comparison of cumulative energy used over period of time for one or more areas.

Capable of displaying historic energy savings in kWh saved.

Capable of displaying historical views in time periods (days, weeks, months).

Power Reports: Show power usage trend over period of time for one or more areas.

Space Utilization/Occupancy Reports: Show historical occupancy over period of time for one or more areas using graphical floor plan, generic system layout, and/or graphs and charts.

Administration:
Share user access across entire system including Lutron App mobile application.

CONTROL STATIONS

Provide control stations with configuration as indicated or as required to control loads as indicated.

Wired Control Stations:

General Requirements:

Power: Class 2 (low voltage).

UL listed.

Provide faceplates with concealed mounting hardware.

Borders, logos, and graduations to use laser engraving or silk-screened graphic process that chemically bonds graphics to faceplate, resistant to removal by scratching and cleaning.

Finish: To be selected by Owner/Architect.

Multi-Scene Wired Control:

General Requirements:

Allows control of any devices part of lighting control system.

Allows for easy reprogramming without replacing unit.

Communications: Utilize RS485 wiring for low-voltage communication.

Engrave keypads with button, zone, and scene descriptions to be selected by Owner/Architect.

Software Configuration:

Customizable control station device button functionality:

Buttons can be programmed to perform single defined action.

Buttons can be programmed to perform defined action on press and defined action on release.

Buttons can be programmed using conditional logic off of state variable such as time of day or partition status.

Buttons can be programmed to perform automatic sequence of defined actions.

Capable of deactivating select keypads to prevent accidental changes to light levels.

Buttons can be programmed for raise/lower of defined loads.

Buttons can be programmed to toggle defined set of loads on/off.

Status LEDs:

Upon button press, LEDs to immediately illuminate.

LEDs to reflect true system status. LEDs to remain illuminated if button press was properly processed or LEDs to turn off if button press was not processed.

Support logic that defines when LED is illuminated:

Scene logic (logic is true when all zones are at defined levels).

Room logic (logic is true when at least one zone is on).

Pathway logic (logic is true when at least one zone is on).

Last scene (logic is true when spaces are in defined scenes).

Wired Keypads; Lutron seeTouch QS Keypads:

Style: Designer Style (confirm with Owner/Architect).

Communications: Utilize RS485 wiring for low-voltage communications link.

Mounting: Wallbox or low-voltage mounting bracket; provide wall plates with concealed mounting hardware.

Button/Engraving Backlighting:

Utilize backlighting for buttons and associated engraving to provide readability under all light conditions.

Backlight intensity adjustable via programming software.

Design keypads to allow field-customization of button color, configuration, and engraving using field-changeable replacement kits.

Contact Closure Interface: Provide two contact closure inputs on back of unit which provide independent functions from front buttons; accepts both momentary and maintained contact closures.

Terminal block inputs to be over-voltage and miswire-protected against wire reversals and shorts.

Wired Keypads; Lutron Architrave QS Keypads:

Mounting: Wallbox; Lutron Architrave Wallbox; provide wall plates with concealed mounting hardware.

Design keypads to allow field-customization of button color, configuration, and engraving using field-changeable replacement kits.

Contact Closure Interface: Provide two contact closure inputs on back of unit which provide independent functions from front buttons; accepts both momentary and maintained contact closures.

Terminal block inputs to be over-voltage and miswire-protected against wire reversals and shorts.

Wired Keypads; Lutron Signature Series QS Keypads:

Mounting: Wallbox; Lutron Signature Series Wallbox; provide wall plates with concealed mounting hardware.

Button/Engraving Backlighting:

Utilize backlighting for buttons and associated engraving to provide readability under all light conditions.

Backlight intensity adjustable via programming software.

Design keypads to allow field-customization of button color, configuration, and engraving using field-changeable replacement kits.

Contact Closure Interface: Provide two contact closure inputs on back of unit which provide independent functions from front buttons; accepts both momentary and maintained contact closures.

Terminal block inputs to be over-voltage and miswire-protected against wire reversals and shorts.

Wired Keypads; Lutron QS Wired Palladiom Wallstations:

Style: Architectural Style.

Mounting: Wallbox; provide wall plates with concealed mounting hardware.

Buttons and Faceplate:

Buttons to be greater than 0.65 inch (16.5 mm) in height to provide large target area for ease of use and actuation.

Front of buttons to be flush with faceplate.

Buttons and faceplate to be of same material, e.g. plastic/plastic, glass/glass, metal/metal.

Buttons to depress and provide tactile feedback of successful button push. Controls utilizing capacitive or resistive touch technology are not acceptable.

Gaps to be less than 0.007 inch (0.18 mm) between buttons and less than 0.15 inch (3.8 mm) between buttons and faceplate.

Button/Engraving Backlighting:

Backlighting to be visible through engraved text to provide clear readability in variety of lighting conditions.

Indicate active scene through intensity of backlighting (brighter backlit text indicates active state).

Backlight intensity adjustable via programming software; capable of dynamic adjustment during usage based on conditional logic (time of day, button press, etc.).

Backlight intensity automatically adjusts based on room ambient light level.

Design keypads to allow field-customization of button color and engraving using field-changeable replacement kits.

Terminal block inputs to be over-voltage and miswire-protected against wire reversals and shorts.

Single-Scene or Zoned Wired Control:

Product: Lutron Pico Wired Control.

Turn individual fixture or group of fixtures on and off.

Raise and lower light levels.

Recall favorite light levels.

Wireless (Radio Frequency) Controls:

Products:

2-Button Control; Lutron Pico Wireless Control Module UPJ2-2B.

Button Marking: As indicated on drawings.

2-Button with Raise/Lower Control; Lutron Pico Wireless Control Module UPJ2-2BRL.

Button Marking: As indicated on drawings.

3-Button Control; Lutron Pico Wireless Control Module UPJ2-3B.

Button Marking: As indicated on drawings.

3-Button with Raise/Lower Control; Lutron Pico Wireless Control Module UPJ2-3BRL.

Button Marking: As indicated on drawings.

4-Button; Lutron Pico Wireless Control Module UPJ2-4B.

Button Marking: As indicated on drawings.

Wallbox Adapter; Lutron Model PICO-WBX-ADAPT.

Quantity: As indicated on drawings.

Communicates via radio frequency to compatible dimmers, switches, and plug-in modules.

Does not require external power packs, power or communication wiring.

Allows for easy reprogramming without replacing unit.

Button Programming:
Single action.

Toggle action.

Includes LED to indicate button press or programming mode status.

Mounting:
Capable of being mounted with table stand or directly to wall under faceplate.

Faceplates: Provide concealed mounting hardware.

Power: Battery-operated with minimum ten-year battery life.

Finish: To be selected by Owner/Architect.

Sensor Modules:
Products:
Sensor module with both wired and wireless inputs; Lutron Model QSM2-4W-C.

Sensor module with wireless inputs only; Lutron Model QSM2-XW-C.

Connects to lighting management hub via RS485.

Wireless Modules:
Provide wireless communication inputs for:
Occupancy sensors.

Daylight sensors.

Manual controls.

RF Range: 30 feet (9 m) between sensor module and compatible RF transmitting devices.

RF Frequency: 434 MHz; operates in FCC governed frequency spectrum for periodic operation; continuous transmission spectrum is not permitted.

Communicate sensor information to wired low-voltage digital link for use by compatible devices.

Wireless Gateway:

Product: Lutron Athena Clear Connect Gateway – Type X; Model Q-RF.

Connects to lighting management hub via system Ethernet link; powered by Athena QP5 hub or Q-POE-PNL Ethernet range extender.

Enables lighting control system to communicate with up to 100 Clear Connect – Type X wireless devices, including Athena Wireless Node enabled light fixtures.

RF Range: Maximum of 75 feet (23 m) between wireless gateway and compatible Clear Connect – Type X wireless devices on same floor; maximum of 25 feet (7.6 m) between each Clear Connect – Type X wireless device and at least two other Clear Connect – Type X wireless devices.

Automatic Demand Response Interface:

Product: Lutron Automated Demand Response Kit; Model LUT-Q-OPNADR-CPN8064.

Connects to lighting management hub via RS485; requires internet connection to connect to utility demand response server.

Supports automatic demand response for load shedding via OpenADR® 2.0b compliant utility command.

WIRELESS SENSORS

General Requirements:

Operational life of 10 years without need to replace batteries when installed per manufacturer's instructions.

Communicates directly to compatible RF receiving devices through use of radio frequency communications link.

Does not require external power packs, power wiring, or communication wiring.

Capable of being placed in test mode to verify correct operation from face of unit.

RF Range: 30 feet (9 m) between sensor and compatible RF receiving device(s).

Electromagnetic Interference/Radio Frequency Interference (EMI/RFI) Limits: Comply with FCC requirements of CFR, Title 47, Part 15, for Class B application.

Wireless Occupancy/Vacancy Sensors:

General Requirements:

Provides clearly visible method of indication to verify that motion is being detected during testing and that unit is communicating to compatible RF receiving devices. Sensors without visible method of indication to verify motion detection during testing are not acceptable.

Utilize multiple segmented lens, with internal grooves to eliminate dust and residue build-up.

Sensing Mechanism: Passive infrared coupled with technology for sensing fine motions; Lutron XCT Technology. Signal processing technology detects fine-motion passive infrared (PIR) signals without need to change sensor's sensitivity threshold.

Provide optional, readily accessible, user-adjustable controls for timeout, automatic/manual-on, and sensitivity.

Turns off lighting after reasonable and adjustable time delay once last person to occupy space vacates room or area. Provide adjustable timeout settings of 1, 5, 15, and 30 minutes.

Color: White.

Provide necessary mounting hardware and instructions for both temporary and permanent mounting. Provide temporary mounting means to allow user to check proper performance and relocate as needed before permanently mounting sensor. Temporary mounting method to be designed for easy, damage-free removal.

Sensor lens to illuminate during test mode when motion is detected to allow installer to verify coverage prior to permanent mounting. Sensors without lens that illuminates during test mode when motion is detected are not acceptable.

Ceiling-Mounted Sensors:

Provide surface mounting bracket compatible with drywall, plaster, wood, concrete, and compressed fiber ceilings.

Provide recessed mounting bracket compatible with drywall and compressed fiber ceilings.

Provide customizable mask to block off unwanted viewing areas.

Wall-Mounted Sensors: Provide wall or corner mounting brackets compatible with drywall and plaster walls.

Wireless Combination Occupancy/Vacancy Sensors:

Ceiling-Mounted Sensors: Programmable to operate as occupancy sensor (automatic-on and automatic-off), occupancy sensor with low light feature (automatic-on when less than one footcandle of ambient light available and automatic-off), or vacancy sensor (manual-on and automatic-off).

Wall-Mounted Sensors: Programmable to operate as occupancy sensor (automatic-on and automatic-off), or vacancy sensor (manual-on and automatic-off).

Products:

Ceiling-Mounted Occupancy/Vacancy Sensor; Lutron Radio Powr Savr Series, Model ULFR2-OCR2B-P-WH: Coverage from 324 square feet (30.2 sq m) to 676 square feet (62.4 sq m) depending on ceiling height from 8 to 12 feet (2.4 to 3.7 m); 360 degree field of view.

Wall-Mounted Occupancy/Vacancy Sensor; Lutron Radio Powr Savr Series, Model ULFR2-OWLB-P-WH: Minor motion coverage of 1500 square feet (139.4 sq m) and major motion coverage of 3000 square feet (278.7 sq m) with mounting height of 6 to 8 feet (1.8 to 2.4 m); 180 degree field of view.

Wireless Daylight Sensors:

Product: Lutron Model LFR2-DCRB.

Open-loop basis for daylight sensor control scheme.

Stable output over temperature from 32 degrees F (0 degrees C) to 104 degrees F (40 degrees C).

Partially shielded for accurate detection of available daylight to prevent fixture lighting and horizontal light component from skewing sensor detection.

Provide linear response from 0 to 10,000 footcandles.

Color: White.

Mounting:

Provide surface mounting bracket compatible with drywall, plaster, wood, concrete, and compressed fiber ceilings.

Provide necessary mounting hardware and instructions for both temporary and permanent mounting. Provide temporary mounting means to allow user to check proper performance and relocate as needed before permanently mounting sensor. Temporary mounting method to be designed for easy, damage-free removal.

Meets California Title 24 requirements.

SOURCE QUALITY CONTROL

Factory Testing; Lutron Standard Factory Testing:

Perform full-function factory testing on completed assemblies. Statistical sampling is not acceptable.

Perform full-function factory testing on 100 percent of LED drivers.

Perform factory audit burn-in of dimming assemblies and panels at 104 degrees F (40 degrees C) at full load for two hours.

PART 3 – EXECUTION

EXAMINATION

Verify that field measurements are as shown on drawings.

Verify that ratings and configurations of system components are consistent with indicated requirements.

Verify that mounting surfaces are ready to receive system components.

Verify that conditions are satisfactory for installation prior to starting work.

INSTALLATION

Perform work in accordance with NECA 1 and, where applicable, NECA 130.

Install products in accordance with manufacturer's instructions.

Define each dimmer/relay load type, assign each load to zone, and set control functions.

Sensor Locations:

Locate sensors in accordance with layout provided by Lighting Control Manufacturer. Lighting Control Manufacturer may direct Contractor regarding sensor relocation should conditions require deviation from locations indicated. Where Lighting Control Manufacturer Sensor Layout and Tuning service is not specified, locate sensors in accordance with drawings.

Sensor locations indicated are diagrammatic. Within design intent, reasonably minor adjustments to locations may be made in order to optimize coverage and avoid conflicts or problems affecting coverage, in accordance with manufacturer's recommendations.

Ensure that daylight sensor placement minimizes sensor view of electric light sources. Locate ceiling-mounted and luminaire-mounted daylight sensors to avoid direct view of luminaires.

Lamp Burn-In: Operate lamps at full output for prescribed period per manufacturer's recommendations prior to use with dimming controls. Replace lamps that fail prematurely due to improper lamp burn-in.

Lamp Lead Lengths: Do not exceed 3 feet (0.9 m) for T4 4-pin compact and T5 BIAX lamps and 7 feet (2.1 m) for T5, T5-HO, T8 U-bend, and T8 linear fluorescent lamps.

LED Light Engine/Array Lead Length: Do not exceed 100 feet (31 m).

System and Network Integration Consultation; Lutron LSC-INT-VISIT: costs for Lighting Control Manufacturer to conduct meeting with facility representative and other related equipment manufacturers to discuss equipment and integration procedures.

Coordinate scheduling of visit with Lighting Control Manufacturer. Manufacturer recommends that this visit be scheduled early in construction phase, after system purchase but prior to system installation.

Identify system components.

FIELD QUALITY CONTROL

Manufacturer's Startup Services; Lutron Standard Startup Services:

Manufacturer's authorized Service Representative to conduct minimum of two site visits to ensure proper system installation and operation.

Conduct Pre-Installation visit to review requirements with installer as specified in Part 1 under "Administrative Requirements".

Post Wire Termination Visit; Lutron LSC-POSTWIRE-VST: Include costs to conduct site visit to verify system is properly wired and ready for startup.

Conduct second site visit upon completion of lighting control system to perform system startup and verify proper operation:

Authorized Service Representative to verify sensor locations, in accordance with layout provided by Lighting Control Manufacturer; Lighting Control Manufacturer may direct Contractor regarding sensor relocation should conditions require deviation from locations indicated.

Verify connection of power wiring and load circuits.

Verify connection and location of controls.

Energize lighting management hubs and download system data program.

Address devices.

Verify proper connection of panel links (low-voltage/data) and address panel.

Verify system operation control by control.

Verify proper operation of manufacturer's interfacing equipment.

Configure initial groupings of ballasts/drivers for wall controls, daylight sensors and occupancy sensors.

Provide initial rough calibration of sensors; fine-tuning of sensors is responsibility of Contractor **and/or** Lighting Control Manufacturer.

Train Owner's representative on system capabilities, operation, and maintenance, as specified in Part 3 under "Closeout Activities".

Obtain sign-off on system functions.

After Hours Startup; Lutron LSC-AH-SU: Include costs to perform manufacturer's startup procedures outside normal working hours (Monday through Friday, 7am to 5pm).

Correct defective work, adjust for proper operation, and retest until entire system complies with contract documents.

ADJUSTING

On-Site Scene and Level Tuning; Lutron LSC-AF-VISIT: Include costs for Lighting Control Manufacturer to visit site to conduct meeting with Owner's representative to make required lighting adjustments to the system for conformance with original design intent.

Remote Programming Assistance; Lutron LSC-PRG-AST-RMTE: Include costs for Lighting Control Manufacturer to provide one(1) 4-hour session(s) of remote programming assistance to make required lighting adjustments to system for conformance with original design intent.

Dynamic White Programming Package; Lutron LSC-DWP-PKGE: Include costs for Lighting Control Manufacturer to provide minimum of three site visits and one remote session to support fine tuning of tunable LED and/or DALI lighting.

Conduct post-wire-termination site visit to verify system is properly wired.

Conduct site visit during normal business hours to perform fine tuning of lighting and programming adjustments in day setting.

Conduct site visit after hours to perform fine tuning of lighting and programming adjustments in night setting.

Provide one 2-hour remote session for additional adjustments.

Sensor Fine-Tuning: Lighting Control Manufacturer to provide up to two additional post-startup on-site service visits for fine-tuning of sensor calibration. Where Lighting Control Manufacturer Sensor Layout and Tuning service is not specified, Contractor to provide fine-tuning of sensor calibration.

CLEANING

Clean exposed surfaces to remove dirt, paint, or other foreign material and restore to match original factory finish.

CLOSEOUT ACTIVITIES

Demonstration:

On-Site Performance-Verification Walkthrough; Lutron LSC-WALK: Include costs for Lighting Control Manufacturer to provide on-site demonstration of system functionality to facility representative.

Training:

Include services of manufacturer's authorized Service Representative to perform on-site training of Owner's personnel on operation, adjustment, and maintenance of lighting control system as part of standard system start-up services.

Include training on software to be provided:

Configuration software used to make system programming and configuration changes.

Control and monitor.

MAINTENANCE

System Optimization Visit; Lutron LSC-SYSOPT: Include costs for Lighting Control Manufacturer to visit site six months after system start-up to evaluate system usage and discuss opportunities to make efficiency improvements that will fit with current use of facility.

END OF SECTION

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SATELLITE BUS FACILITY REMODEL

METRO TRANSIT HANSON ROAD

3829-3901 HANSON ROAD
MADISON, WI 53704

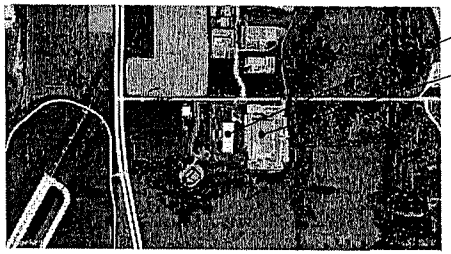
PROJECT

SEAL

CONSULTANTS

DRAWINGS

SITE LOCATION MAP



CIVIL

JSD PROFESSIONAL SERVICES, INC.
357 W VERONA AVE #500
VERONA, WI 53593
PH 608-848-5060

LANDSCAPE

JSD PROFESSIONAL SERVICES, INC.
161 HORIZON DR #101
VERONA, WI 53593
PH 608-848-5060

ARCHITECTURAL

ENGBERG ANDERSON, INC.
205 W WASHINGTON AVE
MADISON, WI 53703
PH 608-250-0100

GENTEL ARCHITECTS, LTD.
1786 ST. CLAIR AVE
ST. PAUL, MN 55105
PH 651-696-5168

STRUCTURAL

ONEIDA TOTAL INTEGRATED ENTERPRISES
1633 N MAYFAIR RD #200
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FIRE PROTECTION

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1851 JOHN Q HAMMONS DR #101
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PLUMBING

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ELECTRICAL

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TELECOMMUNICATIONS

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581 CONCORD DR
OREGON, WI 53575
PH 608-444-8067

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- ED201D POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION D
- E2000 EXISTING PANEL SCHEDULES - 3829 MAINTENANCE BUILDING
- E2001A EXISTING PANEL SCHEDULES - 3901 STORAGE BLDG.
- E2001B EXISTING PANEL SCHEDULES - 3901 STORAGE BLDG.
- E100A LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION A
- E100B LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION B
- E100C LIGHTING NEW WORK - 3829 MAINT. BLDG. ENLARGED PLANS
- E101A LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION A
- E101B LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B
- E101C LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION C
- E101D LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D
- E200A POWER NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION A
- E200B POWER NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION B
- E200C POWER NEW WORK ENLARGED PLANS - 3829 MAINT. BLDG.
- E200D POWER NEW WORK ENLARGED PLANS - 3829 MAINT. BLDG.
- E200E POWER NEW WORK ENLARGED PLANS - 3829 MAINT. BLDG.
- E201A POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION A
- E201B POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B
- E201C POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION C
- E201D POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D
- E201E POWER NEW WORK ENLARGED PLAN - 3901 STORAGE BLDG.
- E201F POWER NEW WORK ENLARGED PLAN - 3901 STORAGE BLDG.
- E201G POWER NEW WORK ENLARGED PLAN - 3901 STORAGE BLDG.
- E201H ENLARGED PANEL SCHEDULES - 3829 MAINT. BLDG.
- E300B NEW PANEL SCHEDULES - 3829 MAINT. BLDG.
- E301A EXISTING REVISED PANEL SCHEDULES - 3901 STORAGE BLDG.
- E301B EXISTING REVISED PANEL SCHEDULES - 3901 STORAGE BLDG.
- E301C NEW PANEL SCHEDULES - 3901 STORAGE BLDG.
- E400 ONE LINE DIAGRAM - 3829 MAINT. BLDG.
- E401 ONE LINE DIAGRAM - 3901 STORAGE BLDG.
- E600 MOTOR AND EQUIPMENT SCHEDULES - 3829 MAINT. BLDG.
- E601 MOTOR AND EQUIPMENT SCHEDULES - 3901 STORAGE BLDG.

TELECOMMUNICATIONS

- G001 NOTES, SYMBOLS, AND ABBREVIATIONS
- GD100 BUILDING 3829 DEMOLITION PLAN
- GD200 BUILDING 3901 DEMOLITION PLAN
- G100 OVERALL BUILDING 3829 PLAN
- G101 OFFICE AREA BUILDING 3829 PLAN
- G102 AV BUILDING 3829 PLAN
- G103 ENLARGED IT ROOM BUILDING 3829 PLAN
- G200 OVERALL BUILDING 3901 PLAN
- G201 OFFICE AREA BUILDING 3901 PLAN
- G202 AV BUILDING 3901 PLAN
- G203 AV - BUILDING 3901 PLAN
- G204 ENLARGED IT ROOM BUILDING 3901 PLAN
- G501 DETAILS
- G502 DETAILS
- G601 SCHEDULES - CARD ACCESS AND CAMERA
- GT01 ONE LINE DRAWINGS

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SATELLITE BUS FACILITY REMODEL
3829-3901 HANSON ROAD
MADISON, WI 53704
CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703
PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
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TITLE SHEET

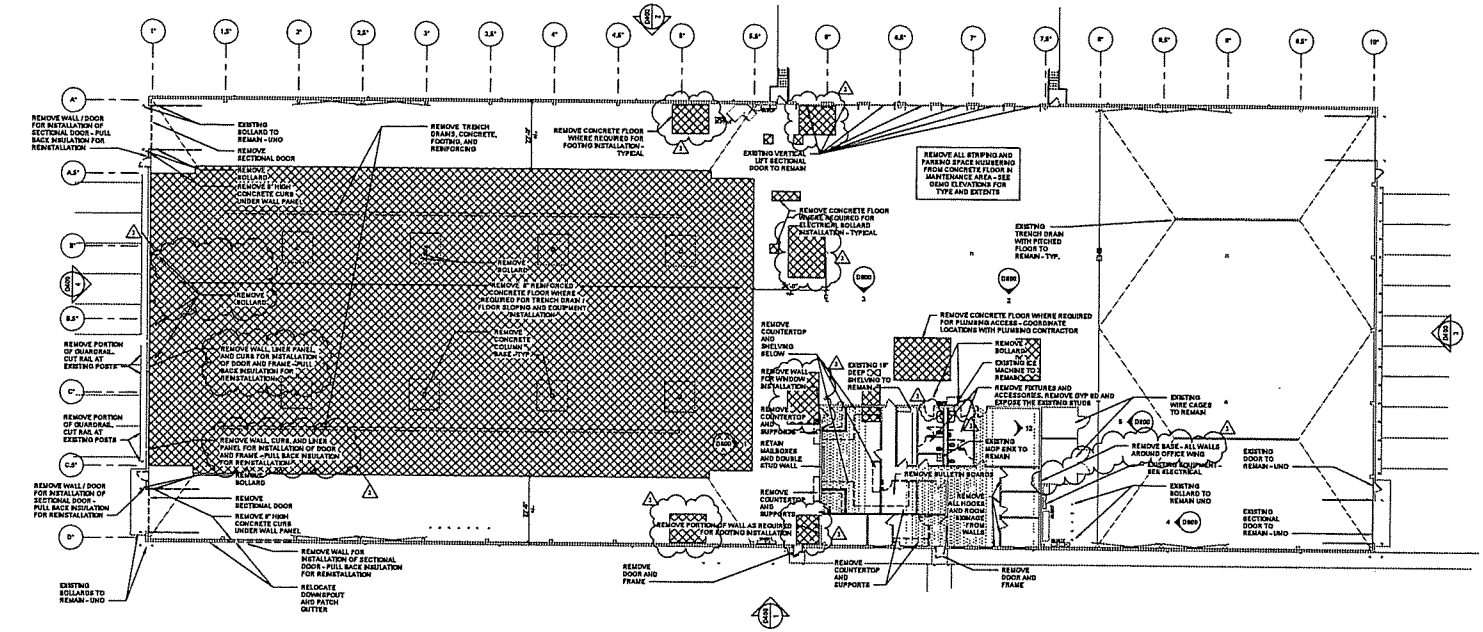
T100

DEMOLITION LEGEND

- EXISTING WALL TO BE REMOVED - MASONRY UNLESS NOTED OTHERWISE
- EXISTING WALL TO REMAIN
- REMOVE WAINSCOT AND GYPSUM BOARD FROM EXISTING WALL TO REMAIN
- EXISTING DOOR AND FRAME TO BE REMOVED
- EXISTING DOOR AND FRAME TO REMAIN
- EXTENTS TO REMOVE REINFORCED CONCRETE FLOOR SLAB
- EXTENTS TO REMOVE FLOOR FINISH AND BASE - PREPARE FOR FLOOR FINISH INSTALLATION

GENERAL NOTES - DEMOLITION:

1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. PROTECT ALL SURFACES, FIXTURES, WINDOWS, DOORS, ETC. TO REMAIN FROM DAMAGE CAUSED BY DEMOLITION.
3. PREPARE FLOORS, CEILINGS, AND ROOFING FOR FINISH INSTALLATION WHERE EXISTING FINISHES AND MATERIALS ARE REMOVED.
4. REMOVE GYPSUM BOARD TO 1' ABOVE FINISHED CEILING WHERE WAINSCOT IS REMOVED. E.O.U. CEILING NOTED ON RCP IS 9'-0" AFF, REMOVE GYPSUM BOARD TO 9'-0" AFF.
5. REMOVE BASE WHERE FLOOR FINISH IS REMOVED UNLESS NOTED OTHERWISE. EXISTING FINISHES ARE VCT FLOORING WITH RUBBER BASE UNLESS NOTED OTHERWISE.
6. SALVAGE CERAMIC FLOOR, BASE, AND WALL TILE WHERE REMOVED IN STORAGE BUILDING FOR REPLACEMENT IN RESTROOMS TO REMAIN. SEE FINISH SCHEDULE FOR ADDITIONAL INFORMATION.
7. COORDINATE EXTENTS OF FLOORING REMOVAL WITH PLUMBING CONTRACTOR WHERE REQUIRED ONLY FOR REMOVAL AND/OR REPLACEMENT OF UNDERFLOOR PLUMBING. SEE PLUMBING FOR ADDITIONAL INFORMATION.
8. REMOVE BLINDS FROM ALL EXTERIOR WINDOWS.
9. SALVAGE COPING FOR REINSTALLATION WHERE WALL PANELS REMOVED AT STORAGE BUILDING.
10. MAINTENANCE BUILDING CIVIL ELEVATION: 100'-0" = 867.25'
11. STORAGE BUILDING CIVIL ELEVATION: 100'-0" = 867.20'



1 DEMOLITION FLOOR PLAN - MAINTENANCE BUILDING
SCALE: 1/16" = 1'-0"

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SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	9/15/2023

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NO.	DESCRIPTION	DATE
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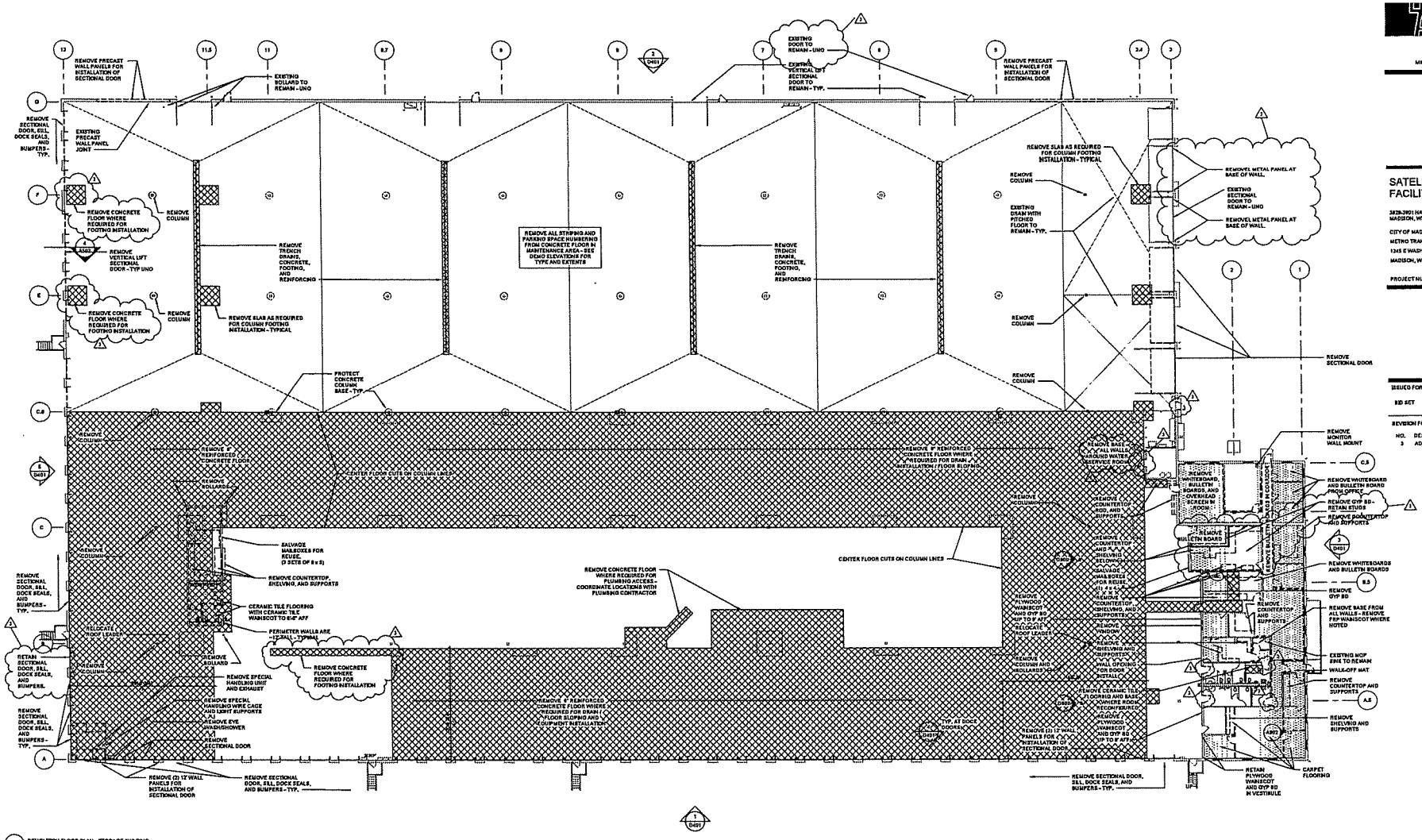
DEMOLITION FLOOR PLAN - MAINTENANCE BUILDING

NORTH

D100



1 DEMOLITION FLOOR PLAN - STORAGE BUILDING
SCALE: 1/16" = 1'-0"

DEMOLITION LEGEND

- EXISTING WALL TO BE REMOVED - MASONRY UNLESS NOTED OTHERWISE
- EXISTING WALL TO REMAIN
- REMOVE WAINSCOT AND GYPSUM BOARD FROM EXISTING WALL TO REMAIN
- EXISTING DOOR AND FRAME TO BE REMOVED
- EXISTING DOOR AND FRAME TO REMAIN
- EXTENTS TO REMOVE REINFORCED CONCRETE FLOOR SLAB
- EXTENTS TO REMOVE FLOOR FINISH AND BASE - PREPARE FOR FLOOR FINISH INSTALLATION

GENERAL NOTES - DEMOLITION:

1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. PROTECT ALL SURFACES, FIXTURES, WINDOWS, DOORS, ETC. TO REMAIN FROM DAMAGE CAUSED BY DEMOLITION.
3. PREPARE FLOORS, CEILINGS, AND ROOFING FOR FINISH INSTALLATION WHERE EXISTING FINISHES AND MATERIALS ARE REMOVED.
4. REMOVE GYPSUM BOARD TO 1' ABOVE FINISHED CEILING WHERE WAINSCOT IS REMOVED. E.G. IF CEILING NOTED ON RCP IS 9'-0" AFF, REMOVE GYPSUM BOARD TO 8'-0" AFF.
5. REMOVE BASE WHERE FLOOR FINISH IS REMOVED UNLESS NOTED OTHERWISE. EXISTING FINISHES ARE VCT FLOORING WITH RUBBER BASE UNLESS NOTED OTHERWISE.
6. SALVAGE CERAMIC FLOOR, BASE, AND WALL TILE WHERE REMOVED IN STORAGE BUILDING FOR REPLACEMENT IN RESTROOMS TO REMAIN. SEE FINISH SCHEDULE FOR ADDITIONAL INFORMATION.
7. COORDINATE EXTENTS OF FLOORING REMOVAL WITH PLUMBING CONTRACTOR WHERE REQUIRED ONLY FOR REMOVAL AND/OR REPLACEMENT OF UNDERFLOOR PLUMBING. SEE PLUMBING FOR ADDITIONAL INFORMATION.
8. REMOVE BLINDS FROM ALL EXTERIOR WINDOWS.
9. SALVAGE COPING FOR REINSTALLATION WHERE WALL PANELS REMOVED AT STORAGE BUILDING.
10. MAINTENANCE BUILDING CIVIL ELEVATION: 100'-0" = 887.25'
11. STORAGE BUILDING CIVIL ELEVATION: 100'-0" = 887.25'

NORTH

Engberg Anderson ARCHITECTS
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Revision

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

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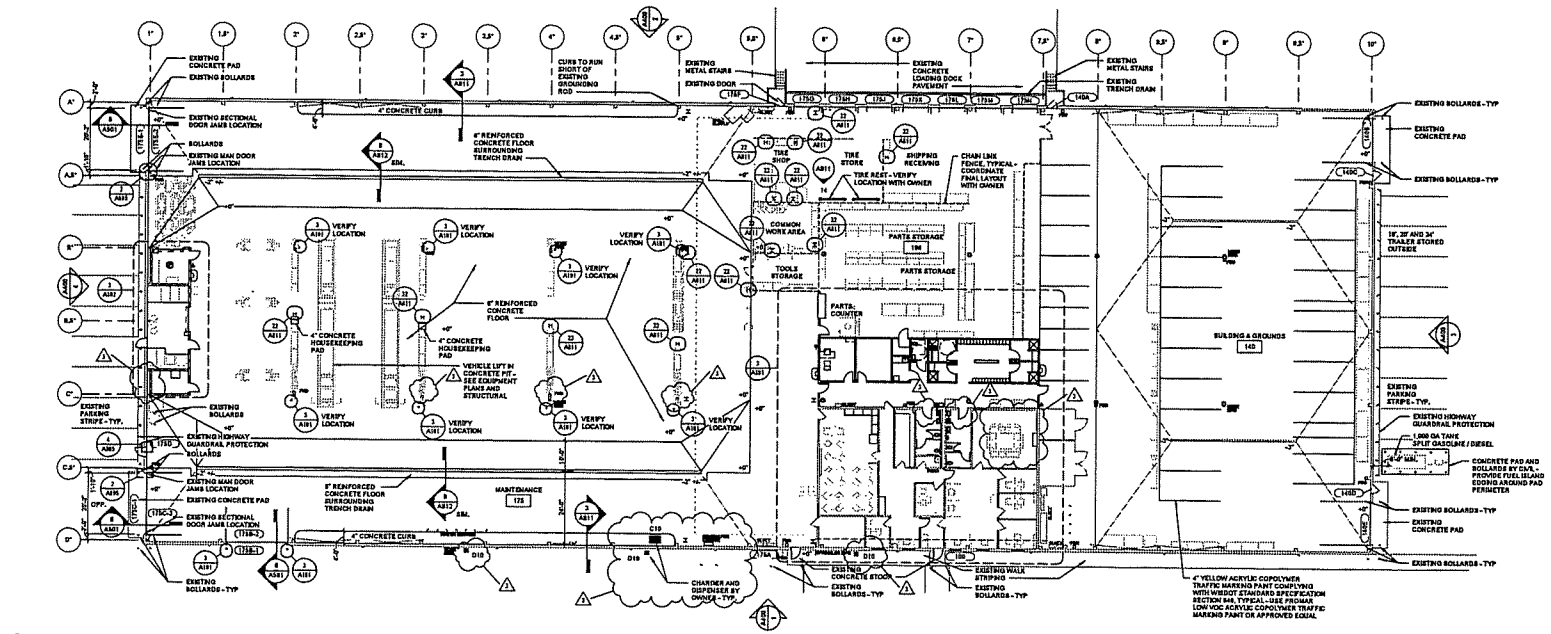
DEMOLITION FLOOR PLAN - STORAGE BUILDING

D101



1 FLOOR PLAN - MAINTENANCE BUILDING
SCALE: 1/16" = 1'-0"

NORTH

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SATELLITE BUS FACILITY REMODEL

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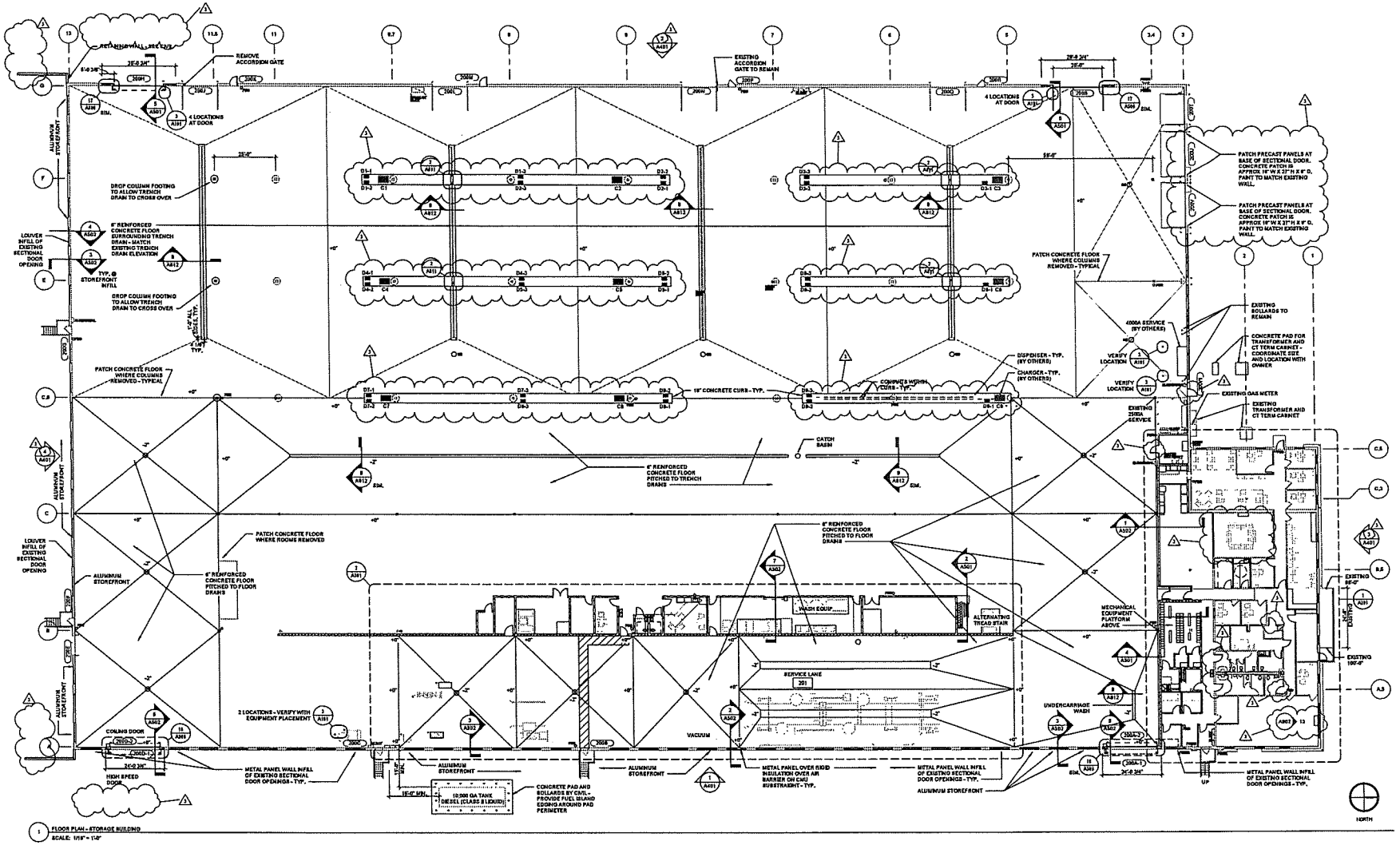
FIRST FLOOR PLAN - MAINTENANCE BUILDING

A100



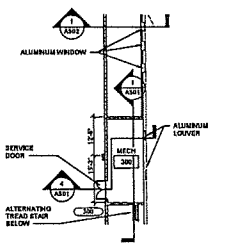
1 FLOOR PLAN - STORAGE BUILDING
SCALE: 1/16" = 1'-0"

FLOOR PLAN LEGEND

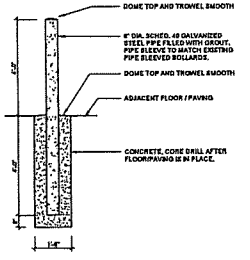
- METAL STUD WALL - SEE WALL TYPES
- MASONRY WALL - SEE WALL TYPES
- EXISTING WALL TO REMAIN
- DOOR AND FRAME - SEE DOOR SCHEDULE
- EXISTING DOOR AND FRAME TO REMAIN - SEE DOOR SCHEDULE

GENERAL NOTES - FLOOR PLAN:

1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. INFILL AND PATCH EXISTING WALLS IN LOCATIONS WHERE WALLS AND ITEMS WERE REMOVED FROM WALLS TO REMAIN. PATCH AND REPAIR EXISTING WALLS, CEILINGS, AND FLOORS WHERE WALLS AND OTHER ITEMS WERE REMOVED DURING DEMOLITION TO MATCH ORIGINAL.
3. COORDINATE OPENINGS IN EXISTING WALLS WITH DEMOLITION CONTRACTOR.
4. REPLACE CONCRETE FLOOR IN ALL AREAS WHERE REMOVED, SEE DEMOLITION PLANS FOR EXTENTS.
5. DIMENSIONS ARE TO FACE OF CMU OR FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
6. REPLACE GYPSUM BOARD ON WALLS WHERE WAINSCOT AND GYPSUM BOARD WERE REMOVED AS INDICATED ON THE DEMOLITION PLANS. PROVIDE TAPED JOINTS AT TRANSITIONS TO EXISTING GYPSUM BOARD FINISH.
7. FOR BIDDING PURPOSES, ASSUME THAT ALL FIRE EXTINGUISHERS WILL HAVE TO BE TAKEN DOWN AND RE-MOUNTED.
8. ALL INTERIOR GLAZING IS #1-2 UNLESS NOTED OTHERWISE. SEE EXTERIOR ELEVATIONS FOR EXTERIOR GLAZING TYPES.
9. LOCATE DOOR FRAMES 4" FROM ADJACENT WALL UNLESS NOTED OTHERWISE.
10. SEE EQUIPMENT PLANS FOR FF&E TO BE PROVIDED BY THE CONTRACTOR.
11. [illegible]
12. STORAGE BUILDING CMU ELEVATIONS: 100'-0" = 987.33'
13. REMOVE EXISTING DOOR HARDWARE AND PATCH DOORS WHERE NOTED TO RECEIVE NEW HARDWARE.
14. NEW DOORS AND FRAMES IN EXISTING WALLS / OPENINGS - COORDINATE DOOR/FRAME SIZES WITH EXISTING OPENINGS.
15. PATCH WALLS WHERE T-STATE WERE REMOVED.



2 MECHANICAL EQUIPMENT PLATFORM
SCALE: 1/16" = 1'-0"



3 BOLLARD
SCALE: 1/2" = 1'-0"

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SATELLITE BUS FACILITY REMODEL

2828-2901 HANSON ROAD
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CITY OF MADISON
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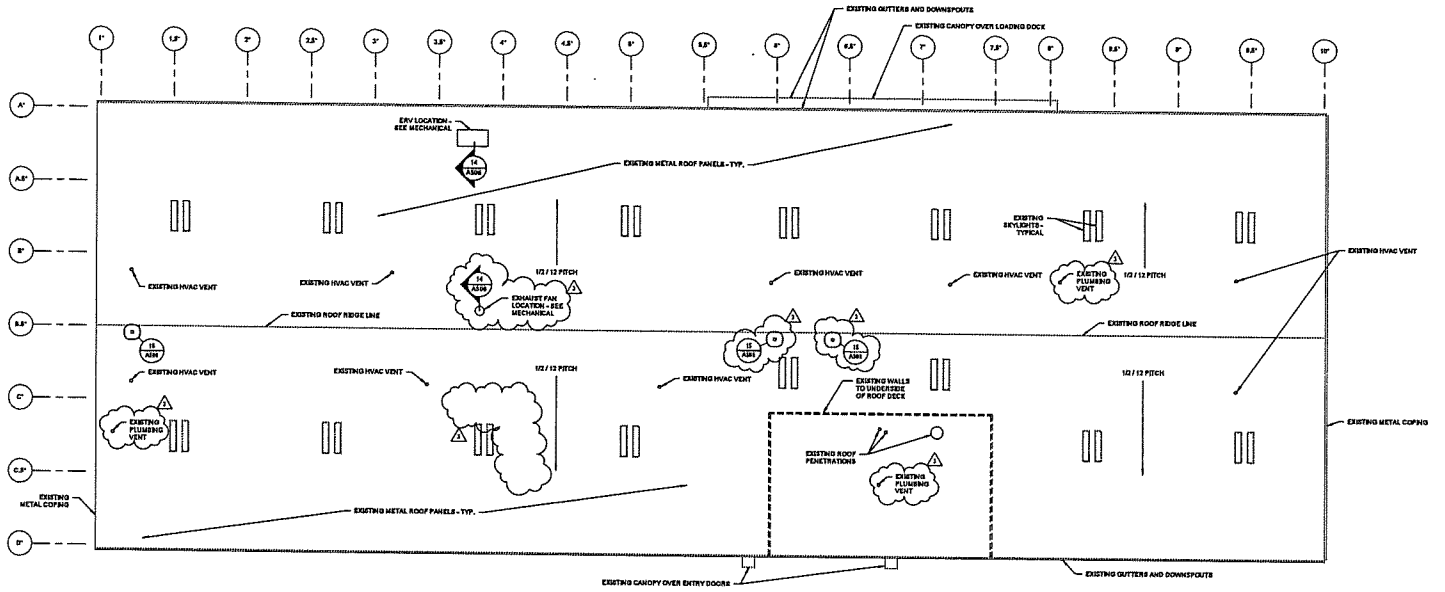
FIRST FLOOR PLAN - STORAGE BUILDING

A101



1 ROOF PLAN - MAINTENANCE BUILDING
SCALE: 1/16" = 1'-0"

NORTH

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SATELLITE BUS FACILITY REMODEL

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MADISON, WI 53704

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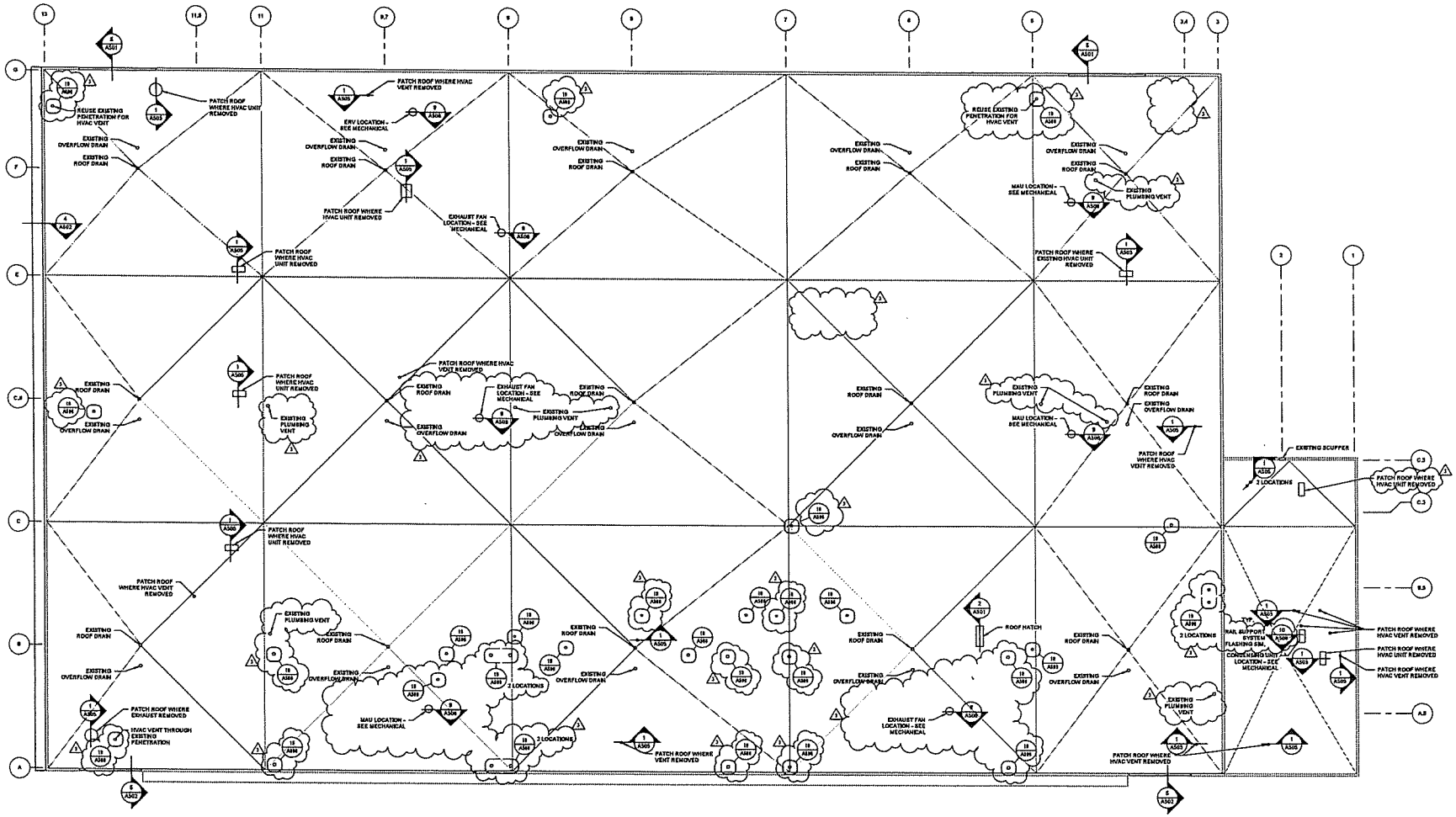
ROOF PLAN - MAINTENANCE BUILDING

A110



1 ROOF PLAN - STORAGE BUILDING
SCALE: 1/16" = 1'-0"

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SATELLITE BUS FACILITY REMODEL

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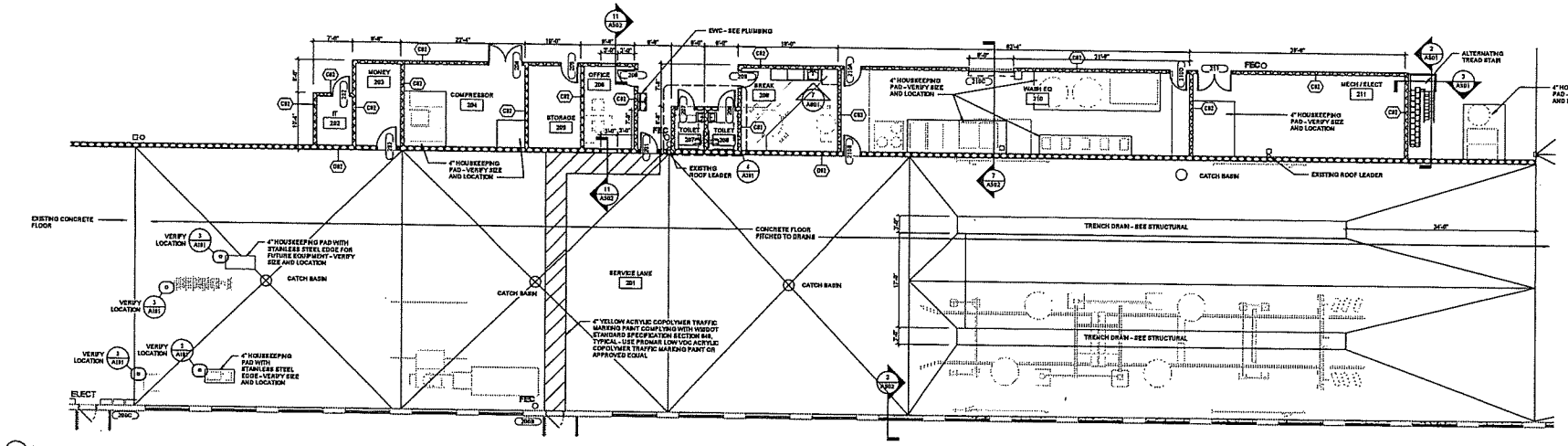
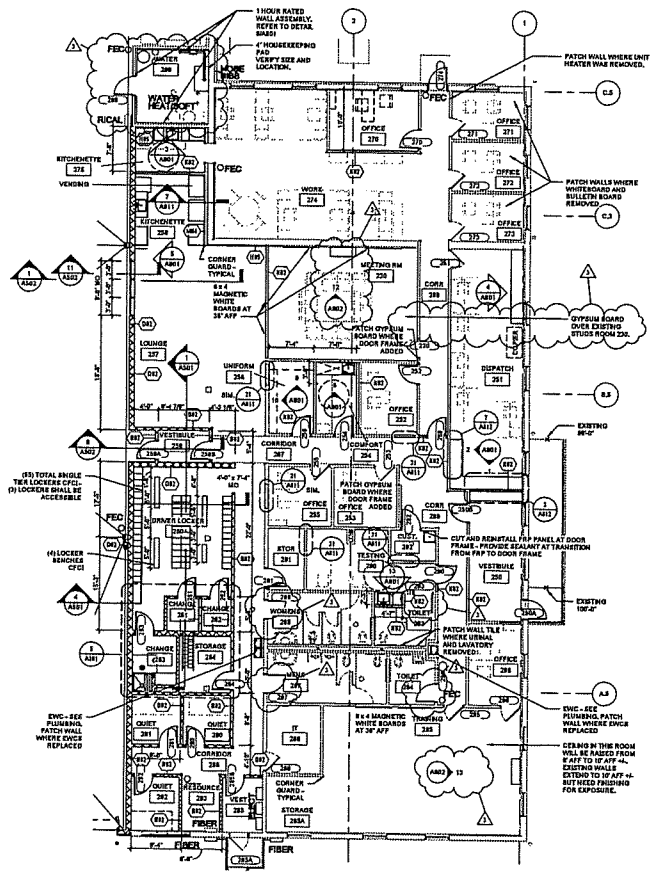
ROOF PLAN - STORAGE BUILDING

A111



2 ENLARGED SERVICE LANE
SCALE: 1/8" = 1'-0"



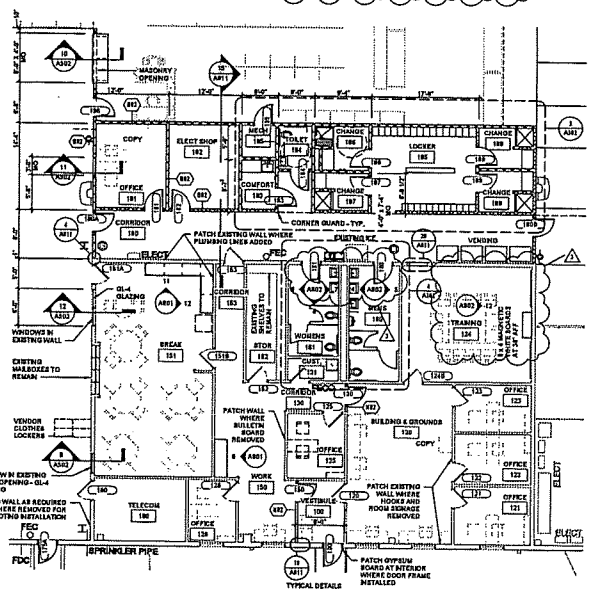
1 ENLARGED ADMINISTRATION & DRIVER SUPPORT - STORAGE BUILDING
SCALE: 1/8" = 1'-0"

FLOOR PLAN LEGEND

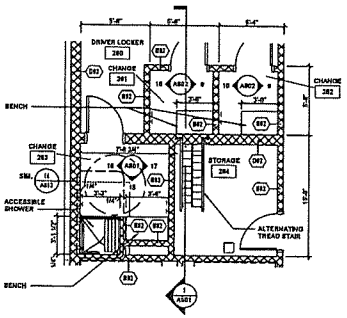
- METAL STUD WALL - SEE WALL TYPES
- MASONRY WALL - SEE WALL TYPES
- EXISTING WALL TO REMAIN
- DOOR AND FRAME - SEE DOOR SCHEDULE
- EXISTING DOOR AND FRAME TO REMAIN - SEE DOOR SCHEDULE

GENERAL NOTES - FLOOR PLANS:

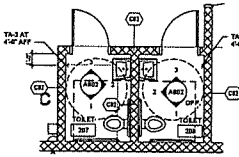
1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. INFILL AND PATCH EXISTING WALLS IN LOCATIONS WHERE WALLS AND ITEMS WERE REMOVED FROM WALLS TO REMAIN. PATCH AND REPAIR EXISTING WALLS, CEILINGS, AND FLOORS WHERE WALLS AND OTHER ITEMS WERE REMOVED DURING DEMOLITION TO MATCH ORIGINAL.
3. COORDINATE OPENINGS IN EXISTING WALLS WITH DEMOLITION CONTRACTOR.
4. REPLACE CONCRETE FLOOR IN ALL AREAS WHERE REMOVED. SEE DEMOLITION PLANS FOR EXTENTS.
5. DIMENSIONS ARE TO FACE OF CMU OR FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
6. REPLACE GYPSUM BOARD ON WALLS WHERE WAINSCOT AND GYPSUM BOARD WERE REMOVED AS INDICATED ON THE DEMOLITION PLANS. PROVIDE TAPED JOINTS AT TRANSITIONS TO EXISTING GYPSUM BOARD FINISH.
7. FOR BIDDING PURPOSES, ASSUME THAT ALL FIRE EXTINGUISHERS WILL HAVE TO BE TAKEN DOWN AND RE-MOUNTED.
8. ALL INTERIOR GLAZING IS GL-3 UNLESS NOTED OTHERWISE. SEE EXTERIOR ELEVATIONS FOR EXTERIOR GLAZING TYPES.
9. LOCATE DOOR FRAMES 4" FROM ADJACENT WALL UNLESS NOTED OTHERWISE.
10. SEE EQUIPMENT PLANS FOR FFSE TO BE PROVIDED BY THE CONTRACTOR.
11. MAINTENANCE BUILDING MAIN FLOOR ELEVATION: 100'-0" = 887.25'
12. STORAGE BUILDING CMU ELEVATION: 100'-0" = 887.25'
13. REMOVE EXISTING DOOR HARDWARE AND PATCH DOORS WHERE NOTED TO RECEIVE NEW HARDWARE.
14. NEW DOORS AND FRAMES IN EXISTING WALLS / OPENINGS - COORDINATE DOOR/FRAME SIZES WITH EXISTING OPENINGS.
15. PATCH WALLS WHERE T-STATS WERE REMOVED.



3 ENLARGED PLAN - MAINTENANCE BUILDING
SCALE: 1/8" = 1'-0"



5 ENLARGED OPERATIONS CHANGING
SCALE: 1/8" = 1'-0"



4 ENLARGED SERVICE TOILETS
SCALE: 1/8" = 1'-0"

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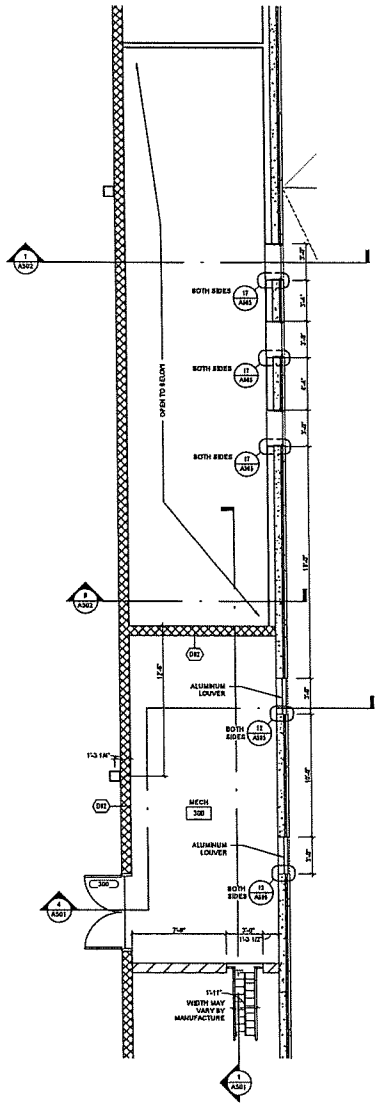
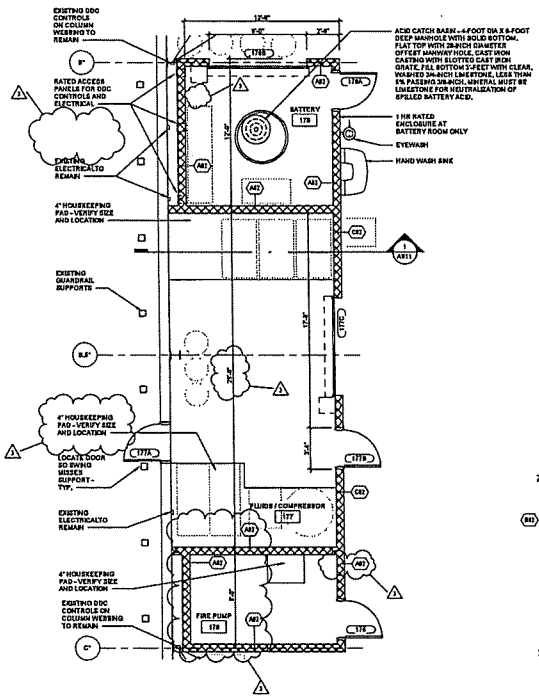
ENLARGED PLANS

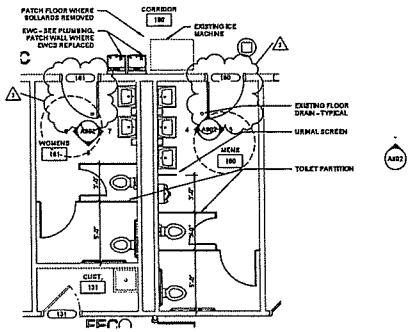
A301



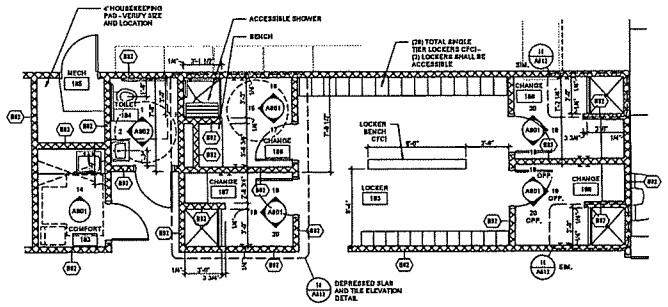
1 ENLARGED MECHANICAL EQUIPMENT PLATFORM
SCALE: 1/4" = 1'-0"



2 ENLARGED MAINTENANCE WORK
SCALE: 1/4" = 1'-0"



4 ENLARGED MAINTENANCE TOILET ROOMS
SCALE: 1/4" = 1'-0"



3 ENLARGED MAINTENANCE TOILET ROOM / SHOWER
SCALE: 1/4" = 1'-0"

FLOOR PLAN LEGEND

- METAL STUD WALL - SEE WALL TYPES
- MASONRY WALL - SEE WALL TYPES
- EXISTING WALL TO REMAIN
- DOOR AND FRAME - SEE DOOR SCHEDULE
- EXISTING DOOR AND FRAME TO REMAIN - SEE DOOR SCHEDULE

GENERAL NOTES - FLOOR PLANS:

1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. INFILL AND PATCH EXISTING WALLS IN LOCATIONS WHERE WALLS AND ITEMS WERE REMOVED FROM WALLS TO REMAIN. PATCH AND REPAIR EXISTING WALLS, CEILINGS, AND FLOORS WHERE WALLS AND OTHER ITEMS WERE REMOVED DURING DEMOLITION TO MATCH ORIGINAL.
3. COORDINATE OPENINGS IN EXISTING WALLS WITH DEMOLITION CONTRACTOR.
4. REPLACE CONCRETE FLOOR IN ALL AREAS WHERE REMOVED, SEE DEMOLITION PLANS FOR EXTENTS.
5. DIMENSIONS ARE TO FACE OF CMU OR FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
6. REPLACE GYPSUM BOARD ON WALLS WHERE WAINSCOT AND GYPSUM BOARD WERE REMOVED AS INDICATED ON THE DEMOLITION PLANS. PROVIDE TAPED JOINTS AT TRANSITIONS TO EXISTING GYPSUM BOARD FINISH.
7. FOR BIDDING PURPOSES, ASSUME THAT ALL FIRE EXTINGUISHERS WILL HAVE TO BE TAKEN DOWN AND RE-MOUNTED.
8. ALL INTERIOR GLAZING IS CLEAR UNLESS NOTED OTHERWISE, SEE EXTERIOR ELEVATIONS FOR EXTERIOR GLAZING TYPES.
9. LOCATE DOOR FRAMES 4" FROM ADJACENT WALL UNLESS NOTED OTHERWISE.
10. SEE EQUIPMENT PLANS FOR FF&E TO BE PROVIDED BY THE CONTRACTOR.
11. MAINTENANCE BUILDING CMU ELEVATION: 100'-0" = 867.25'
12. STORAGE BUILDING CMU ELEVATION: 100'-0" = 867.29'
13. REMOVE EXISTING DOOR HARDWARE AND PATCH DOORS WHERE NOTED TO RECEIVE NEW HARDWARE.
14. NEW DOORS AND FRAMES IN EXISTING WALLS / OPENINGS - COORDINATE DOOR/FRAME SIZES WITH EXISTING OPENINGS.
15. PATCH WALLS WHERE T-STATS WERE REMOVED.

Engberg Anderson ARCHITECTS
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REVISION

SATELLITE BUS FACILITY REMODEL

3828-3901 MANEON ROAD
MADISON, WI 53704

CITY OF MADISON
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MADISON, WI 53703

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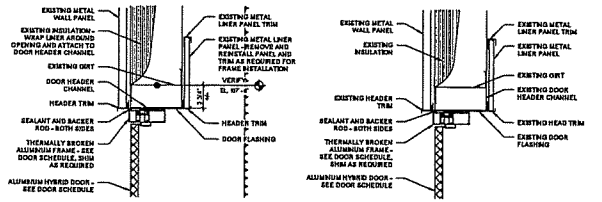
DRAWN BY JFB
CHECKED BY JH

ENLARGED PLANS

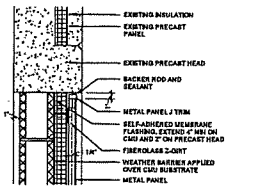
A302



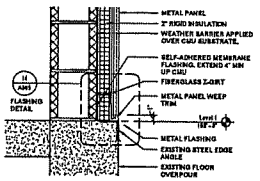
DOOR AND FRAME INSTALLED IN EXISTING WALL

DOOR AND FRAME REPLACED IN EXISTING OPENING

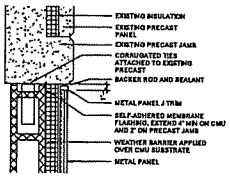
6 EXTERIOR DOOR HEAD
SCALE: 1 1/2" = 1'-0"



8 METAL PANEL HEAD
SCALE: 1 1/2" = 1'-0"



13 METAL PANEL SILL
SCALE: 1 1/2" = 1'-0"



18 METAL PANEL JAMB
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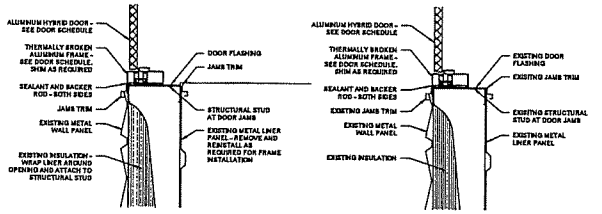
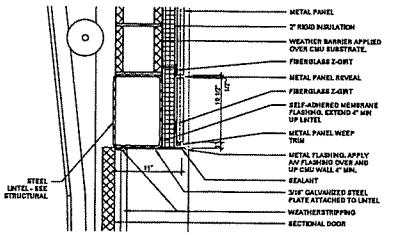


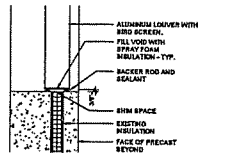
DOOR AND FRAME INSTALLED IN EXISTING WALL

DOOR AND FRAME REPLACED IN EXISTING OPENING

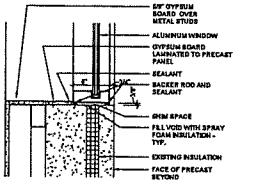
4 EXTERIOR DOOR JAMB
SCALE: 1 1/2" = 1'-0"



8 SECTIONAL DOOR HEAD
SCALE: 1 1/2" = 1'-0"



15 LOUVER JAMB
SCALE: 1 1/2" = 1'-0"



17 WINDOW JAMB
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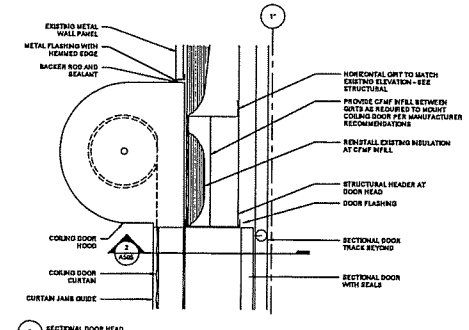
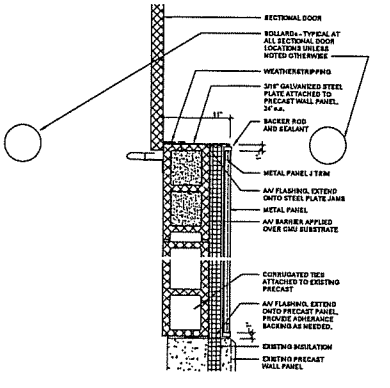
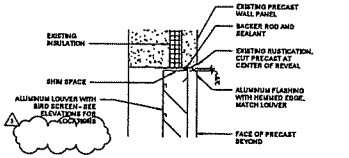


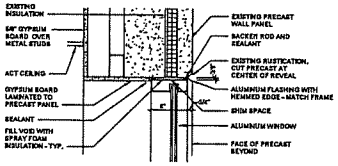
3 SECTIONAL DOOR HEAD
SCALE: 1 1/2" = 1'-0"



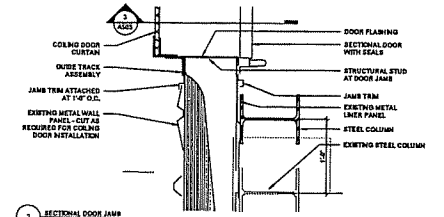
7 SECTIONAL DOOR JAMB
SCALE: 1 1/2" = 1'-0"



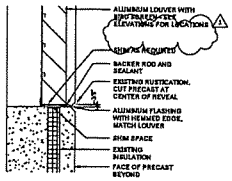
11 LOUVER HEAD
SCALE: 1 1/2" = 1'-0"



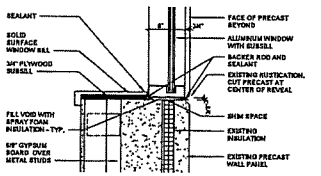
16 WINDOW HEAD
SCALE: 1 1/2" = 1'-0"



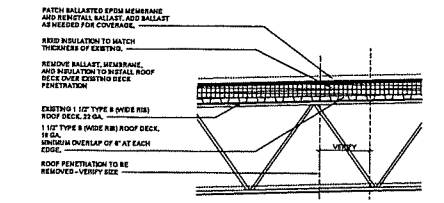
2 SECTIONAL DOOR JAMB
SCALE: 1 1/2" = 1'-0"



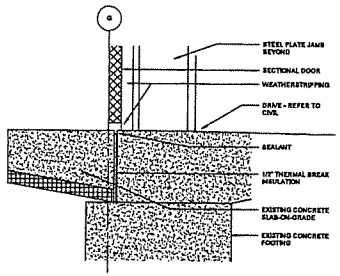
10 LOUVER SILL
SCALE: 1 1/2" = 1'-0"



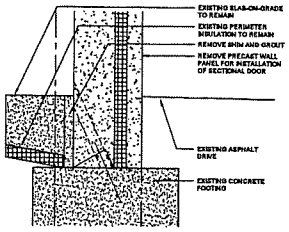
19 WINDOW SILL
SCALE: 1 1/2" = 1'-0"



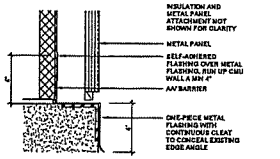
1 EPDM ROOF PATCH DETAIL
SCALE: 3/4" = 1'-0"



9 SECTIONAL DOOR SILL
SCALE: 1 1/2" = 1'-0"



WALL PANEL DEMOLITION FOR SECTIONAL DOOR INSTALLATION



14 FLASHING DETAIL
SCALE: 3" = 1'-0"

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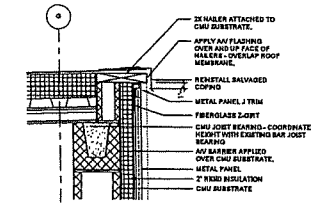
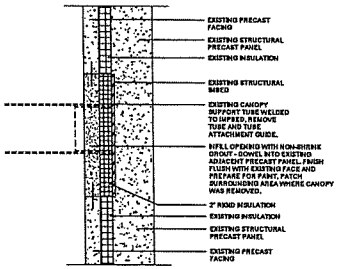
DRAWN BY JFB
CHECKED BY JH

EXTERIOR DETAILS

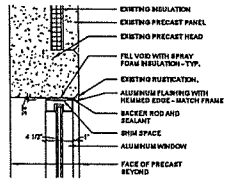
A505



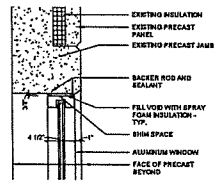
6 METAL PANEL COPING DETAIL
SCALE: 1 1/2" = 1'-0"



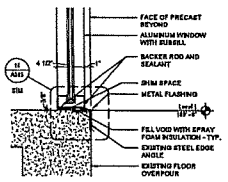
4 BEAM POCKET INFILL
SCALE: 1 1/2" = 1'-0"



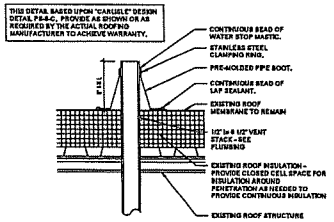
3 STOREFRONT HEAD
SCALE: 1 1/2" = 1'-0"



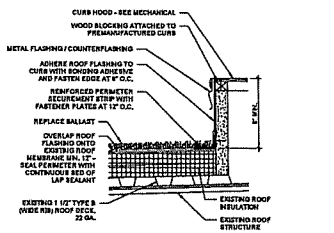
2 STOREFRONT JAMB
SCALE: 1 1/2" = 1'-0"



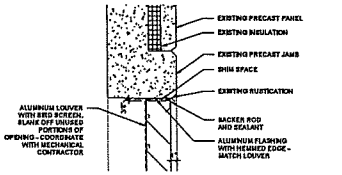
1 STOREFRONT SILL
SCALE: 1 1/2" = 1'-0"



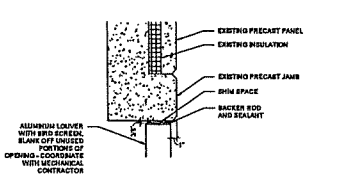
10 VENT STACK
SCALE: 1 1/2" = 1'-0"



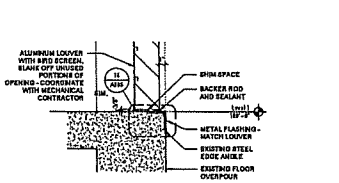
9 ROOF CURB DETAIL
SCALE: 1 1/2" = 1'-0"



8 LOUVER HEAD
SCALE: 1 1/2" = 1'-0"



7 LOUVER JAMB
SCALE: 1 1/2" = 1'-0"



5 LOUVER SILL
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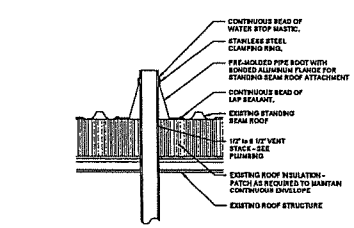

15 VENT STACK
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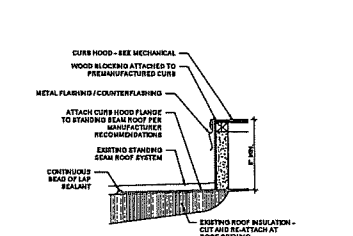
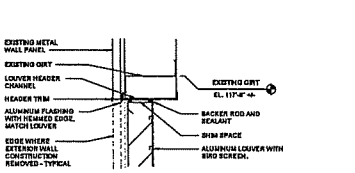
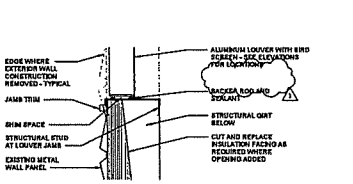


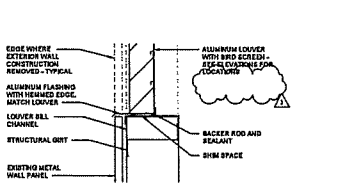
14 ROOF CURB DETAIL
SCALE: 1 1/2" = 1'-0"



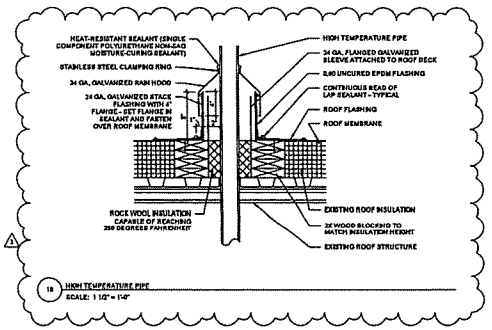
13 LOUVER HEAD
SCALE: 1 1/2" = 1'-0"



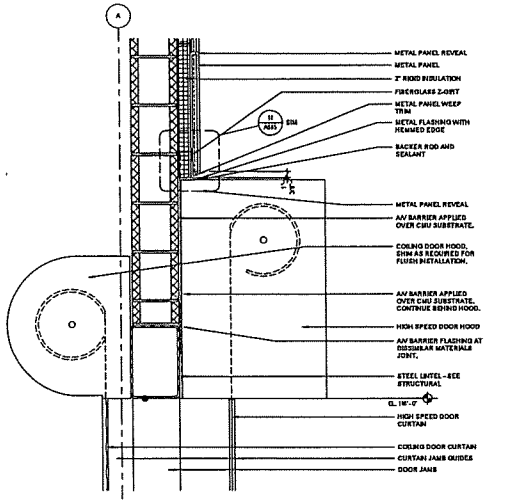
12 LOUVER JAMB
SCALE: 1 1/2" = 1'-0"



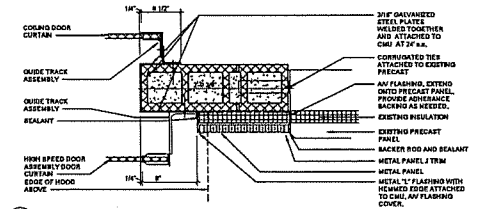
11 LOUVER SILL
SCALE: 1 1/2" = 1'-0"



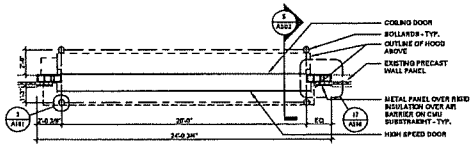
18 HIGH TEMPERATURE PIPE
SCALE: 1 1/2" = 1'-0"



19 COILING / HIGH SPEED DOOR HEAD
SCALE: 1 1/2" = 1'-0"



17 DOOR JAMB
SCALE: 1 1/2" = 1'-0"



16 DOOR PLAN DETAIL
SCALE: 1/4" = 1'-0"

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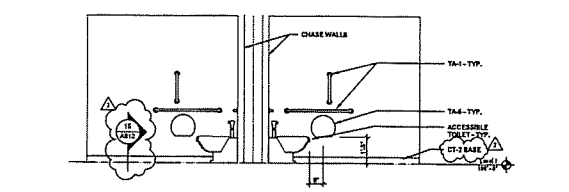
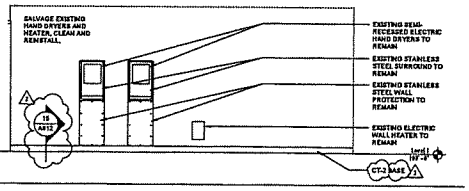
DRAWN BY JTB
CHECKED BY JH

EXTERIOR DETAILS

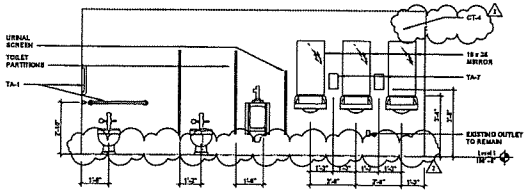
A506



6 MENS / WOMENS C
SCALE: 3/8" = 1'-0"



4 MENS ELEVATION B
SCALE: 3/8" = 1'-0"



4 MENS ELEVATION A
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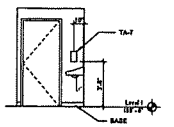
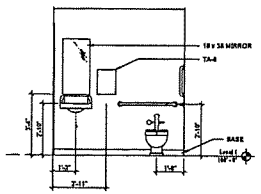
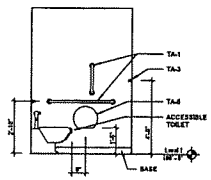


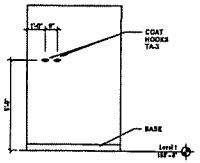
3 TOILET ELEVATION C
SCALE: 1/4" = 1'-0"



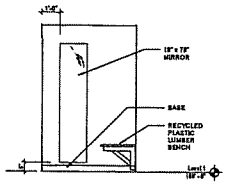
2 TOILET ELEVATION B
SCALE: 3/8" = 1'-0"



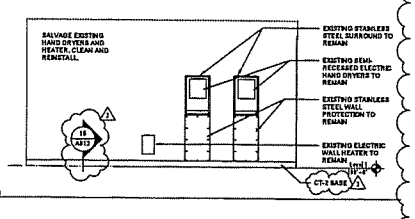
1 TOILET ELEVATION A
SCALE: 3/8" = 1'-0"



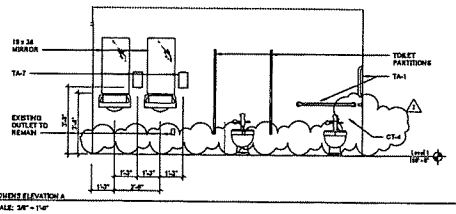
10 CHANGING ELEVATION B
SCALE: 3/8" = 1'-0"



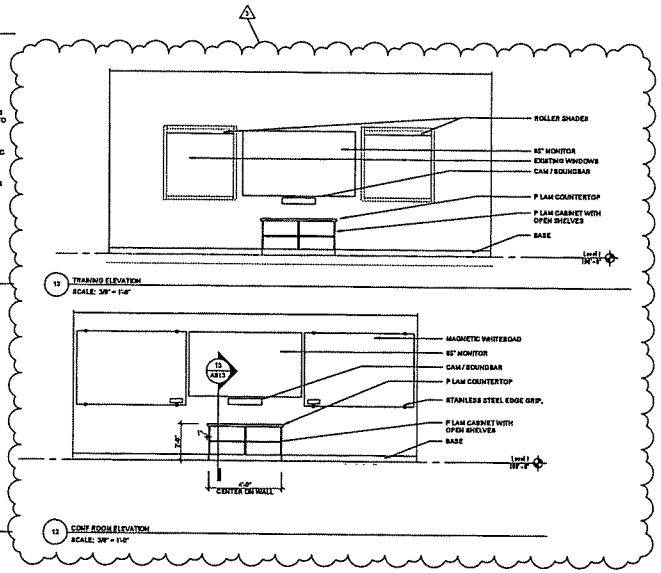
5 CHANGING ELEVATION A
SCALE: 3/8" = 1'-0"



9 WOMENS ELEVATION B
SCALE: 3/8" = 1'-0"

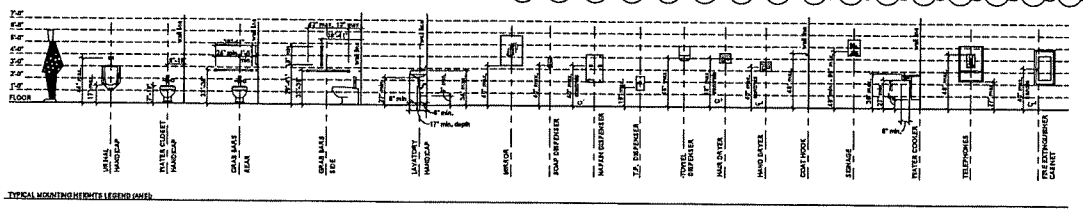


7 WOMENS ELEVATION A
SCALE: 3/8" = 1'-0"



12 TRAINING ELEVATION
SCALE: 3/8" = 1'-0"

12 CONF ROOM ELEVATION
SCALE: 3/8" = 1'-0"



TYPICAL MOUNTING HEIGHTS LEGEND (AHJ)

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

REVISION

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

BID SET	9/18/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM NO. 2	10/13/2023
3	ADDENDUM NO. 3	10/19/2023

DRAWN BY JFB

CHECKED BY JH

INTERIOR ELEVATIONS

A802

STRUCTURAL DESIGN CRITERIA

1. THESE NOTES SUPPLEMENT THE SPECIFICATIONS. PROJECT SPECIFICATIONS SHALL BE REFERRED TO FOR CLARIFICATIONS AND ADDITIONAL INFORMATION. IN CASE OF CONFLICT BETWEEN PROJECT SPECIFICATIONS AND THESE NOTES, THESE NOTES SHALL GOVERN.
2. GOVERNING BUILDING CODE: 2015 IBC AS AMENDED BY THE STATE OF WISCONSIN.
3. DESIGN LOADS
   - LIVE LOAD
     - TYPICAL SLAB ON GRADE ---- 100 psf
     - MEZZANINE ---- 100 psf
   - ROOF
     - LIVE LOAD
     - SNOW ---- 30 psf+DRIFTING
     - SUPERIMPOSED DEAD LOAD
     - TOP CHORD ---- 10 psf
     - BOTTOM CHORD ---- 10 psf
   - SNOW LOADS
     - GROUND SNOW (Pg) ---- 30 psf
     - SNOW LOAD IMPORTANCE FACTOR (Is) ---- 1.0
     - SNOW LOAD EXPOSURE FACTOR (Ce) ---- 1.0
     - ROOF THERMAL LOAD FACTOR (Ct) AT BUILDING ---- 1.0
     - BASE ROOF SNOW LOAD AT BUILDING ---- 23.1 psf
   - WIND LOADS
     - BASIC WIND SPEED ---- 115 mph
     - BUILDING OCCUPANCY CATEGORY ---- II
     - WIND LOAD IMPORTANCE FACTOR (Iw) ---- 1.0
     - WIND EXPOSURE CATEGORY ---- C
     - INTERNAL PRESSURE COEFFICIENT ---- ±0.18
   - COMPONENTS AND CLADDING:
     - (SEE ASCE/SEI 7-SECTION 6 FOR ZONE DEFINITIONS AND DIAGRAMS)
     - COMPONENT AND CLADDING SELECTED EDGE STRIP DISTANCE, (A) ---- 5.8 ft

TRIBUTARY WIND LOAD AREAS	10 ft²	50 ft²	100 ft²
ROOF (MONOSLOPE):			
ZONE 1 (NEGATIVE)	18.7 psf	17.3 psf	16.3 psf
ZONE 2 (NEGATIVE)	23.0 psf	20.7 psf	19.7 psf
ZONE 3 (NEGATIVE)	23.0 psf	20.7 psf	19.7 psf
WALLS:			
ZONE 4 (NEGATIVE)	21.3 psf	19.3 psf	18.4 psf
ZONE 5 (NEGATIVE)	28.3 psf	22.3 psf	20.4 psf
ZONE 4 & 5 (NEGATIVE)	18.7 psf	17.8 psf	16.7 psf

   - SEISMIC LOADS
     - SEISMIC USE GROUP / OCCUPANCY CATEGORY ---- II
     - SEISMIC IMPORTANCE FACTOR (Ie) ---- 1.0
     - SEISMIC SITE CLASS ---- C
     - SPECTRAL RESPONSE COEFFICIENT (Sds) ---- 0.048
     - SPECTRAL RESPONSE COEFFICIENT (Sd1) ---- 0.032
     - SEISMIC DESIGN CATEGORY ---- A
     - BASIC SEISMIC FORCE RESISTING SYSTEM:
       - BEARING WALL SYSTEM
       - FOR SHEAR RESISTANCE:
       - R = 6.5 Ωo = 3.0 Cd = 4.0
     - ANALYSIS PROCEDURE:
       - EQUIVALENT LATERAL FORCE PROCEDURE
4. FOUNDATIONS AND EARTHWORK
   - ALLOWABLE SOIL BEARING PRESSURE FOR FOOTINGS ---- 4,000 psf
   - BASED ON EXISTING DRAWING
5. CONCRETE
   - MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)
     - FOOTINGS ---- 4,000 psi
     - PIERS, WALLS ---- 4,000 psi
     - SLAB-ON-GRADE (INTERIOR) ---- 3,500 psi
     - SLAB-ON-GRADE (EXTERIOR) ---- 4,500 psi
   - COVER ON MILD STEEL REINFORCEMENT
     - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ---- 3"
     - CONCRETE EXPOSED TO EARTH OR WEATHER
       - #5 BARS AND SMALLER ---- 1 1/2"
       - #6 BARS AND LARGER ---- 2"
     - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND ---- 1"
   - CONCRETE REINFORCEMENT YIELD STRENGTH (Fy)
     - ALL DEFORMED MILD STEEL ---- 60,000 psi
     - WELDED WIRE FABRIC ---- 65,000 psi
6. CONCRETE MASONRY
   - DESIGN STRESSES
     - MASONRY (NORMAL WEIGHT) MEETING ASTM C90 ---- f'm = 2,250 psi
     - GROUT: MIN COMPRESSIVE STRENGTH AT 28 DAYS MEETING ASTM C476 ---- 3,000 psi
     - MINIMUM BLOCK COMPRESSIVE STRENGTH ---- 2,800 psi
7. STRUCTURAL STEEL
   - STRUCTURAL STEEL YIELD STRENGTH (Fy)
     - HSS RECTANGULAR ---- 50,000 psi
     - HSS ROUND ---- 46,000 psi
     - WF COLUMNS ---- 50,000 psi
     - CHANNELS, ANGLES & PLATES ---- 36,000 psi
   - BOLTS FOR STANDARD FRAME CONNECTIONS ---- 3/4" DIAMETER A325
   - BOLTS FOR SINGLE SHEAR TAB CONNECTIONS ---- 3/4" DIAMETER A325
   - ANCHOR RODS ---- F1554
   - WELDING ELECTRODES ---- E70
8. MISCELLANEOUS
   - VERIFY OPENINGS THROUGH FLOOR AND WALLS WITH ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL REQUIREMENTS. CHANGES IN SIZE, LOCATION OR NUMBER OF OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER. NOT ALL OPENINGS ARE SHOWN ON THE STRUCTURAL DRAWINGS.

GENERAL

1. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THE SHOP DRAWINGS AND WORK.
2. NO OPENING SHALL BE MADE IN ANY STRUCTURAL BEAM, COLUMN, SUPPORT FLOOR, LOAD BEARING WALL, FOOTING, OR FOUNDATION WALL WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER. OPENINGS IN NON-LOAD BEARING WALLS REQUIRE THE ARCHITECT'S APPROVAL.
3. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON NEW STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
4. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES. THE STRUCTURAL ENGINEER ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION.
5. FIREPROOFING METHODS AND MATERIALS FOR STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR RATING REQUIREMENTS, FIREPROOFING METHODS AND MATERIALS.
6. ALL SECTIONS, DETAIL AND NOTES SHOWN ON THE STRUCTURAL DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE NOTED.
7. WHEN CONFLICTS ARE NOTED ON THE DRAWINGS, THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE A/E FOR RESOLUTION PRIOR TO FABRICATION OR INSTALLATION.

FOUNDATION NOTES

1. THE OWNER SHALL RETAIN A SOILS ENGINEERING FIRM TO MONITOR PROPER SUBGRADE PREPARATIONS AND TO OVERSEE THE TESTING AND COMPACTION OF COMPACTED FILL MATERIAL.
2. CONTRACTOR SHALL LOCATE EXISTING UNDERGROUND UTILITIES BEFORE FOUNDATION EXCAVATION. IF UNDERGROUND UTILITY CONFLICTS ARE DISCOVERED BEFORE OR ENCOUNTERED DURING EXCAVATION, NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY.
3. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ANY EXISTING FOUNDATIONS.
4. BEFORE PLACING FOOTINGS, FOUNDATIONS, GRADE BEAMS, OR SLAB-ON-GRADE, THE SUB-GRADE SHALL BE PREPARED AND INSPECTED AS REQUIRED BY THE SPECIFICATIONS AND THE DRAWINGS.
5. REINFORCE ALL FOUNDATION WALLS AND FOOTINGS AS SHOWN ON THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
6. CONTROL JOINTS IN THE CAST-IN-PLACE CONCRETE FOUNDATION WALLS SHALL BE PLACED AT NOT TO EXCEED 30' OC OR AS LOCATED ON THE DRAWINGS.
7. PERIMETER FOUNDATION WALL INSULATION IS NOT SHOWN ON THE FOUNDATION DETAILS. SEE ARCHITECTURAL DRAWINGS AND THE SPECIFICATIONS FOR INSULATION REQUIREMENTS.
8. SEE SPECIFICATIONS FOR FREE DRAINING BACKFILL BENEATH ALL CONCRETE WALKS AND SLABS ADJACENT TO STRUCTURE.
9. CONTRACTOR NOTE: THE BASE OF ALL EXCAVATIONS SHALL BE KEPT FREE OF WATER AND LOOSE SOIL PRIOR TO PLACING CONCRETE. CARE SHOULD BE TAKEN DURING EXCAVATION AND CONSTRUCTION TO MINIMIZE DISTURBANCE OF THE BEARING SOILS. THE CONCRETE SHOULD BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATION TO PREVENT EXCESSIVE DRYING OR WETTING OF THE SOIL.

CONCRETE CONSTRUCTION NOTES

1. ALL CONCRETE DESIGN AND CONSTRUCTION SHALL CONFORM WITH THE LOCAL BUILDING CODE REQUIREMENTS AND THOSE OF THE FOLLOWING STANDARDS (LATEST EDITION):
   - "ACI 318, BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
   - "ACI 315, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT".
   - "ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
   - "ACI 307, RECOMMENDED PRACTICE FOR CONCRETE FORMWORK".
2. SEE SPECIFICATIONS FOR INFORMATION REGARDING CONCRETE MIX DESIGN, TESTING, MATERIALS, AND ADMIXTURES.
3. ALL CONCRETE REINFORCING STEEL IS TO BE ASTM A-615, GRADE 60.
4. PIPE SLEEVES OVER 1-1/2" INCHES IN DIAMETER WHICH PASS THROUGH CONCRETE WALLS OR SLABS SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE. ALL OTHER SLEEVES SHALL BE 14 GAUGE SHEET METAL. SLEEVES SHALL BE ONE SIZE LARGER THAN OUTSIDE DIAMETER OF PIPE PASSING THROUGH SLEEVE. VERIFY SIZE AND NUMBER WITH MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS.
5. ALUMINUM CONDUIT IS NOT PERMITTED TO BE EMBEDDED IN CONCRETE.
6. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES.
7. THE CONSTRUCTION JOINTS NOTED ON THE FRAMING PLANS MUST BE PLACED AS SHOWN. ADDITIONAL CONSTRUCTION JOINTS OR MODIFICATIONS TO THOSE SHOWN WILL BE ALLOWED ONLY AFTER THEIR LOCATION HAS BEEN APPROVED BY THE ARCHITECT/ENGINEER.
8. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB-ON-GRADE FINISH TYPES AND DEPRESSIONS AS REQUIRED FOR MATS, TILES, SLAB FLATNESS TOLERANCE, AND OTHER FINISH MATERIALS.
9. LAP WWF REINFORCEMENT A DIMENSION EQUAL TO THE WIRE SPACING PLUS 2" (6" MIN).

MASONRY NOTES

1. ALL MASONRY WALLS ARE TO HAVE HORIZONTAL REINFORCEMENT WHICH DOES NOT EXCEED 16 INCHES ON CENTER VERTICALLY. SEE SPECIFICATIONS FOR INFORMATION RELATING TO CONCRETE BLOCK, BRICK, AND WALL REINFORCING.
2. ALL VERTICAL REINFORCING STEEL IN MASONRY WALLS ARE TO COMPLY WITH ASTM A615, GRADE 60. LAPS SHALL BE 48 BAR DIAMETERS (12" MINIMUM).
3. PROVIDE SPLICE BARS FOR ALL BOND BEAM REINFORCING AT ALL CORNERS. SPLICE BAR TO BE THE SAME SIZE AS BARS IN THE BOND BEAM. LAPS SHALL BE 50 BAR DIAMETER.
4. WHERE MASONRY IS APPLIED ADJACENT TO STEEL MEMBERS (BEAMS AND COLUMNS) PROVIDE ANCHORING DEVICES PER SPECIFICATIONS.
5. REFER TO ARCHITECTURAL PLANS FOR ROUGH OPENING LOCATIONS, SIZES, AND ELEVATIONS.
6. USE SIMPSON TITEN HD OR APPROVED EQUAL TYPE ANCHORS IN CMU WALL PARTITIONS.
7. ALL NON-STRUCTURAL CMU WALLS SHALL BE REINFORCED WITH A #3 VERTICAL BAR AT 48" OC WITH THAT CMU CORE GROUTED AND HORIZONTAL JOINT REINFORCEMENT AT 16" OC THE BOTTOM TWO COURSES SHALL BE GROUTED SOLID. PROVIDE CONTINUOUS BOND BEAM AT TOP OF WALL WITH 2 #4's CONTINUOUS GROUT BOND BEAM SOLID. PROVIDE #3 DOWEL AT 48" OC MATCH VERTICAL BAR, LAP 50 BAR DIAMETERS. PROVIDE LINTEL BLOCK AS BOND BEAM WITH (2) #5 x CONT, AND 8" BEARING EACH END. TYPICAL UNLESS NOTED OTHERWISE.
8. CONSTRUCTION BRACING FOR MASONRY WALLS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED. MASONRY SUBMITTALS SHALL CONTAIN A LETTER SEALED BY THE ENGINEER AND SHALL BE ISSUED TO THE OWNER AFTER SUBMITTAL REVIEW AND PRIOR TO STARTING MASONRY CONSTRUCTION.

PRECAST AND/OR PRESTRESSED CONCRETE NOTES

1. USE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL DRAWINGS TO OBTAIN THE NECESSARY INFORMATION AND DESIGN REQUIREMENTS FOR THE PRECAST UNITS.
2. THE STRUCTURAL DRAWINGS SHOW THE INTENT OF THE PRECAST CONCRETE FRAMING. REINFORCING AND PRESTRESSING SHOWN IS SCHEMATIC ONLY.
3. PRECAST MANUFACTURER SHALL FURNISH AND DESIGN HEADERS FOR OPENINGS AS REQUIRED OR INDICATED ON THE DRAWINGS. PRECAST MANUFACTURER SHALL PROVIDE WELD PLATES AND OTHER EMBEDDED ITEMS NOTED ON THE DRAWINGS.
4. DESIGN PLANK TO CARRY STAIR STRINGER LOADS.
5. PRECAST SUPPLIER TO DESIGN PRECAST PLANK AS A DIAPHRAGM WITH LOADS AND CONDITIONS PER PLANS, INCLUDING THE ADDITIONAL PRESTRESSING STRANDS FOR DIAPHRAGM TENSION CHORD MEMBERS, IF NECESSARY.
6. PRECAST SUPPLIER TO DESIGN CONNECTIONS BETWEEN PRECAST PLANK AND SHEAR WALLS AND BEAMS.
7. PRECAST SUPPLIER TO DESIGN PRECAST TO PRECAST CONNECTIONS.
8. DESIGN MUST INCLUDE VERIFICATION OF ALL OPENINGS AND MECHANICAL LOADS BY CONTRACT DOCUMENTS. ADDITIONAL OPENINGS OF GREATER THAN 12" DIMENSION SHALL NOT BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE PRECAST MANUFACTURER.
9. VIBRATION CRITERIA SHALL CONFORM TO THE RECOMMENDATIONS FROM THE PRESTRESSED CONCRETE INSTITUTE (PCI) DESIGN MANUAL, LATEST EDITION, OR OTHER APPLICABLE CODES.
10. CAMBER SHALL BE CONTROLLED SO AS TO PROVIDE NO DIFFERENTIAL CAMBER WHEN FINAL INSTALLATION IS COMPLETE.
11. ALL PRECAST UNITS TO HAVE 2 HOUR FIRE RATING.
12. PRECAST PLANK UNITS SHALL BE WELDED TO STEEL BEAMS AT ALTERNATE ENDS OF EACH PRECAST UNIT.
13. FINISH CONCRETE TOPPING ON PRECAST TO A LEVEL SURFACE WITH A MINIMUM THICKNESS AS CALLED FOR ON PLANS.
14. HOT DIP GALVANIZE ALL CONNECTOR ASSEMBLIES WHERE NOTED AS GALVANIZED. CLEAN AND COAT ALL FIELD WELDS WITH TWO COATS OF COLD GALVANIZING COMPOUND.

STRUCTURAL STEEL NOTES

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM WITH THE AISC (AMERICAN INSTITUTE OF STEEL CONSTRUCTION), "MANUAL OF STEEL CONSTRUCTION", LATEST EDITION.
2. ALL STEEL DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AISC "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN", LATEST EDITION.
3. ALL WELDING SHALL BE BY WELDERS HOLDING CURRENT VALID AWS CERTIFICATES IN THE TYPE OF WELD REQUIRED.
4. SHOP CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE BOLTED OR WELDED. FIELD CONNECTIONS SHALL BE BOLTED UNLESS SPECIFICALLY DETAILED OTHERWISE.
5. DESIGN IN ACCORDANCE WITH GUIDE DETAILS AND REACTIONS.
6. USE A325N BOLTS UNLESS NOTED OTHERWISE.
7. OVERSIZED OR SLOTTED HOLES SHALL NOT BE USED FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER.
8. ALL BEAM COPES MUST BE MADE TO A RADIUS (1" MINIMUM). ALL BUTT AND FULL PENETRATION WELDS SHALL BE MADE USING RUN OFF TABS WHICH SHALL BE TRIMMED FLUSH AND GROUND SMOOTH AFTER WELD IS COMPLETED.
9. ALL WELDS INDICATED SHALL MEET THE MINIMUM WELD SIZE SPECIFIED BY THE CURRENT AISC MANUAL OF STEEL DESIGN. (SINGLE PASS AS REQUIRED).
10. CUTS, HOLES, COPING, ETC. REQUIRED FOR WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS AND MADE IN THE SHOP. CUTS OR BURNING OF HOLES IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED.
11. PROVIDE ANY NECESSARY TEMPORARY BRACING OR GUYS TO PROVIDE LATERAL SUPPORT OF THE BUILDING UNTIL PERMANENT FRAME IS COMPLETELY INSTALLED.
12. INSTALL EXPANSION BOLTS IN ACCORDANCE WITH THE ICBO REPORT RECOMMENDATIONS.
13. ALL ELEVATOR GUIDE BEAMS SHALL BE S8x18.4 UNLESS NOTED OTHERWISE. SLOPE TO MATCH BEAM SLOPE.
14. STRUCTURAL STEEL FRAMING SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED.

SPREAD FOOTING SCHEDULE

MARK	FOOTING DIMENSIONS LENGTH	WIDTH	THICKNESS	FOOTING REINFORCEMENT	REMARKS
F1	10'-0"	3'-0"	3'-8"	(4) #7; B, EW	
F2	10'-0"	3'-0"	1'-8"	(8) #7; B, EW	
F30	3'-0"	3'-0"	1'-4"	(4) #5; B, EW	
F80	10'-0"	10'-0"	2'-8"	(8) #7; B, EW, T&B	
F100	10'-0"	10'-0"	2'-0"	(8) #7; B, EW	

WALL FOOTING SCHEDULE

MARK	CONTINUOUS FOOTING DIMENSIONS WIDTH	THICKNESS	FOOTING REINFORCEMENT	REMARKS
W30	3'-0"	1'-0"	(3) #5; B, CONT	
W60	6'-0"	1'-6"	(5) #6 CONT AND #5 TRANSVERSE AT 12" OC	

1

LOOSE STEEL LINTEL SCHEDULE

PROVIDE WHERE OTHER LINTELS ARE NOT SPECIFICALLY DETAILED

WALL THICK	CLEAR MASONRY OPENING WIDTH	SECTION
ALL	AT FIRE EXTINGUISHER CABINETS AND DRINKING FOUNTAINS	1/4" PLATE
4"	TO 5'-0"	ST3x6.25 (3/16 1 1/2-6)
4"	TO 7'-0"	PL 3/8 x 4 1/2 ON PL 3/8 x 3 1/2
4"	TO 9'-0"	PL3/8"x7 1/2" ON PL3/8"x3 1/2"
8"	TO 5'-0"	(2) L3 1/2x2 1/2x1/4 (LLV)
8"	TO 7'-0"	WT4x10.5
8"	TO 9'-0"	WT7x11
8"	TO 12'-0"	WT7x13 WITH PL1/2"x2" (3/16 1 1/2-6)
8"	TO 5'-0"	(2) L3 1/2x3 1/2x1/4
8"	TO 7'-0"	(2) L4x3 1/2x5/16 (LLV)
8"	TO 9'-0"	WT7x15
10"	TO 7'-0"	W8x10 WITH PL5/16"x9" (3/16 1 1/2-6)
10"	TO 10'-0"	W8x15 WITH PL5/16"x9"
12"	TO 5'-0"	(3) L3 1/2x3 1/2x1/4
12"	TO 7'-0"	W8x18 WITH PL5/16"x11" (3/16 1 1/2-6)
12"	TO 10'-0"	W8x15 WITH PL5/16"x11"

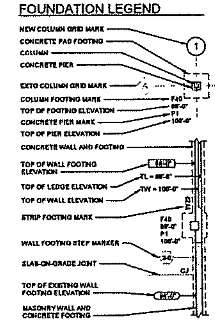
NOTES:

1. PROVIDE MINIMUM 8" BEARING AT EACH END OF LINTEL.
2. GROUT BLOCK CORES AND REINFORCE WITH (1) #5 VERT BELOW LINTEL BEARING.
3. CENTER LINTELS IN WALL UNLESS OTHERWISE NOTED.
4. BOTTOM PLATES UNDER WIDE FLANGE SHAPES SHALL BE EXTENDED FULL LENGTH OF LINTEL.
5. WELD LINTEL COMPONENTS INTO SINGLE UNIT.
6. NOT LINTELS ARE REQUIRED FOR 4" AND 8" NON-BEARING MASONRY WALLS WHERE GROUTED HOLLOW METAL FRAMES HAVE A HEADSPAN OF 4'-0" OR LESS.

ABBREVIATION LIST

AB	ANCHOR BOLT (ROD)
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ARCH	ARCHITECTURAL
BLDG	BUILDING
BRG	BEARING
BP(##)	BASE PLATE CALL-OUT
CF	COLD-FORMED
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLR	CLEAR (DISTANCE)
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
DBA	DEFORMED BAR ANCHOR
DEMO	DEMOLITION / DEMOLISH
DIA	DIAMETER
DWG	DRAWING
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EF	EACH FACE
EJ	EXPANSION JOINT
ELEV	ELEVATION
EQ	EQUAL
EW	EACH WAY
EWEF	EACH WAY EACH FACE
EXP	EXPANSION
EXT	EXTERIOR
EXTG	EXISTING
FD	FLOOR DRAIN
FLR	FLOOR
FV	FIELD VERIFY
F(##)	FOOTING CALL-OUT
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLULAM	GLUE-LAMINATED BEAM(S)
HK	HOOK
HORIZ	HORIZONTAL
HP	HIGH POINT
HWS	HEADED WELDED STUD(S)
IF	INSIDE FACE
INT	INTERIOR
JBE	JOIST BEARING ELEVATION
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSL	LAMINATED STRAND LUMBER
LTWT	LIGHTWEIGHT
LVL	LAMINATED VENEER LUMBER
LW	LONG WAY
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
NA	NOT APPLICABLE
NTS	NOT TO SCALE
OC	ON CENTER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
PC	PRECAST / PRESTRESSED
PCI	POUNDS PER CUBIC INCH
PCF	POUNDS PER CUBIC FOOT
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PROJ	PROJECTION
PSF	POUNDS PER CUBIC FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRE (POST)-TENSIONED
P(#)	PIER CALL-OUT
RD	ROOF DRAIN
REINF	REINFORC(ED)(ING)
RTU	ROOF TOP UNIT
SIM	SIMILAR
SOG	SLAB-ON-GRADE
SPA	SPAC(ES)(ED)(ING)
SPEC	SPECIFICATION(S)
SQ	SQUARE
SS	STAINLESS STEEL
SW	SHORT WAY
TL	TOP OF LEDGE
TP	TOP OF PIER
TW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WP	WORKING POINT
WWF	WELDED WIRE FABRIC

FOUNDATION LEGEND



Engberg Anderson - ARCHITECTS

REVISION

MILWAUKEE | MADISON | CHICAGO

ONEIDA Total Integrated Enterprises

5100 Eastpark Blvd, Suite 300, Madison, Wisconsin 53718

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
FR 10/13/2023

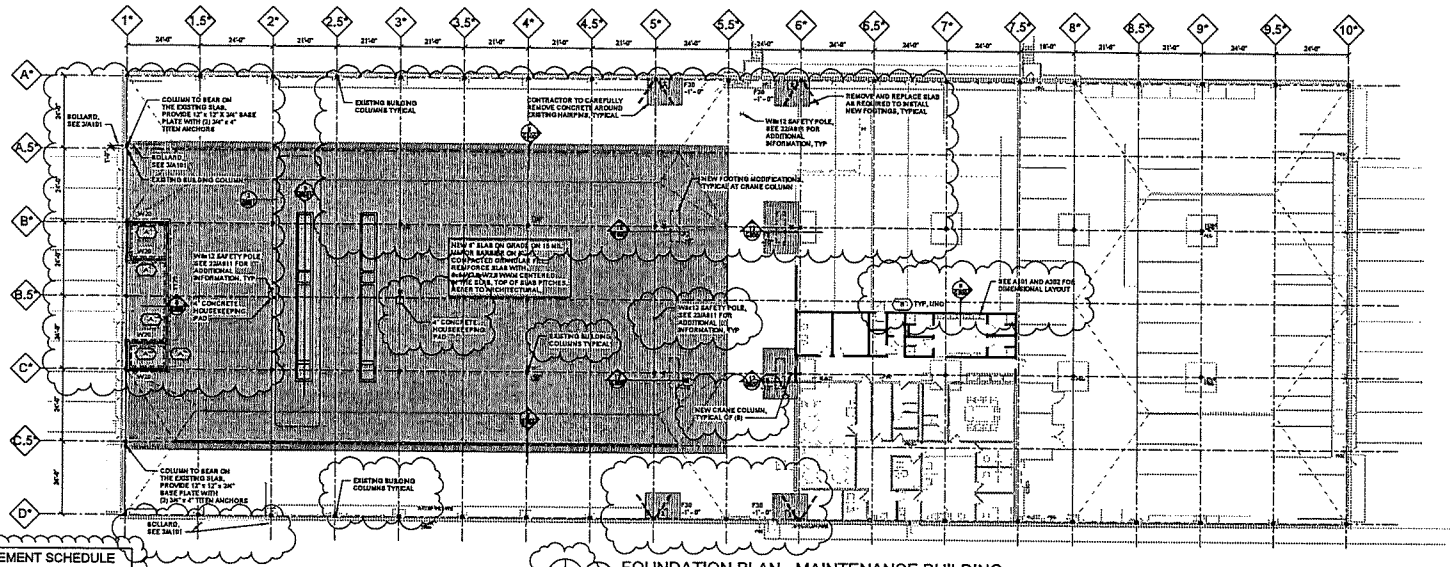
REVISION FOR:

NO.	DESCRIPTION	DATE
1	Addendum #3	10/19/2023

DRAWN BY DJW
CHECKED BY JJH

STRUCTURAL NOTES AND SCHEDULES

S001



FOUNDATION PLAN - MAINTENANCE BUILDING

SCALE: 1/16" = 1'-0"

NOTES

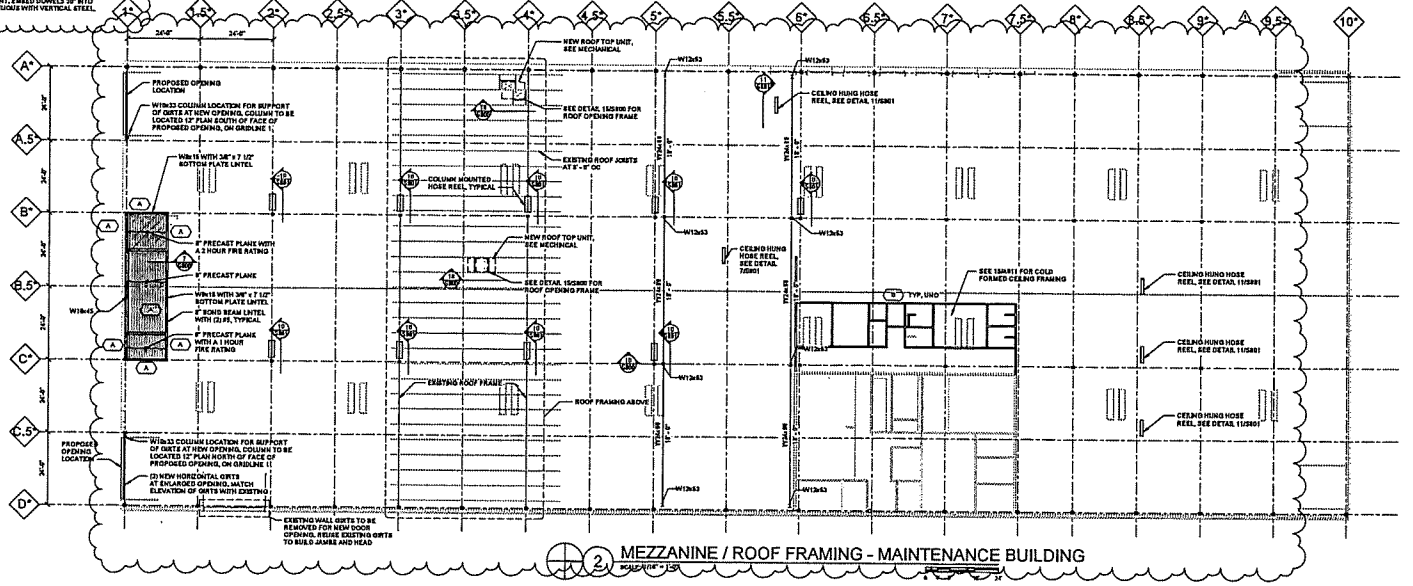
1. SEE S800 FOR TYPICAL DETAILS AND S001 FOR DESIGN CRITERIA.
2. TYPICAL WHERE SLAB ABUTS COLUMN OR WALL, PROVIDE 1/2" x SLAB WIDTH ISOLATION FILLER STRIP, SET STRIP 1/4" BELOW FINISHED SLAB ELEVATION AND FILL GAP WITH SEALANT PER DIVISION 9 SPECIFICATIONS.
3. AVOID SITUATIONS WHERE CONTROL JOINTS ARE DISCONTINUOUS ACROSS AN ADJACENT JOINT BUT WHERE ABSOLUTELY NECESSARY, PROVIDE (2) #4 x 5'-0" LONG BARS IN UNBROKEN SLAB AT THIS T-INTERSECTION WITH THE UNDERSTANDING THAT BARS WILL LIMIT CRACK WIDTH BUT NOT PREVENT IT.
4. CONTROL JOINTS PLACED AT COLUMN LINES WHERE LAYOUT PERMITS. JOINT SPACING 2 TO 3 TIMES THE SLAB THICKNESS (INCHES) AS FEET ON CENTER (MAXIMUM OF 12'-0" ON CENTER). RESULTING PANEL ASPECT RATIO LESS THAN 1.5 AND ACUTE ANGLES LESS THAN 45 DEGREES AVOIDED. SEE S/2000 FOR JOINT INFORMATION. ALL JOINTS SHALL BE EPOXY FILLED.
5. AT RE-ENTRANT CORNERS THAT DO NOT HAVE CONTROL JOINTS (E.G. STAIRS, ELEVATORS, LOADING DOCKS, ETC.) (2) #4 x 5'-0" LONG BARS CENTERED IN SLAB, DIAGONAL TO CORNER PROVIDED.

MASONRY WALL REINFORCEMENT SCHEDULE

MARK	WALL TYPE	REINFORCEMENT VERTICAL	REINFORCEMENT HORIZONTAL	NOTES
A	8" CMU	#6 AT 32" OC	HJR AT 16" OC	BOND BEAM WITH (1) #9 AT 40" OC AND AT BOTTOM OF WALL
B	8" CMU	#3 AT 48" OC	HJR AT 16" OC	

NOTES:

1. SEE ARCHITECTURAL WALL TYPES FOR ADDITIONAL REQUIREMENTS.
2. REINFORCEMENT IS TO BE LOCATED IN CENTER OF WALL UNO.
3. PROVIDE CONTINUOUS BOND BEAM WITH (2) #5 AT ALL BEARING ELEVATIONS AND OVER WINDOWS DOORS AND OTHER OPENINGS UNO.
4. PROVIDE HORIZONTAL REINFORCEMENT INTO INTERSECTING WALLS AT 16" OC VERTICAL EXTENT 28" EACH DIRECTION WITH PREFABRICATED "T" AND "L" SECTION TYP.
5. SEE GENERAL MASONRY NOTES ON SHEET S001 FOR NON LOAD BEARING WALL REINFORCEMENT REQUIREMENTS.
6. PROVIDE DOWELS TO MATCH VERTICAL REINFORCEMENT. EMBED DOWELS 28" INTO FOUNDATION WALL AND LAP 28" WITH OR MAKE CONTINUOUS WITH VERTICAL STEEL.



MEZZANINE / ROOF FRAMING - MAINTENANCE BUILDING

SCALE: 1/16" = 1'-0"

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REVISION

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MADISON, WI 53704

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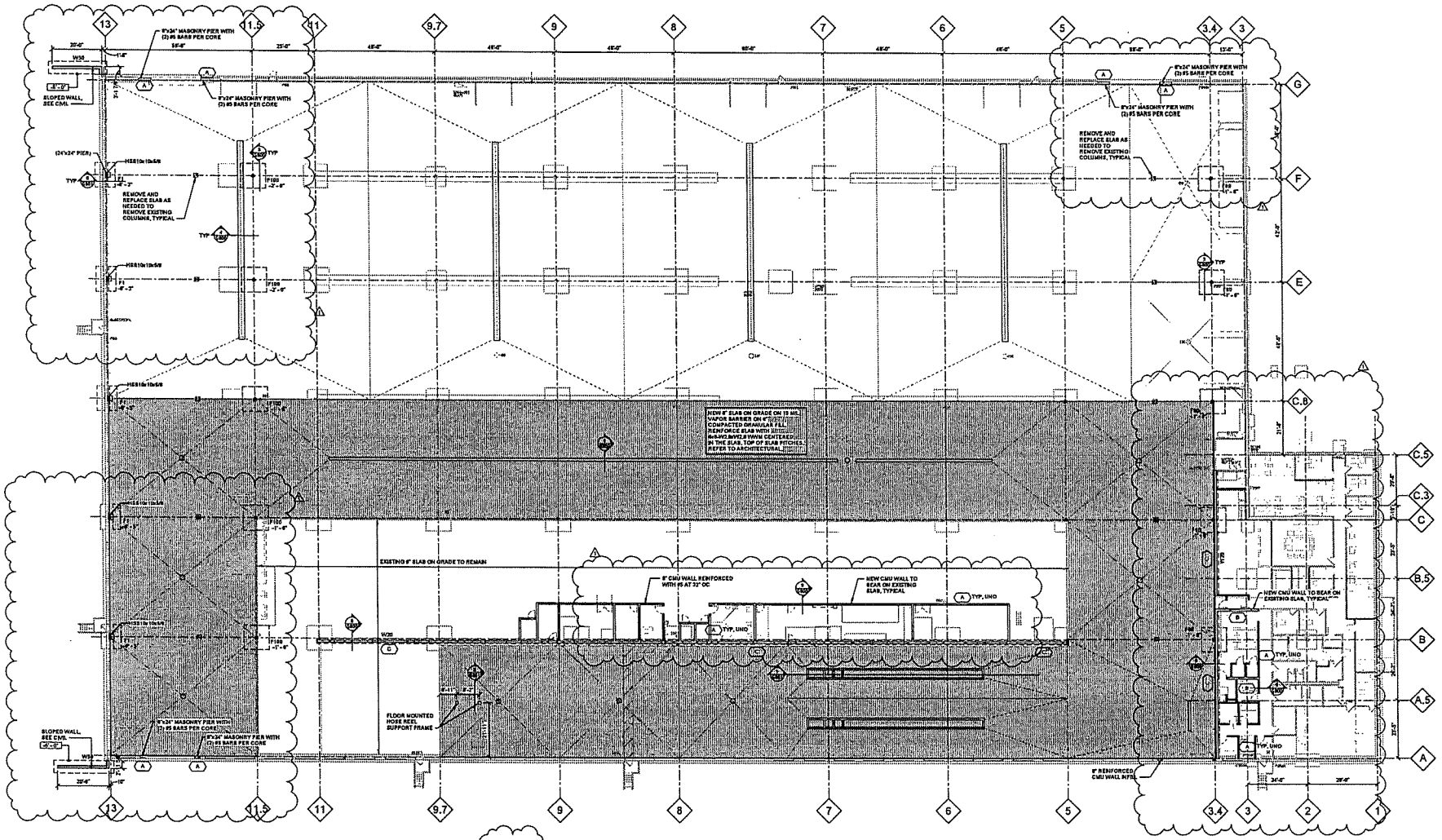
CHECKED BY JJH

FOUNDATION AND FRAMING PLANS - MAINTENANCE BUILDING

S100



FOUNDATION PLAN - STORAGE BLDG

SCALE: 1/16" = 1'-0"

NOTES

1. SEE S000 FOR TYPICAL DETAILS AND S001 FOR DESIGN CRITERIA.
2. TYPICAL WHERE SLAB ABUTS COLUMN OR WALL, PROVIDE 1/2" x SLAB WIDTH ISOLATION FILLER STRIP. SET STRIP 1/4" BELOW FINISHED SLAB ELEVATION AND FILL GAP WITH SEALANT PER DIVISION 8 SPECIFICATIONS.
3. AVOID SITUATIONS WHERE CONTROL JOINTS ARE DISCONTINUOUS ACROSS AN ADJACENT JOINT BUT WHERE ABSOLUTELY NECESSARY, PROVIDE (3) #4 x 5'-0" LONG BARS IN UNBROKEN SLAB AT THIS T-INTERSECTION WITH THE UNDERSTANDING THAT BARS WILL LIMIT CRACK WIDTH BUT NOT PREVENT IT.
4. CONTROL JOINTS PLACED AT COLUMN LINES WHERE LAYOUT PERMITS. JOINT SPACING 2 TO 3 TIMES THE SLAB THICKNESS (INCHES) AS FEET ON CENTER (MAXIMUM OF 12'-0" ON CENTER), RESULTING PANEL ASPECT RATIO LESS THAN 1.5 AND ACUTE ANGLES LESS THAN 45 DEGREES AVOIDED. SEE 3/dtrm FOR JOINT INFORMATION. ALL JOINTS SHALL BE EPOXY FILLED.
5. AT RE-ENTRANT CORNERS THAT DO NOT HAVE CONTROL JOINTS (E.G. STAIRS, ELEVATORS, LOADING DOCKS, ETC.,) (2) #4 x 5'-0" LONG BARS CENTERED IN SLAB, DIAGONAL TO CORNER PROVIDED.

MASONRY WALL REINFORCEMENT SCHEDULE

MARK	WALL TYPE	REINFORCEMENT		NOTES
		VERTICAL	HORIZONTAL	
A	8" CMU	#5 AT 32" OC	HJR AT 16" OC	BOND BEAM WITH (1) #5 AT 48" OC AND AT BOTTOM OF WALL
B	10" CMU	#5 AT 32" OC	HJR AT 16" OC	BOND BEAM WITH (2) #5 AT 48" OC AND AT BOTTOM OF WALL
C	12" CMU	(2) #5 AT 32" OC	HJR AT 16" OC	BOND BEAM WITH (2) #5 AT 48" OC AND AT BOTTOM OF WALL

NOTES:

1. SEE ARCHITECTURAL WALL TYPES FOR ADDITIONAL REQUIREMENTS.
2. REINFORCEMENT IS TO BE LOCATED IN CENTER OF WALL U.N.O.
3. PROVIDE CONTINUOUS BOND BEAM WITH (2) #5 AT ALL BEARING ELEVATIONS AND OVER WINDOWS DOORS AND OTHER OPENINGS U.N.O.
4. PROVIDE HORIZONTAL REINFORCEMENT INTO INTERSECTING WALLS AT 16" OC VERTICAL. EXTEND 20" EACH DIRECTION WITH PREFABRICATED "T" AND "L" SECTION TYP.
5. SEE GENERAL MASONRY NOTES ON SHEET S001 FOR NON LOAD BEARING WALL REINFORCEMENT REQUIREMENTS.
6. PROVIDE DOWELS TO MATCH VERTICAL REINFORCEMENT. EMBED DOWELS 30" INTO FOUNDATION WALL AND LAP 30" WITH OR MAKE CONTINUOUS WITH VERTICAL STEEL.

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REVISION

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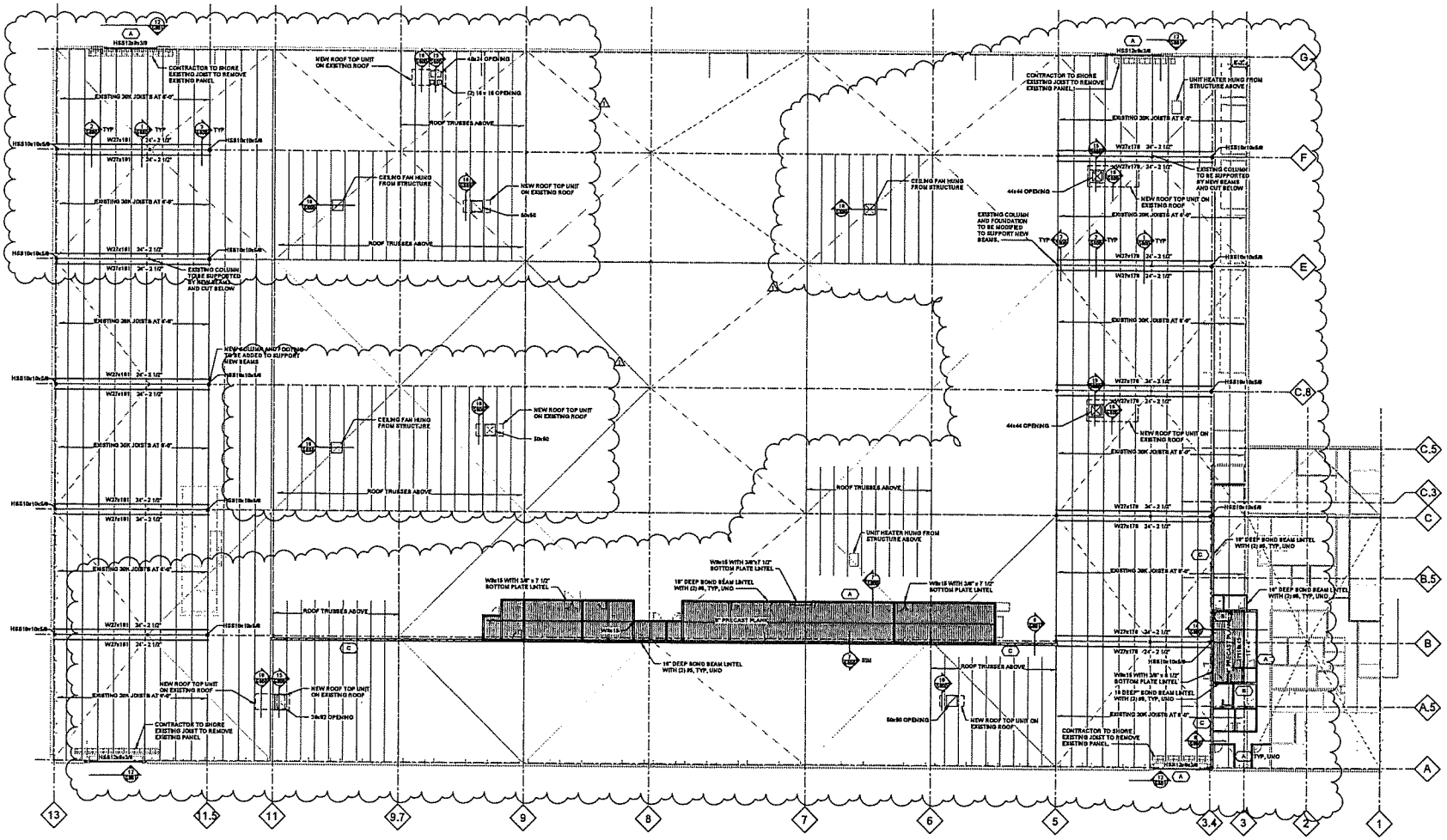
FOUNDATION PLAN - STORAGE BLDG

S101



1 ROOF FRAMING - STORAGE BLDG

SCALE: 1/16" = 1'-0"

Engberg Anderson ARCHITECTS

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REVISION

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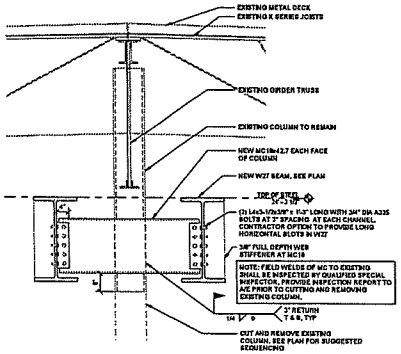
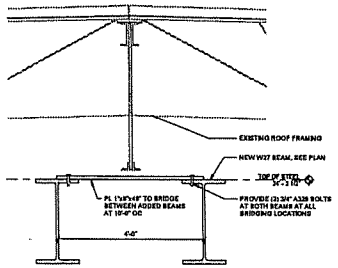
ROOF FRAMING - STORAGE BLDG

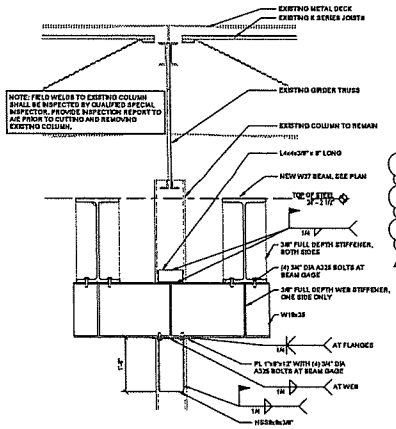
S102



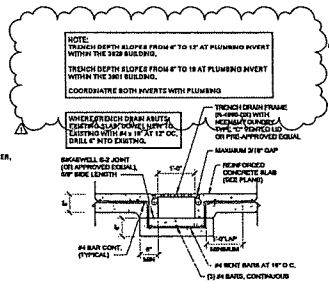
1 MC SUPPORT AT EXISTING COLUMN
SCALE: 3/4" = 1'-0"



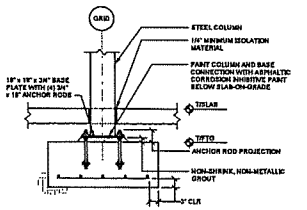
2 INTERMITTENT BRIDGING DETAIL
SCALE: 3/4" = 1'-0"



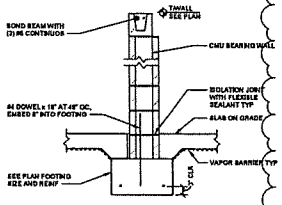
3 BEAM SUPPORT AT EXISTING COLUMN
SCALE: 3/4" = 1'-0"



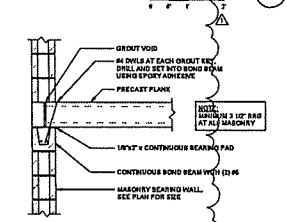
4 TRENCH DRAIN SECTION
SCALE: 3/4" = 1'-0"



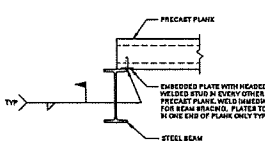
TYP INTERIOR COLUMN FOOTING
SCALE: 3/4" = 1'-0"



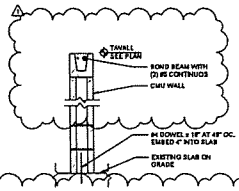
6 INTERIOR WALL FOOTING
SCALE: 3/4" = 1'-0"



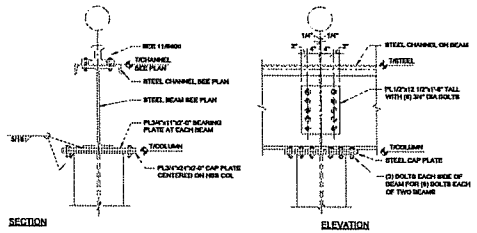
7 PRECAST PLANK BEARING AT MASONRY WALL
SCALE: 3/4" = 1'-0"



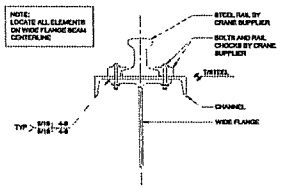
PRECAST BEARING ON STEEL BEAM
SCALE: 3/4" = 1'-0"



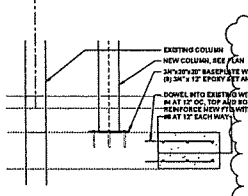
9 INTERIOR CMU WALL
SCALE: 3/4" = 1'-0"



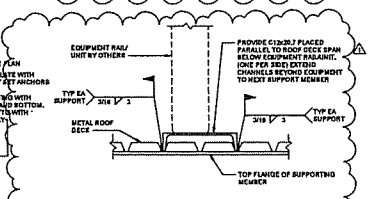
10 CRANE BEAM CONNECTION
SCALE: 3/4" = 1'-0"



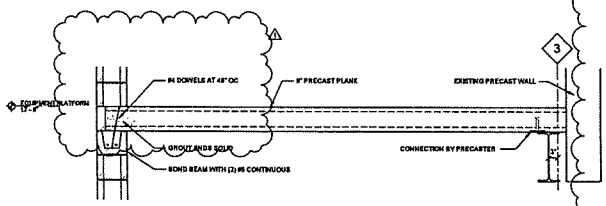
11 TYP CRANE RAIL BEAM
SCALE: 1 1/2" = 1'-0"



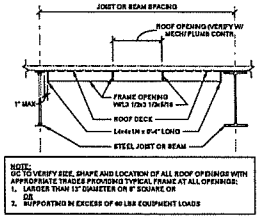
12 NEW FTG TO EXIST
SCALE: 1/2" = 1'-0"



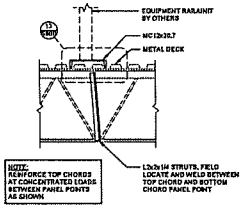
13 EQUIPMENT RAIL SUPPORT
SCALE: 3/4" = 1'-0"



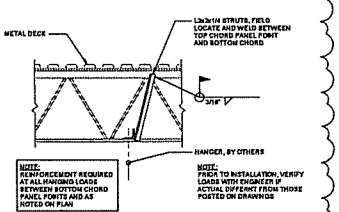
14 EQUIPMENT PLATFORM SECTION
SCALE: 3/4" = 1'-0"



TYPICAL FRAMING AT ROOF OPENINGS
SCALE: 3/4" = 1'-0"



16 CONCRETRATED LOAD AT JOIST
SCALE: 3/4" = 1'-0"



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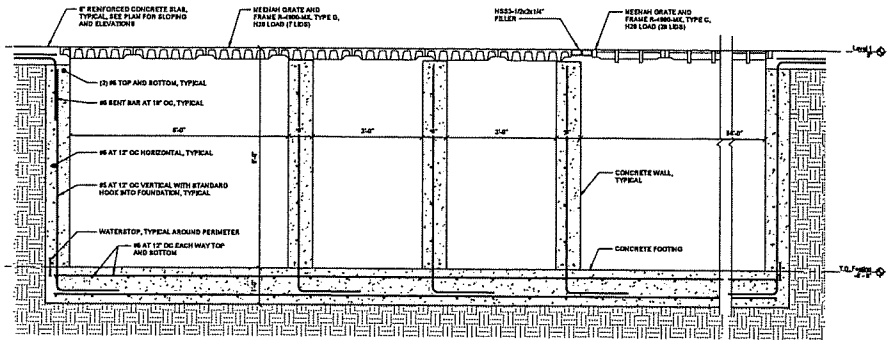
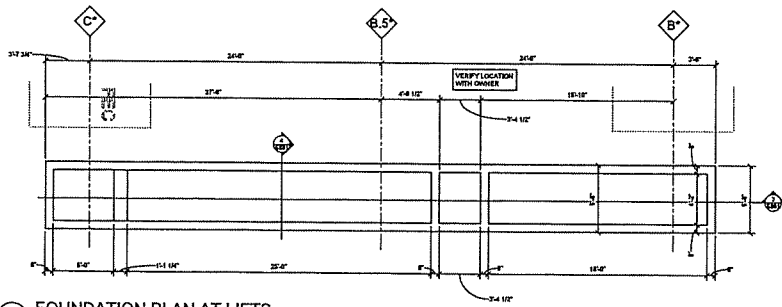
STRUCTURAL DETAILS

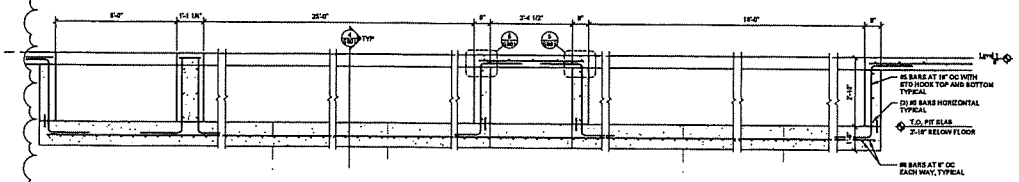
S800



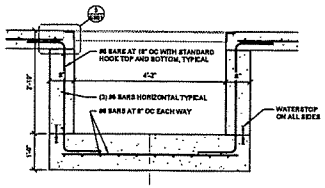
1 SERVICE BAY TRENCH DRAIN
SCALE: 3/4" = 1'-0"



2 FOUNDATION PLAN AT LIFTS
SCALE: 1/4" = 1'-0"



3 FOUNDATION SECTION AT LIFT
SCALE: 1/2" = 1'-0"



4 FOUNDATION SECTION AT LIFTS
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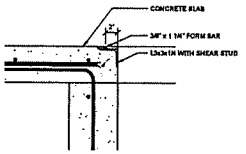
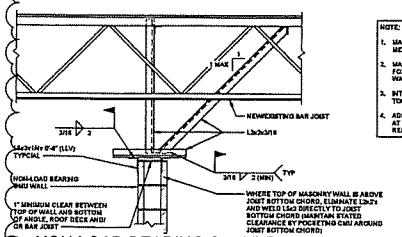
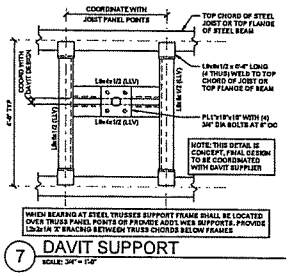


5 FOUNDATION SECTION AT LIFT
SCALE: 1 1/2" = 1'-0"

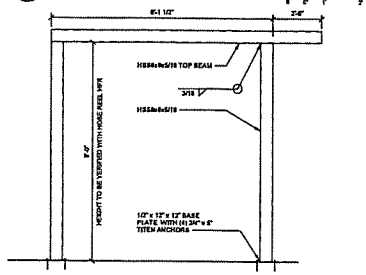


6 NON-LOAD BEARING CMU PERPENDICULAR TO JOISTS
SCALE: 3/4" = 1'-0"

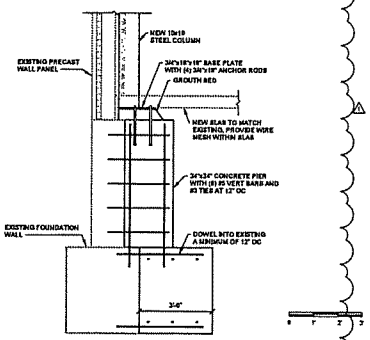
NOTE:
1. MAXIMUM SPACING OF BRACES IS TO BE MEASURED PARALLEL TO PARTITION LENGTH.
2. MAXIMUM SPACING OF BRACES IS TO BE 16 FT FOR 8" CMU WALLS AND 20 FT FOR 8" CMU WALLS.
3. INTERSECTING MASONRY CROSS-WALLS TIED TOGETHER SERVE AS BRACES.
4. ADDITIONAL L4x3x1/4 SUBFRAMING MEMBERS AT BOTTOM OF ROOF FRAMING MAY BE REQUIRED FOR SOME LOCATIONS.



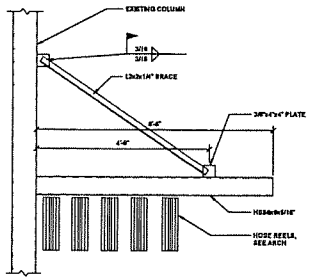
7 DAVIT SUPPORT
SCALE: 3/4" = 1'-0"



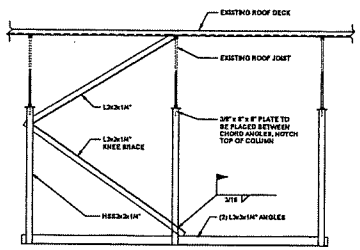
8 FLOOR MOUNTED HOSE REEL
SCALE: 1/2" = 1'-0"



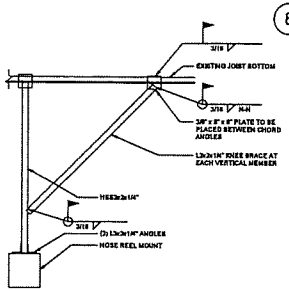
9 NEW TO FOUNDATION AT EXISTING
SCALE: 1/2" = 1'-0"

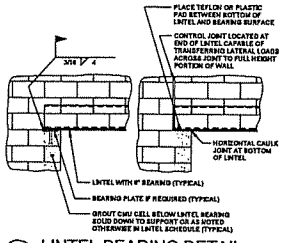


10 COLUMN MOUNTED HOSE REEL
SCALE: 3/4" = 1'-0"



11 CEILING MOUNTED HOSE REEL
SCALE: 3/4" = 1'-0"





12 LINTEL BEARING DETAIL
SCALE: 3/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

ONEIDA Total Integrated Enterprises
5100 Eastpark Blvd, Suite 200,
Madison, Wisconsin 53718

REVISION

SATELLITE BUS FACILITY REMODEL
4828-3901 HANSON ROAD
MADISON, WI 53704
CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703
PROJECT NUMBER 213410.00

ISSUED FOR:
PD 10/13/2023

REVISION FOR:
NO. DESCRIPTION DATE
1 Addendum #3 10/18/2023

DRAWN BY DJW
CHECKED BY JJH

STRUCTURAL DETAILS

S801

WATER SOFTENER SCHEDULE (EACH VESSEL)

TAG	LOCATION	MANUFACTURER	MODEL	TOTAL WATER HARDNESS GPG (GRAINS/GALLON)	NORMAL FLOW/PD (GPM/PSI)	MAXIMUM FLOW/PD (GPM/PSI)	EX. SETTING CU FT OF RESIN GRAINS/LBS	FLOW BETWEEN REGENERATIONS (GALLONS)	BACKWASH FLOW (GPM)	BACKWASH RESIN CU FT	NO. OF SOFTENERS	DIAMETER / HEIGHT	PIPE SIZE (INCHES)	BRINE MAKER NO.	BRINE MAKER SIZE	CAPACITY DRY SALT STORAGE LBS	WATER METER NO.	WATER METER SIZE
WS-1	MECH 185	HELLENBRAND	H151 HE-16	20	25/10	37/15	4800	4800	38.4	5	1	18"X65"	1-1/2"	1	24"X50"	749	1	1-1/2"
WS-2	FIRE PUMP 178	HELLENBRAND	ECOMAX-8	20	8.8/10	9/15	8200	1330	8	.75	1	8"X48"	1"	1	18"X40"	343	1	1"
WS-3	MECH/ELEC 211	HELLENBRAND	H125 HE-12	20	13.8/10	16/15	5700	2750	-	-	1	12"X53"	1-1/4"	1	18"X40"	343	1	1-1/4"

AIR COMPRESSOR SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	HP	SCFM	PSIG	MAX PSIG	RPM	EQUIPMENT VOLTAGE/HERTZ/PHASE	WEIGHT (LBS)	REMARKS
AC-1	COMPRESSOR 204	QUINCY	QS540	60	263	115	125	3530	480/60/3	2335.8	TOTAL OF TWO UNITS
AC-2	FLUIDS/COMP 177	QUINCY	QS540	60	263	115	125	3530	480/60/3	2335.8	TOTAL OF TWO UNITS

AIR DRYER SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	LOAD	SCFM	PSIG	MAX PSIG	RPM	EQUIPMENT VOLTAGE/HERTZ/PHASE	REMARKS
RAD-1	COMPRESSOR 204	QUINCY	QPVS-300	2.3 KW	297	100	210	VARIBLE	460/60/3	TOTAL OF TWO UNITS
RAD-2	FLUIDS/COMP 177	QUINCY	QPVS-300	2.3 KW	297	100	210	VARIBLE	460/60/3	TOTAL OF TWO UNITS

AIR STORAGE TANK SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	SERVICE	VOLUME (GALLONS)	DIAMETER (INCHES)	HEIGHT (INCHES)	INLET SIZE (INCHES)	OUTLET SIZE (INCHES)	AIR PRV CONNECTION (INCHES)	AIR PRES. CONNECTION (INCHES)	AIR OUTLET CONNECTION (INCHES)	DRAIN OUTLET (INCHES)	SENSOR PORT OUTLET (INCHES)	REMARKS
ART-1	COMPRESSOR 204	SAMMUEL	A10048	MAINTENANCE BUILDING	500	38	125	3	3	1	1/2	-	1	1/4	
ART-2	FLUIDS/COMP 177	SAMMUEL	A10048	BUS WASH SERVICES	500	38	125	3	3	1	1/2	-	1	1/4	

PUMP SCHEDULE (AIR POWERED)

TAG	LOCATION	MANUFACTURER	MODEL	SERVICE	FLOW (GPM)	HEAD (FT)	MOTOR (HP)	RPM	REMARKS
P-1	FLUIDS/COMP 177	GRAACO	SEE REMARKS	WASTE OIL	-	-	-	-	SELECTION BY LUBE SYSYTEM CONTRACTOR
P-2	FLUIDS/COMP 177	GRAACO	SEE REMARKS	WASTE COOLANT	-	-	-	-	SELECTION BY LUBE SYSYTEM CONTRACTOR
P-3	FLUIDS/COMP 177	GRAACO	SEE REMARKS	COOLANT	-	-	-	-	SELECTION BY LUBE SYSYTEM CONTRACTOR
P-4	FLUIDS/COMP 177	GRAACO	SEE REMARKS	ATF	-	-	-	-	SELECTION BY LUBE SYSYTEM CONTRACTOR
P-5	FLUIDS/COMP 177	GRAACO	SEE REMARKS	GEAR OIL	-	-	-	-	SELECTION BY LUBE SYSYTEM CONTRACTOR
P-6	FLUIDS/COMP 177	GRAACO	SEE REMARKS	ENGINE OIL	-	-	-	-	SELECTION BY LUBE SYSYTEM CONTRACTOR
P-7	WASH EQ 210	GRAACO	SEE REMARKS	ENGINE OIL	-	-	-	-	SELECTION BY LUBE SYSYTEM CONTRACTOR
P-8	WASH EQ 210	GRAACO	SEE REMARKS	ATF	-	-	-	-	SELECTION BY LUBE SYSYTEM CONTRACTOR
P-9	WASH EQ 210	GRAACO	SEE REMARKS	DEF	-	-	-	-	SELECTION BY LUBE SYSYTEM CONTRACTOR
P-10	WASH EQ 210	GRAACO	SEE REMARKS	COOLANT	-	-	-	-	SELECTION BY LUBE SYSYTEM CONTRACTOR
P-11	WASH EQ 210	GRAACO	SEE REMARKS	WASHER FLUID	-	-	-	-	SELECTION BY LUBE SYSYTEM CONTRACTOR

ELECTRIC WATER HEATER SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	TOTAL VOLUME (GALLONS)	INPUT (KW)	RECOVERY (GPH)	TEMPERATURE RISE (F)	EQUIPMENT VOLTAGE/HERTZ/PHASE	REMARKS
EWH-1	MECH 185	AO SMITH	CAHP 120	119	9@208V	HYBRID: 80	100	208/60/1	SET WATER HEATER TEMPERATURE AT 125°F
EWH-2	FIRE PUMP 178	AO SMITH	HPTU-66CTA	66	6@208V	HYBRID: 38	100	208/60/1	SET WATER HEATER TEMPERATURE AT 125°F
EWH-3	MECH/ELEC 211	AO SMITH	CAHP 120	119	9@208V	HYBRID: 80	100	208/60/1	SET WATER HEATER TEMPERATURE AT 125°F

INLINE PUMP SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	SERVICE	FLOW (GPM)	HEAD (FT)	MOTOR (WATTS)	RPM	EQUIPMENT VOLTAGE/HERTZ/PHASE	REMARKS
CP-1	MECH 185	BELL & GOSSETT	NBF-10S/LW	HWR	3	7.5	85 WATTS	2800	120/60/1	PROVIDE AQUASTAT
CP-2	FIRE PUMP 178	BELL & GOSSETT	NBF-8S/LW	HWR	1	3	38 WATTS	2800	120/60/1	PROVIDE AQUASTAT
CP-3	MECH/ELEC 211	BELL & GOSSETT	NBF-36	HWR	4.5	27	270 WATTS	3300	120/60/1	PROVIDE AQUASTAT, SET AT SPEED 3

PLUMBING MOTOR LOAD COORDINATION SCHEDULE - REFERENCE ONLY

TAG	EQUIPMENT DESCRIPTION	LOCATION	POWER DATA: LOAD	POWER DATA: EQUIPMENT VOLTAGE/HERTZ/PHASE	EMERG. POWER	DISCONNECT: FURNISH BY	DISCONNECT: INSTALL BY	WIRED BY	REMARKS
AC-1	AIR COMPRESSOR	COMPRESSOR 204	60	480/60/3	NO	DIV 26	DIV 26	DIV 26	HARD WIRED (TOTAL OF 2 UNITS)
AC-2	AIR COMPRESSOR	FLUIDS/COMP 177	60	480/60/3	NO	DIV 26	DIV 26	DIV 26	HARD WIRED (TOTAL OF 2 UNITS)
CP-1	CIRCULATION PUMP	MECH 185	85 WATTS	120/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
CP-2	CIRCULATION PUMP	FIRE PUMP 178	38 WATTS	120/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
CP-3	CIRCULATION PUMP	MECH/ELEC 211	270 WATTS	120/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
EWH-1	ELECTRIC WATER HEATER	MECH 185	9 KW	208/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
EWH-2	ELECTRIC WATER HEATER	FIRE PUMP 178	6 KW	208/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
EWH-3	ELECTRIC WATER HEATER	MECH/ELEC 211	9 KW	208/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
RAD-1	REFRIGERANT AIR DRYER	COMPRESSOR 204	2.3 KW	480/60/3	NO	DIV 26	DIV 26	DIV 26	HARD WIRED (TOTAL OF 2 UNITS)
RAD-2	REFRIGERANT AIR DRYER	FLUIDS/COMP 177	2.3 KW	460/60/3	NO	DIV 26	DIV 26	DIV 26	HARD WIRED (TOTAL OF 2 UNITS)
WS-1	WATER SOFTNER	MECH 185	-	120/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG IN
WS-2	WATER SOFTNER	FIRE PUMP 178	-	120/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG IN
WS-3	WATER SOFTNER	MECH/ELEC 211	-	120/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG IN

PLUMBING FIXTURE LOAD COORDINATION SCHEDULE - REFERENCE ONLY

TAG	COUNT	FIXTURE TYPE	LOCATION	POWER DATA: LOAD	POWER DATA: EQUIPMENT VOLTAGE/HERTZ/PHASE	EMERG. POWER	DISCONNECT: FURNISH BY	DISCONNECT: INSTALL BY	WIRED BY	REMARKS
EWC-1	3	ELECTRIC WATER COOLER	VARIES	370 WATTS	115/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG-IN
EWC-2	1	ELECTRIC WATER COOLER	CORR 289	370 WATTS	115/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG-IN
S-1	4	SINK W/DISPOSER	VARIES BREAKROOM	1 HP	115/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG PROVIDED BY PC; EC TO PROVIDE GFCI OUTLET UNDER COUNTER AND HARD WIRE TO WALL SWITCH.

REDUCED PRESSURE BACKFLOW PREVENTOR SCHEDULE

TAG	SIZE	MANUFACTURER	MODEL	LOCATION	SERVICE	EQUIPMENT SYMBOL	EQUIPMENT SERVED	REMARKS
RPBP-1	3"	WILKINS	375 FSCAG	MECH/ELEC 211	HOSE REELS	RPBP	HOSE REELS	
RPBP-2	3"	WILKINS	375 FSCAG	WASH EQ 210	BUS WASH EQUIPMENT	RPBP	BUS WASH EQUIPMENT	
RPBP-3	3"	WILKINS	375 FSCAG	COMPRESSOR 204	HOSE REELS	RPBP	HOSE REELS	
RPBP-4	3"	WILKINS	375 FSCAG	MAINTENANCE 176	HOSE REELS	RPBP	HOSE REELS	
RPBP-5	1 1/4"	WILKINS	975 XL-SCAG	WASH EQ 210	HOTSYS	RPBP	HOTSYS	

Table 302.40-5 - May 2018

MAXIMUM ALLOWABLE LOAD FOR COPPER TUBE - TYPE L, ASTM B88 (C=150)

PRESSURE LOSS DUE TO FRICTION (PSI/LB PER 100 FT OF LENGTH)	1/2" GPM	1/2" WSFU FM	1/2" WSFU FT	3/4" GPM	3/4" WSFU FM	3/4" WSFU FT	1" GPM	1" WSFU FM	1" WSFU FT	1-1/4" GPM	1-1/4" WSFU FM	1-1/4" WSFU FT	1-1/2" GPM	1-1/2" WSFU FM	1-1/2" WSFU FT	2" GPM	2" WSFU FM	2" WSFU FT	2-1/2" GPM	2-1/2" WSFU FM	2-1/2" WSFU FT	3" GPM	3" WSFU FM	3" WSFU FT	4" GPM	4" WSFU FM	4" WSFU FT
1/2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1–20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

NOTES

[illegible]

WATER CALCULATION WORKSHEET (CW)

MAINTENANCE BUILDING 3829

INFORMATION REQUIRED TO CALCULATE WATER SERVICE SIZE

1. DEMAND OF BUILDING IN GALLONS PER MINUTE. — WSFU'S 188 =(GPM) 82
2. DIFFERENCE IN ELEVATION FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE — (FEET) 8
3. SIZE OF WATER METER — (INCHES) 2
4. DEVELOPED LENGTH FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE — (FEET) 420
5. LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK — (PSI) 82

CALCULATE WATER SERVICE PRESSURE LOSS

6. LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK, (VALUE OF # 5 ABOVE) — 82
7. DETERMINE PRESSURE LOSS DUE TO FRICTION IN 6 INCH DIAMETER WATER SERVICE. WATER SERVICE MATERIAL DUCTILE IRON — SUBTRACT VALUE OF "7" 1; SUBTOTAL 81
8. DETERMINE PRESSURE LOSS DUE TO ELEVATION, (MULTIPLY THE VALUE OF #2 ABOVE BY .434) — SUBTRACT VALUE OF "8" 3.5
9. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE, (ENTER IN "B" BELOW) — SUBTOTAL 77.5

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

B. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE, (FROM "9" ABOVE) — VALUE OF "B" 77.5
C. PRESSURE LOSS OF WATER METER (WHEN METER IS REQUIRED) — SUBTRACT VALUE OF "C" 3; SUBTOTAL 74.5
D. (PRESSURE INCREASE DUE TO -) — ADD VALUE OF "D" 0; SUBTOTAL 74.5
E. PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS AND BACKFLOW PREVENTERS WHICH SERVE THE CONTROLLING FIXTURE. (PRESSURE LOSS DUE TO TMV) — SUBTRACT VALUE OF "E" 10; SUBTOTAL 64.5
F. DIFFERENCE IN ELEVATION BETWEEN THE BUILDING CONTROL VALVE AND THE CONTROLLING FIXTURE IN FEET 2 X .434 PSI/FT — SUBTRACT VALUE OF "F" 1; SUBTOTAL 63.5
G. PRESSURE AT CONTROLLING FIXTURE, (CONTROLLING FIXTURE IS EEW ROOM 140 — (SUBTRACT VALUE OF "G") 30; SUBTOTAL 33.5
H. DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET 300 X 1.5 — DIVIDE BY VALUE OF "H" 450
WATER DISTRIBUTION MATERIAL TYPE L COPPER — SUBTOTAL 0.074; MULTIPLY BY 100
A. PRESSURE AVAILABLE FOR UNIFORM LOSS — "A" = 7.4

WATER CALCULATION WORKSHEET (HW)

MAINTENANCE BUILDING 3829

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

B. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE, (FROM "9" ABOVE) — VALUE OF "B" 77.5
C. PRESSURE LOSS OF WATER METER (WHEN METER IS REQUIRED) — SUBTRACT VALUE OF "C" 3; SUBTOTAL 74.5
D. (PRESSURE INCREASE DUE TO -) — ADD VALUE OF "D" 0; SUBTOTAL 74.5
E. PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS AND BACKFLOW PREVENTERS WHICH SERVE THE CONTROLLING FIXTURE. (PRESSURE LOSS DUE TO SOFTENER AND TMV — SUBTRACT VALUE OF "E" 15; SUBTOTAL 59.5
F. DIFFERENCE IN ELEVATION BETWEEN THE BUILDING CONTROL VALVE AND THE CONTROLLING FIXTURE IN FEET 2 X .434 PSI/FT — SUBTRACT VALUE OF "F" 1; SUBTOTAL 58.5
G. PRESSURE AT CONTROLLING FIXTURE, (CONTROLLING FIXTURE IS EEW RM 140 — (SUBTRACT VALUE OF "G") 30; SUBTOTAL 28.5
H. DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET 360 X 1.5 — DIVIDE BY VALUE OF "H" 540
WATER DISTRIBUTION MATERIAL TYPE L COPPER — SUBTOTAL 0.053; MULTIPLY BY 100
A. PRESSURE AVAILABLE FOR UNIFORM LOSS — "A" = 5.3

WATER CALCULATION WORKSHEET (CW)

MAINTENANCE BUILDING 3901

INFORMATION REQUIRED TO CALCULATE WATER SERVICE SIZE

1. DEMAND OF BUILDING IN GALLONS PER MINUTE. — WSFU'S 385 =(GPM) 124
2. DIFFERENCE IN ELEVATION FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE — (FEET) 8
3. SIZE OF WATER METER — (INCHES) 3
4. DEVELOPED LENGTH FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE — (FEET) 280
5. LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK — (PSI) 82

CALCULATE WATER SERVICE PRESSURE LOSS

6. LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK, (VALUE OF # 5 ABOVE) — 82
7. DETERMINE PRESSURE LOSS DUE TO FRICTION IN 6 INCH DIAMETER WATER SERVICE. WATER SERVICE MATERIAL DUCTILE IRON — SUBTRACT VALUE OF "7" 1; SUBTOTAL 81
8. DETERMINE PRESSURE LOSS DUE TO ELEVATION, (MULTIPLY THE VALUE OF #2 ABOVE BY .434) — SUBTRACT VALUE OF "8" 3.5
9. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE. (ENTER IN "B" BELOW) — SUBTOTAL 77.5

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

B. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE. (FROM "9" ABOVE) — VALUE OF "B" 77.5
C. PRESSURE LOSS OF WATER METER (WHEN METER IS REQUIRED) — SUBTRACT VALUE OF "C" 4; SUBTOTAL 73.5
D. (PRESSURE INCREASE DUE TO -) — ADD VALUE OF "D" -; SUBTOTAL 73.5
E. PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS AND BACKFLOW PREVENTERS WHICH SERVE THE CONTROLLING FIXTURE. (PRESSURE LOSS DUE TO RPBP — SUBTRACT VALUE OF "E" 12; SUBTOTAL 61.5
F. DIFFERENCE IN ELEVATION BETWEEN THE BUILDING CONTROL VALVE AND THE CONTROLLING FIXTURE IN FEET 19 X .434 PSI/FT — SUBTRACT VALUE OF "F" 8; SUBTOTAL 54.5
G. PRESSURE AT CONTROLLING FIXTURE. CONTROLLING FIXTURE IS WASH EQUIPMENT — (SUBTRACT VALUE OF "G") 30; SUBTOTAL 24.5
H. DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET 312 X 1.5 — DIVIDE BY VALUE OF "H" 468
WATER DISTRIBUTION MATERIAL TYPE L COPPER — SUBTOTAL 0.057; MULTIPLY BY 100
A. PRESSURE AVAILABLE FOR UNIFORM LOSS — "A" = 5.7

WATER CALCULATION WORKSHEET (HW)

MAINTENANCE BUILDING 3901

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

B. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE, (FROM "9" ABOVE) — VALUE OF "B" 77.5
C. PRESSURE LOSS OF WATER METER (WHEN METER IS REQUIRED) — SUBTRACT VALUE OF "C" 4; SUBTOTAL 73.5
D. (PRESSURE INCREASE DUE TO -) — ADD VALUE OF "D" -; SUBTOTAL 73.5
E. PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS AND BACKFLOW PREVENTERS WHICH SERVE THE CONTROLLING FIXTURE. (PRESSURE LOSS DUE TO SOFTENER — SUBTRACT VALUE OF "E" 10; SUBTOTAL 63.5
F. DIFFERENCE IN ELEVATION BETWEEN THE BUILDING CONTROL VALVE AND THE CONTROLLING FIXTURE IN FEET 2 X .434 PSI/FT — SUBTRACT VALUE OF "F" 1; SUBTOTAL 62.5
G. PRESSURE AT CONTROLLING FIXTURE, (CONTROLLING FIXTURE IS LAV ROOM 204 — (SUBTRACT VALUE OF "G") 8; SUBTOTAL 54.5
H. DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET 640 X 1.5 — DIVIDE BY VALUE OF "H" 960
WATER DISTRIBUTION MATERIAL TYPE L COPPER — SUBTOTAL 0.057; MULTIPLY BY 100
A. PRESSURE AVAILABLE FOR UNIFORM LOSS — "A" = 5.7

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

REVISED

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
1	Addendum 3	10/19/23

DRAWN BY Author
CHECKED BY Checker

SCHEDULES

P001

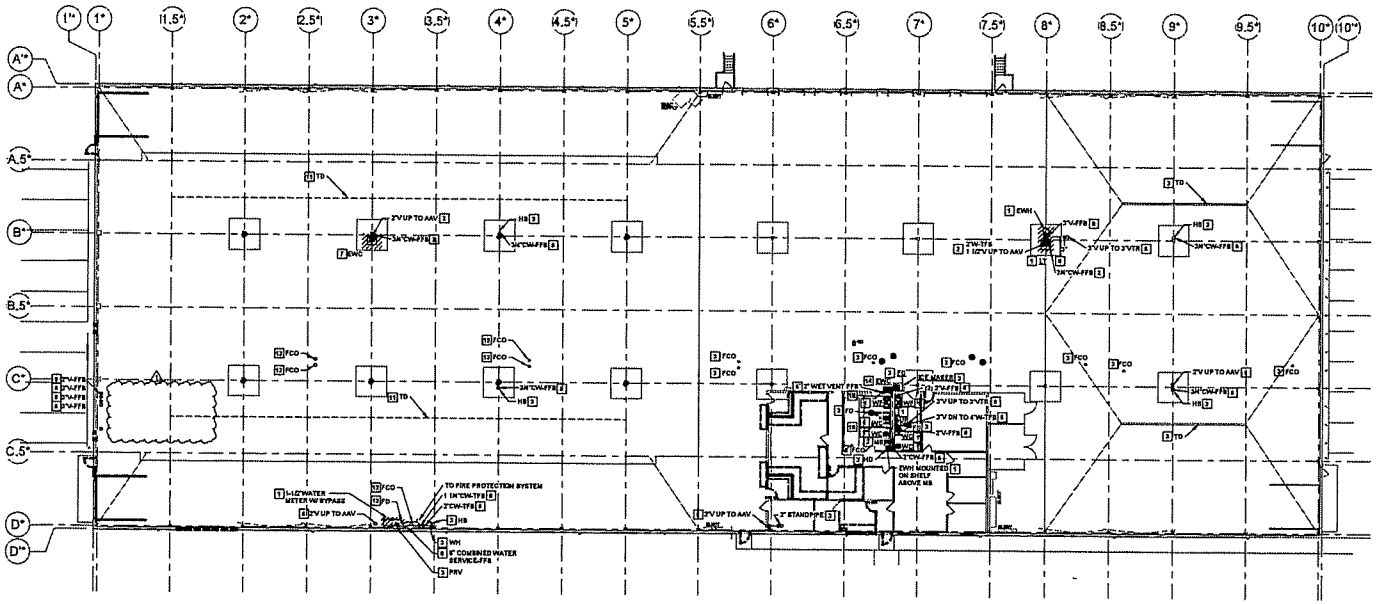
DEMO KEY NOTES:

(USED ON A COMPONENTS LIST OF DEMOLITION PLANS BUT NOT ALL MAY BE APPLICABLE TO THIS SHEET.)

1. REMOVE FIXTURES, EQUIPMENT AND PIPING COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILING AND WALLS TO MATCH.
2. REMOVE PIPING COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILING AND WALLS TO MATCH.
3. PIPING, FIXTURE & EQUIPMENT TO REMAIN AS IS.
4. CAP PIPING
5. REMOVE PIPING UP TO FIXTURES COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILINGS & WALLS TO MATCH.
6. PIPING TO REMAIN.
7. REMOVE FIXTURES AND PIPING COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILINGS & WALLS TO MATCH.
8. ABANDON PIPING IN PLACE.
9. SAW CUTTING, REMOVAL & PATCHING OF FLOOR BY GPC. PC TO EXCAVATE AND BACKFILL FOR REMOVAL, REPLACEMENT AND/OR INSTALLATION OF NEW UNDERGROUND PIPING. PC TO COORDINATE CUTTING AND PATCHING WITH GPC IN FIELD.
10. REMOVE EXISTING PIPING WITHIN CHASE FOR NEW PLUMBING FIXTURES.
11. TRENCH DRAIN TO BE REMOVED BY GPC.
12. REMOVE FIXTURE AND REINSTALL NEW WITHIN NEW FLOOR AND/OR RAISED CURB AREA.
13. ESTIMATED ROUTE OF UNDER FLOOR STORM PIPING.
14. REMOVE EXISTING EWC. EXISTING PIPING TO REMAIN TO BE REUSED FOR NEW EWC INSTALLATION.

DEMO GENERAL NOTES:

1. ALL PLUMBING PIPE RELATED CUTTING, PATCHING AND/OR REMOVAL AND REPLACEMENT OF EXISTING WALLS, FLOORS & CEILINGS SHALL BE BY P.C. EXCEPT WHEN NEW WALLS & CEILING ARE TO BE INSTALLED IN WHICH CASE GPC SHALL BE RESPONSIBLE FOR INSTALLING NEW SURFACES ON FLOORS, WALLS & CEILING.
2. WHEN REMOVING PIPING, FIXTURES AND EQUIPMENT FROM EACH AREA OF CONSTRUCTION, ALL OTHER SYSTEMS IN THE BUILDING MUST REMAIN OPERATIONAL WHILE EACH AREA IS UNDER CONSTRUCTION, UNLESS VERIFIED OTHERWISE.
3. ALL EXISTING PIPE SIZES SHALL BE VERIFIED.
4. PATCH ALL HOLES THROUGH FLOORS WITH NON-SHRINK GROUT.



1 FIRST FLOOR PLUMBING PLAN - 3829 DEMOLITION

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

BID SET	8/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
1	Addendum 3	10/19/23

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FIRST FLOOR PLAN
MAINTENANCE BUILDING
PLUMBING DEMOLITION

PD100

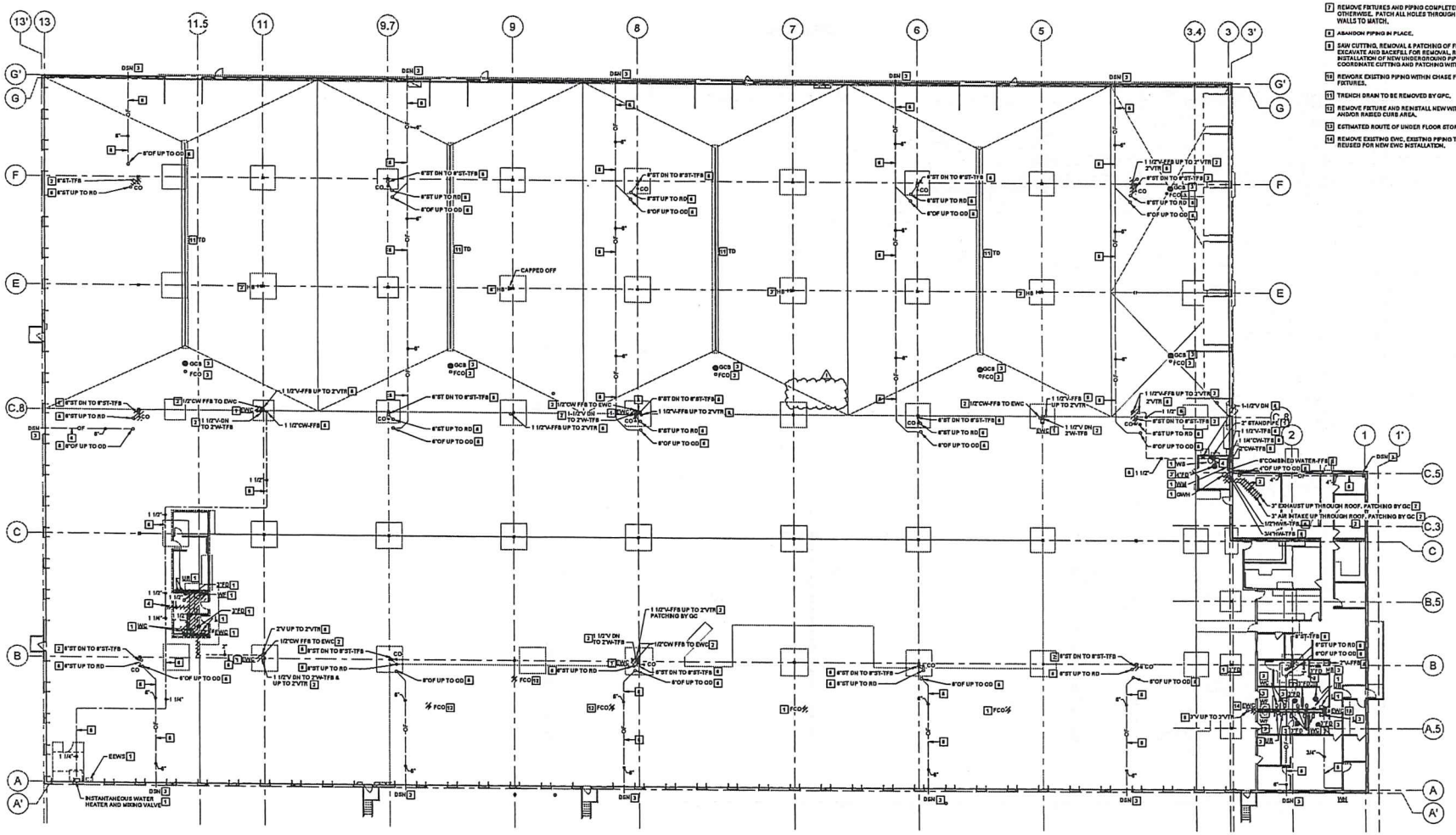
DEMO GENERAL NOTES:

1. ALL PLUMBING PIPE RELATED CUTTING, PATCHING AND/OR REMOVAL AND REPLACEMENT OF EXISTING WALLS, FLOORS & CEILINGS SHALL BE BY P.C. EXCEPT WHEN NEW WALLS & CEILING ARE TO BE INSTALLED IN WHICH CASE GPC SHALL BE RESPONSIBLE FOR INSTALLING NEW SURFACES ON FLOORS, WALLS & CEILING.
2. WHEN REMOVING PIPING, FIXTURES AND EQUIPMENT FROM EACH AREA OF CONSTRUCTION, ALL OTHER SYSTEMS IN THE BUILDING MUST REMAIN OPERATIONAL WHILE EACH AREA IS UNDER CONSTRUCTION, UNLESS VERIFIED OTHERWISE.
3. ALL EXISTING PIPE SIZES SHALL BE VERIFIED.
4. PATCH ALL HOLES THROUGH FLOORS WITH NON-SHRINK GROUT.

DEMO KEY NOTES:

(TYP) IS A COMPOSITE LIST OF DEMOLITION NOTES. NOT ALL PENTING SPE CIFICALLY TO THIS SHEET.)

1. REMOVE FIXTURES, EQUIPMENT AND PIPING COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILING AND WALLS TO MATCH.
2. REMOVE PIPING COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILING AND WALLS TO MATCH.
3. PIPING, FIXTURE & EQUIPMENT TO REMAIN AS IS.
4. CAP PIPING
5. REMOVE PIPING UP TO FIXTURES COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILINGS & WALLS TO MATCH.
6. PIPING TO REMAIN.
7. REMOVE FIXTURES AND PIPING COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILINGS & WALLS TO MATCH.
8. ABANDON PIPING IN PLACE.
9. SAW CUTTING, REMOVAL & PATCHING OF FLOOR BY GPC. PC TO EXCAVATE AND BACKFILL FOR REMOVAL, REPLACEMENT AND/OR INSTALLATION OF NEW UNDERGROUND PIPING. PC TO COORDINATE CUTTING AND PATCHING WITH GPC IN FIELD.
10. REWORK EXISTING PIPING WITHIN CHASE FOR NEW PLUMBING FIXTURES.
11. TRENCH DRAIN TO BE REMOVED BY GPC.
12. REMOVE FIXTURE AND REINSTALL NEW WITHIN NEW FLOOR AND/OR RAISED CURB AREA.
13. ESTIMATED ROUTE OF UNDER FLOOR STORM PIPING.
14. REMOVE EXISTING EWC. EXISTING PIPING TO REMAIN TO BE REUSED FOR NEW EWC INSTALLATION.



1 FIRST FLOOR PLUMBING PLAN - 3901 DEMOLITION

0' 4' 8' 16' 24'

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

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DRAWN BY Author

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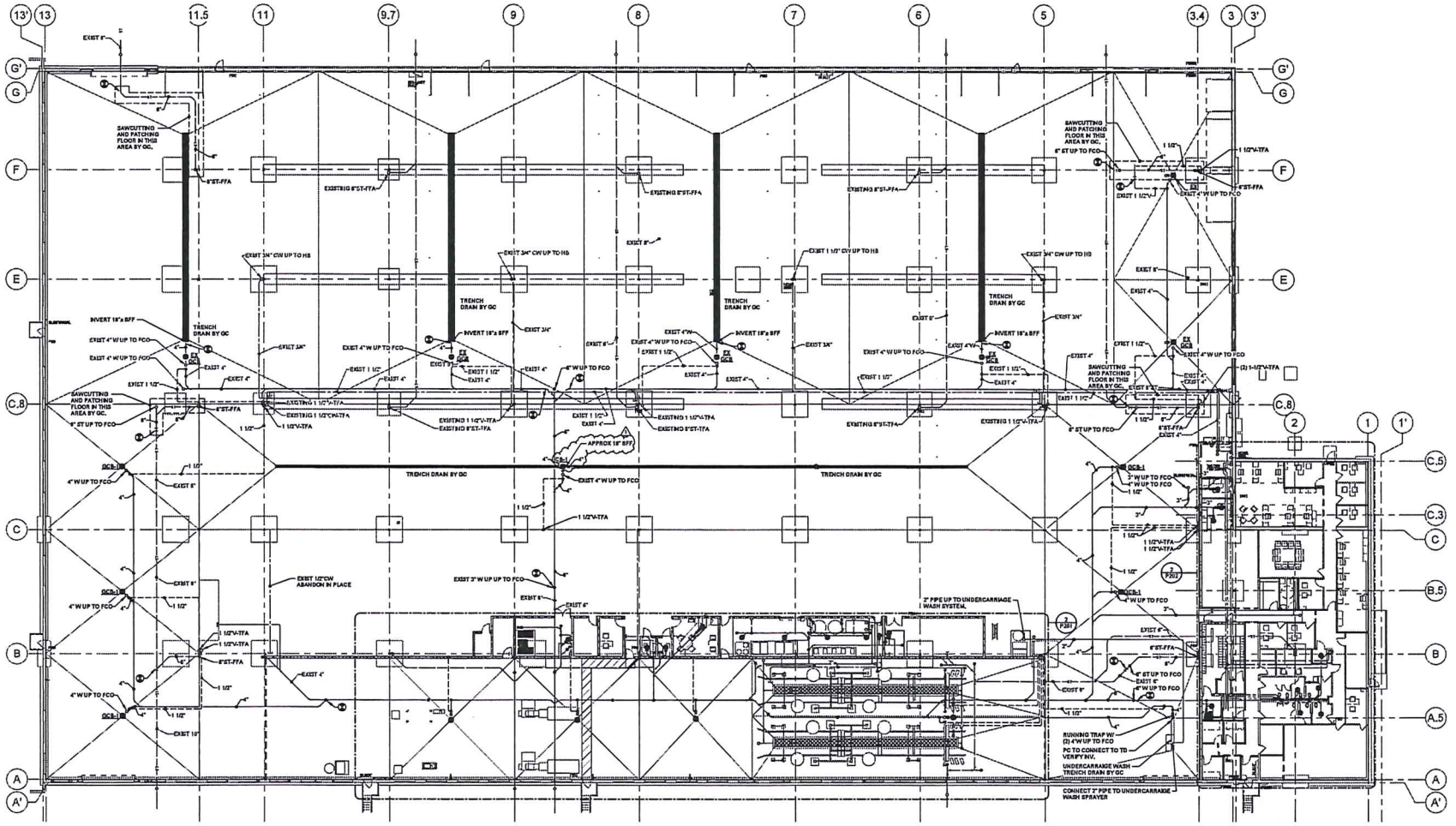
FIRST FLOOR PLAN
STORAGE BUILDING
PLUMBING DEMOLITION

PD101



1 UNDERFLOOR PLUMBING PLAN - 3901

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THUNDERBIRD ENGINEERING INC

REVISION

SATELLITE BUS FACILITY REMODEL

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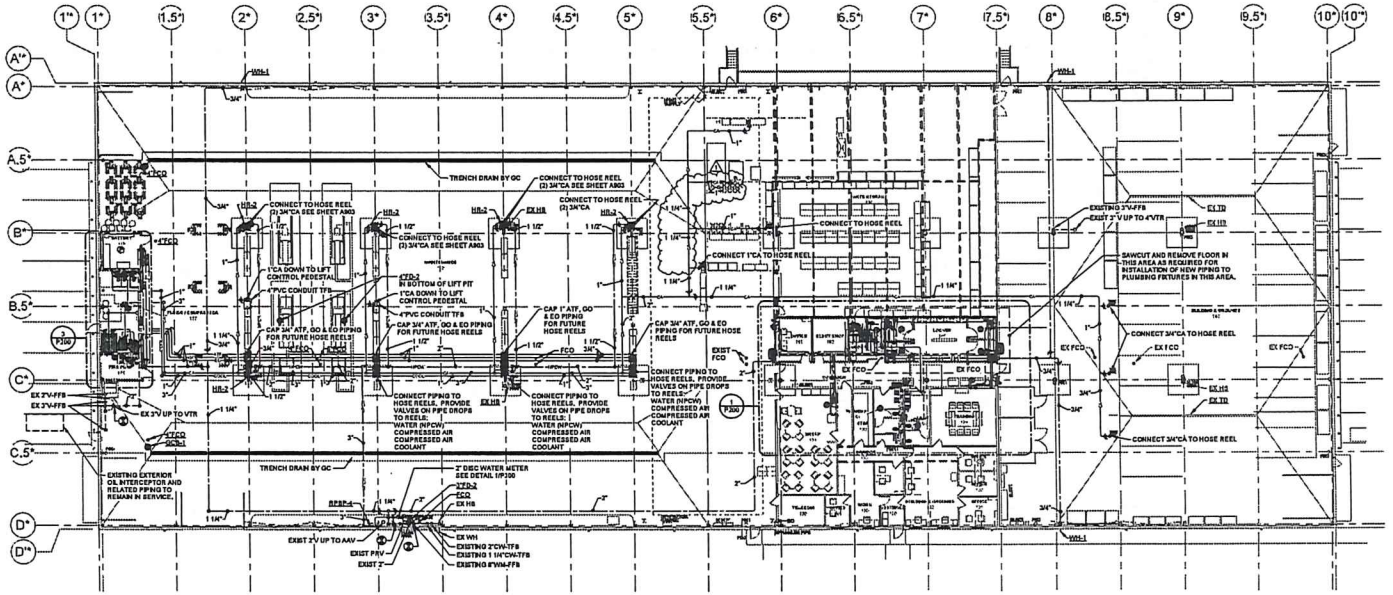
UNDERFLOOR PLAN
STORAGE BUILDING
PLUMBING

P099



1 FIRST FLOOR PLUMBING PLAN - 3829

0' 4' 8' 16' 32'

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

MILWAUKEE MADISON

Revision

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
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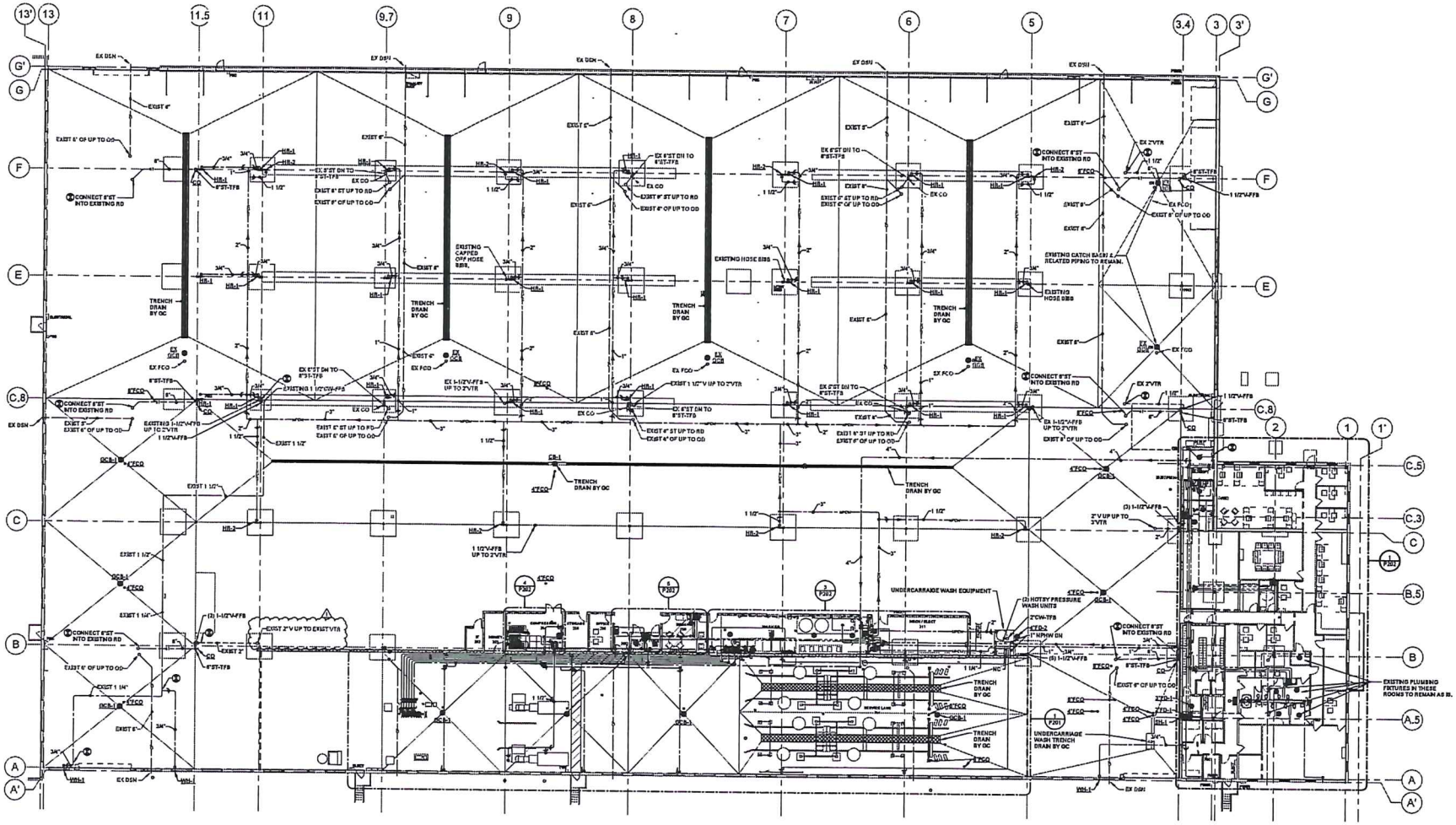
FIRST FLOOR PLAN
MAINTENANCE BUILDING
PLUMBING

P100



1 FIRST FLOOR PLUMBING PLAN - 3901

0' 4' 8' 16' 24'

Engberg Anderson ARCHITECTS

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REVISION

THUNDERBIRD ENGINEERING INC

MADISON MILWAUKEE

SATELLITE BUS FACILITY REMODEL

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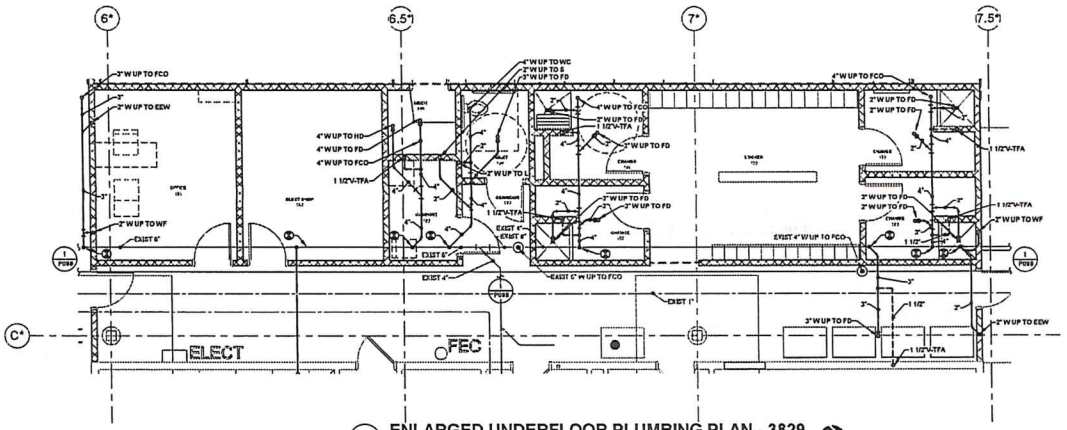
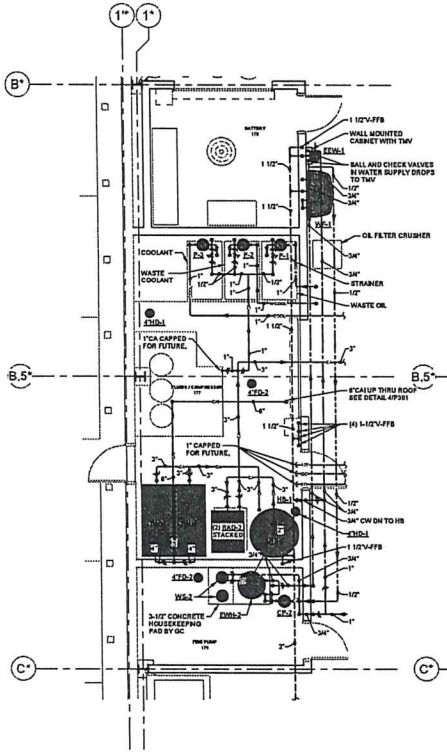
FIRST FLOOR PLAN
STORAGE BUILDING
PLUMBING

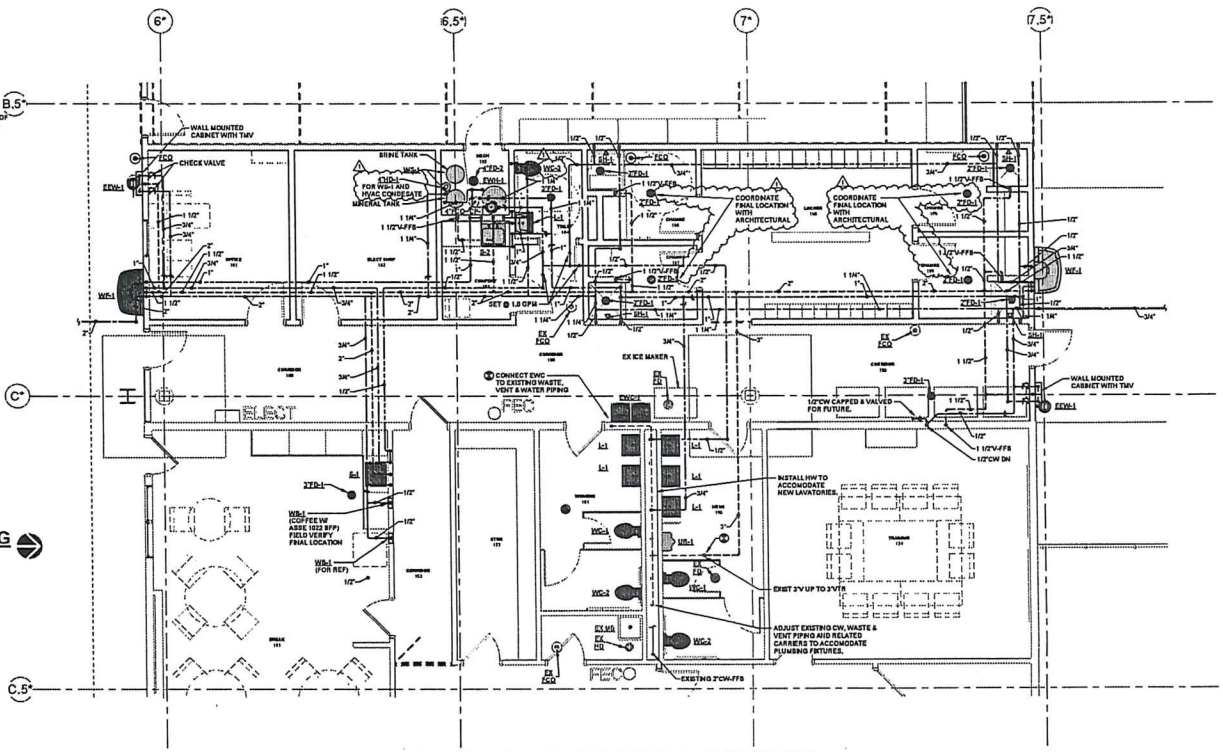
P101



2 ENLARGED UNDERFLOOR PLUMBING PLAN - 3829



3 ENLARGED MAINTENANCE WORK - 3829 PLUMBING



1 ENLARGED MAINTENANCE - 3829 PLUMBING

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THUNDERBIRD ENGINEERING INC

REVISION

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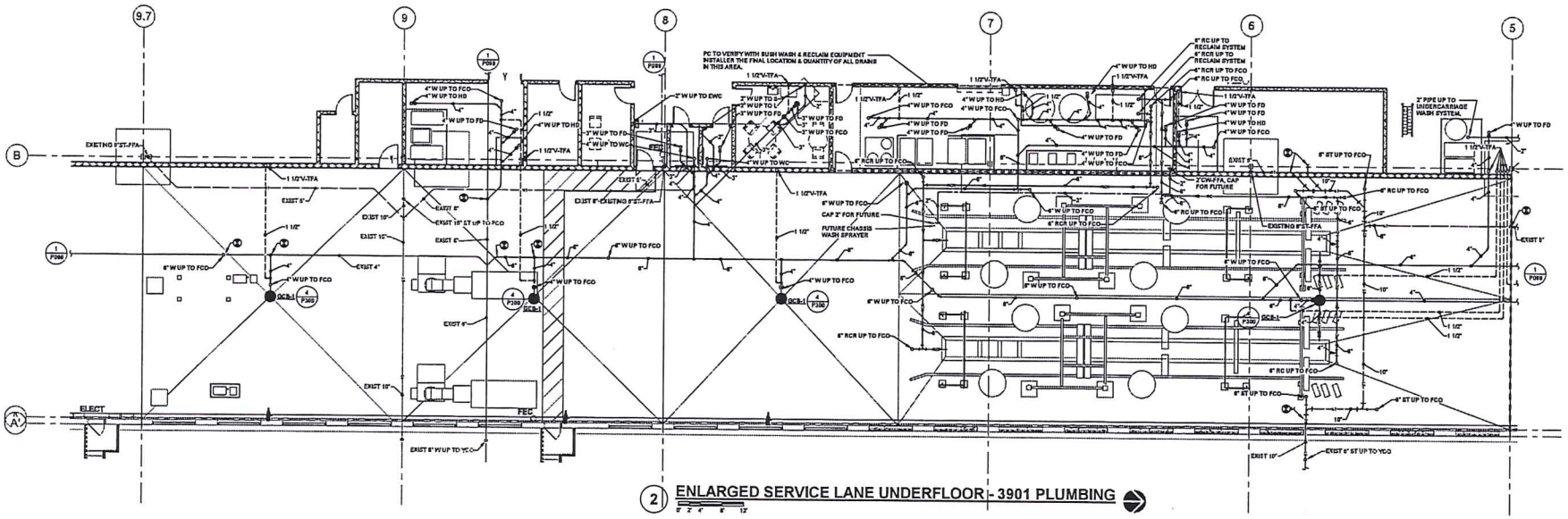
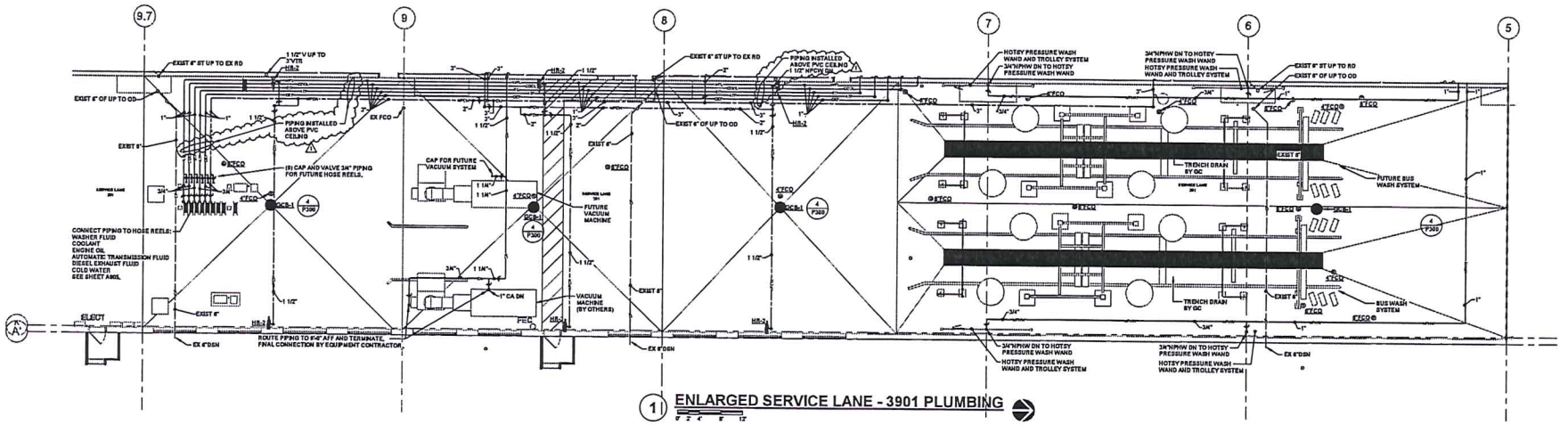
ENLARGED PLANS MAINTENANCE BUILDING PLUMBING

P200



2 ENLARGED SERVICE LANE UNDERFLOOR - 3901 PLUMBING



1 ENLARGED SERVICE LANE - 3901 PLUMBING

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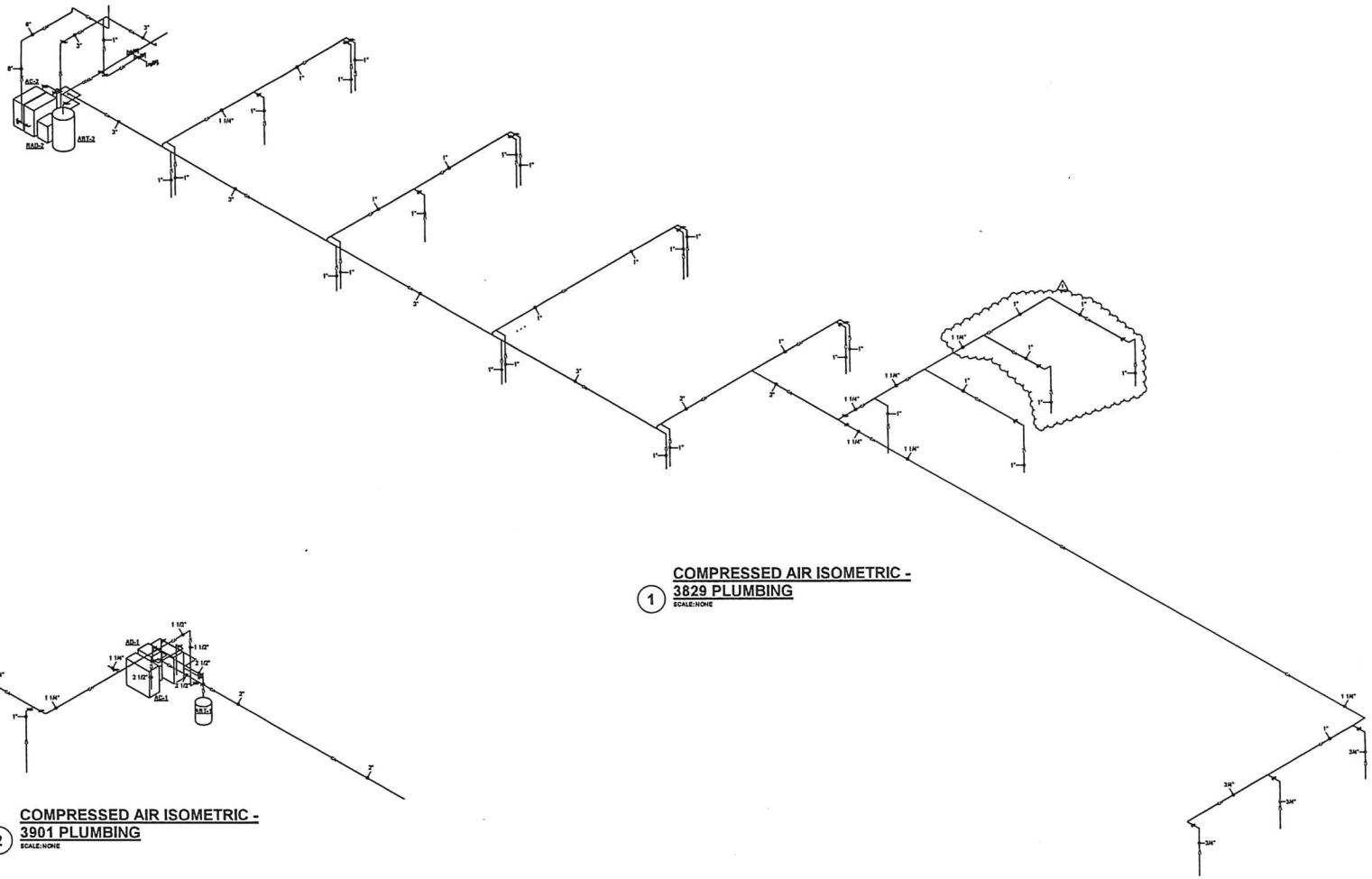
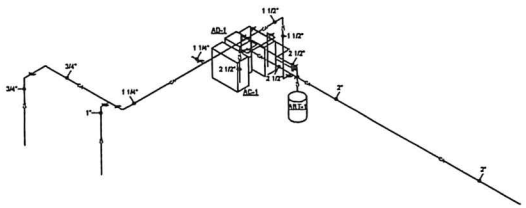
ENLARGED PLANS
STORAGE BUILDING
PLUMBING

P201



COMPRESSED AIR ISOMETRIC - 3829 PLUMBING
1 SCALE: NONE



COMPRESSED AIR ISOMETRIC - 3901 PLUMBING
2 SCALE: NONE

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THUNDERBIRD ENGINEERING INC

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SATELLITE BUS FACILITY REMODEL

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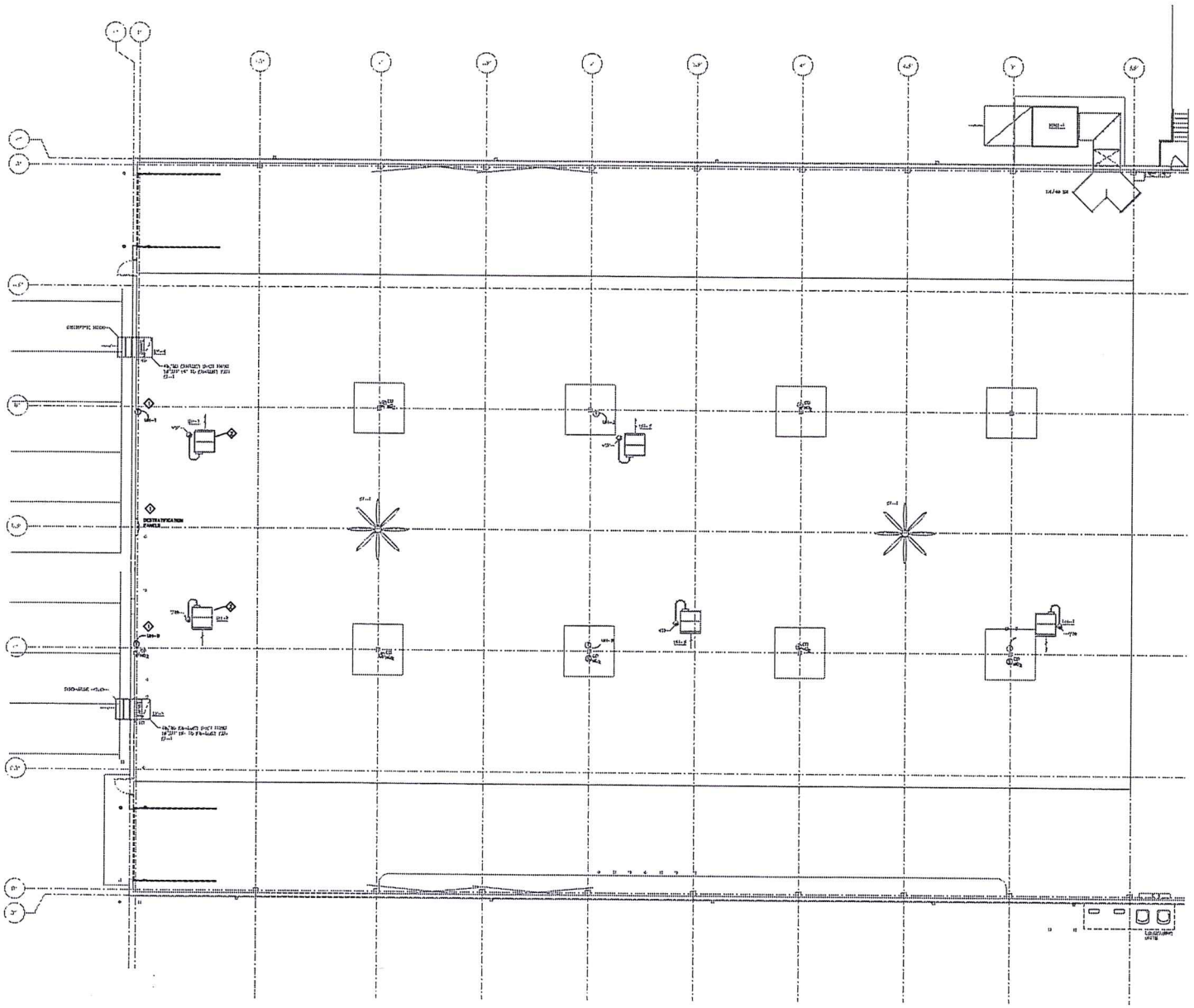
COMPRESSED AIR & SPECIALTY FLUIDS ISOMETRICS - PLUMBING

P502



① MECHANICAL DEMO PLAN - MAINTENANCE BUILDING
1/8" = 1'-0"

HVAC GENERAL NOTES:

1. HVAC CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS. THE HVAC DRAWINGS ARE INTENDED TO BE AN EXPRESSION OF THE DESIGN INTENT AND NOT ALL INCLUSIVE OF HVAC WORK REQUIRED.
2. COORDINATE AND SCHEDULE ALL HVAC WORK WITH THE OWNER'S GENERAL CONTRACTOR AND OWNER PRIOR TO STARTING WORK.

HVAC PLAN NOTES:

1. REMOVE EQUIPMENT FOR RE-USE/RELOCATION.
2. RELOCATE NORTH TO AVOID AIRFLOW DISRUPTION PATTERN FROM NEW CONSTRUCTION (APPROX. 3FT), FIELD VERIFY.

Engberg Anderson ARCHITECTS

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REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
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CITY OF MADISON
METRO TRANSIT
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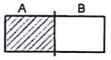
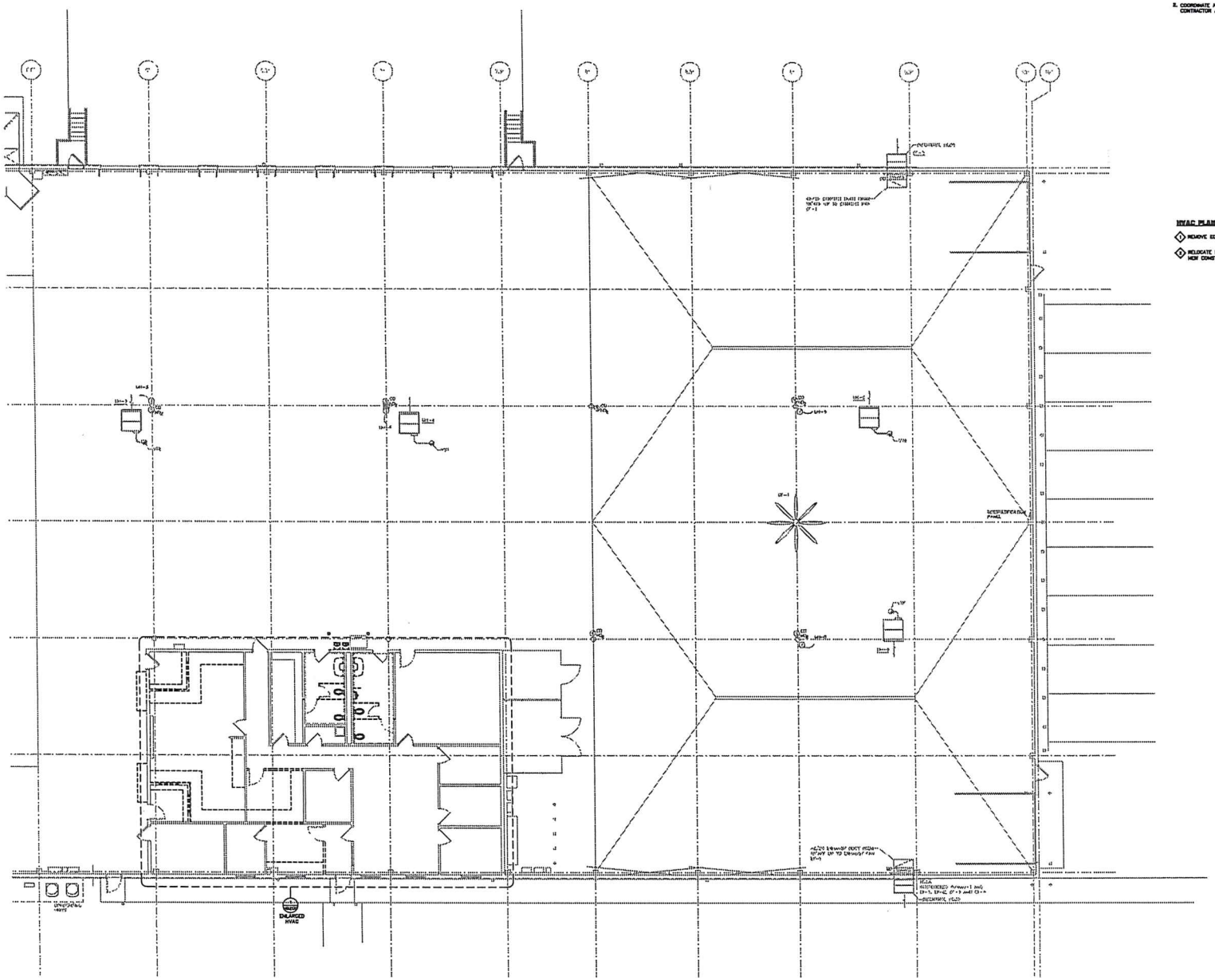
MECHANICAL DEMO PLAN - MAINTENANCE BUILDING



KEYPLAN

HD100A



① MECHANICAL DEMO PLAN - MAINTENANCE BUILDING
1/8" = 1'-0"

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Engberg Anderson ARCHITECTS

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REVISION

SATELLITE BUS FACILITY REMODEL

3929-3901 HANSON ROAD
MADISON, WI 53704

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MECHANICAL DEMO PLAN - MAINTENANCE BUILDING

KEYPLAN

A B

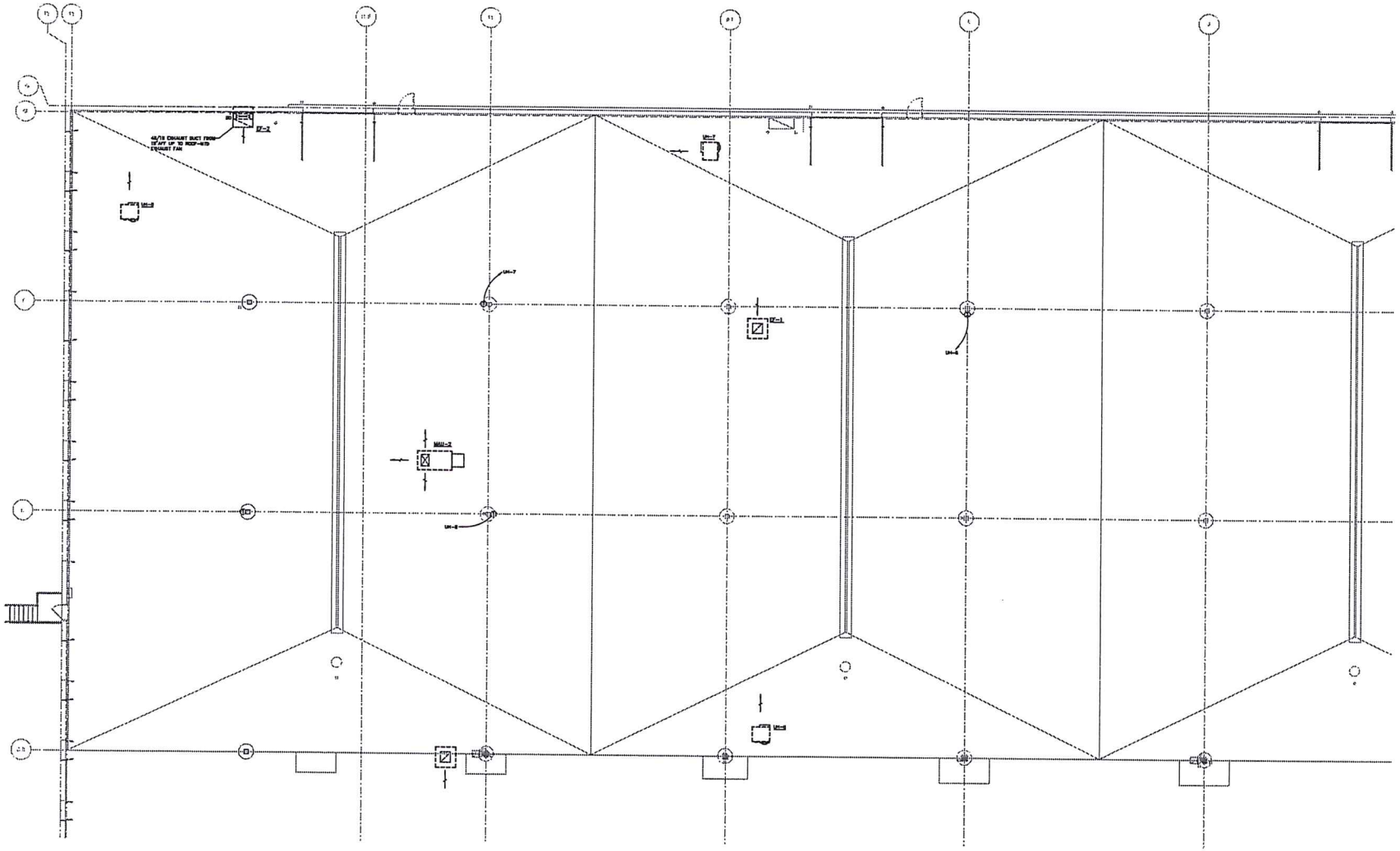
HD100B

HVAC GENERAL NOTES:

1. HVAC CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS. THE HVAC DRAWINGS ARE INTENDED TO BE AN EXPRESSION OF THE DESIGN INTENT AND MAY NOT ALL INCLUSIVE OF HVAC WORK REQUIRED.
2. COORDINATE AND SCHEDULE ALL HVAC WORK WITH THE OWNER'S GENERAL CONTRACTOR AND OWNER PRIOR TO STARTING WORK.
3. COORDINATE ALL HVAC WORK WITH OTHER TRADES.

HVAC PLAN NOTES:

◇ DISCONNECT AND REMOVE EXISTING EQUIPMENT, INCLUDING CONTROLS AND RELATED.



1 MECHANICAL DEMO PLAN - STORAGE BUILDING
1/8" = 1'-0"

N

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REVISION

SATELLITE BUS FACILITY REMODEL

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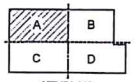
MECHANICAL DEMO PLAN - STORAGE BUILDING



KEYPLAN

HD101A

HVAC GENERAL NOTES:

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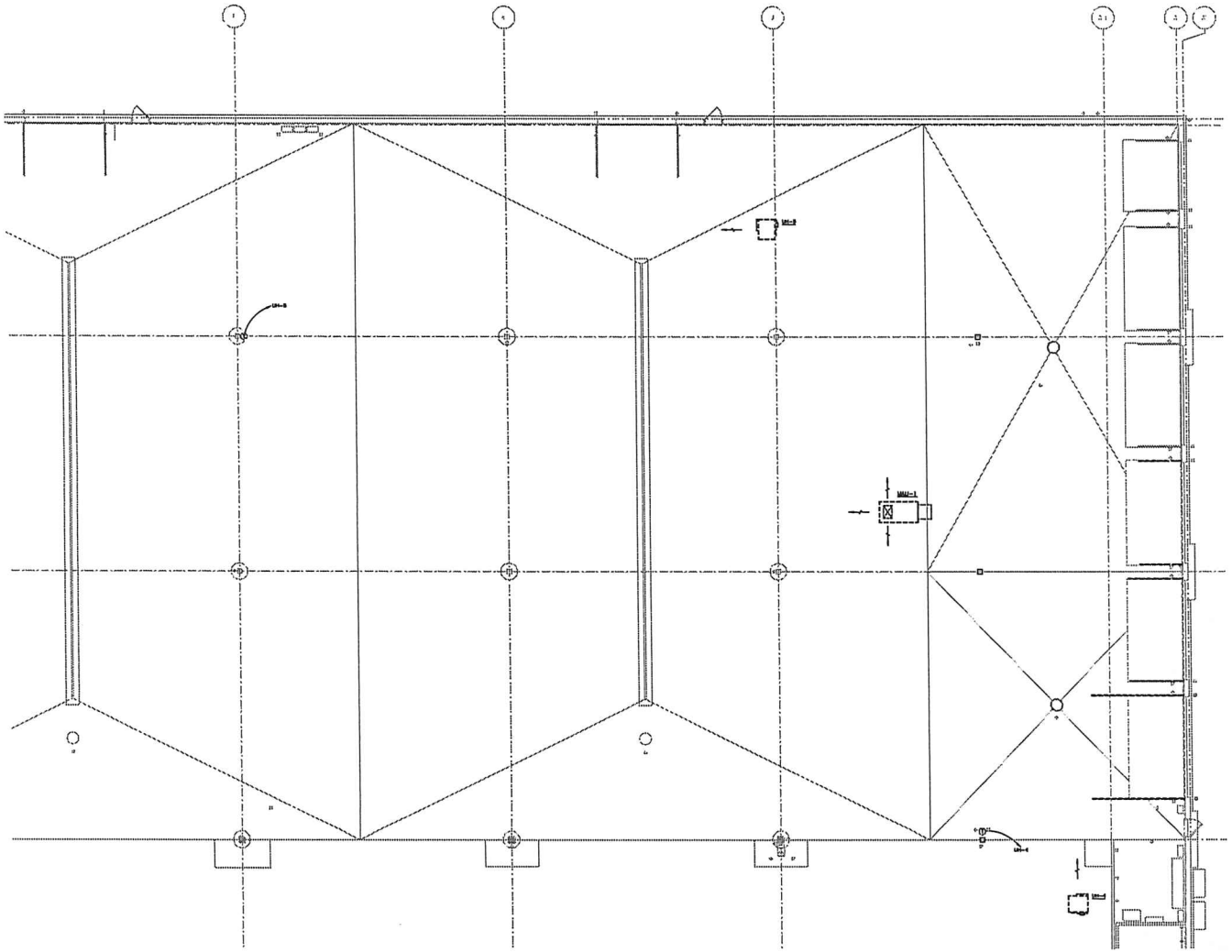
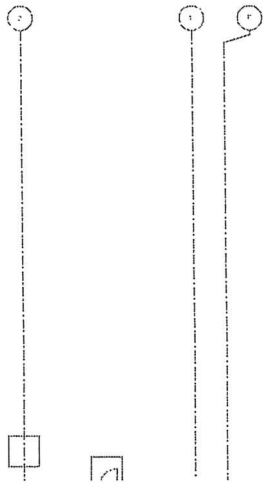
3. COORDINATE ALL HVAC WORK WITH OTHER TRADES.

HVAC PLAN NOTES:

1. DISCONNECT AND REMOVE EXISTING EQUIPMENT, INCLUDING CONTROLS AND RELATED.



1 MECHANICAL DEMO PLAN - STORAGE BUILDING
1/8" = 1'-0"



N

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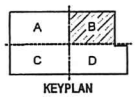
MECHANICAL DEMO PLAN - STORAGE BUILDING



KEYPLAN

HD101B

HVAC GENERAL NOTES:

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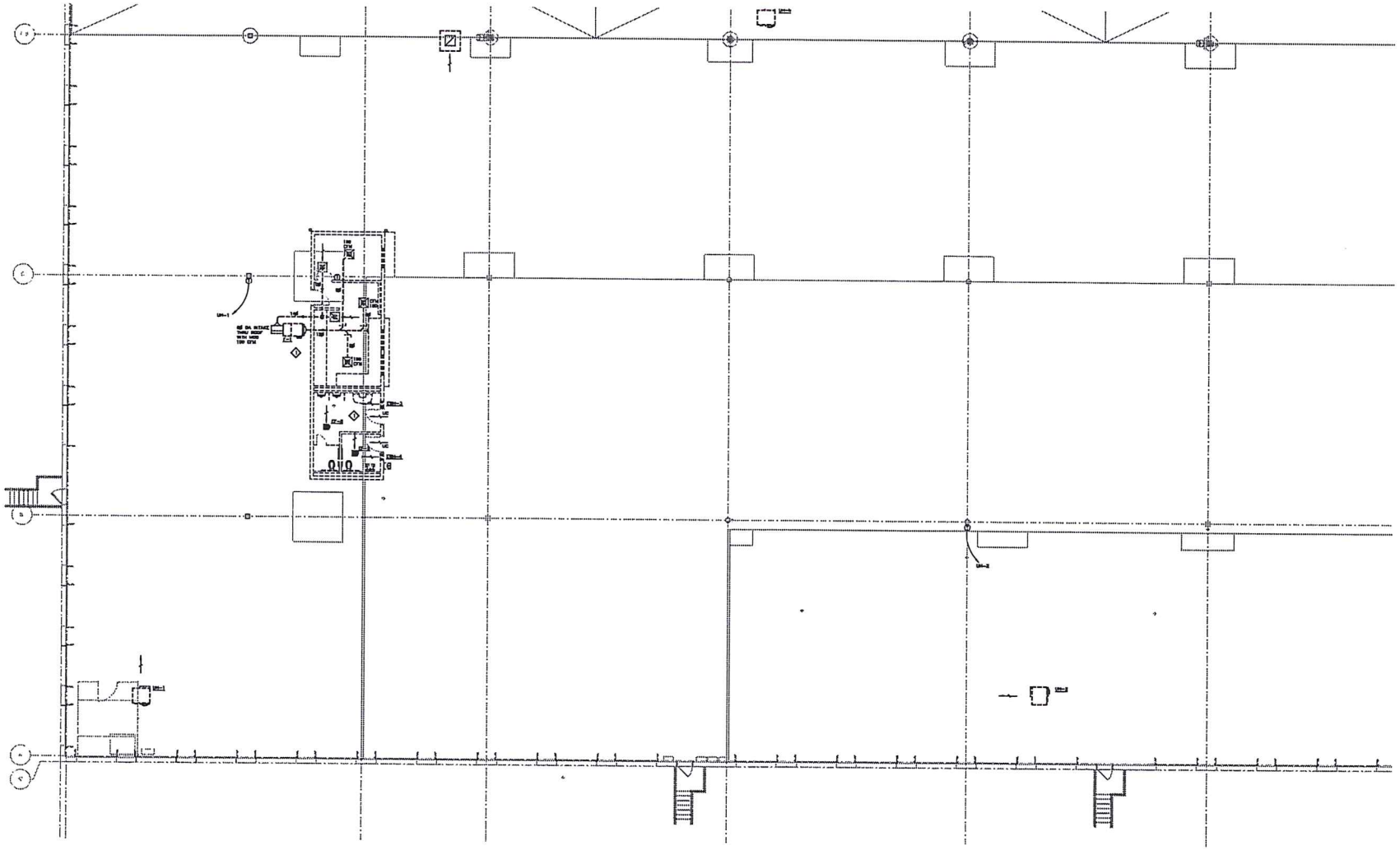
3. COORDINATE ALL HVAC WORK WITH OTHER TRADES.

HVAC PLAN NOTES:

◇ DISCONNECT AND REMOVE EXISTING EQUIPMENT, INCLUDING CONTROLS AND RELATED.



1 MECHANICAL DEMO PLAN - STORAGE BUILDING
1/8" = 1'-0"

N

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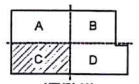
MECHANICAL DEMO PLAN - STORAGE BUILDING



KEYPLAN

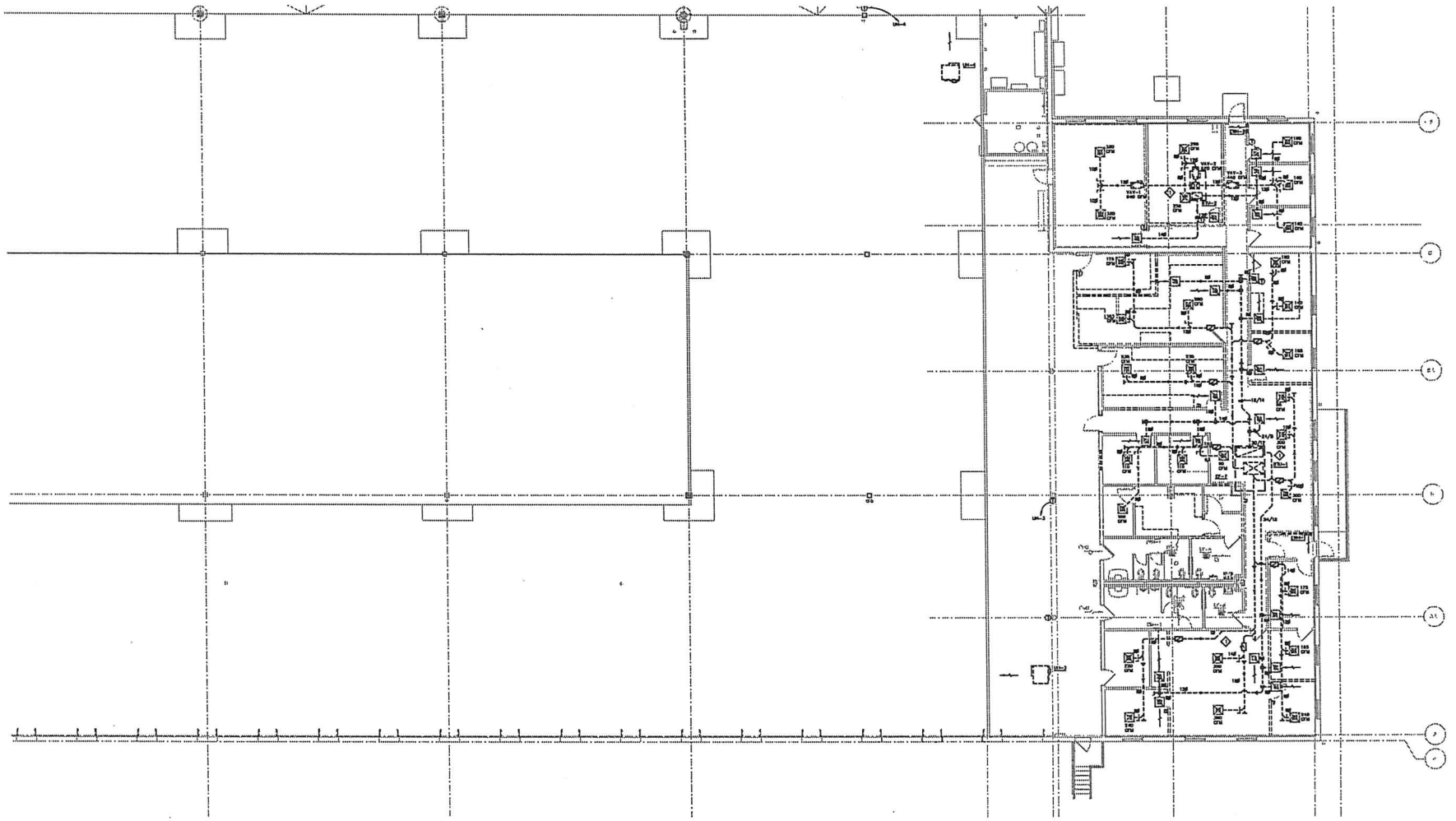
HD101C

HVAC DEMOLITION NOTES:

1. HVAC CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS. THE HVAC DRAWINGS ARE INTENDED TO BE AN EXPRESSION OF THE DESIGN INTENT AND NOT ALL INCLUSIVE OF HVAC WORK REQUIRED.
2. COORDINATE AND SCHEDULE ALL HVAC WORK WITH THE OWNER'S GENERAL CONTRACTOR AND OWNER PRIOR TO STARTING WORK.
3. COORDINATE ALL HVAC WORK WITH OTHER TRADES.

HVAC PLAN NOTES:

◇1 DISCONNECT AND REMOVE EXISTING EQUIPMENT, INCLUDING CONTROLS AND RELATED.



① MECHANICAL DEMO PLAN - STORAGE BUILDING
1/8" = 1'-0"

0 4' 8' 16'

N

Engberg Anderson ARCHITECTS
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Project No. H2222

REVISIONS

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
3	ADDENDUM NO. 3	10/19/2023

DRAWN BY	JR
CHECKED BY	BC

MECHANICAL DEMO PLAN - STORAGE BUILDING

KEYPLAN

A	B
C	D

HD101D

HVAC GENERAL NOTES:

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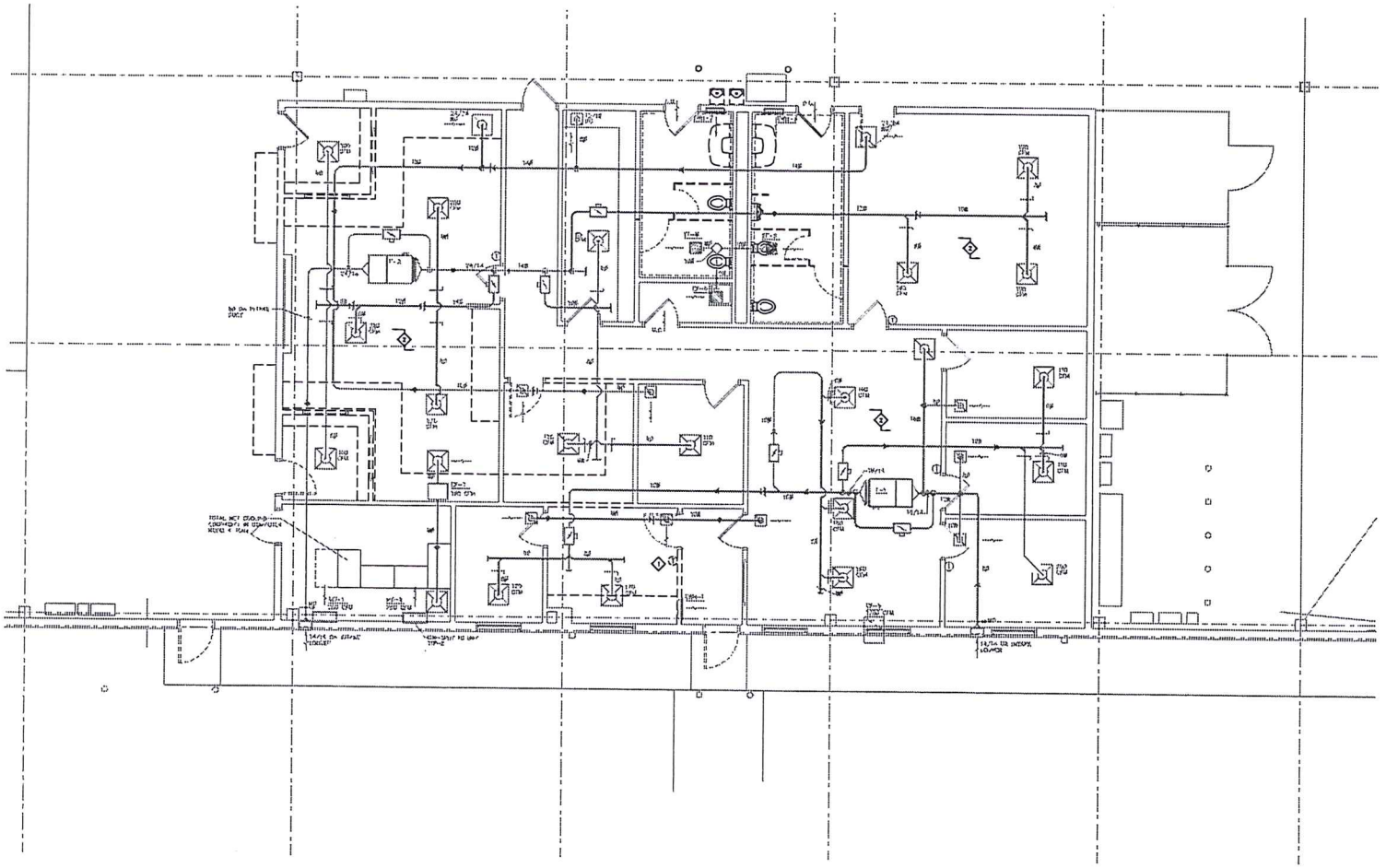
HVAC PLAN NOTES:

1. RELOCATE THERMOSTATE FROM DEMO WALLS.
2. CEILINGS BEING RAISED TO 9FT, DISCONNECT, SECURE, ADJUST/ALTER AS NECESSARY AND RE-INSTALL AT NEW CEILING HEIGHT. VERIFY ALL EXISTING CONDITIONS.



1 MECHANICAL ENLARGED DEMO PLAN - MAINTENANCE BUILDING
1/8" = 1'-0"

N

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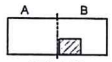
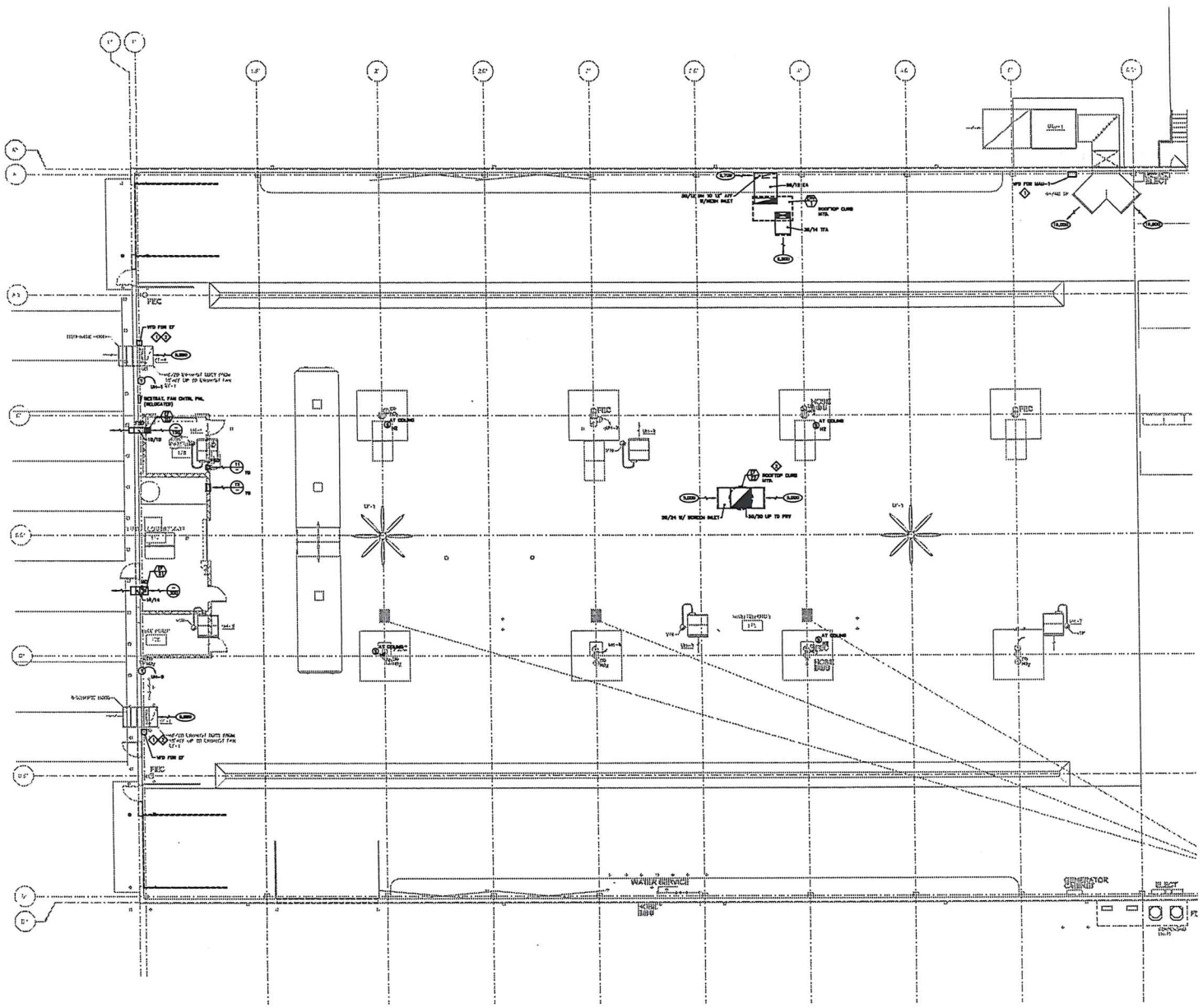
MECHANICAL ENLARGED DEMO PLAN - MAINTENANCE BUILDING



KEYPLAN

HD200



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4. H.C. TO FURNISH LOUVERS TO G.C. FOR INSTALLATION.
5. G.C. TO FURNISH PIPE BOOTS FOR ROOF VENTS.
6. SLEEVE AND SEAL ALL EXTERIOR WALL PENETRATIONS WATERTIGHT. COORDINATE OPENINGS & FLASHING MATERIALS WITH GENERAL TRADES.

HVAC PLAN NOTES:

1. PROVIDE VFD SPEED CONTROL FOR BALANCING EXISTING EQUIPMENT. FIELD VERIFY EXISTING CONDITIONS.
2. PROVIDE CONTROL VIA CO AND NO SENSORS. INTERLOCK WITH EXISTING BAU-1.

1 MECHANICAL FLOOR PLAN - MAINTENANCE BUILDING
1/8" = 1'-0"

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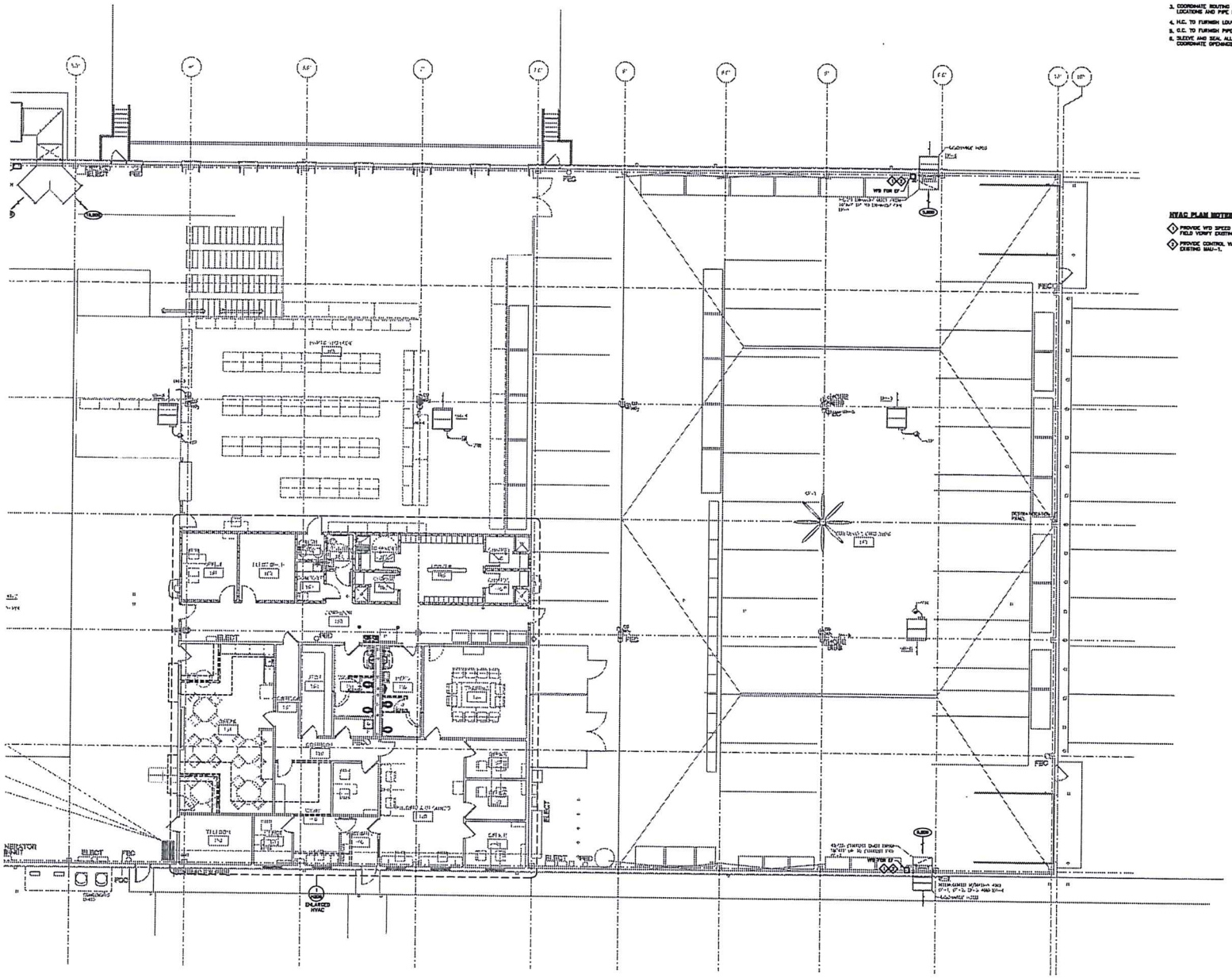
MECHANICAL FLOOR PLAN - MAINTENANCE BUILDING

KEYPLAN

H100A



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1 MECHANICAL FLOOR PLAN - MAINTENANCE BUILDING
1/8" = 1'-0"

N

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MECHANICAL FLOOR PLAN - MAINTENANCE BUILDING

A B

KEYPLAN

H100B

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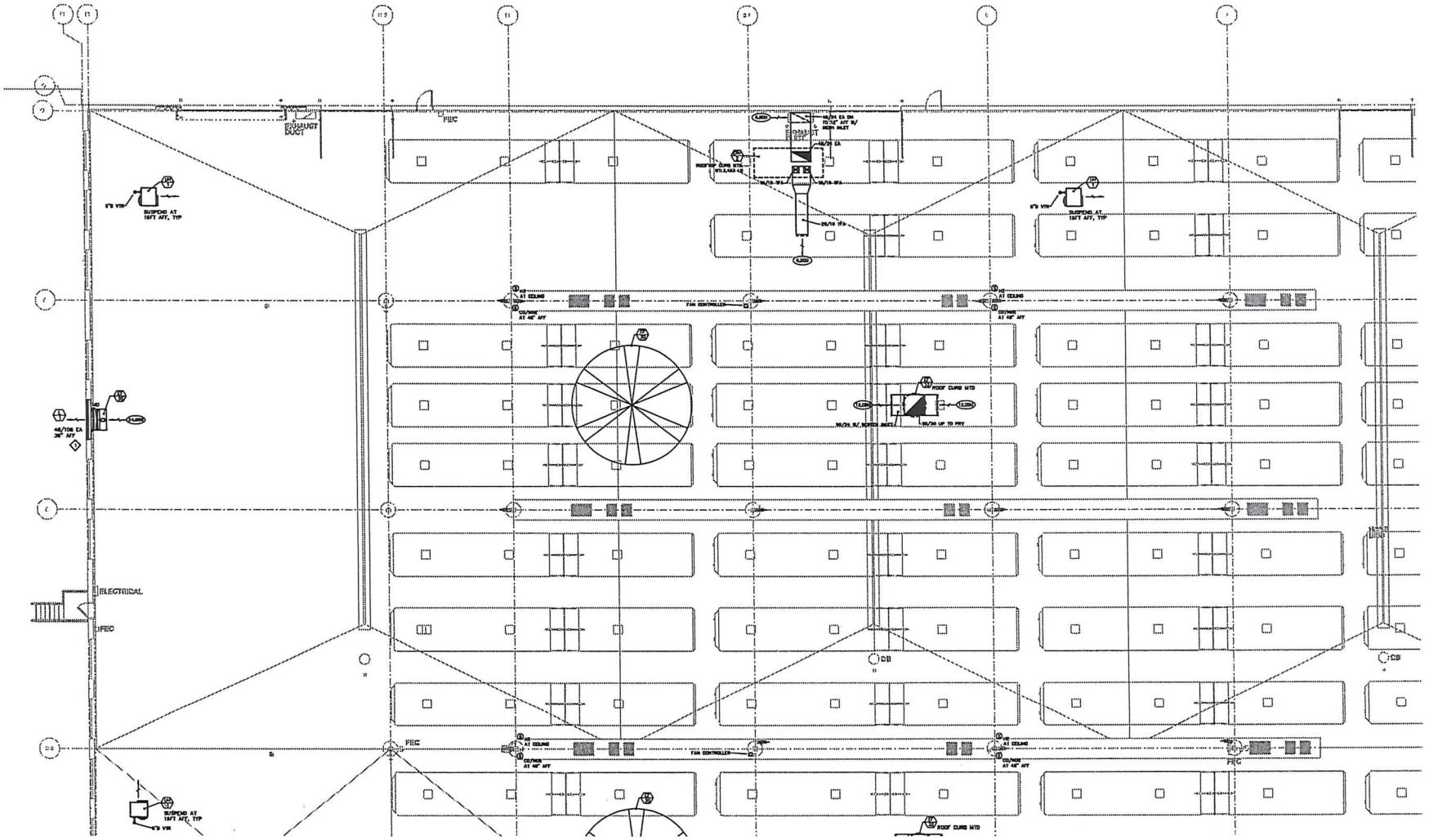
4. PROVIDE LINED OUTLET DUCTS & HOT WATER REHEAT COIL CONNECTIONS.
5. COORDINATE WALL OPENINGS WITH GC AND STRUCTURAL.
6. REFER TO SCHEMATICS AND DETAILS FOR PIPING REQUIREMENTS.
7. ROUTE CONDENSATE LINE TO HUB DRAIN BY PLUMBING TRADE WITH TRAP PER DETAIL.
8. COORDINATE SOFT PROTECTED MAKE-UP WATER SUPPLY LOCATION WITH PLUMBING TRADE.
9. EXTEND 3" CA/FLUE VENTS UP TO ROOF CONCENTRIC VENT TERMINATION.
10. ROUTE CONDENSATE LINE WITH NEUTRALIZER KIT TO HUB DRAIN.
11. MOUNT VFD'S AND TCP ON Unistrut SUPPORTS @ 48" AFF.
12. DUCT-MTD RA SMOKE DETECTORS BY ELECTRICAL TRADE; COORDINATE SHUTDOWN AHU WIRING WITH E.C.



1 MECHANICAL FLOOR PLAN - STORAGE BUILDING
1/8" = 1'-0"

N

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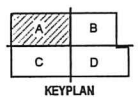
MECHANICAL FLOOR PLAN - STORAGE BUILDING



KEYPLAN

H101A

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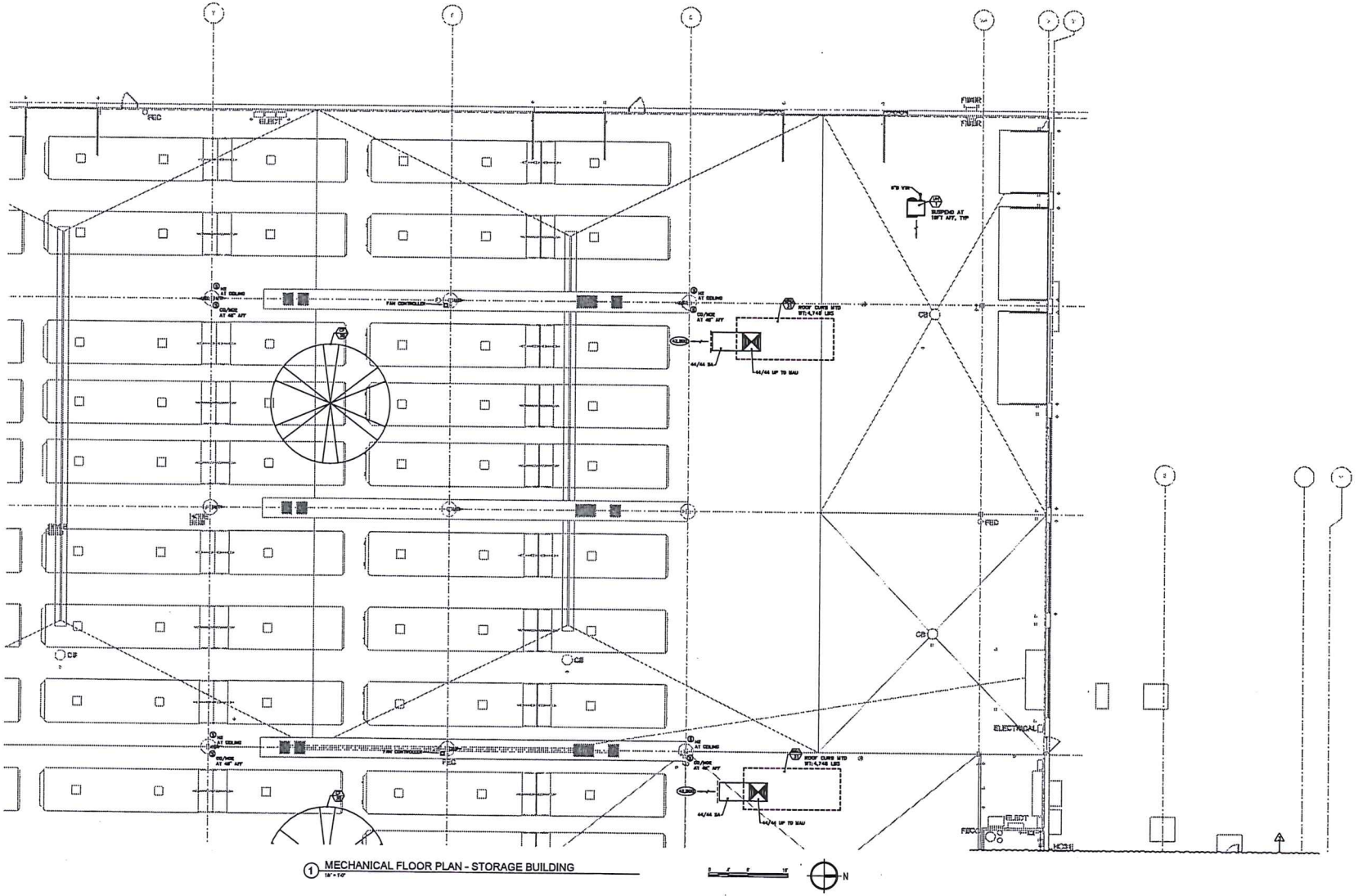

1 MECHANICAL FLOOR PLAN - STORAGE BUILDING
1/8" = 1'-0"

0 4' 8' 16' N

Engberg Anderson ARCHITECTS
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REVISION

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
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CITY OF MADISON
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1245 E. WASHINTON AVE #201
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MECHANICAL FLOOR PLAN - STORAGE BUILDING

KEYPLAN

A B
C D

H101B

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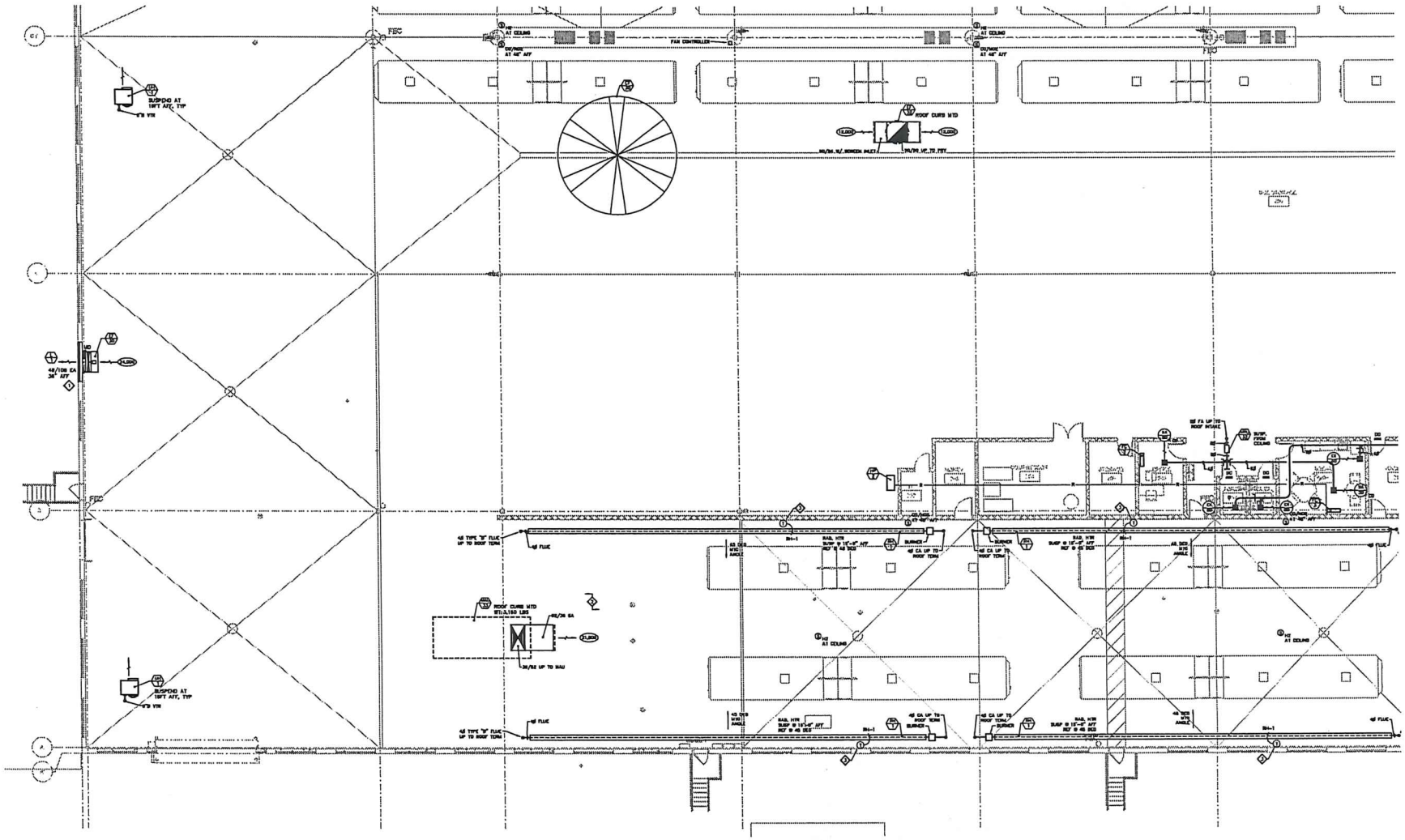

1 MECHANICAL FLOOR PLAN - STORAGE BUILDING
1/8" = 1'-0"

0 2' 4' 8' 16'

N

Engberg Anderson ARCHITECTS
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Revision

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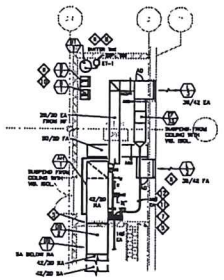
MECHANICAL FLOOR PLAN - STORAGE BUILDING

KEYPLAN

A | B
C | D

H101C



② MECHANICAL PLATFORM PLAN - MECH 300
1/8" = 1'-0"

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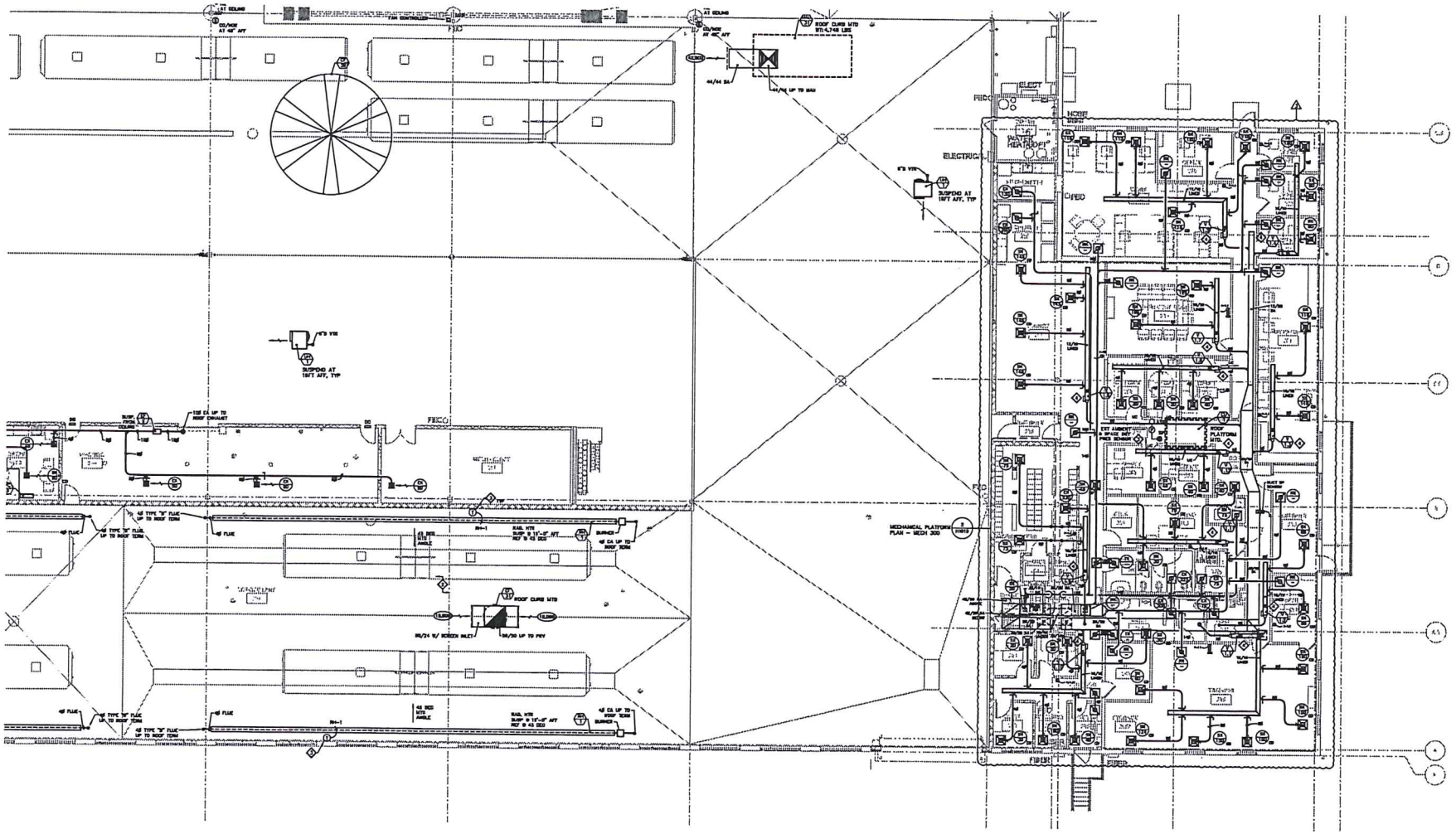

① MECHANICAL FLOOR PLAN - STORAGE BUILDING
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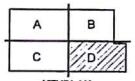

KEYPLAN

H101D

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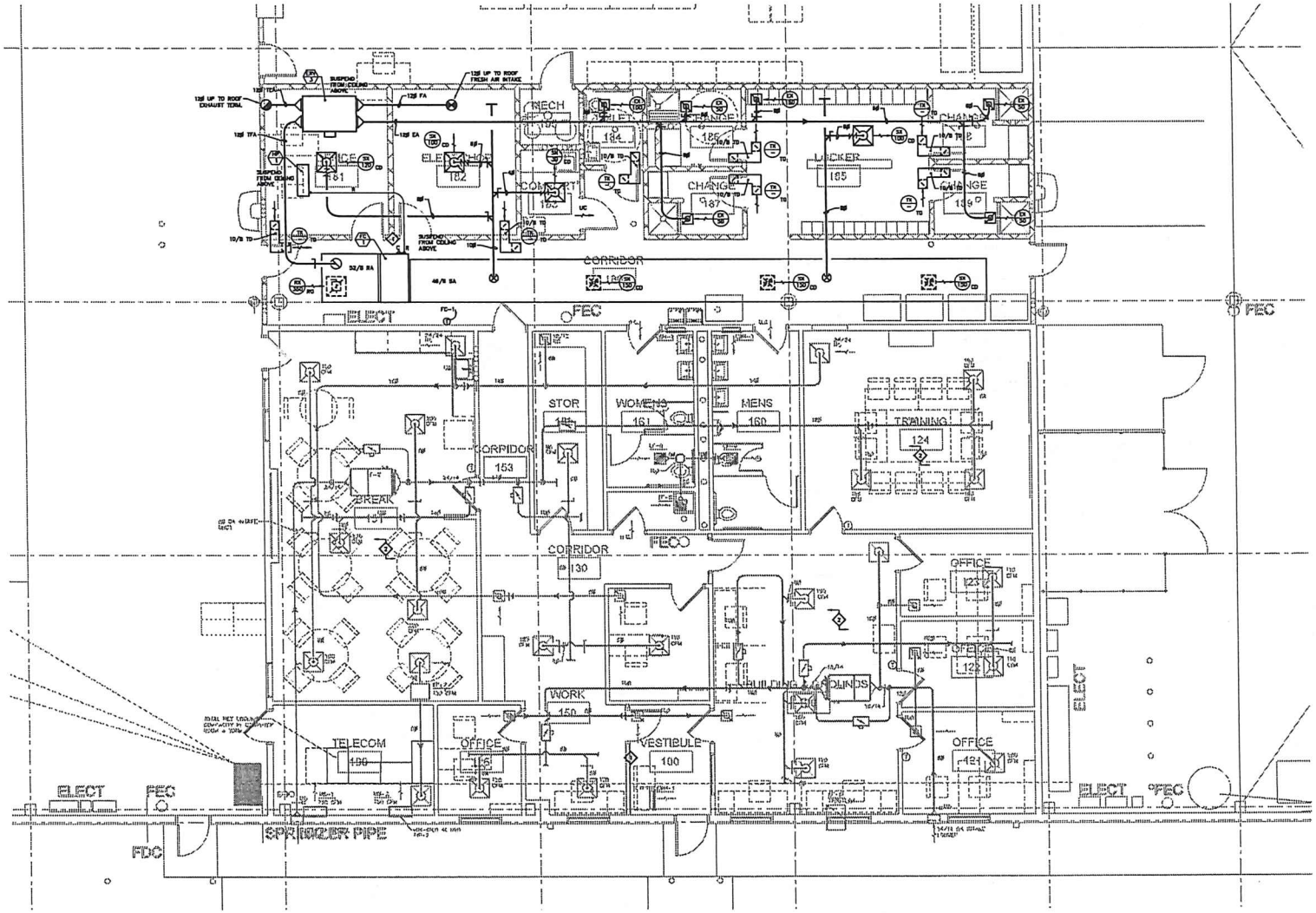
◇ COORDINATE CONDENSATE DRAIN WITH PLUMBING TRADE.



① MECHANICAL ENLARGED PLAN - MAINTENANCE BUILDING
1/4" = 1'-0"

N

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BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
3	ADDENDUM NO. 3	10/19/2023

DRAWN BY JR
CHECKED BY BC

MECHANICAL ENLARGED PLAN - MAINTENANCE BUILDING

A B
KEYPLAN

H200

HEAT PUMP SCHEDULE

GENERAL: TAG	HP-1	HP-2
MANUFACTURER	DAIKIN	DAIKIN
MODEL NO.	RZQ48TSVM-AVA	3MXS52TFVM-AVA
TYPE	HEAT PUMP	HEAT PUMP
REFRIG. TYPE	R410A	R410A
COND. DISCHARGE	HORIZONTAL	HORIZONTAL
COND. FAN CFM	3,741	2,264
CAPACITY RANGE (%)	14~100	14~100
CAPACITY INDEX (K)	–	–
COOLING CAP. (MBH)	48.0	24.0
AMB. TEMP. (°F)	95	95
EERX (SEERX)	10.3 (15.5)	11.7 (18)
HEATING CAP. TK (MBH) (47°F)	47.0	24.0
CAP. LOW (MBH)	32.4 (17°F)	–
HSPF2	8.5	9.7
DIMENSIONS: H×W×D (in)	35-7/16"x 15-3/4"x 32-15/16"	34-1/16"x 12-3/8"x 28-15/16"
CONNECTIONS: RS	5/8"	1/2"
RL	3/8"	1/4"
H/L RS	–	–
ELECTRICAL: HP (kW)	(3.0)	(1.8)
VOLTAGE/PHASE	230/1	230/1
RATED LOAD AMPS ~ FLA	18.0	19.0
MIN. CKT AMPS ~ MCA	28.1	16.1
MOCP AMPS	35	20
REMARKS:	WT = 229 lbs 3.5 TN HP FC-1	WT = 140 LBS 2 TN HP FC-2 & FC-3

MAKE-UP AIR HANDLING UNIT SCHEDULE

GENERAL: TAG	MAU-31	MAU-32	MAU-33
MANUFACTURER	GREENHECK	THERMOTEC	GREENHECK
MODEL NO.	SCH-126-H42	FTR-8-3-240-8	SCH-7234-H35-HF2
TYPE	OUTDOOR, DIRECT-FIRED	INDOOR	OUTDOOR, DIRECT-FIRED
ARRANGEMENT	HORIZONTAL ROOF CURB MTD	COMPACT HORIZONTAL SUSPENDED	HORIZONTAL ROOF CURB MTD
LOCATION	2801 ~ 200 BUS STORAGE	2801 ~ BUS SERVICE OFFICES	2801 ~ 201 SERVICE LANE
CFM	42,000	90	21,000
TYPE	FORWARD CURVE	AXIAL FAN	(2) PLENUM
SIZE	36	–	(2) 24
SWVC	BELT	–	DIRECT
ESP ("WC)	0.50	0.25	0.50
TSP ("WC)	1.0	–	1.0
RPM	474	–	1419
MTR (BHP/ELEC'TY) (BHP)	4.90/1,410	3 HP	3,200/2,644
EAT (F)	-20	-20	-20
LAT (F)	75.2	55	100.8
FILTER SECTION: TYPE (QTY) SIZE	2" PLEATED 20% EFF.(MERV 8) (20) 20"x25"x2"	WASHABLE REMOVABLE	2" PLEATED 20% EFF.(MERV 8) (15) 20"x25"x2"
HEATING: TYPE HORSEPOWER (BHP)	PREMIUM EFFICIENCY 40 (36.6)	–	PREMIUM EFFICIENCY 7.5 + 7.5 (5.5 + 5.5)
VOLTAGE/PHASE	480/3	240/1	480/3
FLA	–	12.5	–
MCA	53.3	–	28.4
MOCP	110	15	30
REMARKS:	UNIT WT = 4,740 lbs BUS STORAGE MAU-1,2,3 (2) UNIT (1)(2)(3)(4)(5)(6)(7)(8)	BUS SERVICE OFFICES MAKE-UP AIR UNIT (9)	UNIT WT = 3,100 lbs BUS SERVICE LANE (2) UNIT (1)(2)(3)(4)(5)(6)(7)(8)

① MICROPROCESSOR CONTROLLER WITH BMS COMMUNICATION, ENGINEERED BY MANUFACTURER.
② BMS CONTROL – ELECTRONIC MODULATION WITH DUCTSTAT & REMOTE SETPOINT CONTROL.
③ PREMIUM EFFICIENCY MOTOR, VFD COMPATIBLE WITH SHAFT GROUNDING.
④ DIRTY FILTER PRESSURE SWITCH.
⑤ DOUBLE WALL INSULATED CONSTRUCTION; 16-PRO POLYESTER FINISH.
⑥ 10-YR BURNER WARRANTY, FLAME ROD SENSING.
⑦ FAN VIBRATION ISOLATION AND SPCO ELEC SERVICE OUTLET.
⑧ VFD SPEED CONTROL WITH UNIT FOR BALANCING.
⑨ ENERGY RECOVERY FACTORY INSTALLED WITH BYPASS INTERLOCK PER MFR.
⑩ OUTDOOR AIR INLET LOW LEAKAGE MOTORIZED DAMPER.
⑪ INCLUDED DAMPER.
⑫ DNC TOUCH SCREEN CONTROLLER.
⑬ INTERLOCK WITH EF-31.
⑭ INTERLOCK WITH EF-30 & EF-32.

ENERGY RECOVERY VENTILATOR SCHEDULE

GENERAL: TAG	ERV-1	ERV-2	ERV-3
MANUFACTURER	RENEWAIRE	RENEWAIRE	GREYDEN S
MODEL NO.	HE-45JNTV-S3499E---DVH4----L	LE-BLWTVH534LL---DVH4-A-L	AIRIA (325-773CFM)
ARRANGEMENT	OUTDOOR-ROOF CURB	OUTDOOR-ROOF CURB	INDOOR
TYPE	ENTHALPIC STATIC PLATE	ENTHALPIC STATIC PLATE	ENTHALPIC STATIC PLATE
FROST CONTROL	N.R.	N.R.	4KW ELECTRIC PREHEAT
EXHAUST AIR: CFM	1,700	3,500	450
EXT. SP "w.g.	0.5	0.5	0.5
FAN HP (BHP/WATING)	1.5 / 3	4.33 / 5	0.3 KW
RPM	1319	958	3347
DRIVE	BELT	BELT	DIRECT ECM
FRESH AIR: CFM	1,500	3,000	450
EXT. SP "w.g.	0.5	0.5	0.3
FAN HP (BHP/WATING)	1.5 / 3	3.49 / 5	0.18 KW
RPM	1539	908	2132
DRIVE	BELT	BELT	DIRECT ECM
COOLING MODE: FRESH AIR EAT db/wb F	–	–	90 / 74
FRESH AIR LAT db/wb F	–	–	79.3 / 67.5
EXHAUST AIR EAT db/wb F	–	–	78 / 63
TOTAL EFF/SENSIBLE	–	–	81.7% / 71.2%
HEATING MODE: FRESH AIR EAT db F	-15	-15	1 / -1.8
FRESH AIR LAT db/wb F	41 / 20.9	39.3 / 24.7	20.1 / 20.3
EXHAUST AIR EAT db/wb F	80 / 47.8	80 / 47.8	20.8 / 20.8
MIN. SENSIBLE EFF.	74.7%	72.4%	71.3%
FILTERS: TYPE	2" MERV 8 DA 2" MERV 8 RA	2" MERV 8 DA 2" MERV 8 RA	2" MERV 8 DA 2" MERV 8 RA
ELECTRICAL: VOLTAGE/PHASE	480/3	480/3	208/1
FLA	4.24	5.7	3.29
MCA	10.3	16.8	3.91
MOCP LIMIT	15	20	15
REMARKS:	UNIT WT = 1143 lbs (1)(2)(3)(5)	UNIT WT = 3453 lbs (1)(2)(4)(5)	UNIT WT = 381 lbs (3)(5)

① ROOF CURB MOUNTED, INSULATED.
② FACTORY DISCONNECT SWITCH WITH UNIT NON-FUSED.
③ MOTORIZED LOW-LEAKAGE ISOLATION DAMPERS (OA & EA).
④ INTEGRATED PREMIUM PROGRAMMABLE CONTROLLER – BACNET TCP/IP.
⑤ FILTER ALARM (FA & SA).
⑥ INTERNAL WTR, BOTH ABSORBERS.
⑦ 4KW ELECTRIC PREHEAT, SCR, 480V/3PH, 5.1 FLA, -15F EAT, 1F LAT.

HVAC SYMBOL SCHEDULE

SYMBOL	DESCRIPTION
	ZONING
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
C	CONDENSATE PIPING
RS	REFRIGERANT SUCTION
RL	REFRIGERANT LIQUID
O	PIPE UP
C	PIPE DOWN
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE RELIEF VALVE
	DRAIN VALVE
	SWING OR LIFT CHECK VALVE
	SPRING LOADED CHECK VALVE
	PRESSURE REDUCING VALVE
	TWO WAY TEMP CONTROL VALVE
	THREE WAY TEMP CONTROL VALVE
	TRIPLE DUTY VALVE
	BALANCING VALVE
	CALIBRATED BALANCING VALVE
	GAUGE VALVE
	FLOW METER
	INLINE STRAINER
	UNION
	FLANGE
	END CAP OR BLIND FLANGE
	THERMOMETER
	PRESSURE GAUGE
	FLEXIBLE CONNECTION
	ANCHOR
	T & P TEST WELL
	A-AUTOMATIC AIR VENT M-MANUAL AIR VENT
	REDUCER, CONCENTRIC
	REDUCER, ECCENTRIC
	IMMERSION WELL

ABBREVIATIONS

ACD	AUTOMATIC CONTROL DAMPER
EA	EXHAUST AIR
FA	FRESH AIR
RA	RETURN AIR
SA	SUPPLY AIR
TSA	TEMPERED SUPPLY AIR
TEA	TEMPERED EXHAUST AIR
AFF	ABOVE FINISHED FLOOR
BOD	BOTTOM OF DUCT
DED	DEEP END DUCT
Ø	ROUND DUCT DIAMETER
⇔	OVAL DUCT DIMENSIONS
TG	TRANSFER GRILLE
TD	TRANSFER DUCT

HVAC SYMBOL SCHEDULE

SYMBOL	DESCRIPTION
	SQUARE/RECTANGULAR SUPPLY DIFFUSER, GRILLE OR REGISTER-HORIZONTAL MOUNT
	SQUARE/RECTANGULAR RETURN/EXHAUST REGISTER OR GRILLE-HORIZONTAL MOUNT
	SUPPLY REGISTER OR GRILLE VERT. MOUNT
	RETURN/EXHAUST REGISTER OR GRILLE VERT. MOUNT
	SLOT SUPPLY DIFFUSER
	VERTICAL SUPPLY DUCT UP
	VERTICAL RETURN/EXHAUST DUCT UP
	VERTICAL SUPPLY DUCT DOWN
	VERTICAL RETURN/EXHAUST DUCT DOWN
	VOLUME DAMPER
	SMOKE DAMPER
	FIRE DAMPER W/ACCESS PANEL
	MOTORIZED BACKDRAFT DAMPER
	GRAVITY BACKDRAFT DAMPER
	AUTOMATIC CONTROL DAMPER
	FLEXIBLE CONNECTION
	ROUND/FLEXIBLE DUCT
	ROUND RIGID DUCT
	SQUARE ELBOW W/TURNING VANES
	RADIUS ELBOW R/D = 1.5
	RADIUS THROAT R/D = 1.5 "R"-SIZE-DIA WIDTH
	DUCT SIZE(IN) OR DROP(S)
	DIFFUSER/REGISTER/GRILLE TYPE CFM
	EXHAUST CFM
	EQUIPMENT SYMBOL NO.
	THERMOSTAT SENSOR
CO	CARBON MONOXIDE SENSOR
NO2	NITROUS DIOXIDE SENSOR
P	PRESSURE SENSOR
P SP	SPACE STATIC PRESSURE SENSOR
P ASP	AMBIENT STATIC PRESSURE SENSOR

EQUIPMENT SYMBOLS

AS	AIR SEPARATOR
B	BOILER
BT	BUFFER TANK
EF	EXHAUST FAN
EH	ELECTRIC HEAT
ERV	ENERGY RECOVERY VENTILATOR PUMP
P	PUMP
RH	RADIANT HEATER
RT	ROOFTOP
SF	SUPPLY FAN
V	VARIABLE AIR VOLUME UNIT
VFD	VARIABLE FREQUENCY DRIVE

DIFFUSERS, REGISTERS AND GRILLES SCHEDULE

TAG	MFGR	MODEL	SIZE: NECK (inch)	SIZE: FACE (in)	MOUNTING	SERVICE	CFM	REMARKS
T1	KRUEGER	580	8"x8"	–	SURFACE/WALL	TRANSFER	–	① ALUM. TG
T2	KRUEGER	580	10"x8"	–	SURFACE/WALL	TRANSFER	–	① ALUM. TG
TK	KRUEGER	–	SEE PLAN	–	T-BAR	TRANSFER	VARIES	② ALUM. TG
SX	KRUEGER	–	SEE PLAN	–	T-BAR	SUPPLY	VARIES	② ALUM. SD
RK	KRUEGER	–	SEE PLAN	–	T-BAR	SUPPLY	VARIES	③ ALUM. RG

REMARKS:
① PLASTER FRAME, ALUMINUM.
② SELECT BASED ON DESIGNED FLOWRATE.
③ SELECT TO MAINTAIN FACE VELOCITY BELOW 400FPM.

SD = SLOT DIFFUSER
CD = CEILING DIFFUSER
DG = DOOR GRILLE
RG = RETURN GRILLE
RR = RETURN REGISTER
SR = SUPPLY REGISTER
ER = EXHAUST REGISTER
TG = TRANSFER GRILLE
HD = HEAVY DUTY

HEATER - GAS FIRED SCHEDULE

GENERAL: TAG	UH-1	RH-1
MANUFACTURER	REZNOR	REZNOR
MODEL	UDK-400	VCS-200
TYPE	PROPELLER/POWER UNIT	RADIANT HTR
LOCATION	BUS STORAGE	BUS SERVICE
CFM	5123	–
INLET (MBH)	400	200
OUTLET (MBH)	332	–
EAT (F)	60	–
LAT (F)	110	–
DIMENSIONS: HEIGHT	34¾"	–
WIDTH	41"	–
DEPTH	48¾"	–
VENT SIZE	8"ø	4"ø
WEIGHT: (lbs)	318	30
MOTOR: RPM	1050	–
HORSEPOWER	1/2	–
VOLTAGE/PHASE	115/1	115/1
FLA/MOCP	11/20	1.2
REMARKS	POWER VENT	SEALED COMBUSTION (SC)

AIR-COOLED CONDENSING UNITS SCHEDULE

GENERAL: TAG	CU-1
SERVICE	AH-1/CC-1
MANUFACTURER	AAON
MODEL NO.	GTA-015-B-A-3-DAOON
NOMINAL TONS CAP.	10
AMBIENT TEMP.(F)	95
SUCTION TEMP F	45
CAPACITY MBH	172.5
NO. CAPACITY STEPS	(1)VARIABLE + (12)-STAGE
AIR FLOW (CFM)	–
NO. COND. FANS	2
NO. CIRCUITS	2
NO. COMPRESSORS	2
REFRIGERANT	R-410A
REF. LINE SIZE: RS	2 @ 7/8"ø
RL	2 @ 1/2"ø
EER (BEER)	13.1
IPLV (ESTIMATED)	18.0
ELECTRICAL: VOLTAGE/PHASE	480/3
COMPRESSORS FLA	–
COND. FAN FLA	3.8 + 3.8
FLA	32
MCA	38
MOCP	45
REMARKS:	WT = 1124 LBS (1)(2)(3)(4)(5)(6)(7)

① EXTENDED 5 YEAR WARRANTY ON ALL COMPRESSORS.
② SERVICE VALVES, MOISTURE INDICATORS & LD LINE FILTER ON ALL REF. CIRCUITS.
③ AMBIENT HEAD PRESSURE CONTROL: MODULATING CONDENSER FAN SPEED CONTROL – ECM MOTORS.
④ DNC (1) VARIABLE CAPACITY DIGITAL SCROLL COMPRESSOR WITH INTEGRATED CONTROLS (VOC). (1) 2-STAGE COMPRESSOR.
⑤ TERMINAL CONTROL BLOCK WITH CONTROL TRANSFORMER, FIELD INSTALLED DDC CONTROLS BY TEMP. CTRL CONTRACTOR WITH ISOLATION RELAYS.
⑥ ANTI-CORROSION PAINT.
⑦ 100 AMP DISCONNECT WITH UNIT.

FAN COIL SCHEDULE

GENERAL: TAG	FC-1	FC-2	FC-3
MANUFACTURER	DAIKIN	DAIKIN	DAIKIN
MODEL NO.	FBQ42TNAU	FTX30LUVJU	FTX30LWJU
TYPE	HORIZONTAL SLIDE/CONCEAL	WALL MTD DUCTLESS	WALL MTD DUCTLESS
SERVICE	3622R OFFICE EXPANSION	3601: 208 OFFICE	3601: 208 BREAK
REFRIGERANT	R410a	R410a	R410a
FAN: CFM	810	381	381
ESP ("WG)	0.80	–	–
FA CFM (K)	425 (48K)	–	–
SPEED	LOW HIGH	HIGH	HIGH
COOLING: COOLING CAP(BTU/HR)	42,000	9,000	9,000
EAT DB/WB (F)	80/67	80/67	80/67
HEATING: HEATING CAP (BTU/HR)	47,000	12,000	12,000
EAT DB (F)	70	70	70
AUX. ELECTRIC HEAT: CAPACITY (MBH)	–	–	–
CAPACITY (KW)	–	–	–
VOLTAGE/PHASE	–	–	–
HEATER FLA ~ HTR	–	–	–
MCA ~ HTR	–	–	–
MOCP ~ HTR	–	–	–
DIMENSIONS: FACE, GRILLE (WxLxH)	N.A.	N.A.	N.A.
UNIT DIMENSIONS (WxLxH)	36~1/8"x 31~1/2"x 9~11/16"	31~1/2"x 9~1/16"x 11~3/8"	31~1/2"x 9~1/16"x 11~3/8"
UNIT RECESS DEPTH	N.A.	N.A.	N.A.
UNIT WT.	104 LBS	29 LBS	29 LBS
FILTER	FILTER BOX MERV 13	REMOVABLE WASHABLE	REMOVABLE WASHABLE
CONNECTIONS: RL	¾" FLARE	1/4" FLARE	1/4" FLARE
RS	⅝" FLARE	3/8" FLARE	3/8" FLARE
DRAIN	¾" NPT	5/8" NPT	5/8" NPT
ELECTRICAL: VOLTAGE/PHASE	230/1	230/1	230/1
HP	0.5	82 W	82 W
FLA ~ FAN	2.9	0.15	0.15
MCA	3.8	8	8
MOCP	15	15	15
REMARKS:	① 3TN TH	3/4 TH	3/4 TH

① SINGLE POINT ELECTRICAL CONNECTION WITH FACTORY INSTALLED (CB) DISCONNECT SWITCH.

LOUVER SCHEDULE

TAG	MANUFACTURER	MODEL	TYPE	METAL	LOUVER DEPTH x W x HT	FREE AREA S.F.	SERVICE	REMARKS
L-1	VENT PRODUCTS	2720	STAT.	EXT. ALUM.	4" x 96" x 108"	18.9	EXHAUST AIR	(1)(2)(3)
L-2	VENT PRODUCTS	2720	STAT.	EXT. ALUM.	4" x 36" x 42"	3.2	FRESH AIR	(1)(2)
L-3	VENT PRODUCTS	2720	STAT.	EXT. ALUM.	4" x 36" x 42"	3.2	EXHAUST AIR	(1)(2)

① BIRD SCREEN – ALUM.
② POWDER COAT BAKED ENAMEL FINISH, FINAL COLOR SELECTION BY ARCHITECT.
③ MULTI SECTION, (4) 48" X 24" (TYP.).

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | TUCSON | CHICAGO
HEG HEIN Engineering Group
17 Applegate Court, Suite 200
Madison, WI 53713
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Project No. H2222

Revision

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/15/2023

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DRAWN BY JR
CHECKED BY BC

MECHANICAL SCHEDULES

H300

PUMP SCHEDULE

TAG	P-1&2	P-3	
MANUFACTURER	B&G	GRUNDFOS	
MODEL NO.	ECOCIRC XLA3-130	UPA15L	
TYPE	INLINE	INLINE	
LOCATION	MECH. RM. 219	MECH. RM. 219	
SERVICE	HW SYSTEM SECONDARY PUMP	HW BOILER PRIMARY PUMP	
GPM	35	19	
TDH (FT)	32	20	
BHP (WATTS)	0.81 (43-823)	(180)	
EFFICIENCY (%)	48.2%	N.A.	
SUCTION I.D.	1-1/2"ø	1-1/4"ø	
OUTLET I.D.	1-1/2"ø	1-1/4"ø	
MOTOR HORSEPOWER	1	1/12	
VOLTAGE/PHASE	208/1	115/1	
FLA	3.5	1.8	
REMARKS	HW SYSTEM PUMPS (TYP 2) (1)(2)(4)	BOILER PUMP (3)	

(1) ECM MOTOR; SETUP OPERATING MODE FOR CONSTANT DIFFERENTIAL PRESSURE.

(2) PROVIDE 2"ø INLINE TRIPLE DUTY VALVE; BAD 30V SWAF(NPT) AT PUMP DISCHARGE.

(3) PROVIDE 1-1/2"ø INLINE TRIPLE DUTY VALVE; BAD 30V 1-1/2SWAF(NPT) AT PUMP DISCHARGE.

(4) PROVIDE 1-1/4" INLINE TRIPLE DUTY VALVE; BAD 30V 1¼ NWF(NPT) AT PUMP DISCHARGE.

(5) BOILER PUMP SUPPLIED WITH BOILER; FIELD INSTALLED BY THE HVAC CONTRACTOR.

(6) PROVIDE Y-STRAINER AT PUMP SUCTION WITH MAGNETIC INSERT FOR FERROUS DEBRIS.

VARIABLE AIR VOLUME TERMINALS SCHEDULE

GENERAL TAG		V-1.1	V-1.2	V-1.3	V-1.4	V-1.5	V-1.6	V-1.7	V-1.8	V-1.9	V-1.10	V-1.11	V-1.12
SERVICE		TRAINING 205	OFFICE 206	DISPATCH 331	OFFICE 371	WORK 374	LOUNGE 257	ADMIN CONF 230	OFFICE 332	DRIVER LOCKER 260	QUIET 280	TESTING 290	OFFICE 333
MANUFACTURER		ENVIRO-TEC	ENVIRO-TEC	ENVIRO-TEC	ENVIRO-TEC	ENVIRO-TEC	ENVIRO-TEC	ENVIRO-TEC	ENVIRO-TEC	ENVIRO-TEC	ENVIRO-TEC	ENVIRO-TEC	ENVIRO-TEC
MODEL NO.		SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC
CONNECTIONS ARRGT.	CTRL.	–	–	–	–	–	–	–	–	–	–	–	–
	COIL	–	–	–	–	–	–	–	–	–	–	–	–
INLET		8	6	3	5	5	8	8	6	5	6	5	6
INLET		8"ø	6"ø	3"ø	5"ø	5"ø	8"ø	8"ø	6"ø	5"ø	6"ø	5"ø	6"ø
OUTLET (WxH)		12"x10"	10"x10"	10"x10"	10"x10"	12"x10"	12"x10"	12"x10"	10"x10"	10"x10"	10"x10"	10"x10"	10"x10"
MIN. CFM/MIN DTR	(1)	420/784	36/139	48/218	53/281	100/380	368/583	276/391	33/80	90/151	170/240	180/180	24/80
MAX. CFM		784	139	218	281	380	588	391	80	151	240	180	80
UNIT APD("WC) SMAX		0.81	.06	0.15	0.21	0.83	0.93	0.72	0.03	0.08	0.11	0.11	0.03
VAV ACTUATOR		ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC
VAV CONTROL	(2)	DDC	DDC	DDC	DDC	DDC	DDC	DDC	DDC	DDC	DDC	DDC	DDC
HW HEATING COIL: TYPE		3R/10 FPI/3CRT	1R/10 FPI/1CRT	3R/10 FPI/3CRT	2R/10 FPI/2CRT	4R/10 FPI/4CRT	4R/10 FPI/4CRT	4R/10 FPI/4CRT	2R/10 FPI/2CRT	2R/10 FPI/2CRT	1R/10 FPI/1CRT	2R/10 FPI/2CRT	2R/10 FPI/2CRT
EAT (F) @ HTG CFM		55	50	55	55	55	55	55	55	55	55	55	55
LAT (F)		91.3	100.7	100.8	100.5	93.4	94.7	97.8	97.3	96.7	96.8	96.8	96.8
CAP. (MBH) @ HTG CFM		31.41	8.8	10.78	14.29	22.88	22.17	15.17	3.81	7.23	8.19	8.13	3.27
GPM		3.38	1.1	0.5	0.5	0.4	0.5	0.8	0.8	0.8	1.7	1.7	1.7
EWT (F)		180	180	180	180	180	180	180	180	180	180	180	180
WPD (FT)		0.86	0.88	0.22	0.42	0.11	0.06	0.03	0.01	0.06	0.73	0.07	0.01
SOUND (NC)	RAD NC	18	<15	15	<15	<15	<15	15	<15	15	<15	<15	<15
	DIS NC	<15	18	19	<15	<15	<15	<15	15	15	<15	18	15
REMARKS		(1)(2)	(1)(2)	(1)(2)	(1)(2)	(1)(2)	(1)(2)	(1)(2)	(1)(2)	(1)(2)	(1)(2)	(1)(2)	(1)(2)

(1) MINIMUM AIR FLOW/HEATING AIR FLOW.

(2) VAV BOX ACTUATOR AND DDC CONTROLS FURNISHED AND FIELD INSTALLED BY THE TEMP. CONTROL CONTRACTOR.

AIR HANDLING UNIT SCHEDULE

GENERAL TAG	(1)	AH-1
LOCATION		3801: MECH 300
SERVICE		OFFICE
MANUFACTURER		DAIKIN
MODEL/SIZE		M3-CUR-3-0-182C-1151
ARRANGEMENT		HORIZONTAL
DRIVE SIDE		RIGHT
VIBRATION ISOLATION		INTERNAL
BASE RAIL HEIGHT		6"
WEIGHT		823 lbs
SUPPLY FAN QTY	(2)(3)	2F=1 2700
O.A.I. (CFM)		2200 (1400)
O.V. VELOCITY		884
EXTERNAL S.P.("W.C.)		1.75
TOTAL S.P. ("W.C.)		3.09
RPM		2449
MOTOR HP (BHP)	(3)	5 (3.47)
VOLTAGE/PHASE		480/3
FAN WHEEL SIZE/TYPE/CLASS		18.5" AF/1-PLENUM FAN
SYSTEM TYPE	(2)	VAV W/VFD
HW HTG COIL: ARR: HTG CFM	(7)	HC-1: 2R/8FPI (3WH08028) 2000
EAT		53.0
LAT		88.2
APD ("W.C.)		0.22
FV (FPM)		300
WATER: EWT/LWT(DEG F)		180/128.8
WPD(FT)		0.2
GPM		4.7
TOTAL CAP (MBH)		72.7
COOLING COIL: ARR: EAT (db/wb °F)	(2)(7) (4)	CC-1: 8R/13FPI 81.8/66.1
LAT (db/wb °F)		54.8/53.1
APD ("W.G.)		0.82
FV (FPM)		512 (7.2 FT^2)
DIRECT EXPANSION: TOTAL CAP (MBH)		172.92
SENSIBLE CAP (MBH)		116.14
SUCTION TEMP.(F)		41.14
REFRIGERANT		R-410a
FILTER BOX: TYPE	(6)	FLAT ARRANGEMENT SIDE ACCESS
FILTER MEDIA		4" 1A 30E (MERV 13)
FILTER APD = CLEAN ("WC)	(3)	0.87
SIZES (HxW)		(12)24"x24"x(12)24"x30"
NET AREA (S.F.)		8.9
FV (FPM)		473
WIRING BOX: TYPE	(2)	PARALLEL BLADE-LOW LEAKAGE
ARRANGEMENT		TOP & END INLETS
INLET SIZE FA		18"x34" (TOP)
INLET SIZE RA		8"x34" (TOP)
FV (FPM) = FA		535
APD ("W) = FA		0.03
RELIEF/EXHAUST FAN: MODEL/SIZE	(2)	RF-1
ARRANGEMENT		HOT/INLINE
DRIVE SIDE		–
VIBRATION ISOLATION		INTERNAL
WEIGHT		824 lbs
CFM		1800
EXTERNAL SP ("W.G.)		0.50
TOTAL S.P. ("W.G.)		0.54
RPM		1573
MOTOR HP (BHP)	(3)	1 (0.33)
VOLTAGE/PHASE		480/3
FAN WHEEL SIZE/TYPE		14" AF/1-PLENUM FAN
SYSTEM TYPE	(2)	VAV W/VFD
INLET BA	(5)	–
OUTLET EA		–

(1) DOUBLE WALL CASING/PAINT EXTERIOR FINISH.

(2) BEARINGS = L50 (100K).

(3) AIR PRESSURE DROP BASED ON MEAN FILTER AIR PRESSURE DROP.

(4) PROVIDE INTEGRAL FILTER AIR PRESSURE GAUGE (MAGNEHELIC 0-1").

(5) MOTORS SHALL BE PREMIUM EFFICIENCY VFD COMPATIBLE W/SPLIT SHAFT GROUNDING COUPLER.

(6) STAINLESS STEEL DRAIN PAN.

(7) COIL CABINET W/ACCESS DOOR.

(8) MIXING BOX CABINET W/ACCESS DOOR.

(9) VFD REMOTE MOUNTED WITH DISCONNECT (NON-FUSED). REFER TO SPECIFICATIONS FOR VFD MFG'TS.

(10) PROVIDE MIXING BOX ATTACHED TO RELIEF/EXHAUST FAN PER DRAWING DETAILS.

(11) PROVIDE 8-POLAR IONIZATION BAR (DPS-8400) IN COOLING COIL SECTION WITH POWER SUPPLY UNIT.

(12) MOUNT IN ACCORDANCE WITH MANF. INSTRUCTIONS, ENSURING ADEQUATE HEIGHT FOR CONDENSATE P-TRAP.

HOT WATER SPECIALTIES SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL NO.	CAPACITY	REMARKS
AIR SEPARATOR – AS-1	HW	SPIROTHERM	VSR-200-MT	2"ø NPT	W/AUTO AIR VENT & DRAIN
AIR SEPARATOR – AS-2	HW	SPIROTHERM	VJR-150-MT	1¼"ø NPT	W/AUTO AIR VENT & DRAIN
EXPANSION TANK – ET-1	HW	B & G	B-90 LA	15 GAL. TANK (11 GAL ACCEPT)	(1) 1"ø CONN., 12"W37-5/16"H, ASME 125 PSI
PRESSURE REDUCING VALVE (PRV) HYDRONIC	HW	B & G	B38	¾" NPT	12 PSIG SETTING; BRASS BODY
BUFFER TANK – BT-1	HW	HEAT-FLO	HT-60-BT-2	60 GAL	3"ø QUAD CONNECTIONS 23.5"Wx42"H, W/DRAIN & THERMOWELL
BYPASS CHEMICAL FEEDER	HW	CRISWOLD	DBC-2-25-CS	3 GAL	(2) FF/DRAIN V.; ISOLATION VALVES (3/4") & BAG FILTER
CALIBRATED BALANCE VALVES	HW	B & G	CB SERIES	SEE PLAN FOR SIZES	

(1) CHARGE EXP. TANK TO 12 PSIG @60 deg. F WTR. TEMP IN HW LOOP.

(2) STAINLESS STEEL STRAINER BASKET & 25 MICRON BAG FILTER.

HOT WATER BOILER SCHEDULE

TAG	MANUFACTURER	MODEL NO.	TYPE	FUEL	INPUT (MBH)	OUTPUT MBH	EFF. %	FLUE DIA.	FLUE TEMP.	BOILER WATER	GROSS NET RATING	AGA CSA	REMARKS
B-1	LOCHINVAR	WNH199	HEATING-CONDENSATION MODULATING	N. GAS	199.9 – 199	191.5 – 185	95	3"ø	3"ø	114"ø	94"ø	96"ø	(1)(2)(3)(4)(5)(6)(7)(8)(9) WALL-MTD BOILER
B-2	LOCHINVAR	WNH199	HEATING-CONDENSATION MODULATING	N. GAS	199.9 – 199	191.5 – 185	95	3"ø	3"ø	114"ø	94"ø	96"ø	(1)(2)(3)(4)(5)(6)(7)(8)(9) WALL-MTD BOILER

(1) 30 PSIG PRESSURE RELIEF VALVE & HIGH-LIMIT ADJUSTAT SUPPLIED WITH UNIT.

(2) BOILER PROVIDED WITH CONDENSATE TRAP & NEUTRALIZATION KIT.

(3) PROVIDE CONCENTRIC ROOF VENT TERMINATIONS PER MANUFACTURER'S RECOMMENDATIONS @/S.S. BIRD SCREENS.

(4) CPVC VENT PIPING; PVC COMBUSTION AIR PIPING.

(5) WIRE OUTDOOR AMBIENT AND INDOOR SENSOR TO BOILER CONTROLLER.

(6) WIRE HYDRONIC BUFFER TANK IMMERSION SENSOR TO BOILER CONTROLLER.

(7) BOILER PUMP PROVIDED WITH BOILER (GRUNDFOS UPS40, OR EQUAL).

(8) BACnet TCP/IP INTERFACE WITH B.M.S.

FAN SCHEDULE

TAG	EF-20	EF-21	EF-22	EF-30	EF-31	EF-32	EF-33
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL NO.	SCI-B-440-VG	SCI-12-432-VG	ROU-48-830-VG	ADR-42-VG	ROU-48-830-VG	ROU-48-630-VG	SQ-140-VG
AREA SERVED	JANI – 178 BATTERY	JANI – 177 FLUIDS	JANI – 173 MAINTENANCE	JANI – 200 BUS STORAGE	JANI – 201 SERVICE LANE	JANI – 200 BUS STORAGE	JANI – 200 MECH
CFM	130	300	10,000	24,000	24,000	24,000	1,330
ESP (IN)	1/4"	1/4"	1/2"	1/2"	1/2"	1/2"	3/4"
RPM	1140	1725	775	1050	775	891	1398
MOUNTING	SIDEWALL	SIDEWALL	ROOFTOP CURB	SIDEWALL	ROOFTOP CURB	ROOFTOP CURB	INLINE
DRIVE	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT-VFD	DIRECT
SONES (INLET/RADIATED)	2.3/–	3.7/–	30/–	34/–	30/–	–	30/–
ELECTRICAL: MOTOR HP (BHP)	1/15	1/4	7-1/2	7-1/2	7-1/2	2	7-1/2
FAN F.L.A.	1.3	2.85	9.8	9.3	9.8	MOCP:10A	9.8
VOLTAGE/PHASE	115/1	115/1	480/3	480/3	480/3	480/3	480/3
CONTROL	MANUAL CONTINUOUS	MANUAL CONTINUOUS	MANT. VENT H2 SENSORS	GARAGE VENT. – CO/H2 SENSORS	GARAGE VENT. – CONTROLLER	MANUAL-CONTROLLER	MANT. VENT H2 SENSORS
REMARKS	WALL EF (1)(2)(3)(4)(5)	WALL EF (1)(2)(3)(4)(5)	PRV (1)(2)(6)	WALL EF (1)(2)(6)	PRV (1)(2)(6)	HMS FAN (1)(2)	PRV (1)(2)(6)

TAG	3
MANUFACTURER	GREENHECK
MODEL NO.	SQ-140-VG
AREA SERVED	JANI – 200 MECH
CFM	1,330
ESP (IN)	3/4"
RPM	1398
MOUNTING	INLINE
DRIVE	DIRECT
SONES (INLET/RADIATED)	30/–
ELECTRICAL: MOTOR HP (BHP)	7-1/2
FAN F.L.A.	9.8
VOLTAGE/PHASE	230/1
CONTROL	BLDG OCCUPIED MODE
REMARKS	EF (1)(2)(6)

NOTE: ALL EF LINE VOLTAGE CONTROLS WIRED BY E.C.

(1) WALL HOUSING AND 40GCC ALUMINUM WEATHERHOOD.
(2) INSECT SCREEN.
(3) BACKDRAFT DAMPER
(4) ECM MOTOR WITH BALANCING DIAL.
(5) NEMA 1 DISCONNECT SWITCH, UNIT MOUNTED.
(6) INTERLOCK WITH BUILDING CONTROLS. OCCUPIED MODE SCHEDULE.
(7) MOTORIZED (115V) OPPOSED BLADE, LOW LEAKAGE DAMPER.
(8) ROOF CAP, CORROSION RESISTANT FASTENERS.
(9) INTERLOCK WITH GARAGE VENTILATION CONTROLS: H2.
(10) INTERLOCK WITH GARAGE VENTILATION CONTROLS: CO/H2.
(11) BELT DRIVEN, MOUNT MIN 7FT BELOW CEILING.
(12) STANDARD TOUCHSCREEN SPEED CONTROLLER.
(13) MOUNTING KIT WITH DOWN ROD FOR EACH FAN.
(14) INTERLOCK WITH EXISTING MAU-1.

DUCT SILENCER

TAG	MFGR	MODEL	TYPE	FACE DIM. (W)x(H) (IN)	LENGTH (IN)	AIR FLOW CFM	PRESSURE DROP "WG	VELOCITY FPM	DYNAMIC INSERTION LOSS dB @ OCTAVE BAND 63	125	250	500	1000	2000	4000	8000	REMARKS
DS-1	VIBRO-ACOUSTICS	RD-HV-72	RD	42X20	60"	3700	0.12	+730	3	8	11	23	24	19	13	9	(1)(2) SUPPLY
DS-2	VIBRO-ACOUSTICS	RD-HV-72	RD	42X20	60"	3700	0.12	–730	4	8	14	28	24	17	12	8	(1)(2) RETURN

DYNAMIC INSERTION LOSS PER ASTM E477-06A

(1) DUCT FLANGES
(2) 12 GA. CASING TO CONTROL BREAK-OUT.

RD = RECTANGULAR RED = RECTANGULAR ELBOW DISSIPATIVE T-RED = T-SHAPE RECTANGULAR ELBOW DISSIPATIVE

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Revision

SATELLITE BUS FACILITY REMODEL

2828-2861 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	8/11/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
3	ADDENDUM NO. 3	10/19/2023

DRAWN BY JR

CHECKED BY BC

MECHANICAL SCHEDULES

H301

CONTROL POINTS

DIGITAL OUTPUTS – DO

DO-1	SF	START/STOP
DO-2	RF	START/STOP
DO-3	CU	ENABLE/DISABLE
DO-4	FA	OPEN/CLOSE

ANALOG OUTPUTS – AO

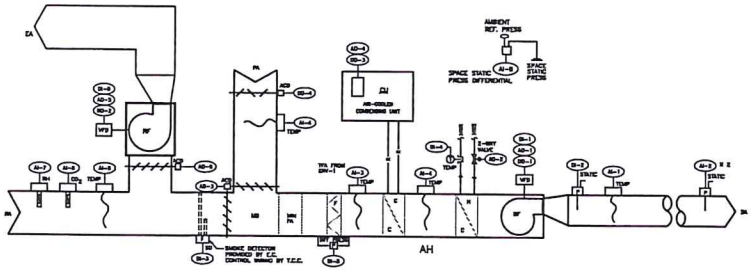
AO-1	SF-1 VFD SPEED
AO-2	HTG. 1- WAY VALVE
AO-3	MA DAMPERS
AO-4	CU-1 MODULATING COMPRESSOR CTRL.
AO-5	RF-1 VFD SPEED
AO-6	EA RELIEF DAMPER

DIGITAL INPUTS – DI

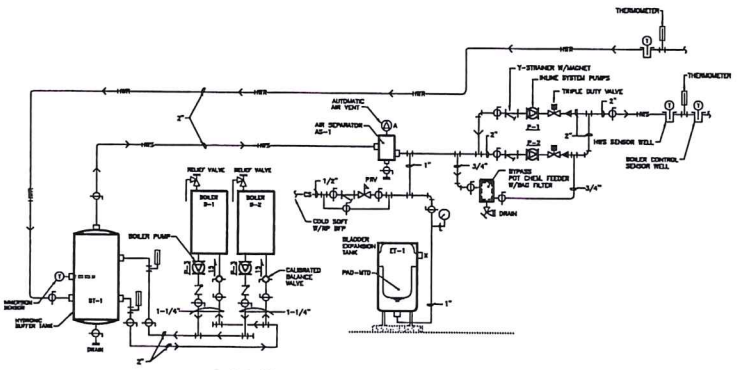
DI-1	SF	STATUS
DI-2	AH	HIGH STATIC LIMIT ALARM
DI-3	AH	SA SMOKE ALARM
DI-4	HC	HWH. TEMP FREEZE STAT
DI-5	AH	FILTER STATUS
DI-6	RF	STATUS

ANALOG INPUTS – AI

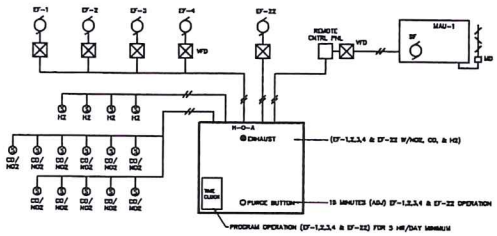
AI-1	AH	SA TEMP
AI-2	AH	SA DUCT STATIC (TYP 2)
AI-3	AH	MA TEMP
AI-4	AH	FA TEMP
AI-5	AH	CC LA TEMP
AI-6	RA	EDB
AI-7	RA	RH
AI-8	SPACE STATIC PRESS. DIFF.	



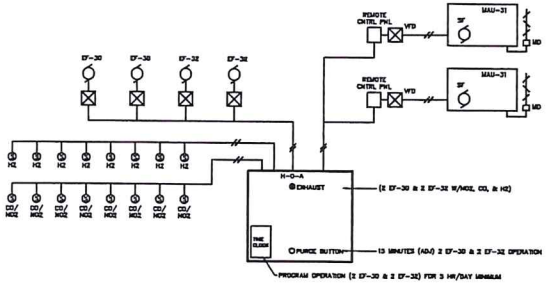
1 TEMPERATURE CONTROL SCHEMATIC - AH-1 & RF-1
N.T.S



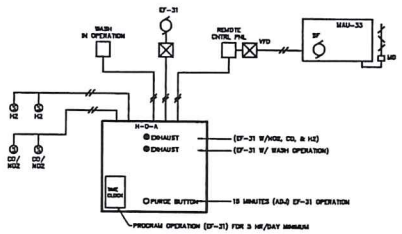
2 BOILER/HYDRONIC PIPING SCHEMATIC
N.T.S



3 3829 GARAGE VENTILATION CONTROL SCHEMATIC
N.T.S



4 3901 GARAGE VENTILATION CONTROL SCHEMATIC
N.T.S



3 3901 SERVICE LANE VENTILATION CONTROL SCHEMATIC
N.T.S

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REVISION

SATELLITE BUS
FACILITY REMODEL

2829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

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NO.	DESCRIPTION	DATE
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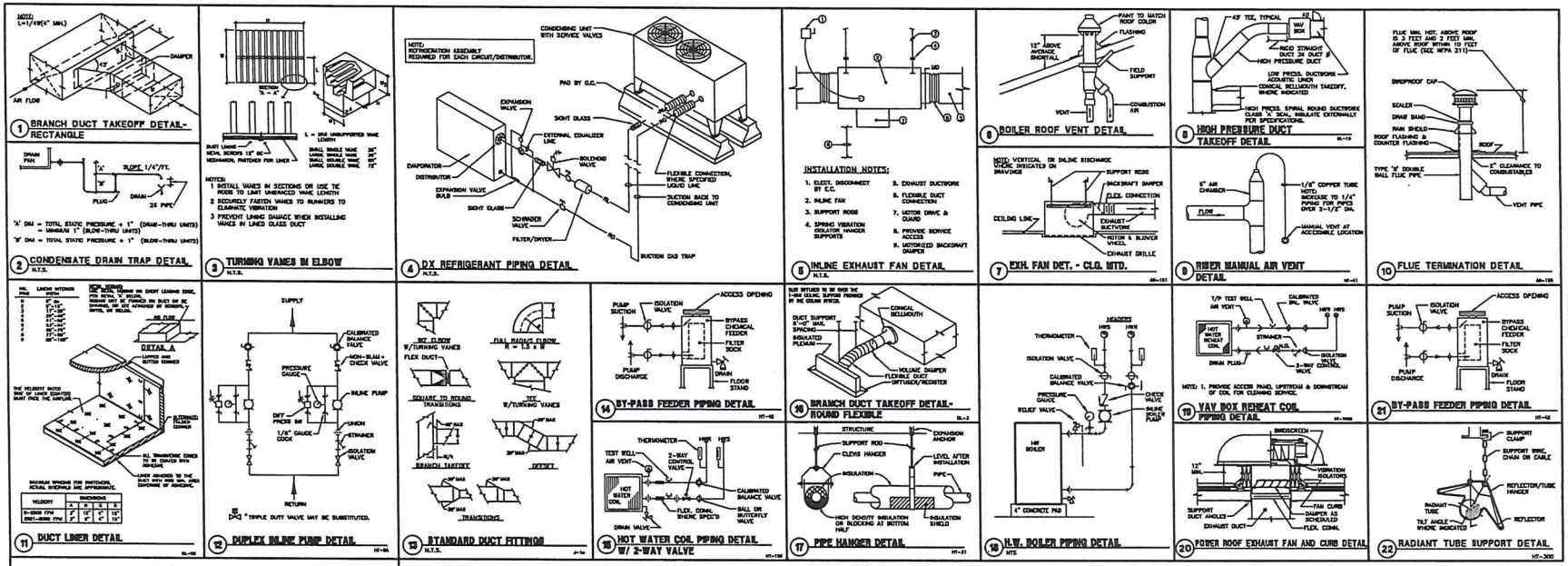
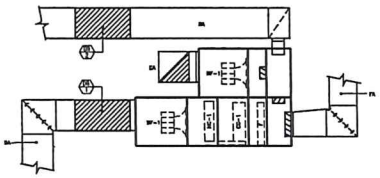
CHECKED BY BC

MECHANICAL SCHEMATICS

H400





1 AH-1 ELEVATION
N.T.S.

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Revision

SATELLITE BUS
FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

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CHECKED BY BC

MECHANICAL DETAILS

H500

GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL GENERAL NOTES WHICH WILL APPLY HERE.
2. NOTES ON DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
3. THE CONTRACTOR MUST VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING SITE AND BUILDING CONDITIONS WHICH WILL BE AFFECTED DURING CONSTRUCTION PRIOR TO SUBMITTING HIS BID PROPOSAL. CONTRACTOR IS CAUTIONED THAT THE PROJECT IS A REMODELING JOB AND IT IS ASSUMED THAT HE HAS INCLUDED FUNDS IN HIS BID TO COVER UNFORESEEN ITEMS WHICH MUST BE MOVED, RELOCATED OR ADJUSTED TO FIT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY EXTRA WORK CAUSED BY FAILURE TO VISIT, EXAMINE OR VERIFY.
4. ALL EXISTING EQUIPMENT IS TO REMAIN OPERATIONAL DURING CONSTRUCTION PERIOD. ALL TEMPORARY WIRING OR REROUTING OF CIRCUITRY TO ACHIEVE THIS IS BY THE ELECTRICAL CONTRACTOR. SHUTDOWN OF EXISTING SERVICES SHALL ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE OWNER AND THEN ONLY FOR THAT DATE AND DURATION AGREED UPON. INCLUDE ALL PREMIUM TIME CHARGES IN THE BASE BID.
5. EXISTING CONDUIT IN SAME PLACE MAY BE REUSED WHERE POSSIBLE. PULL NEW WIRE AS REQUIRED. ALL UNUSED CONDUIT, WIRE, JUNCTION BOXES, ETC. WILL BE REMOVED. RELOCATED EXISTING CONDUIT SHALL NOT BE ALLOWED.
6. BOXES LOCATED ON OPPOSITE SIDES OF NON-FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALL SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU THE WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
7. ELECTRICAL CONTRACTOR SHALL VERIFY TOTAL CONNECTED LOAD/HP WITH ALL OTHER TRADES PRIOR TO WIRING OF ALL OTHER TRADES' EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES AND FEEDER SIZE PER ELECTRICAL CODE AS REQUIRED.
8. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THE CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
9. PROVIDE SLEEVES/CONDUITS FOR LOW VOLTAGE CABLES WHEN THEY TRAVERSE ABOVE NON ACCESSIBLE CEILING SPACE. ALSO, PROVIDE SLEEVES THROUGH MASONARY WALLS FOR LOW VOLTAGE CABLES. VERIFY SLEEVE/CONDUIT SIZE REQUIREMENTS AND LOCATION WITH THE CONTRACTOR INSTALLING LOW VOLTAGE SYSTEM.
10. ALL FIRE ALARM SYSTEM WIRING SHALL BE INSTALLED IN CONDUITS INCLUDING WIRING ABOVE ACCESSIBLE CEILING. ALL OTHER LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT EXCEPT SUCH WIRING ABOVE ACCESSIBLE CEILING SHALL BE EXPOSED. PROVIDE "J" HOOKS AS REQUIRED. USE CABLE TRAY WHERE APPLICABLE.
11. UNLESS NOTED OTHERWISE, THE CONDUITS AND BACK BOXES SHALL BE CONCEALED WITHIN ALL DRY WALLS, NEW MASONRY WALLS AND IN CEILING. SURFACE METAL RACEWAY SHALL BE USED FOR DEVICES ON EXISTING MASONRY WALLS AND ON EXISTING DRY WALL OR PLASTERED WALL. AS MUCH AS PRACTICAL, WHEREVER FEASIBLE, INSTALL CONDUITS BEHIND A WALL IN AN UNFINISHED ROOM AND PENETRATE INTO AN ELECTRICAL DEVICE TO BE INSTALLED IN FINISHED AREA. IF THIS IS NOT FEASIBLE, PROVIDE SURFACE METAL RACEWAY. IN THE ROOM WHERE ELECTRICAL DEVICE NEEDS TO BE INSTALLED. THE SURFACE METAL RACEWAY SHALL BE ROUTED IN THE CORNER AND/OR ADJACENT TO WINDOW, DOOR FRAMEWORK ETC. SO IT IS AS INCONSPICUOUS AS POSSIBLE. FOR SAKE OF SIMPLICITY ONLY THE TERM "CONDUIT" IS USED IN MOST CASES IN THIS DOCUMENT. HOWEVER, BASED UPON ABOVE, THE SURFACE METAL RACEWAY AND CONDUIT SHALL BE USED, AS APPLICABLE. WHERE SURFACE METAL RACEWAY IS USED ONE TWO CHANNEL RACEWAY WITH DIVIDER CAN BE USED (FOR POWER & LOW VOLTAGE) WHERE APPLICABLE.
12. WHERE POWER AND LOW VOLTAGE OUTLETS (SUCH AS DATA OUTLETS) ARE SHOWN TOGETHER ON DRAWINGS, PROVIDE THEM ADJACENT TO EACH OTHER.
13. PROVIDE CONCRETE PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. (SUCH AS SWITCHBOARDS, PANELS, TRANSFORMER, ETC.)
14. FOR THE AREA TO BE DEMOLISHED, THE DEMOLITION OF LIGHT FIXTURES, OUTLETS OR ANY OTHER ELECTRICAL EQUIPMENT/DEVICES SHALL BE PERFORMED AS REQUIRED. SEE ARCHITECTURAL DRAWINGS AND THE RESPECTIVE FLOOR PLANS IN ELECTRICAL DRAWINGS FOR DEMOLITION. ELECTRICAL CONTRACTOR SHALL REMOVE ALL ASSOCIATED RACEWAYS AND WIRING AS REQUIRED. ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND DISCONNECT APPLICABLE WIRING TO FACILITATE SAFE DEMOLITION.
15. THE EXISTING EQUIPMENT IS SHOWN BASED UPON THE INFORMATION OBTAINED THROUGH BRIEF SURVEY OF THE FACILITY. CONTRACTOR IS TO SURVEY THE EXISTING FACILITY IN ORDER TO DETERMINE THE FULL EXTENT OF WORK AND BE COMPLETELY FAMILIAR WITH ALL THE EXISTING CONDITIONS INCLUDING PLUMBING, HVAC, ELECTRICAL, ETC. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY IN RESPECT TO THE ACCURACY OF SUCH INFORMATION SHOWN ON THE DRAWINGS. CONTRACTOR SHALL MAKE ADEQUATE ALLOWANCE IN HIS BID FOR SOME DEVIATIONS TO SUCH INFORMATION.
16. WHERE EXISTING CONDITIONS PREVENT PROPER INSTALLATION OF PROPOSED WORK, REROUTE, EXTEND OR ALTER EXISTING WORK SO AS TO ACCOMMODATE PROPOSED WORK REQUIREMENTS.
17. CIRCUIT NUMBERS SHOWN FOR EXISTING PANELS ARE FOR REFERENCE ONLY. USE NEXT AVAILABLE CIRCUITS AND PROVIDE APPROPRIATE SIZE BREAKERS.
18. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT & DEVICES. THE ELECTRICAL DRAWINGS ARE FOR CONCEPT ONLY.
19. IN GENERAL, DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED, LIGHT SOLID LINES INDICATE ITEMS TO REMAIN AND DARK SOLID LINES INDICATE NEW ITEMS.
20. WHERE EXISTING WIRING DEVICE (SUCH AS RECEPTACLE, SWITCH, ETC.) IS INDICATED TO REMAIN, REUSE EXISTING JUNCTION BOX, RACEWAY, BUT PROVIDE NEW DEVICE AND ASSOCIATED COVERPLATE. RECONNECT THIS DEVICE TO NEW CIRCUIT AS INDICATED.
21. THE SYSTEMS PROVIDED BY THIS CONTRACTOR SHALL BE COMPLETELY OPERATIONAL REGARDLESS OF OMISSION OF MINOR ITEMS, SUCH AS CIRCUIT NUMBER FOR RELAY, A CIRCUIT NUMBER NEXT TO A LIGHTING FIXTURE, ETC.
22. ALL OUTDOOR DEVICES SUCH AS RECEPTACLES, DISCONNECTS, SPEAKERS, LIGHTING FIXTURES, JUNCTION BOXES, ETC. SHALL BE OUTDOOR TYPE.
23. THE EXIT SIGNS ARE PROVIDED FOR BIDDING PURPOSE. FINAL LOCATION SHALL BE AS DETERMINED BY LOCAL FIRE MARSHALL. IF REQUIRED BY FIRE MARSHALL, PROVIDE ADDITIONAL EXIT SIGNS WITHOUT ADDITIONAL COST TO OWNER.
24. PROVIDE LOCKING CLIPS ON CIRCUIT BREAKERS SERVING EMERGENCY LIGHTING, FIRE ALARM SYSTEM, PA/INTERCOM, TELEPHONE SYSTEM AND SECURITY SYSTEM LOAD.
25. WHERE A NEW WALL IS TO BE BUILT PERPENDICULAR TO EXISTING WALL AND IF THERE IS AN EXISTING RECEPTACLE ON THE EXISTING WALL, RELOCATE THIS RECEPTACLE AS REQUIRED.
26. IN CERTAIN CASES LARGER SIZE CABLES ARE SPECIFIED IN ORDER TO COMPENSATE FOR VOLTAGE DROP. PROVIDE OVERSIZE AND/OR MULTIPLE LUGS AT THE LINE AND LOAD SIDE OF EQUIPMENT TO INCORPORATE LARGER AND ADDITIONAL CABLES. IF REQUIRED, PROVIDE SPLICE BOXES AT EITHER END OF CABLE TO INTERCEPT CHANGE IN THE CABLES.
27. PROVIDE LABEL ON MAIN ELECTRICAL SERVICE PANEL/SWITCHBOARD INDICATING THAT IT IS LISTED AND LABELED AS A SUITABLE CONNECTION TO AN ONSITE RENEWABLE ENERGY SOURCE TO COMPLY WITH ARTICLE 608.12 OF IGCC (INTERNATIONAL GREEN CONSTRUCTION CODE).
28. PROVIDE TYPED PANEL DIRECTORY INDICATING LOAD SERVED.
29. UNO, ALL OVERCURRENT PROTECTION DEVICES 800 AMP AND LARGER SHALL BE 100% RATED.
30. AS REQUIRED EXTEND EXISTING RECEPTACLES WHERE EXISTING WALLS ARE FURRED OUT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF THIS WORK.
31. DUE TO THE SMALL SCALE AND INTERFERENCE OF EXISTING EQUIPMENT, EACH AND EVERY ITEM IS NOT SHOWN. SHOWN INFORMATION IS INTENDED AS A GUIDE. CONTRACTOR SHALL VERIFY INFORMATION AND CONDITIONS IN THE FIELD.
32. RECONFIGURE LIGHTING FIXTURES AND OUTLETS IN MECHANICAL ROOMS TO BE COMPATIBLE WITH EQUIPMENT LAYOUT AS REQUIRED.
33. COORDINATE THE FINAL LOCATION OF RECEPTACLES IN TELECOMMUNICATION CLOSETS WITH TELECOMMUNICATION EQUIPMENT VENDOR.
34. ALL RECEPTACLES LOCATED WITHIN 6' OF SOURCE OF WATER (SUCH AS SINK) AND ALL OUTDOOR RECEPTACLES SHALL BE GFI TYPE, WHETHER SPECIFICALLY INDICATED OR NOT.
35. WHERE THE OUTLETS ARE SHOWN ON FURNITURE/DESK THEY SHALL BE PROVIDED EITHER UNDER THE DESK OR AS A PART OF MILLWORK AS INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONDUITS AND WIRING UNDER OR WITHIN THE FURNITURE/DESK. THE QUANTITY AND LOCATION OF INDICATED OUTLETS IS APPROXIMATE. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT AND MILLWORK VENDOR. IF FURNITURE/DESK IS NEXT TO WALL, THE ROUGH-IN SHALL BE PROVIDED FROM WALLS. IF FURNITURE/DESK IS FREE STANDING, THE ROUGH-IN SHALL BE PROVIDED FROM FLOOR. THE POWER POLE IS NOT ALLOWED UNLESS SPECIFICALLY INDICATED.
36. IN ORDER TO FACILITATE THE REPLACEMENT OF EXISTING OR INSTALLATION OF NEW DUCTWORK AND/OR PIPING, REMOVE EXISTING LIGHTING FIXTURE AND/OR SMOKE/HEAT DETECTORS AS REQUIRED. THIS WORK IS NOT SHOWN ON DRAWINGS. ONCE THE INSTALLATION OF DUCTWORK, PIPING ETC IS COMPLETED, REINSTALL ELECTRICAL EQUIPMENT/DEVICES. PROVIDE ADEQUATE ALLOWANCE IN THE BID FOR THIS WORK.
37. PROVIDE EXPANSION FITTINGS FOR ALL ELECTRICAL RACEWAYS AT EVERY EXPANSION JOINT. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATION OF EXPANSION JOINTS.
38. COORDINATE THE INSTALLATION OF ELECTRICAL EQUIPMENT SUCH AS PANELS, SWITCHBOARD, MOTOR CONTROL CENTER, TRANSFORMER ETC. WITH OTHER TRADES SUCH THAT NO DUCTWORK, PIPING ETC. IS LOCATED ABOVE THEM.
39. ELECTRICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC., FOR REMOVING EQUIPMENT AND MATERIAL OUT OF BUILDING. ELECTRICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION REQUIRED TO FACILITATE EXITING OF HIS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER COMPLETION.
40. VERIFY QUANTITY AND SIZE OF LUGS PROVIDED IN OTHER TRADE'S EQUIPMENT (FOR EXAMPLE, CHILLER, ELEVATOR, FIRE PUMP ETC.) BEFORE STARTING ANY WORK ASSOCIATED WITH SUCH EQUIPMENT. IF THEIR LUGS CANNOT ACCOMMODATE THE CABLES INDICATED IN ELECTRICAL DOCUMENT, PROVIDE LUG FITTINGS TO ACCOMMODATE CHANGE IN THE CABLES. PROVIDE SUCH FITTINGS IN A JUNCTION BOX AS CLOSE AS POSSIBLE TO THEIR EQUIPMENT. IF ALLOWED BY THE EQUIPMENT MANUFACTURER, SUCH FITTINGS MAY BE INSTALLED IN THEIR EQUIPMENT RATHER THAN IN A SEPARATE JUNCTION BOX.
41. MAIN SERVICE ENTRANCE EQUIPMENT SHALL HAVE LABEL FOR SERVICE ENTRANCE TYPE, AND SHALL BE GROUNDED PER ELECTRICAL CODE.
42. AS A MINIMUM, USE #10 FOR ALL EMERGENCY LIGHTING.
43. PROVIDE SEPARATE DEDICATED GROUNDING CONDUCTOR IN EACH FEEDER AND BRANCH CIRCUIT WIRING CIRCUIT.
44. PROVIDE FIRE SEALANTS FOR ALL PENETRATIONS THRU FIRE RATED FLOORS AND WALLS.
45. THE ELECTRICAL DRAWINGS SHOW DIRECT PRINCIPLE WORK WHICH MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INDIRECT AND INCIDENTAL WORK WILL ALSO BE NECESSARY DUE TO CHANGES AFFECTING EXISTING ARCHITECTURAL, MECHANICAL, PLUMBING OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INSPECT THOSE AREA, AND ASCERTAIN WORK NEEDED AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.
46. PROVIDE WIRELESS COMMUNICATOR AT FIRE ALARM CONTROL PANEL FOR DIALING OUT WHETHER SPECIFICALLY INDICATED OR NOT. THE COMMUNICATOR SHALL BE DSC MODEL LE 4010CF WITH ANTENNA MODEL LTE-50ANT OR APPROVED EQUAL. PROVIDE 120 VOLT POWER TO IT FROM NEAREST GENERATOR CIRCUIT IF THERE IS A GENERATOR, IF THERE IS NO GENERATOR PROVIDE POWER FROM NORMAL CIRCUIT. PROVIDE CAT 5 CABLE BETWEEN COMMUNICATOR AND FACP AND CABLE BETWEEN ANTENNA AND COMMUNICATOR. PROVIDE AN ADDITIONAL CAT 6 CABLE TO FACP FROM IT BACK AS A BACK UP TO COMMUNICATOR. IN LIEU OF COMMUNICATOR PROVIDE TWO PHONE LINES IF ACCEPTED BY OWNER AND LOCAL FIRE MARSHALL. COORDINATE APPLICABILITY OF COMMUNICATOR OR PHONE LINES WITH OWNER.
47. PROVIDE SMOKE DETECTOR WITHIN 5 FEET OF FIRE ALARM CONTROL PANEL, WHETHER SPECIFICALLY INDICATED OR NOT.
48. PROVIDE REMOTE TEST AND INDICATING STATION IN A READILY ACCESSIBLE AND VISIBLE SPACE FOR EACH DUCT SMOKE DETECTOR. VERIFY ITS EXACT LOCATION WITH OWNER AND LOCAL FIRE MARSHALL.
49. WHERE "VF" IS INDICATED NEXT TO A DEVICE, CONTRACTOR SHALL VERIFY ITS REQUIREMENT IN FIELD. THIS INCLUDES VERIFICATION OF DEVICE TYPE, LOCATION, WIRING CONDUIT AND CIRCUIT BREAKER ETC. PROVIDE APPROPRIATE DEVICE, WIRING, CONDUIT, CIRCUIT BREAKER ETC. AS REQUIRED.
50. PROVIDE RED PLASTIC SIGN AT MAIN WATER SERVICE METER INDICATING "MAIN GROUND LOCATION."
51. AIC (AVAILABLE INTERRUPTING CAPACITY) RATING OF PANELS, SWITCHBOARDS, BUSWAY, MCC ETC. ARE SHOWN BASED UPON PRELIMINARY CALCULATIONS. THE FINAL RATING OF THE EQUIPMENT SHALL BE BASED UPON THE ARC-FLASH AND SHORT CIRCUIT COORDINATION STUDY. PROVIDE POWER DISTRIBUTION EQUIPMENT TO MEET THE RATING INDICATED IN THIS STUDY. THE STUDY SHALL BE BASED UPON THE ULTIMATE CAPABILITY OF THE MAIN SERVICE EQUIPMENT AND NOT THE INITIAL TRANSFORMER PROVIDED BY THE UTILITY COMPANY.
52. PROVIDE ARC-FLASH LABELS ON NEW EQUIPMENT IN ACCORDANCE WITH NEC.
53. WHERE EQUIPMENT DEVICES ARE INDICATED TO BE REMOVED, REMOVE ACCESSIBLE, UNUSABLE CONDUITS & WIRING. IF CONDUITS ARE NOT ACCESSIBLE THEY MAY BE ABANDONED. MAINTAIN CONTINUITY TO THE LOAD WHICH IS TO REMAIN.
54. CONNECT FIRE ALARM SYSTEM DEVICES TO EXISTING SYSTEM. UPGRADE/MODIFY EXISTING HEAD-END EQUIPMENT AS REQUIRED.
55. WHERE EXISTING HVAC EQUIPMENT IS SHOWN TO BE REMOVED, REMOVE ITS ASSOCIATED STARTER, DISCONNECT SWITCH, CONDUIT WIRING ETC. FIELD VERIFY LOCATION OF STARTER, DISCONNECT, ETC.
56. ONLY OCCUPANCY/VACANCY SENSORS & REQUIRED SWITCHES ARE INDICATED. PROVIDE POWER PACKS (CONTROL RELAYS) AS REQUIRED. LOCATE SENSORS TO PROVIDE OPTIMUM COVERAGE OF THE DEVICE.
57. PROVIDE GROUND BUS BAR IN EACH PANEL WHETHER SPECIFICALLY INDICATED OR NOT.
58. ARMORED (BX) CABLES OR MC CABLES ARE NOT ALLOWED.
59. ELECTRICAL DEVICES SUCH AS SMOKE/HEAT DETECTORS, OCCUPANCY SENSORS, DAY LIGHT SENSOR ETC. SHALL BE LOCATED IN AS CENTER AND AS UNIFORMLY IN ROOM AS POSSIBLE. THEY ARE NOT ALWAYS SHOWN IN CENTER OF A ROOM OR UNIFORMLY IN A ROOM TO AVOID CONFLICT WITH ROOM NUMBER TAGS.
60. PROVIDE DUCT SMOKE DETECTORS FOR ANY AIR HANDLING UNIT HAVING 2000 CFM OR MORE. PROVIDE TWO DUCT SMOKE DETECTORS FOR ANY AIR HANDLING UNIT HAVING 15000 CFM OR MORE. THE DUCT SMOKE DETECTOR SHALL BE FURNISHED, INSTALLED AND TESTED UNDER "DIVISION 26. ITS ASSOCIATED REMOTE TEST AND INDICATING STATION SHALL ALSO BE FURNISHED, INSTALLED, WIRED AND TESTED UNDER DIVISION 26. "COMPLETE WARRANTY OF THESE PRODUCTS SHALL ALSO BE PROVIDED UNDER DIVISION 26. THE WIRING OF THESE PRODUCTS TO FIRE ALARM CONTROL PANEL SHALL BE PROVIDED UNDER DIVISION 26. WIRING FOR FAN SHUTDOWN SHALL BE PROVIDED UNDER DIVISION 23. REQUIRED RELAY FOR FAN SHUTDOWN SHALL BE PROVIDED UNDER DIVISION 26.
61. SERIES RATING OF PANELS IS ACCEPTABLE FOR THEIR SHORT CIRCUIT RATING.
62. LUGS FOR CIRCUIT BREAKERS AND SWITCHES SHALL BE RATED FOR TERMINATION OF 60 DEGREE C AND 75 DEGREE C RATED CONDUCTORS. THIS SHALL ALLOW USE OF CONDUCTORS BASED UPON AMPACITIES OF ONLY 75 DEGREE C.
63. OUTDOOR RECEPTACLES SHALL BE INSTALLED IN AN "IN USE" TYPE COVER. SUCH RECEPTACLES SHALL BE TYPE "WR" WEATHER-RESISTANT RECEPTACLES.
64. PROVIDE ARC ENERGY REDUCING FEATURES IN CIRCUIT BREAKERS RATED 1200 AMP OR LARGER TO MEET NEC 240.87.
65. IDENTIFY LOCATION OF CIRCUIT DISCONNECTS FOR FIRE ALARM PANEL PER NFPA 72, 10.5.
66. PER NFPA 72, 10.5.5.2; CIRCUIT BREAKERS FEEDING FIRE ALARM PANELS AND ASSOCIATED EQUIPMENT SHALL HAVE RED MARKING AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT" AND SHALL HAVE LOCK-ON DEVICE.
67. ALL LOW VOLTAGE WIRING SHALL BE IN CONDUITS EXCEPT WIRING ABOVE ACCESSIBLE CEILING. WIRING ABOVE ACCESSIBLE CEILING SHALL BE EXPOSED UNLESS REQUIRED BY CODE TO BE IN CONDUITS. COORDINATE WITH LOW VOLTAGE SYSTEM VENDORS ROUTING OF THEIR CABLING AND PROVIDE CONDUITS/RACEWAYS AS REQUIRED. ALL FIRE ALARM SYSTEM WIRING SHALL BE IN CONDUITS.
68. FOR DATA WIRING, PROVIDE CONDUITS PER FOLLOWING, (BASED UPON CAT6 CABLES HAVING 0.3" DIAMETER CABLES)

CONDUIT	NUMBER OF CABLES
3/4"	2
1"	4
1 1/4"	6
1 1/2"	10
2"	17

69. PROVIDE CAT5E OR EQUIVALENT CABLING SYSTEM FOR OCCUPANCY SENSORS, VACANCY SWITCHES/SENSORS, POWER PACKS, DIMMER SWITCHES, DAY LIGHT SENSORS ETC. AS REQUIRED.
70. UNLESS NOTED OTHERWISE, WHEN DETERMINING THE DIAMETER FOR DATA WIRING OF FEEDER CONDUITS FROM THE CABLE ORIGINATION POINT CONDUIT SIZING SHALL ALLOW FOR 50% ADDITIONAL CAPACITY FOR OWNERS FUTURE DATA NEEDS.
71. FOR EACH FLUSH MOUNTED PANEL, PROVIDE THREE 1" SPARE EMPTY CONDUITS AND TERMINATE ABOVE ACCESSIBLE CEILING SPACE FOR FUTURE USE.
72. LIGHTING FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING SYSTEM BY AT LEAST TWO WIRES ON OPPOSITE CORNERS OF THE FIXTURES.
73. ALL WORK SHALL COMPLY WITH ALL LOCAL CODES.
74. UNLESS NOTES OTHERWISE, COLOR OF WIRING DEVICES (OUTLETS, SWITCHES AND COVER PLATES) SHALL BE WHITE. VERIFY FINAL COLOR WITH THE ARCHITECT BY PROVIDING SUBMITTAL.

ELECTRICAL SYMBOLS

- MULTI-OUTLET ASSEMBLY
- CABLE TRAY
- MANHOLE
- HANDHOLE
- PULL BOX
- JUNCTION BOX- EXPOSED OR IN CEILING
- JUNCTION BOX – WALL MOUNTED
- JUNCTION BOX WITH FLEXIBLE CONDUIT AND FINAL CONNECTION TO EQUIPMENT.
- HAND DRYER
- LIGHTING FIXTURE, SIZE AND TYPE AS INDICATED ON SCHEDULE
- STRIP LIGHTING FIXTURE, SIZE AND TYPE AS INDICATED ON SCHEDULE.
- DOWNLIGHT LIGHTING FIXTURE, SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL MOUNTED LIGHTING FIXTURE, SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL MOUNTED LIGHTING FIXTURE, SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL WASH LIGHTING FIXTURE- SIZE AND TYPE AS INDICATED ON SCHEDULE.
- EMERGENCY LIGHTING FIXTURE
- LIGHTING STANDARD – SINGLE FIXTURE, POLE MOUNTED. NUMBER IDENTIFIES FIXTURE
- LIGHTING STANDARD – MULTI FIXTURE, POLE MOUNTED. NUMBER IDENTIFIES FIXTURE
- LIGHTING FIXTURES: "A" UPPER CASE LETTER INDICATES LIGHTING FIXTURE TYPE. REFER TO LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION AND MOUNTING. "1" NUMBER INDICATES BRANCH CIRCUIT NUMBER(S) "a" LOWER CASE LETTER INDICATES SWITCH CONTROL(S)
- TRACK LIGHTING
- BATTERY PACK, EMERGENCY LIGHTING UNIT
- REMOTE HEAD CONNECTED TO BATTERY PACK.
- COMBINATION EXIT SIGN AND EMERGENCY LIGHTING UNIT
- "X1" INDICATES FIXTURE. SHADED QUADRANTS INDICATES DIRECTION OF LIGHTED FACES. ARROWS INDICATE DIRECTION OF ARROWS.
- LIGHT SWITCH, SINGLE POLE UNLESS NOTED OTHERWISE:
  - "a" SWITCHED
  - "D" DIMMER SWITCH
  - "EP" EXPLOSION PROOF
  - "F" FAN CONTROL
  - "K" KEY OPERATED
  - "P" PILOT LIGHT
  - "XX" CIRCUIT NUMBER
  - "T" THERMAL OVERLOAD PROTECTION
  - "VS" VACANCY SWITCH
  - "WP" WEATHERPROOF
  - "2P" TWO POLE
  - "3P" THREE POLE
  - "3W" THREE-WAY
  - "4W" FOUR-WAY
  - "MC" MOMENTARY CONTACT
  - "VC" VACANCY SENSOR
  - "OC" OCCUPANCY SENSOR
- DAYLIGHT SENSOR
- OCCUPANCY SENSOR
- VACANCY SENSOR
- TIME CLOCK
- PHOTOCELL
- BLUE INDICATOR LIGHT
- RED/GREEN INDICATOR LIGHT
- TIMER SWITCH

WALL	CEILING MOUNTED	FLUSH FLOOR MOUNTED	ABOVE COUNTER	
				SINGLE RECEPTACLE
				QUADPLEX RECEPTACLE
				DUPLEX RECEPTACLE
				DUPLEX RECEPTACLE – SPLIT WIRED
				DUPLEX RECEPTACLE – CRITICAL BRANCH
				DUPLEX RECEPTACLE – DEDICATED CIRCUIT
				TELE- DATA SYSTEMS OUTLET
				VOICE ONLY

- JUNCTION BOX WITH FLEXIBLE CONDUIT TO FINAL EQUIPMENT OR FURNITURE SYSTEM POWER CONNECTION
- ADJACENT LETTERS IN THE SYMBOLS ABOVE INDICATE THE FOLLOWING:
  - "EP" RECEPTACLE IS EXPLOSION PROOF
  - "GF" RECEPTACLE HAS GROUND FAULT CIRCUIT INTERRUPTER
  - "IG" RECEPTACLE HAS ISOLATED GROUND
  - "TP" TAMPER PROOF (SAFETY TYPE)
  - "TVSS" RECEPTACLE HAS TRANSIENT VOLTAGE SURGE SUPPRESSION
  - "WP" RECEPTACLE HAS WATERPROOF COVER
  - "XX" RECEPTACLE CIRCUIT NUMBER
  - "USB" RECEPTACLE WITH 2 USB PLUGS.
- SPECIAL PURPOSE OUTLET – SEE SCHEDULE "XX" INDICATES OUTLET TAG
- 4FT. MULTI RECEPTACLE STRIP
- PUSH-BUTTON STATION
- GARAGE DOOR OPENER PUSH-BUTTON STATION
- EMERGENCY SHUT OFF SWITCH
- PUSH PLATE STATION
- ENCLOSED CIRCUIT BREAKER
- TECHNOLOGY GROUND BAR- 1/4" X 4" X 12" COPPER
- REMOTE INDICATOR MODULE
- MOTOR OR EQUIPMENT
- FUSED DISCONNECT SWITCH, "AS" INDICATES AMPERE RATING OF SWITCH AND "AF" INDICATES AMPERE RATING OF FUSE
- NON-FUSED DISCONNECT SWITCH, CIRCUIT BREAKER IN ENCLOSURE.
- CONTACTOR-SEE SCHEDULE
- SWITCHGEAR, SWITCHBOARD OR MOTOR CONTROL CENTER, DASHED LINES INDICATE FUTURE SECTIONS, ARROW INDICATES FRONT
- SURFACE MOUNTED DISTRIBUTION PANELBOARD
- SURFACE MOUNTED NORMAL BRANCH CIRCUIT PANELBOARD
- RECESSED MOUNTED NORMAL BRANCH CIRCUIT PANELBOARD
- TRANSFORMER
- HAND DRYER
- KEY PAD

TECHNOLOGY SYMBOLS

- INFORMATION DATA OUTLET
- COMCAST EQUIPMENT CABINET
- COMCAST SPLITTER JUNCTION POINT
- TELEVISION OUTLET-WITH LOW VOLTAGE JACK AND RECEPTACLE
- FIRE ALARM CONTROL PANEL
- TECHNOLOGY GROUND BAR, 12" L X 2" H X 0.25" T COPPER BAR WITH HOLES FOR LUGS
- SPEAKER – LOCAL SOUND SYSTEM
- EQUIPMENT CABINET
- PROJECTOR MOUNT
- RESCUE ASSISTANCE CALL STATION
- RESCUE ASSISTANCE CONTROL PANEL
- INTERCOM STATION
- DOME CAMERA

ELECTRICAL ABBREVIATIONS

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AIC	AVAILABLE INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BFS	BOILER FEED SYSTEM
C	CONDUIT
CCTV	CLOSED CIRCUIT TV
DW	DISHWASHER
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EL	ELEVATOR
EM	EMERGENCY
EDH	ELECTRIC DUCT HEATER
ESUH	ELECTRIC SUSPENDED UNIT HEATER
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EWH	ELECTRICAL WATER HEATER
E	EXISTING
FBO	FURNISHED BY OTHERS
FLA	FULL LOAD AMPS
FVNR	FULL VOLTAGE NON REVERSING
GF	GROUND FAULT INTERRUPTER
GRD	GROUND
HP	HORSE POWER
JB	JUNCTION BOX
KW	KILOWATTS
KVA	KILO VOLT AMPS
LTG	LIGHTING
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MFG	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
MV	MERCURY VAPOR
MW	MICROWAVE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NL	NIGHT LIGHT
NO	NORMALLY OPEN
P	PRESENT TO REMAIN
PX	PRESENT TO BE REMOVED
PH	PHASE (ø)
PNL	PANEL
PRE	POWER ROOF EXHAUST
RF	REFRIGERATOR
RTU	ROOF TOP UNIT
STV	STOVE
SW	SWITCH
TTC	TELEPHONE TERMINAL CABINET
UNO	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
UH	UNIT HEATER
V	VOLTS
VAV	VARIABLE AIR VOLUME
VCP	VACUUM CONDENSATE PUMP
VFD	VARIABLE FREQUENCY DRIVE
VF	VERIFY IN FIELD
W	WIRE
WE	WITH EQUIPMENT
WP	WEATHER PROOF
XP	EXISTING TO BE REPLACED
XR	EXISTING TO BE RELOCATED
XN	EXISTING RELOCATED IN NEW LOCATION

FIRE ALARM DEVICE SCHEDULE

SYMBOL	DESCRIPTION	NOTES
	CEILING MOUNTED HORN STROBE	CEILING MOUNT AUDIO/VISUAL ANNUNCIATION DEVICE WITH ADJUSTABLE CANDELA SETTINGS. ADJUST CANDELA TO SETTING INDICATED ON PLAN.
75	CEILING SPEAKER STROBE	CEILING MOUNT AUDIO/VISUAL ANNUNCIATION DEVICE WITH ADJUSTABLE CANDELA SETTINGS. ADJUST CANDELA TO SETTING INDICATED ON PLAN.
FAAP	FIRE ALARM ANNUNCIATOR PANEL	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL	FIRE ALARM CONTROL PANEL
	FLOW SWITCH	FLOW SWITCH
	PULLSTATION	ADDRESSABLE PULLSTATION - MOUNT TO 48" AFF.
	SMOKE DETECTOR	ADDRESSABLE SMOKE DETECTOR - CEILING MOUNTED UNLESS OTHERWISE NOTED.
	STROBE	WALL MOUNTED STROBE
	TAMPER SWITCH	TAMPER SWITCH
	WALL MOUNTED HORN STROBE	WALL MOUNT AUDIO/VISUAL ANNUNCIATION DEVICE WITH ADJUSTABLE CANDELA SETTINGS. ADJUST CANDELA TO SETTING INDICATED ON PLAN.
	CARBON MONOXIDE DETACTOR	TAMPER SWITCH

ELECTRICAL PROJECT GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW THE EXACT LOCATIONS OF EQUIPMENT OR FIXTURES, CONDUIT ROUTING, ETC. THE CONTRACTOR MUST REFER TO ARCHITECTURAL AND MECHANICAL PLANS, DETAILS, AND SPECS TO OBTAIN COMPLETE INFORMATION.
2. PROVIDE LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED FOR COMPLETE AND FUNCTIONING SYSTEMS, FULLY TESTED AND READY FOR USE.
3. ALL WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, STATE, AND WITH REGULATIONS AND REQUIREMENTS OF ALL LOCAL AND NATIONAL CODES AS THEY MAY APPLY TO THE PROJECT AND TO THE PUBLIC SAFETY.
4. THE CONTRACTOR IS RESPONSIBLE FOR SEEING THAT NEC CLEARANCES AROUND AND ABOVE ELECTRICAL EQUIPMENT ARE MAINTAINED. REFER TO NEC 110-26 FOR SPECIFIC INFORMATION.
5. VERIFY ANY AND ALL CONFIGURATIONS, DIMENSIONS AND ELEVATIONS BY FIELD MEASUREMENTS AND COORDINATE WITH ARCHITECTURAL DRAWINGS AND STRUCTURAL CONDITIONS.
6. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. ALL RACEWAY WITHIN THE STRUCTURE ABOVE THE FLOOR SLAB SHALL BE METAL. RACEWAY BELOW THE FLOOR SLAB AND UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE SHALL BE PVC AT A MINIMUM. CONDUIT LEAVING THE SLAB SHALL TRANSITION TO RIGID METAL CONDUIT (RMC) PRIOR TO EXITING THE SLAB.
7. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON THWN INSULATION, 40°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
8. CONDUCTORS IN WITHIN UNINSULATED CEILING SPACES AND OUTDOORS MUST BE DERATED BASED UPON THE AMBIENT TEMPERATURE. THE CONTRACTOR IS RESPONSIBLE FOR REVISING CONDUCTOR SIZE IF ACTUAL CONDUIT ROUTING DIFFERS FROM THE CONSTRUCTION DOCUMENTS.
9. EXACT TYPE OF MECHANICAL DEVICES AND EQUIPMENT LOCATIONS SHALL BE COORDINATED WITH MECHANICAL CONTRACTOR(S).
10. ALL MATERIALS, EQUIPMENT, AND APPARATUS INSTALLED ON THE PROJECT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS AND THE MANUFACTURER. IN THE CASE OF EXCEPTIONS, THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL CERTIFY IN WRITING TO THE OWNER'S REPRESENTATIVE, THAT THE INSTALLATION HAS BEEN MADE IN ACCORDANCE WITH SUCH PRINTED INSTRUCTIONS AND REQUIREMENTS.
11. MODEL NUMBERS INDICATED ON THE DRAWINGS ARE ONLY FOR REFERENCE AND CONVENIENCE. CONFIRM THE ACCURACY OF ALL MODEL NUMBERS SO AS TO MEET THE SPECIFIC PROJECT REQUIREMENTS AND MINIMUM INDICATED PERFORMANCE DATA. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT EQUIPMENT FITS WITHIN THE SPACE ALLOTTED.
12. COORDINATE AND VERIFY LOCATIONS, ROUGH-IN REQUIREMENTS AND INSTALLATION REQUIREMENTS OF EQUIPMENT FURNISHED BY THE OWNER.

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E201F	POWER NEW WORK ENLARGED PLAN – 3901 STORAGE BLDG.
E201G	POWER NEW WORK ENLARGED PLAN – 3901 STORAGE BLDG
E300A	EXISTING REVISED PANEL SCHEDULES – 3829 MAINT. BLDG.
E300B	NEW PANEL SCHEDULES – 3829 MAINT. BLDG.
E301A	EXISTING REVISED PANEL SCHEDULES – 3901 STORAGE BLDG.
E301B	EXISTING REVISED PANEL SCHEDULES – 3901 STORAGE BLDG.
E301C	NEW PANEL SCHEDULES – 3901 STORAGE BLDG.
E400	ONE LINE DIAGRAM – 3829 MAINT. BLDG.
E401	ONE LINE DIAGRAM – 3901 STORAGE BLDG.
E500A	FIRE ALARM NEW WORK – 3829 MAINT. BLDG. – SECTION A
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E501B	FIRE ALARM NEW WORK – 3901 STORAGE BLDG. – SECTION B
E501C	FIRE ALARM NEW WORK – 3901 STORAGE BLDG. – SECTION C
E501D	FIRE ALARM NEW WORK – 3901 STORAGE BLDG. – SECTION D
E600	LIGHTING, MOTOR & EQUIPMENT SCHEDULES – 3829 MAINT. BLDG.
E601	LIGHTING, MOTOR & EQUIPMENT SCHEDULES – 3901 STORAGE BLDG.

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Revision
HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023
3	ADDENDUM 3	10/18/2023

DRAWN BY EP
CHECKED BY MK

NOTES, SYMBOLS, ABREVIATIONS & SHEET INDEX

E001

LIGHTING DEMOLITION GENERAL NOTES:

A1

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION IN DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT ONLY MAY BE REUSED.

A1

4. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION UNTIL NEW SYSTEM IS INSTALLED, INSPECTED, APPROVED, AND ONLINE/OPERATIONAL. REMOVE ANY/ALL EXISTING FIRE ALARM DEVICES ONCE THE NEW SYSTEM IS ONLINE/OPERATIONAL. PROVIDE FIRE WATCH, ETC. AS REQUIRED BY LOCAL AHJ DURING CONSTRUCTION.
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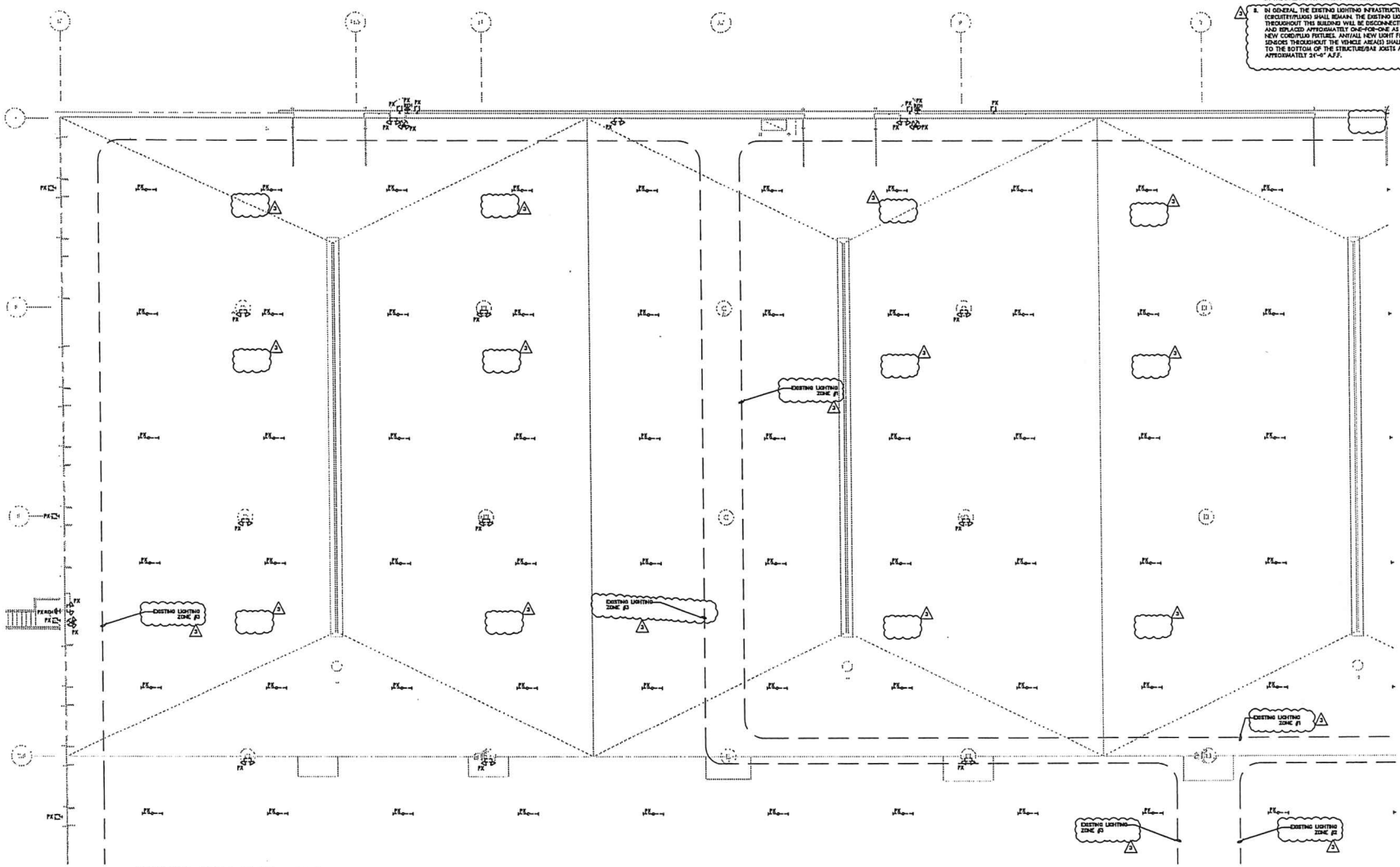
A2

8. IN GENERAL, THE EXISTING LIGHTING INFRASTRUCTURE (CIRCUITRY/PLUGS) SHALL REMAIN. THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED AND REPLACED APPROXIMATELY ONE-FOR-ONE AS SHOWN WITH NEW CORD/PLUG FIXTURES. ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 24'-0" A.F.F.



1 LIGHTING DEMO PLAN – 3901 STORAGE BLDG. – SECTION A
SCALE: 1/8" = 1'-0"

N

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REVISION

SATELLITE BUS FACILITY REMODEL

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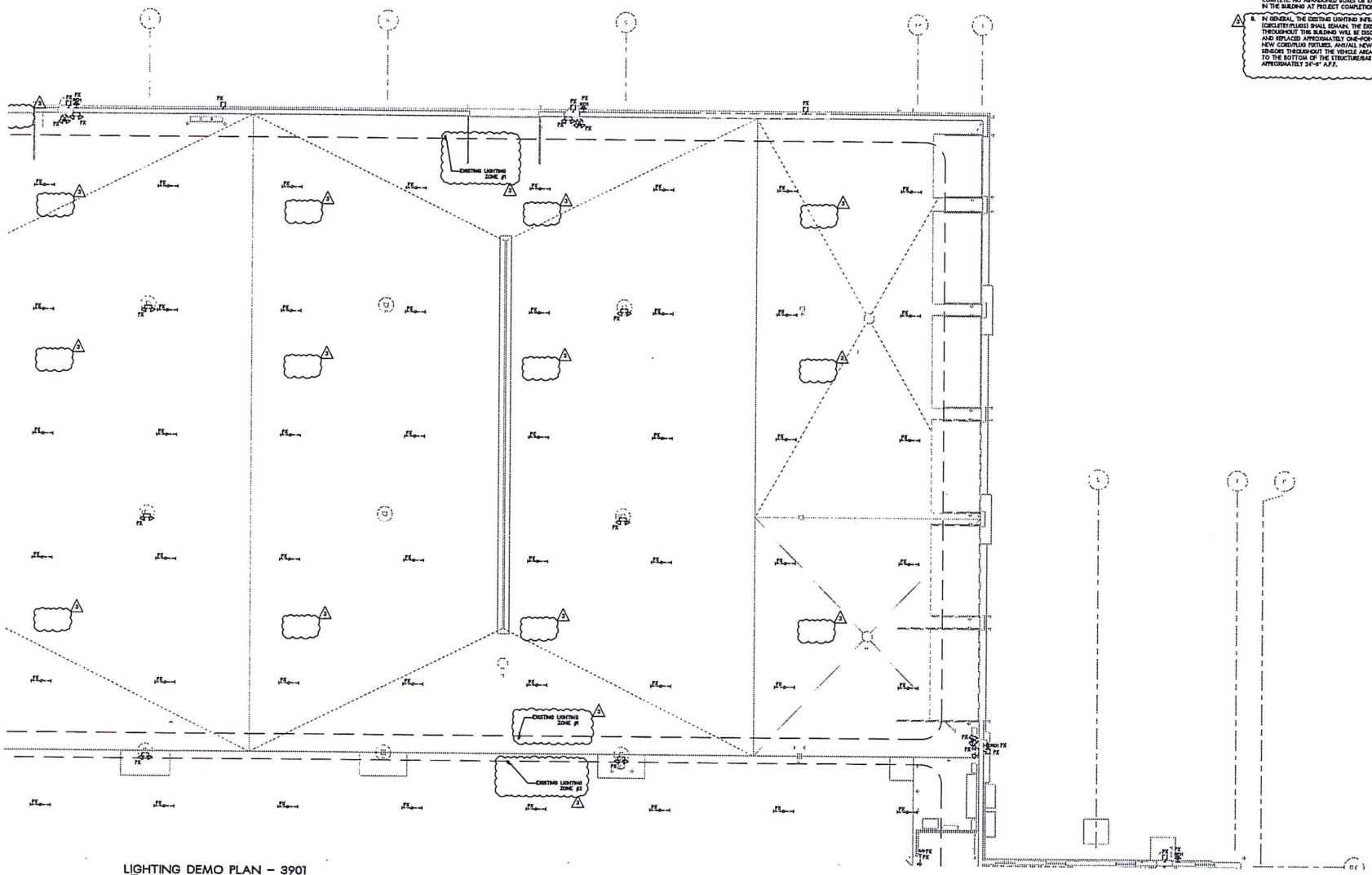
DRAWN BY: Author
CHECKED BY: Checker

LIGHTING DEMO PLAN - 3901 STORAGE BDLG - SECTION A

KEYPLAN

A B C D

ED101A



1 LIGHTING DEMO PLAN – 3901 STORAGE BLDG. – SECTION B
SCALE: 1/8" = 1'-0"

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LIGHTING DEMO PLAN - 3901 STORAGE BLDG. - SECTION B

KEYPLAN
A B C D

ED101B

LIGHTING DEMOLITION GENERAL NOTES:

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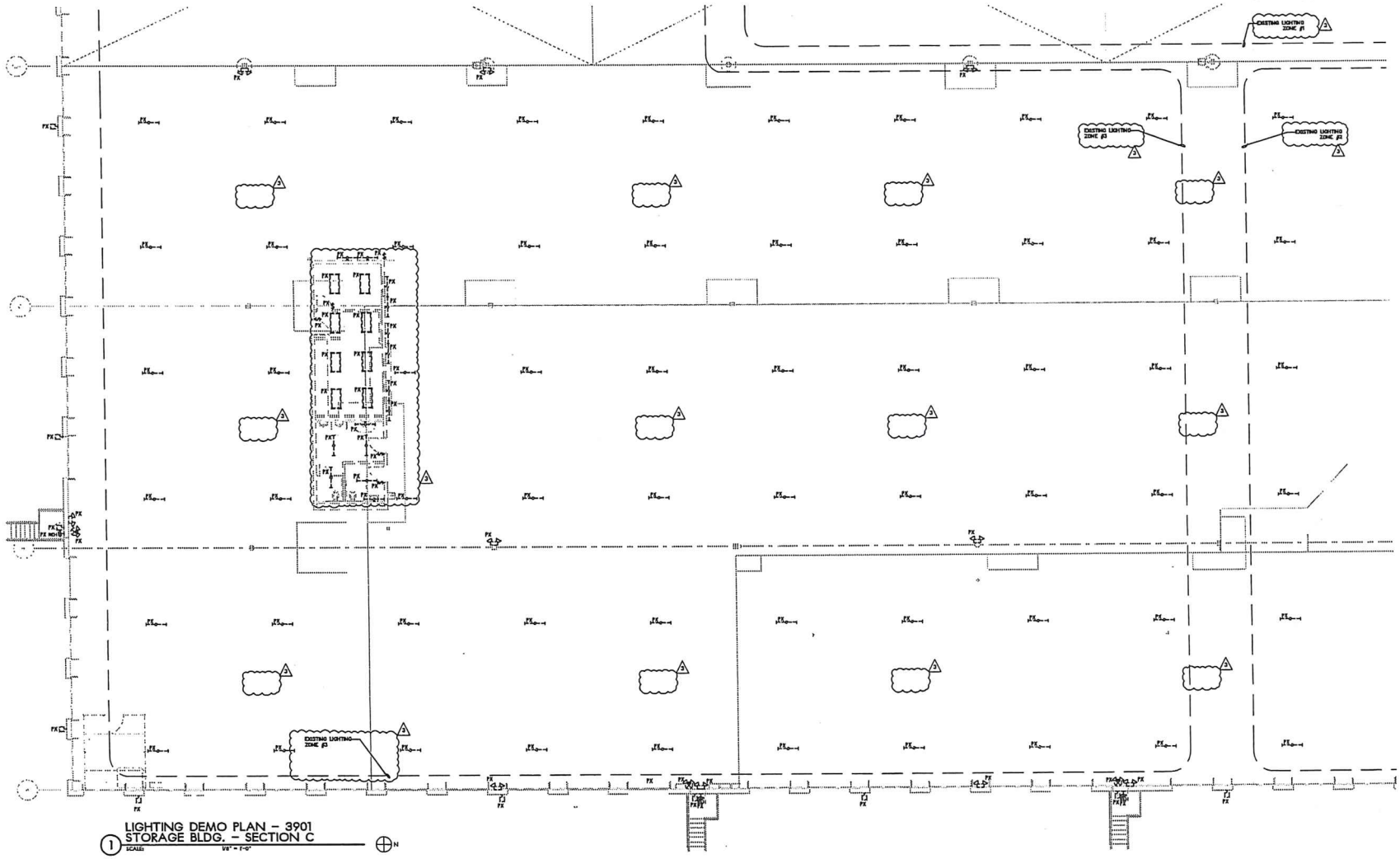

LIGHTING DEMO PLAN – 3901 STORAGE BLDG. – SECTION C

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

N

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HEG HEIN Engineering Group

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SATELLITE BUS FACILITY REMODEL

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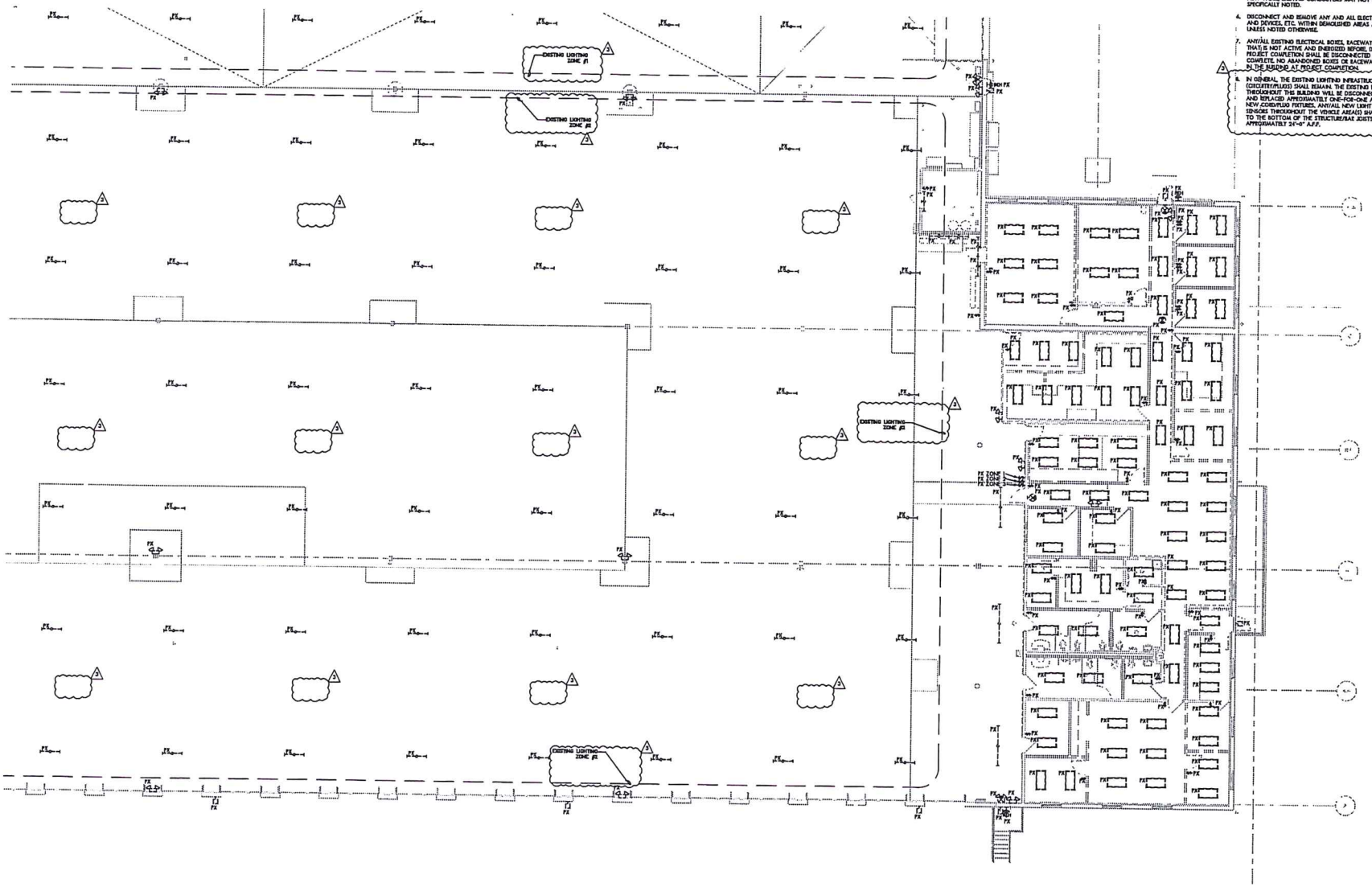
LIGHTING DEMO PLAN - 3901 STORAGE BLDG. - SECTION C

KEYPLAN

ED101C



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4. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED), DURING CONSTRUCTION AND SHALL BE REINSTALLED AT APPROPRIATE ORIGINAL LOCATION(S). SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
5. ALL ELECTRICAL CONDUCTORS AND CONDUITS SERVING REMOVED EQUIPMENT AND DEVICES SHALL BE COMPLETELY REMOVED. CONDUIT AND CONDUCTORS SHALL NOT BE ABANDONED IN PLACE. EXISTING CONDUITS AND PATHWAYS MAY BE REUSED. FOR NEW WORK, EXISTING CONDUCTORS MAY NOT BE REUSED, UNLESS SPECIFICALLY NOTED.
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1 LIGHTING DEMO PLAN – 3901 STORAGE BLDG. – SECTION D
SCALE: 1/8" = 1'-0"

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HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
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LIGHTING DEMO PLAN - 3901 STORAGE BLDG. - SECTION D

KEYPLAN

ED101D

POWER DEMOLITION GENERAL NOTES:

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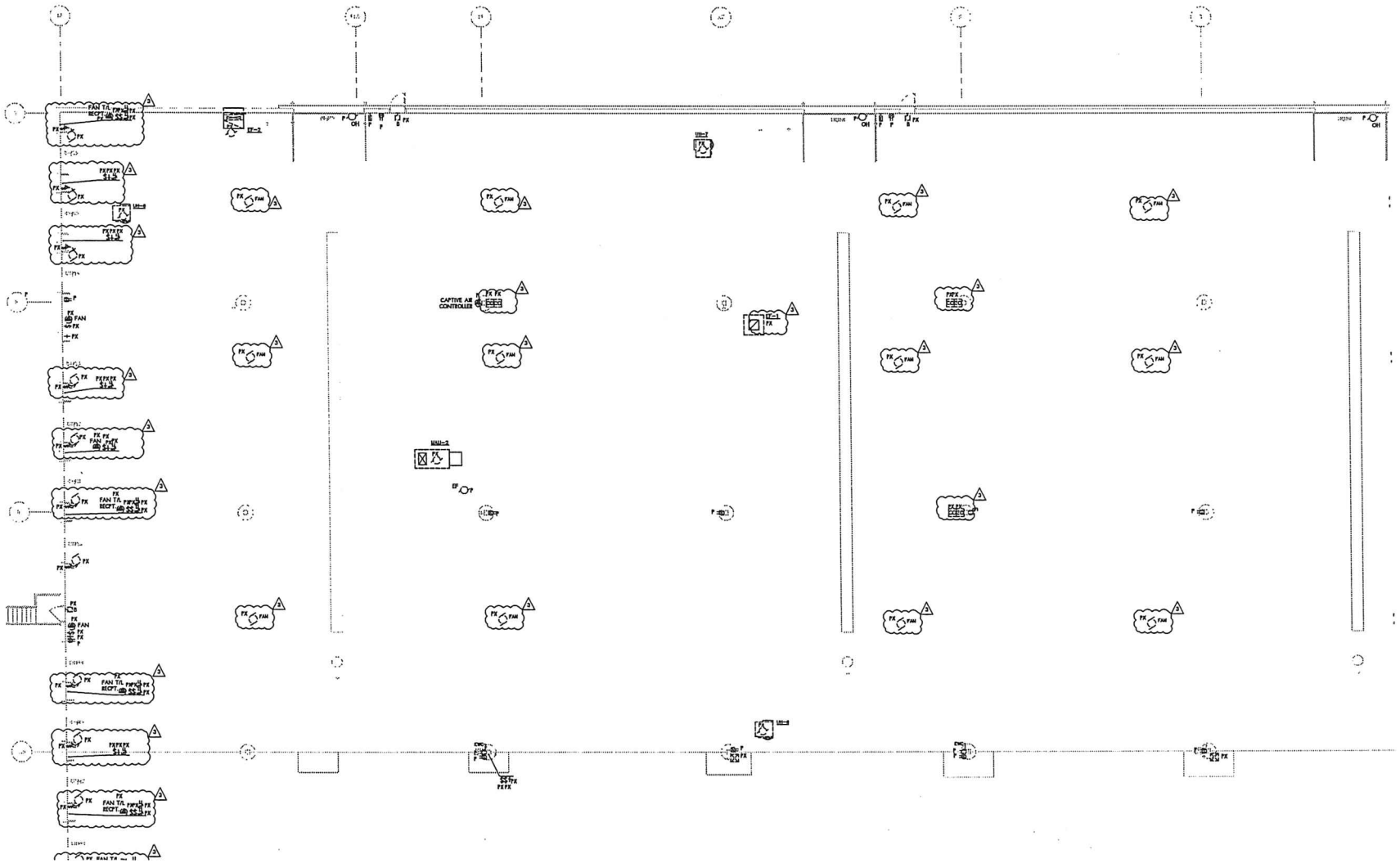

POWER DEMO PLAN – 3901 STORAGE BLDG. – SECTION A

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

N

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SATELLITE BUS FACILITY REMODEL

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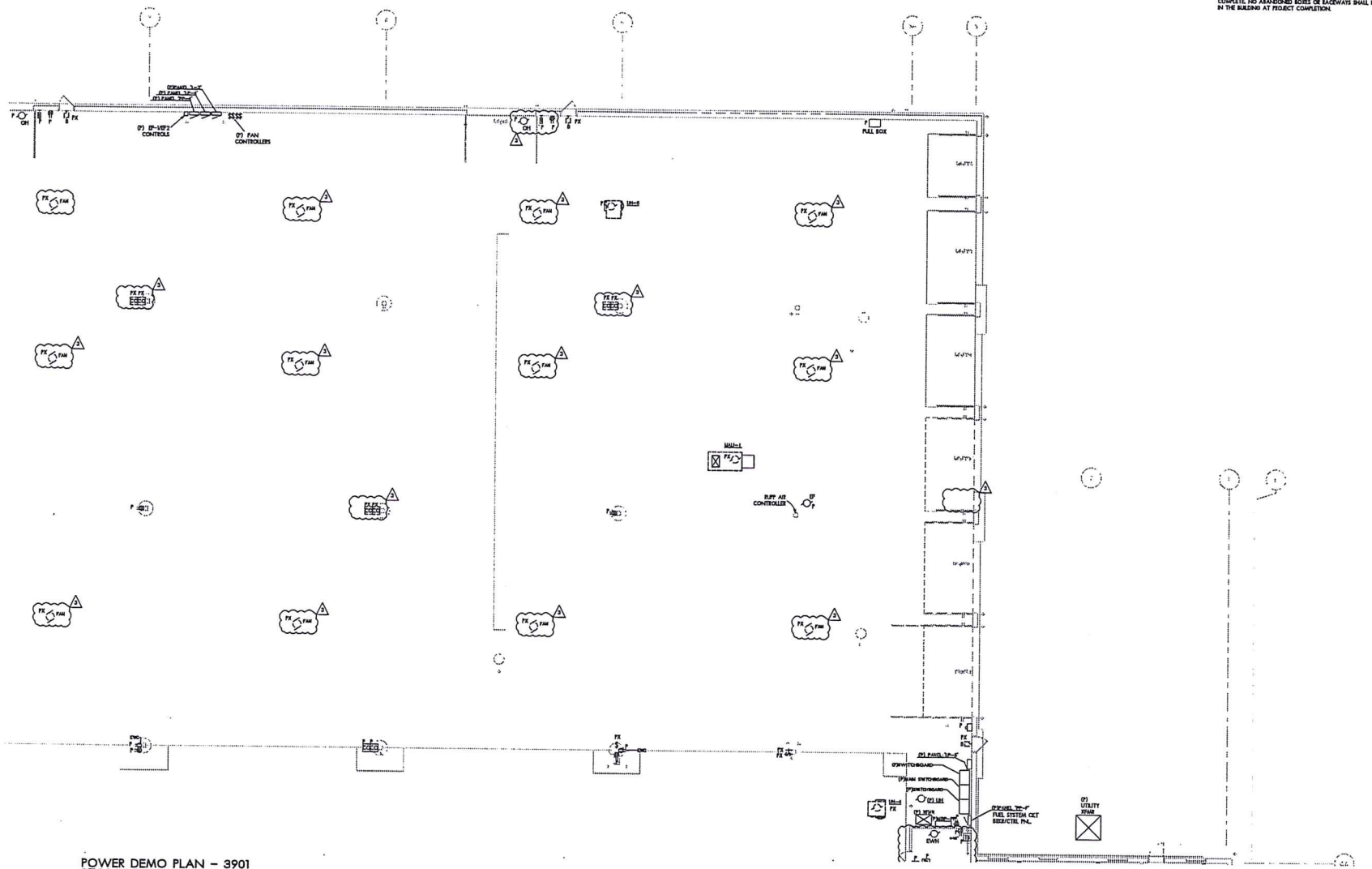
POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION A

KEYPLAN

A B C D

ED201A



POWER DEMO PLAN – 3901 STORAGE BLDG. – SECTION B

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SATELLITE BUS FACILITY REMODEL

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POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION B

KEYPLAN

A B C D

ED201B

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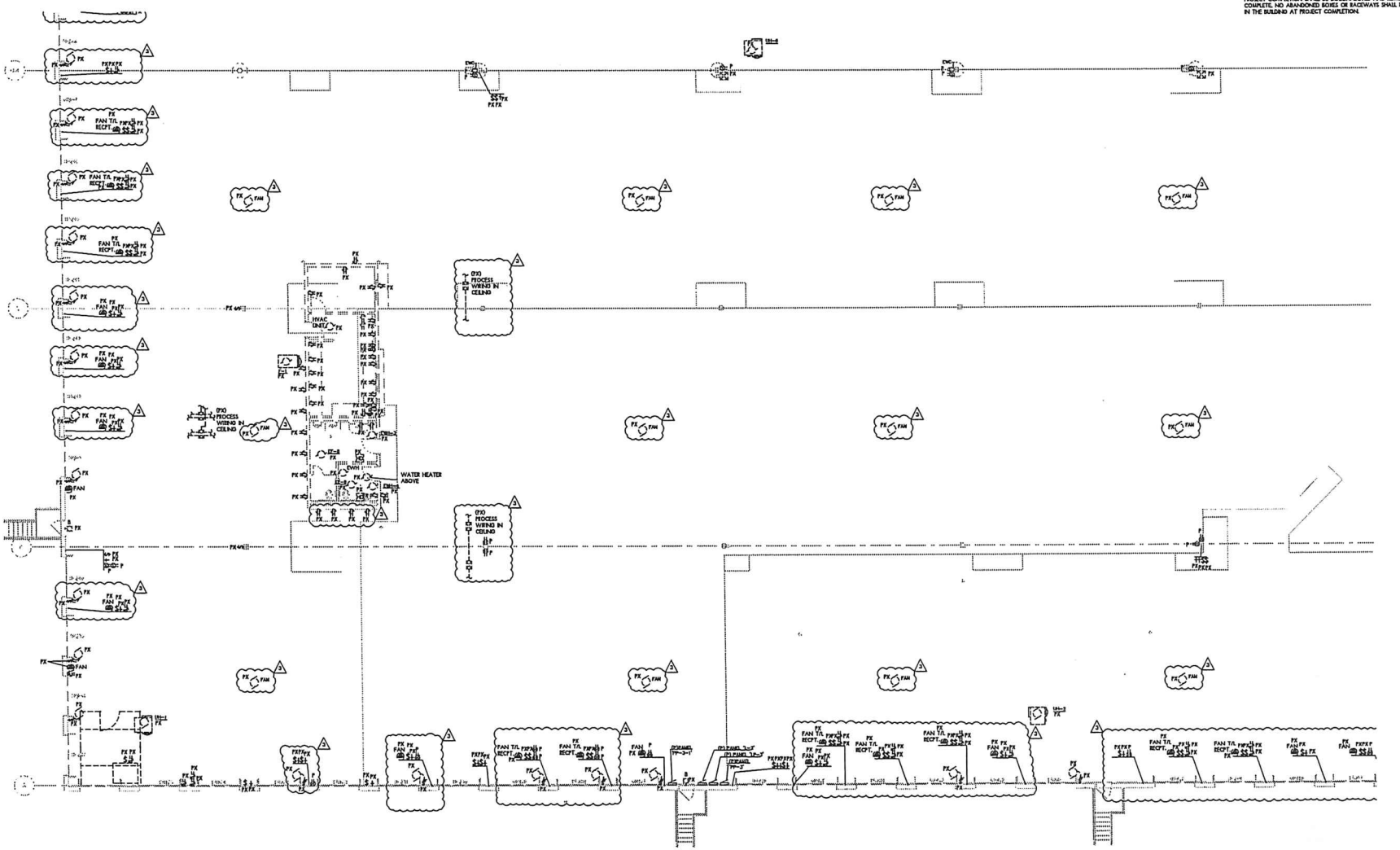

POWER DEMO PLAN – 3901 STORAGE BLDG. – SECTION C
1 SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
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HEG HEIN Engineering Group

Revisions

SATELLITE BUS FACILITY REMODEL

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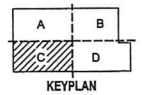
POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION C



KEYPLAN

ED201C

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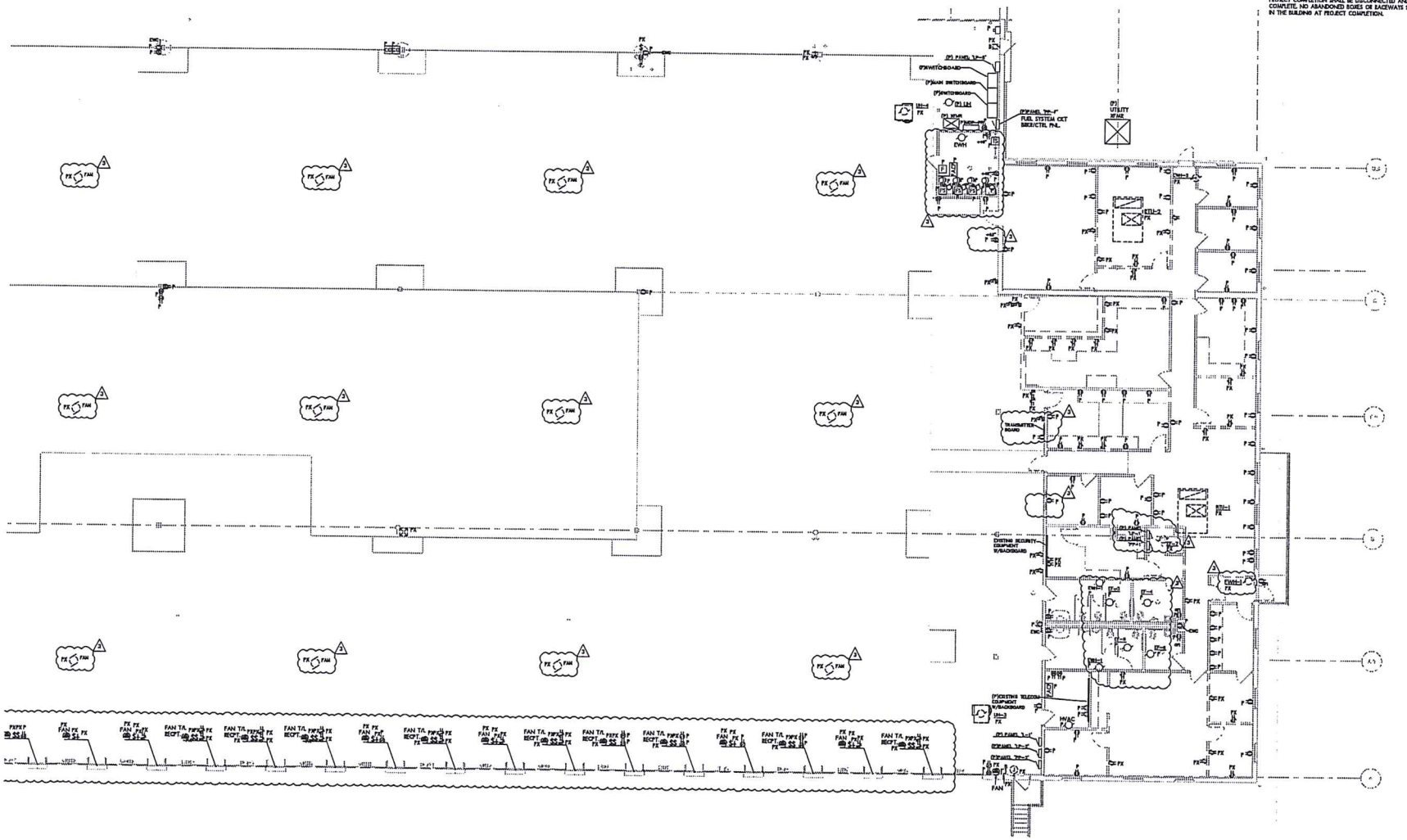
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT ONLY MAY BE REUSED.
4. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION UNTIL NEW SYSTEM IS INSTALLED, INSPECTED, APPROVED, AND ONLINE/OPERATIONAL. REMOVE ANY/ALL EXISTING FIRE ALARM DEVICES ONCE THE NEW SYSTEM IS ONLINE/OPERATIONAL. PROVIDE FIRE WATCH, ETC. AS REQUIRED BY LOCAL AHJ DURING CONSTRUCTION.
5. ALL ELECTRICAL CONDUCTORS AND CONDUITS SERVING REMOVED EQUIPMENT AND DEVICES SHALL BE COMPLETELY REMOVED. CONDUIT AND CONDUCTORS SHALL NOT BE ABANDONED IN PLACE. EXISTING CONDUITS AND PATHWAYS MAY BE REUSED. FOR NEW WORK, EXISTING CONDUCTORS MAY NOT BE REUSED, UNLESS SPECIFICALLY NOTED.
6. DISCONNECT AND REMOVE ANY AND ALL ELECTRICAL EQUIPMENT AND DEVICES, ETC. WITHIN DEMOLISHED AREAS AS REQUIRED, UNLESS NOTED OTHERWISE.
7. ANY/ALL EXISTING ELECTRICAL BOXES, RACEWAYS, WIRING, ETC. THAT IS NOT ACTIVE AND ENERGIZED BEFORE, DURING, OR AFTER PROJECT COMPLETION SHALL BE DISCONNECTED AND REMOVED COMPLETE. NO ABANDONED BOXES OR RACEWAYS SHALL REMAIN IN THE BUILDING AT PROJECT COMPLETION.



POWER DEMO PLAN – 3901 STORAGE BLDG. – SECTION D
1 SCALE: 1/8" = 1'-0"

N

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3629-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

BID SET	9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
3	ADDENDUM 3	10/18/2023

DRAWN BY Author
CHECKED BY Checker

POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION D

KEYPLAN

A | B
C | D

ED201D

PANEL SCHEDULE GENERAL NOTES:

1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE EXISTING CONDITIONS AND ARE INCLUDED FOR REFERENCE ONLY TO ASSIST IN COMMUNICATING AVAILABLE CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE ANY/ALL POTENTIAL USE/REUSE.

PANEL MSB-1200A

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W | FUSIBLE SWITCH | CONNECTED | DEMAND

DESCRIPTION	SIZE (A)	P	FUSE (A)	KVA	AMP	KVA	AMP	REMARKS
PANEL SLP	100	3						
PANEL PP3	150	3						
PANEL PP1	200	3						
TRANSFORMER T-1	80	3						
PANEL PP2	150	3						
MCP01 MATERIAL HANDLING (OFF)	100	3						
NOT LABELED (OFF)	400	3						

BUS RATING 1200 A | MAIN BREAKER 1200 A | SHORT CIRCUIT CURRENT RATING - A | A.I.C. - A

TOTAL (CONNECTED) VA / A | TOTAL (DEMAND) VA / A | TOTAL (125%) A

PANEL SLP (FED FROM MDP)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
NORTH PARKING LOT POLES			30	2	1				2	20	1			E. BUILDING LIGHT OUTSIDE
NORTH PARKING LOT POLES			-	-	3				4	20	1			W. DOCK OUTSIDE LIGHTS
W.-S.W. LIGHT POLES			30	2	5				6	20	1			SPARE (ON)
W.-S.W. LIGHT POLES			-	-	7				8	20	1			SPARE (ON)
SPARE (ON)			20	1	9				10	20	1			SPARE (ON)
SPACE					11				12					SPACE
SPACE					13				14					SPACE
SPACE					15				16					SPACE
SPACE					17				18					SPACE
SPACE					19				20					SPACE
SPACE					21				22					SPACE
SPACE					23				24					SPACE
SPACE					25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE

BUS RATING 100 A | MAIN BREAKER - A

PANEL PP-1 (FED FROM MDP)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
D.A.P. GARAGE DOOR N.E.			20	3	1				2	20	1			WHSE LIGHTS
-			-	-	3				4	20	1			WHSE LIGHTS
-			-	-	5				6	20	1			WHSE LIGHTS
GARAGE DOOR N.W.			20	3	7				8	20	1			CAGE RADIANT HEAT
-			-	-	9				10	20	1			EM LIGHTS
-			-	-	11				12	20				SPARE (ON)
ENTRY WALL HEAT			20	1	13				14	20	3			EX. FAN N.E.
OFFICE LIGHTS			20	1	15				16	-	-			-
OFFICE LIGHTS			20	1	17				18	-	-			-
HAND DRYER WOMENS			20	1	19				20	20	3			EX. FAN N.W.
HAND DRYER MENS			20	1	21				22	-	-			-
WOMENS BATH HEAT (OFF)			20	1	23				24	-	-			-
MENS BATH HEAT (OFF)			20	1	25				26	20	1			SPARE (OFF)
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A | MAIN BREAKER - A

PANEL LP-1 (FED FROM XFMR T-1) (SEC 1)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
N. COLUMN OUTLETS			20	1	1				2	20	1			CAGE OUTLETS
N. FURNACE (OFF)			20	1	3				4	20	1			CAGE OUTLETS
N. FURNACE (OFF)			20	1	5				6	20	1			CAGE OUTLETS
N.W. TRUCK OUTLET			20	1	7				8	20	1			N.C. FURNACE
N.W. WALK DOOR OUTLET			20	1	9				10	20	1			WATER COOLER/COLUMN OUTLET
N.W. TRUCK OUTLET			20	1	11				12	20	1			BATH FANS/LIGHTS
N.W. TRUCK OUTLET			20	1	13				14	20	1			VEND OUTLET 1
N.W. TRUCK OUTLET			20	1	15				16	20	1			VEND OUTLET 2
TURNSTYLE GATE			20	1	17				18	20	1			VEND OUTLET 3
N.E. TRUCK OUTLET			20	1	19				20	20	1			VEND OUTLET 4
N.E. WALK DOOR OUTLET			20	1	21				22	20	1			MEETING RM OUTLET
N.E. TRUCK OUTLET			20	1	23				24	20	1			TRUCK OUTLET W. TRUCK PKG LOT
N.E. TRUCK OUTLET			20	1	25				26	20	1			TRUCK OUTLET W. TRUCK PKG LOT
N.E. TRUCK OUTLET			20	1	27				28	20	1			SPARE (OFF)
STAR OUTLET W.			20	1	29				30	20	1			SPARE (OFF)
STAR OUTLET E.			20	1	31				32	20	1			SPARE (OFF)
TO SVC MGR CHECKING			20	1	33				34	20	1			SPARE (OFF)
FURNACE OFFICE S.			20	1	35				36	20	1			SPARE (OFF)
MOTORIZED GATE (OFF)			20	1	37				38	20	1			SPARE (OFF)
MOTORIZED GATE (OFF)			20	1	39				40	20	1			SPARE (OFF)
SPACE					41				42	20	1			SPARE (OFF)

BUS RATING 200 A | MAIN BREAKER 200 A

PANEL LP-1 (FED FROM XFMR T-1) (SEC 2)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
LIGHTING CONTROL OPEN OFFICE			20	1	45				44	20	1			SVC CHECK IN N.W. DED. OUTLET
FURNACE			20	1	46				48	20	1			SVC CHECK IN S.W. DED. OUTLET
PAD MANAGER			20	1	47				48	20	1			SVC CHECK IN S COND. OUTLET DE
COPIER OUTLET			20	1	49				50	20	1			TRANSMITTER & COLUMN OUTLET
SERVICE MANAGER			20	1	51				52	20	1			SVC MGR. E. OUTLET TEMP. S. IT RA
ABOVE CEILING EX-FAN			20	1	53				54	20	1			IT & SECURITY S. OUTLET
FIRE ALARM PANEL			20	1	55				56	20	1			S.E. SVC MGR. CHECK IN OUTLET
SVC MANAGER CHECKING OUTLET			20	1	57				58	20	1			N.E. SVC MGR. CHECK IN OUTLET
POS. PRESSSURE FAN			20	1	59				60	20	1			ICE MACHINE
IT J/B			20	1	61				62	20	1			MPO SINK FAN/LT OUTLET
IT DED. OUTLET			20	1	63				64	20	1			BATH OUTLET
SIGN N.E. BUILDING			20	1	65				66	75	1			WATER HEATER
SECURITY RM OUTLET			20	1	67				68	60	2			IT ROOM UPS
DOCK MANAGER RM OUTLET			20	1	69				70	-	-			-
APPLY/INTERVIEW RM OUTLET			20	1	71				72					SPACE
AC NORTH			20	3	73				74					SPACE
-			-	-	75				76					SPACE
-			-	-	77				78					SPACE
AC SOUTH			20	3	79				80					SPACE
-			-	-	81				82					SPACE
-			-	-	83				84					SPACE

BUS RATING 400 A | FEED THRU LUGS 400 A

PANEL PP-2 (FED FROM MDP)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
TRANSFORMER T-2			80	3	1				2	20	3			B.A.P. GARAGE DOOR OPENER
-			-	-	3				4	-	-			-
-			-	-	5				6	-	-			-
WHSE LIGHTS			20	1	7				8	20	1			CAGE HEAT (OFF)
WHSE LIGHTS			20	1	9				10	20	1			EM LIGHTS
EXHAUST FAN			20	3	11				12	20	1			SPARE (OFF)
-			-	-	13				14	20	1			SPARE (OFF)
-			-	-	15				16	20	1			SPARE (OFF)
SPACE					17				18	20	1			SPARE (OFF)
SPACE					19				20					SPACE
SPACE					21				22					SPACE
SPACE					23				24					SPACE
SPACE					25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A | MAIN BREAKER - A

PANEL LP-2 (FED FROM XFMR T-2)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
TRUCK OUTLET SOUTH			20	1	1				2	20	2			FIRE PUMP
TRUCK OUTLET SOUTH			20	1	3				4	-	-			-
S.E. WALK DOOR OUTLET			20	1	5				6	20	1			METAL DEDECTOR OUTLET
COLUMN T.C. OUTLET			20	1	7				8	20	1			CAGE J.B.
FURNACE			20	1	9				10	20	1			CAGE PHONE BOARD OUTLET
FURNACE			20	1	11				12	20	1			CAGE PHONE BOARD OUTLET
TRUCK OUTLET SOUTH			20	1	13				14	20	1			CAGE INSIDE OUTLET
TRUCK OUTLET SOUTH			20	1	15				16	20	1			CAGE INSIDE OUTLET
CENTER AREA TRK OUTLET			20	1	17				18	20	1			CAGE INSIDE OUTLET
CENTER AREA TRK OUTLET			20	1	19				20	20	1			SPRINKLER BELL
SPARE (ON)			20	1	21				22	20	1			GFI BY SPRINKLER
SPARE (ON)			20	1	23				24	20	2			SPLIT SYSTEM NORTH
SPACE					25				26	-	-			-
SPACE					27				28	20	2			SPLIT SYSTEM SOUTH
SPACE					29				30	-	-			-
SPACE					31				32	20	1			PHOTO EYE/OUTLET BY COND.
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 100 A | MAIN BREAKER 100 A

PANEL LP-3 (FED FROM XFMR T-3)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
TUGGER OUTLET			20	1	1				2	20	1			WATER COOLER S./COLUMN OUTLE
TUGGER OUTLET			20	1	3				4	20	1			FURNACE S.C.
TUGGER OUTLET			20	1	5				6	20	1			SOUTH WALL DOOR/EXIT
DOCK WALL OUTLET N.W.			20	1	7				8	20	1			FURNACE S.
DOCK WALL OUTLET S.W.			20	1	9				10	20	1			UNIT HEATER C.
SPARE (ON)			20	1	11				12	20	1			TRUCK OUTLET S.
SPARE (ON)			20	1	13				14	20	1			TRUCK OUTLET S.
SPACE					15				16	20	1			TRUCK OUTLET S.
SPACE					17				18	20	1			TRUCK OUTLET S.
SPACE					19				20	20	1			TRUCK OUTLET N.
SPACE					21				22	20	1			TRUCK OUTLET N.
SPACE					23				24	20	1			VAN LOAD DESK OUTLET
SPACE					25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 100 A | MAIN BREAKER 100 A

PANEL PP-3 (FED FROM MDP)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
TRANSFORMER T-3			80	3	1				2	20	3			OVERHEAD DOOR S.W.
-			-	-	3				4	-	-			-
-			-	-	5				6	-	-			-
WHSE LIGHTS			20	1	7				8	20	1			EXHAUST FAN SOUTH WEST
WHSE LIGHTS			20	1	9				10	-	-			-
DOCK FANS/LIGHTS N.W.			20	1	11				12	-	-			-
DOCK FANS/LIGHTS S.W.			20	1	13				14	20	1			FAN
EM LIGHTS			20	1	15				16	20	1			SOUTH VAN LIGHTS
SPARE (ON)			20	1	17				18	20	1			NORTH VAN LIGHTS
MAU			80	3	19				20					SPACE
-			-	-	21				22					SPACE
-			-	-	23				24					SPACE
SPACE					25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A | MAIN BREAKER - A

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 2134.19.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023
3	ADDENDUM 3	10/19/2023

DRAWN BY EP
CHECKED BY MK

EXISTING PANEL SCHEDULES - 3829 MAINTENANCE BUILDING

ED300

PANEL SCHEDULE
GENERAL NOTES:

1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE EXISTING CONDITIONS AND ARE INCLUDED FOR REFERENCE ONLY TO ASSIST IN COMMUNICATING AVAILABLE CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE ANY/ALL POTENTIAL USE/REUSE.

PANEL MSB-2500A

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	FUSIBLE SWITCH SIZE (A)	P	FUSE (A)	CONNECTED KVA	CONNECTED AMP	DEMAND KVA	DEMAND AMP	REMARKS
PANEL LP5	250	3						
PANEL L2	100	3						
PANEL LP4	200	3						
PANEL LP3	200	3						
PANEL LP1	200	3						
PANEL L2	100	3						
PANEL LP2	200	3						
TRANSFORMER 1 FOR MDP-PP	400	3						
MCC (OFF)	800	3						
PANEL LP5	200	3						
PANEL L1	100	3						
MCP-37 (OFF)	250	3						
MCP-3	150	3						
SPACE								
SPACE								
SPACE (OPEN NEEDS ATTN!)								

BUS RATING 2500 A — SHORT CIRCUIT CURRENT RATING - A
MAIN BREAKER 2500 A — A.I.C. - A

PANEL LP-1 (FED FROM MSB-2500A)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
REHEAT 3 & 4			20	3	1				2	50	3			ROOFTOP UNIT
-			-	-	3				4	-	-			-
-			-	-	5				6	-	-			-
REHEAT 1 & 2			20	3	7				8	20	3			REHEAT 5 & 6
-			-	-	9				10	-	-			-
-			-	-	11				12	-	-			-
VEST. HEATER			20	1	13				14	20	3			REHEAT 7 & 8
EAST OFFICE LIGHTS			20	1	15				16	-	-			-
S. CENTER OFFICE LIGHTS			20	1	17				18	-	-			-
N.E. OFFICE LIGHTS			20	1	19				20	20	1			W. OFFICE LIGHTS
HAND DRYERS			20	1	21				22	20	1			W. CENTER OFFICE LIGHTS
HAND DRYERS			20	1	23				24	20	1			WOMENS WALL HEAT
SPACE					25				26	20	1			MENS WALL HEAT
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
MAIN BREAKER - A

PANEL LP-2 (FED FROM MSB-2500A)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
DOCK DOOR 15 FAN-LIGHTS			20	1	1				2	20	1			DOCK DOOR 1-2 FANS-LIGHTS
DOCK DOOR 15 FAN-LIGHTS			20	1	3				4	20	1			DOCK DOOR 1-2 FANS-LIGHTS
DOCK DOOR 15 FAN-LIGHTS			20	1	5				6	20	1			DOCK DOOR 1-2 FANS-LIGHTS
DOCK DOOR 15 FAN-LIGHTS			20	1	7				8	20	1			EXIT-EM LIGHTS + NLT CAGE LITES
DOCK DOOR 15 FAN-LIGHTS			20	1	9				10	20	1			FRT-SIDE WALL PACKS
DOCK DOOR 15 FAN-LIGHTS			20	1	11				12	20	1			EAST PARKING POLES
CEILING FANS			20	1	13				14	20	1			EAST PARKING POLES
SPARE (ON)			20	1	15				16	20	1			SWAK HEATERS
SPARE (OFF)			20	1	17				18	20	1			SWAK 1 HEATERS
SPARE (OFF)			20	1	19				20	20	1			SWAK 1 & 2 LIGHTS
ICDS CONVEYOR BELT (OFF)			30	3	21				22					SPACE
-			-	-	23				24					SPACE
-			-	-	25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
MAIN BREAKER - A

PANEL LP-3 (FED FROM MSB-2500A)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
SPACE					1				2	20	1			DOCK DOOR 27-28 FAN-LIGHTS
DOCK DOOR 33-34 FAN-LIGHTS			20	1	3				4	20	1			DOCK DOOR 29-30 FAN-LIGHTS
DOCK DOOR 35-36 FAN-LIGHTS			20	1	5				6	20	1			DOCK DOOR 31-32 FAN-LIGHTS
DOCK DOOR 24-25 FAN-LIGHTS			20	1	7				8	20	1			DOCK DOOR 42-43 FAN-LIGHTS
DOCK DOOR 22-23 FAN-LIGHTS			20	1	9				10	20	1			DOCK DOOR 44-45 FAN-LIGHTS
DOCK DOOR 20-21 FAN-LIGHTS			20	1	11				12	20	1			DOCK DOOR 45-47 FAN-LIGHTS
DOCK DOOR 7 FAN-LIGHTS			20	1	13				14	20	1			S. WALL PACKS
NIGHT LIGHTS CAGE LIGHTS EX-EM			20	1	15				16	20	1			DOCK DOOR 38-39 FAN-LIGHTS
CEILING FANS			20	1	17				18	20	1			DOCK DOOR 40-41 FAN-LIGHTS
S. PARKING POLES CENTER			20	1	19				20	20	3			COMPACTOR
REMOTE BATH ROOM HEAT			20	2	21				22	-	-			-
REMOTE OFFICE AND BATH LIGHTS			-	-	23				24	-	-			-
WAITING PACKAGING CAGE SOUTH			20	1	25				26					SPACE
S. PARKING LOT POLES			20	1	27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
MAIN BREAKER - A

PANEL LP-4 (FED FROM MSB-2500A)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXHAUST FAN CENTER			20	3	1				2	20	1			WALL PACKS
-			-	-	3				4	20	1			NIGHT LIGHTS
-			-	-	5				6	20	1			CEILING FANS (OFF)
VAN LINE SWAK 4 LIGHTS (OFF)			20	1	7				8	20	1			HOME DELIVERY LIGHTS
SWAK 4 VAN LINE FAN (OFF)			20	1	9				10	20	1			FAN
SPARE (OFF)			20	1	11				12	20	1			SPARE (ON)
VAN LINE SWAK 3 LIGHTS			20	1	13				14	20	1			W. ADDITION N.L. EXIT EMERGENCY
SWAK 3 VAN LINE FAN			20	1	15				16	20	1			200 VAN LINE LIGHTS
(UNLABELED)			20	1	17				18	20	1			SWAK 300 FANS VAN LINE (OFF)
EXHAUST FAN FOR MUAP			20	3	19				20					SPACE
-			-	-	21				22					SPACE
-			-	-	23				24					SPACE
DOCK DOOR 50 LIGHTS & FANS			20	1	25				26					SPACE
DOCK DOOR 54-55 LIGHTS & FANS			20	3	27				28					SPACE
DOCK DOOR 52-53 LIGHTS & FANS			-	-	29				30					SPACE
DOCK DOOR 50-51 LIGHTS & FANS			-	-	31				32					SPACE
DOCK DOOR 48-49 LIGHTS & FANS			20	1	33				34					SPACE
S.W. WALL PACKS (4)			20	1	35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
MAIN BREAKER - A

PANEL LP-5 (FED FROM MSB-2500A)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
WALL PACK P.C. EX-EM THIS DOOR			20	1	1				2	30	3			MAKE UP AIR UNIT
MAKE UP AIR CONTROL			20	1	3				4	-	-			-
N.W. POLES			20	1	5				6	-	-			-
WEST POLES			20	1	7				8	20	1			SPRINKLER RM. HEAT
N. POLES			20	1	9				10	15	3			W. OFFICE ADDITION RTU
N. POLES			20	1	11				12	-	-			W. OFFICE ADDITION RTU
SPACE					13				14	-	-			W. OFFICE ADDITION RTU
SPACE					15				16	20	2			W. OFFICE HALL ADDITION HEAT
SPACE					17				18	-	-			W. OFFICE ADDITION ADDITION LTS
SPACE					19				20					SPACE
SPACE					21				22					SPACE
SPACE					23				24					SPACE
SPACE					25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
MAIN BREAKER - A

PANEL L-1 (FED FROM MSB-2500A)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
HIGH BAY LIGHTS ROW 1			20	1	1				2	20	1			HIGH BAY LIGHTS ROW 7
HIGH BAY LIGHTS ROW 2			20	1	3				4	20	1			HIGH BAY LIGHTS ROW 8
HIGH BAY LIGHTS ROW 3			20	1	5				6	20	1			HIGH BAY LIGHTS ROW 9
N. FLUOR. LIGHTS			20	1	7				8	20	1			HIGH BAY LIGHTS ROW 4
SPARE (ON)			20	1	9				10	20	1			HIGH BAY LIGHTS ROW 5
SPARE (ON)			20	1	11				12	20	1			HIGH BAY LIGHTS ROW 6
SPARE (ON)			20	1	13				14					SPACE
SPACE					15				16					SPACE
SPACE					17				18					SPACE
SPACE					19				20					SPACE
SPACE					21				22					SPACE
SPACE					23				24					SPACE

BUS RATING 100 A
MAIN BREAKER - A

PANEL L-2 (FED FROM MSB-2500A)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
HIGH BAY LIGHTS ROW 12			20	1	1				2	20	1			HIGH BAY LIGHTS ROW 13
HIGH BAY LIGHTS ROW 11			20	1	3				4	20	1			HIGH BAY LIGHTS ROW 14
HIGH BAY LIGHTS ROW 10			20	1	5				6	20	1			HIGH BAY LIGHTS ROW 15
SORT LIGHTS			20	1	7				8	20	1			HIGH BAY LIGHTS ROW 16
SORT FANS			20	1	9				10	20	1			HIGH BAY LIGHTS ROW 17
SORT LIGHTS			20	1	11				12	20	1			HIGH BAY LIGHTS ROW 18
SORT FANS			20	1	13				14	20	1			SORT LIGHTS LOAD AREA 3 SPLITS
SORT FANS			20	1	15				16	20	1			SORT FANS
SORT & SMALLS LIGHT			20	1	17				18					SPACE
SPACE					19				20					SPACE
SPACE					21				22					SPACE
SPACE					23				24					SPACE

BUS RATING 100 A
MAIN BREAKER - A

PANEL L-3 (FED FROM MSB-2500A)

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
HIGH BAY LIGHTS ROW 11			20	1	1				2	20	1			HIGH BAY LIGHTS ROW 6
HIGH BAY LIGHTS ROW 12			20	1	3				4	20	1			HIGH BAY LIGHTS ROW 5
HIGH BAY LIGHTS ROW 13			20	1	5				6	20	1			HIGH BAY LIGHTS ROW 4
HIGH BAY LIGHTS ROW 8			20	1	7				8	20	1			HIGH BAY LIGHTS ROW 3
HIGH BAY LIGHTS ROW 9			20	1	9				10	20	1			HIGH BAY LIGHTS ROW 2
HIGH BAY LIGHTS ROW 10			20	1	11				12	20	1			HIGH BAY LIGHTS ROW 1
HIGH BAY LIGHTS ROW 14			20	1	13				14	20	2			HIGH BAY LIGHTS ROW 17
HIGH BAY LIGHTS ROW 15			20	2	15				16	-	-			HIGH BAY LIGHTS ROW 16
HIGH BAY LIGHTS ROW 16			-	-	17				18					SPACE
(UNLABELED)			20	1	19				20					SPACE
SPACE					21				22					SPACE
SPACE					23				24					SPACE

BUS RATING 100 A
MAIN BREAKER - A

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS
FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #301
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
3	ADDENDUM 3	10/19/2023

DRAWN BY Author
CHECKED BY Checker

EXISTING PANEL SCHEDULES - 3901 STORAGE BLDG.

ED301A

PANEL SCHEDULE
GENERAL NOTES:

1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE EXISTING CONDITIONS AND ARE INCLUDED FOR REFERENCE ONLY TO ASSIST IN COMMUNICATING AVAILABLE CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE ANY/ALL POTENTIAL USE/REUSE.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS
FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE, #201
MADISON, WI 53703

PROJECT NUMBER 21341000

ISSUED FOR:
BID SET 9/18/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
3	ADDENDUM 3	10/19/2023

REVISION

PANEL MDP-PP (FED FROM MSB-2500A VIA XFMR 1)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	FUSIBLE SWITCH SIZE (A)	P	FUSE (A)	CONNECTED KVA	CONNECTED AMP	DEMAND KVA	DEMAND AMP	REMARKS
PANEL PP-1	200	3						
PANEL PP-3	200	3						
PANEL PP-5 (quarthouse)	200	3						
PANEL PP-4	200	3						
PANEL PP-F fuel	125	3						
PANEL PP-2	200	3						
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
MAIN	800	3						

BUS RATING 2500 A — SHORT CIRCUIT CURRENT RATING: FIELD VERIFY
MAIN BREAKER 2500 A — A.I.C. FIELD VERIFY

PANEL PP-1 (FED FROM MDP-PP-800A)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
SPACE					1				2	20	1			CHECKIN CHARGER CENTER OUTLE
ROOM 12 OUTLETS			20	1	3				4	20	1			RM8 OUTLETS TRAINING/MEETING
ROOFTOP UNIT OUTLET			20	1	5				6	20	1			SPARE (OFF)
RM2 OUTLETS SR. MGR.			20	1	7				8	20	1			RM5 SOUTH ISO OUTLET
RM7 N.E. OUTLET SERV. MGR			20	1	9				10	20	1			CHECKIN CHARGER 5 OUTLETS
BATH OUTLET OFFICE			20	1	11				12	20	1			RM5 CENTER ISO OUTLET
RM3 N.W. ISO OUTLET			20	1	13				14	20	1			RM3-4 OUTLETS OPS-PO MGR
RM6-8 S.W. CHECK IN OUTLET			20	1	15				16	20	1			RM1 SOUTH COPIER OUTLET
RM7 W. OUT SERVICE MGR.			20	1	17				18	20	1			RM1 SOUTH OUTLETS
RM10 SALES CLOSET OUTLET			20	1	19				20	20	1			HVAC TRANSFORMER JAN RM FAN
RM10 SALES NE & SW OUTLET			20	1	21				22	20	2			EAST(S) OFFICE OUTLET ADDITION
RM1N OUTLETS			20	1	23				24	-	-			EAST(S) OFFICE OUTLET ADDITION
CHECK IN CHARGERS N OUTLET			20	1	25				26	20	3			EAST TRAINING OPDL RM OUTLET
PHONE ISO OUTLET			20	1	27				28	-	-			EAST TRAINING OPDL RM OUTLET
RM19 OUTLET APPLICATIONS			20	1	29				30	-	-			EAST TRAINING OPDL RM OUTLET
RM 19-20 NE OUTLETS			20	1	31				32	20	2			DOCK SERVICE MNGR OUTLETS
RM9-9A SECURITY OUTLETS-FANS			20	1	33				34	-	-			DOCK SERVICE MNGR OUTLETS
RM25 SERVING ISO OUTLETS			20	1	35				36	20	1			ADT PANEL QUAD
BATHROOM LIGHTS			20	1	37				38	20	2			SALES QUAD PLEX
RM25 SECURITY ISO LIGHTS			20	1	39				40	-	-			SALES QUAD PLEX
RM25 SECURITY ISO LIGHTS			20	1	41				42					SPACE

BUS RATING 225 A
MAIN BREAKER - A

PANEL PP-2 (FED FROM MDP-PP-800A)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
VENDING EAST OUTLETS			70	3	1				2	20	1			DOCK DOOR 14,16,18 OUTLETS
-			-	-	3				4	20	1			DOCK DOOR 14,16,18 OUTLETS
VENDING WEST OUTLETS			-	-	5				6	20	1			DOCK DOOR 14,16,18 OUTLETS
VENDING WEST OUTLETS			20	1	7				8	20	1			N. UNIT HEATERS
OFFICE WALL OUTLETS			20	1	9				10	20	1			M CAGE N. WHSE OUTLETS
SPRINKLER RM OUTLETS			20	1	11				12	20	1			SPRINKLER BELL
LIGHTING PANEL CONTROL			20	1	13				14	20	1			TRUCK OUTLET POLE 1 BOTTOM
TMS + OH TRUSS GATE			20	1	15				16	20	1			TRUCK OUTLET POLE 2 BOTTOM
FIRE ALARM PANEL			20	1	17				18	20	1			TRUCK OUTLET POLE 2 BOTTOM
BUILDING SIGN (OFF)		x	20	1	19				20	20	1			TRUCK OUTLET POLE 2 BOTTOM
TRUCK OUTLET POLE 2 TOP			20	2	21				22	20	1			TRUCK OUTLET POLE 3 BOTTOM
-			-	-	23				24	20	1			TRUCK OUTLET POLE 3 BOTTOM
COS DOOR 7			20	1	25				26	20	1			TRUCK OUTLET POLE 4 BOTTOM
COS DOOR 9			20	1	27				28	20	1			TRUCK OUTLET POLE 4 BOTTOM
COS DOOR 10			20	1	29				30	20	2			TRUCK OUTLET POLE 3 TOP
COS DOOR 12			20	1	31				32	-	-			-
CENTER WOOD WALL WHS OUTLETS			20	1	33				34	20	2			TRUCK OUTLET POLE 4 TOP
CENTER WOOD WALL WHS OUTLETS			20	1	35				36	-	-			-
CENTER WOOD WALL WHS OUTLETS			20	1	37				38	20	2			TRUCK OUTLET POLE 1 TOP
IT ROOM SPLIT SYSTEM			23	2	39				40	-	-			-
-			-	-	41				42	20	1			TCP-1

BUS RATING 225 A
MAIN BREAKER - A

PANEL PP-3 (FED FROM MDP-PP-800A)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
DOCK DOOR 23-25 OUTLETS			20	1	1				2	20	1			DOCK DOOR 26,30,32 OUTLETS
DOCK DOOR 20-21 OUTLETS			20	1	3				4	20	1			DOCK DOOR 34-38 OUTLETS
EAST UNIT HEATER			20	1	5				6	20	1			SOUTH UNIT HEATER
SUB PANEL (PP-3-1) TO RIGHT			100	3	7				8	20	1			DOCK DOOR 38-40 OUTLETS
-			-	-	9				10	20	1			DOCK DOOR 41-43 OUTLETS
-			-	-	11				12	20	1			DOCK DOOR 45-47 OUTLETS
EYE WASH			50	2	13				14	20	1			PARTS CAGE OUTLETS
-			-	-	15				16	20	1			PARTS CAGE OUTLETS
SWAK 1			20	1	17				18	20	1			PARTS CAGE OUTLETS
SWAK 2			20	1	19				20	20	1			PARTS CAGE OUTLETS
SWAK 3			20	1	21				22	20	1			WOMENS HAND DRYER
SWAK 4			20	1	23				24	20	1			PARTS CAGE OUTLETS
SMALL SWAK			20	1	25				26	20	1			PARTS CAGE OUTLETS
SRTC-1			20	1	27				28	20	1			SR-TC4
SRTC-2			20	1	29				30	20	1			SR-P91
SRTC-3			20	1	31				32	20	1			SR-PB2 (OFF)
BLOCK HEATER PLUG DOOR 39 (OFF)			20	1	33				34	20	1			BLOCK HEATER PLUG DOOR 34 (OFF)
BLOCK HEATER PLUG DOOR 39 (OFF)			20	1	35				36	20	1			BLOCK HEATER PLUG DOOR 34 (OFF)
BLOCK HEATER PLUG DOOR 41 (OFF)			20	1	37				38	20	1			BLOCK HEATER PLUG DOOR 36 (OFF)
BLOCK HEATER PLUG DOOR 41 (OFF)			20	1	39				40	20	1			BLOCK HEATER PLUG DOOR 36 (OFF)
BLOCK HEATER PLUG DOOR 21 (OFF)			20	1	41				42	20	1			BLOCK HEATER PLUG DOOR 21 (OFF)

BUS RATING 225 A
MAIN BREAKER - A

PANEL PP-4 (FED FROM MDP-PP-800A)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
CENTER DOOR OPENER & OUTLETS			20	1	1				2	20	1			N. DOOR OPENER & ROOF OUTLET
S. DOOR OPENER & OUTLETS			20	1	3				4	20	1			N. UNIT HEATER
S. UNIT HEATER & OUTLETS			20	1	5				6	20	2			MAKEUP AIR OUTLET CONTROL
N. COLUMN OUTLETS & EWC			20	1	7				8	-	-			W. PRESSURE WASHER COLUMN O
CENTER COLUMN OUTLETS & EWC			20	1	9				10	20	1			S.W. GARAGE DOOR OPENER
S. COLUMN OUTLET & EWC			20	1	11				12	20	1			S. UNIT HEAT
CAGE DED. OUTLET FOR DATA			20	1	13				14	20	2			W. UNIT HEAT FAN SOUTH
S. WALL OUTLETS DOCK 54-56			20	1	15				16	-	-			-
S. WALL OUTLETS DOCK 50-53			20	1	17				18					SPACE
S. WALL OUTLETS DOCK 48-49			20	1	19				20					SPACE
MAKE UP AIR SOUTH			30	3	21				22					SPACE
-			-	-	23				24					SPACE
-			-	-	25				26					SPACE
SPARE7 (OFF)			20	1	27				28					SPACE
SPARE7 (OFF)			20	1	29				30					SPACE
ADT SOUTH			20	1	31				32					SPACE
ADT NORTH			20	1	33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
MAIN BREAKER - A

PANEL PP-3-1 (FED FROM PP-3-100A)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

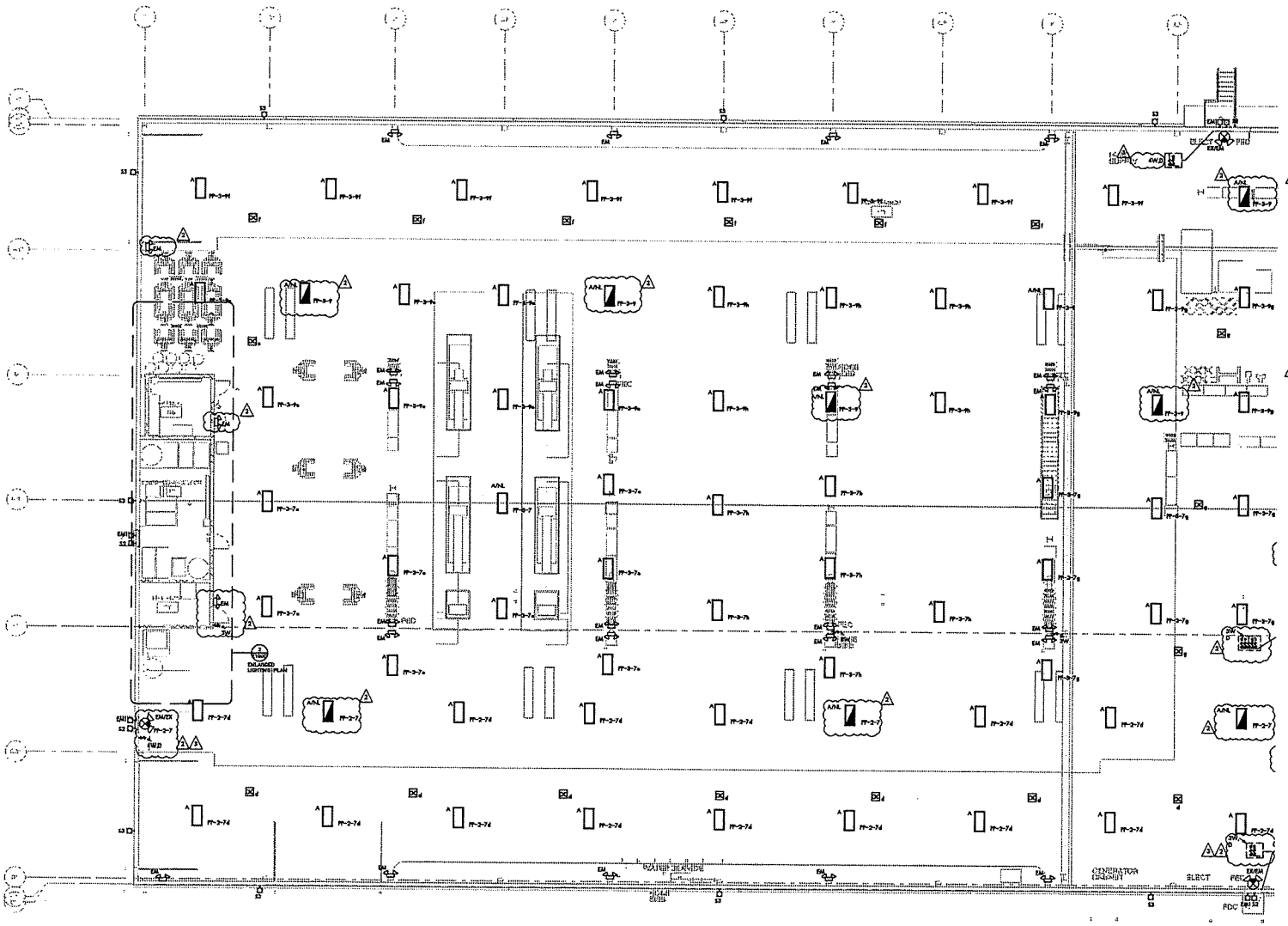
DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
VENDING EAST OUTLET			20	3	1				2	20	2			REMOTE OFFICE OUTL., FURNACE/R
-			-	-	3				4	-	-			-
-			-	-	5				6	20	2			ICE MAKER
SPECIAL HANDLING OUTLET			20	2	7				8	-	-			REMOTE BATH OUTLET AND FANS
SPECIAL HANDLING FAN			-	-	9				10	30	2			WATER HEATER
SPACE					11				12	-	-			-
WAITING PKG DED OUTLET			20	3	13				14	30	2			REMOTE OFFICE CONDENSING VEN
-			-	-	15				16	-	-			REMOTE BATHROOM HAND DRYER
-			-	-	17				18	20	1			DOCK 27 OUTLET WATER COOLERS
SOUTH SERV. MNGR OUTLET			20	3	19				20	20	3			DED. OUTLET NORTH
SOUTH SERV. MNGR OUTLET			-	-	21				22	-	-			DED. OUTLET NORTH REMOTE OFFI
VISP + DATA SOUTH MNGR OUTLETS			-	-	23				24	-	-			PRINTER OUTLET REMOTE OFFICE
MICRO COFFEE QUAD			20	3	25				26	20	3			PRINTER OUTLET REMOTE OFFICE
SENIOR MGR. REMOTE OFFICE OUTLET			-	-	27				28	-	-			CHARGER OUTLET REMOTE OFFICE
SENIOR MGR. REMOTE OFFICE OUTLET			-	-	29				30	-	-			

BUS RATING 225 A
MAIN BREAKER - A

DRAWN BY Author
CHECKED BY Checker

EXISTING PANEL
SCHEDULES - 3901
STORAGE BLDG.

ED301B



LIGHTING NEW WORK PLAN – 3829 MAINT. BLDG. – SECTION A

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

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATH THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/GENERAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE/EGRESS LIGHTING AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'-0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. ALL EXTERIOR LIGHTING SHALL BE FED FROM EXISTING CIRCUITS. EXTERIOR LIGHTING SHALL BE CONTROLLED VIA LUTRON ATHENA NETWORK TIMECLOCK FUNCTIONAL PROVIDE WIRELESS NODE/POWERPACK ON THE INTERIOR OF THE BUILDING IN LINE AT EACH EXTERIOR LIGHT LOCATION. THE EXTERIOR EMERGENCY EGRESS FIXTURES ARE NOT TO BE INCLUDED IN THE ATHENA NETWORK.
11. ALL EMERGENCY LIGHTING SHALL BE FED FROM THE NEAREST NORMAL LIGHTING CIRCUIT IN THE AREA.
12. IN GENERAL THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED, AND REPLACED. ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 20'-0" A.F.F.
13. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS, LUTRON ENERGI SAVR WIRELESS NODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUBS, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.
14. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE, AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISIONS

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 2134119.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

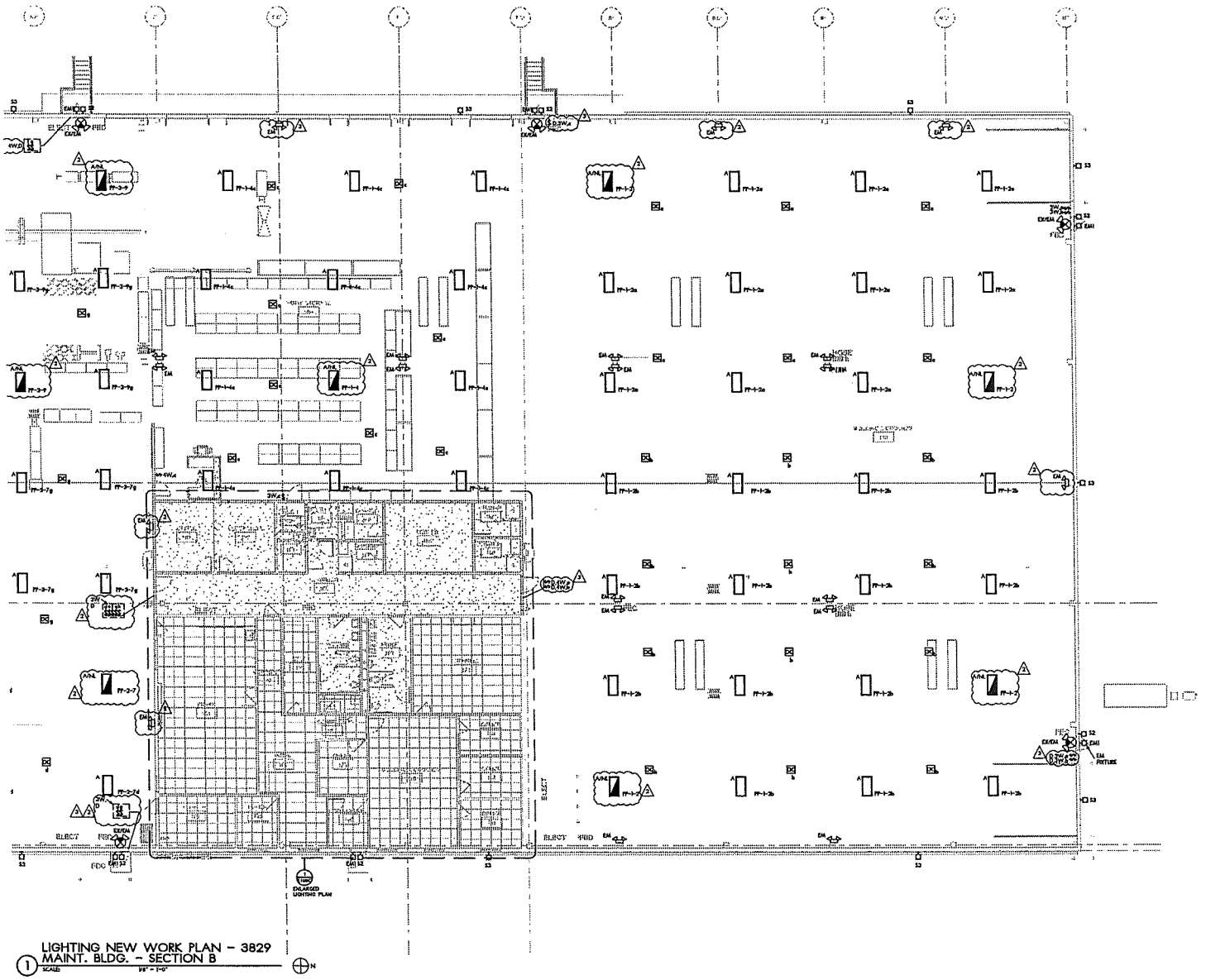
NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023
3	ADDENDUM 3	10/19/2023

DRAWN BY CP
CHECKED BY MK

LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. SECTION A

KEYPLAN

E100A



1 LIGHTING NEW WORK PLAN – 3829 MAINT. BLDG. – SECTION B
SCALE 1/8" = 1'-0"

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FIXED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/END-USER. CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE/EGRESS LIGHTING AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
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11. ALL EMERGENCY LIGHTING SHALL BE FED FROM THE NEAREST NORMAL LIGHTING CIRCUIT IN THE AREA.
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Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

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REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE. #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

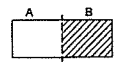
ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023
3	ADDENDUM 3	10/19/2023

DRAWN BY EP
CHECKED BY MK

LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. SECTION B



KEYPLAN

E100B

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
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7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'0" DAISY-CHAIN FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
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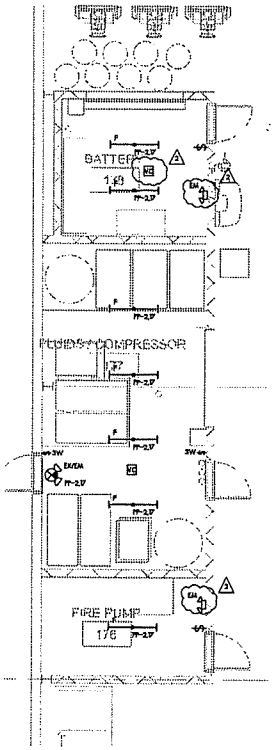
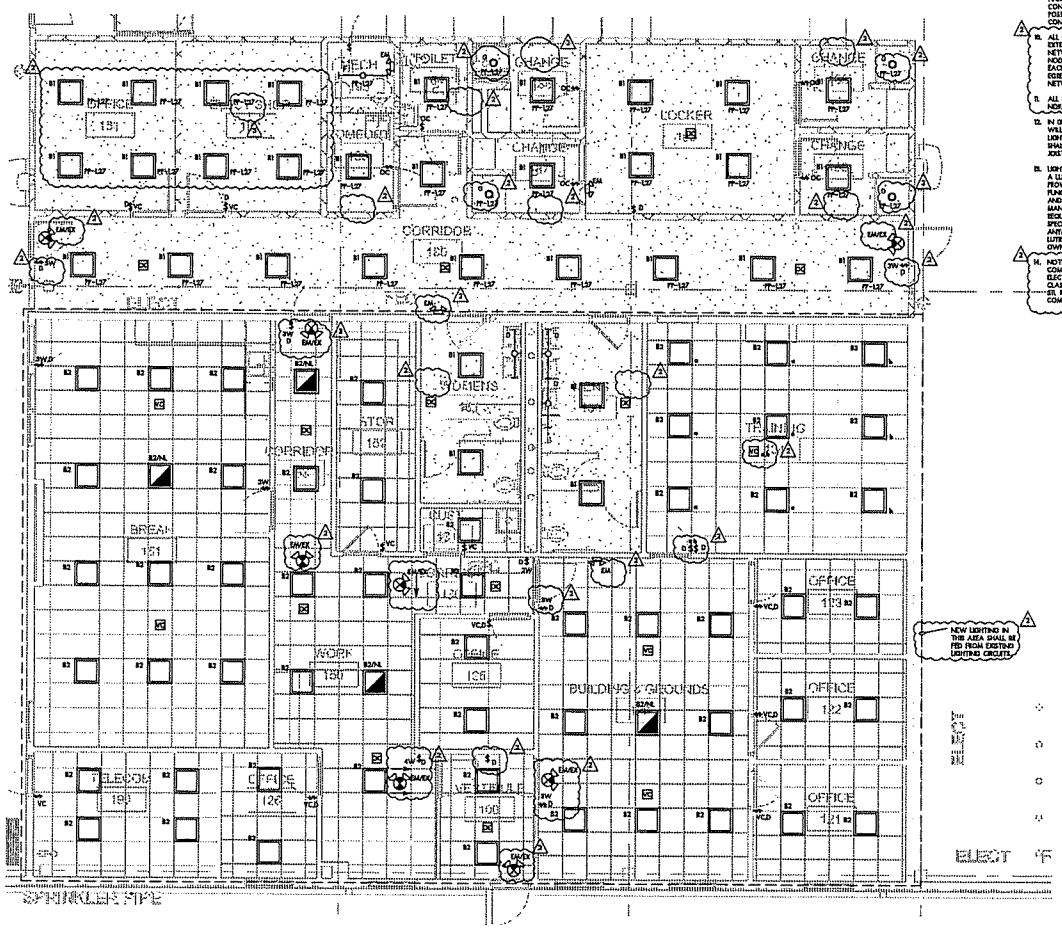


2 MAINTENANCE BUILDING
BATTERY RM, BULK FLUIDS/ COMPRESSOR, FIRE PUMP RM.
SCALE: 1/4" = 1'-0"



1 MAINTENANCE BUILDING
OFFICE AREA
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023
3	ADDENDUM 3	10/19/2023

DRAWN BY CP
CHECKED BY MK

LIGHTING NEW WORK - 3829 MAINT. BLDG. ENLARGED PLANS

KEYPLAN

E100C

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
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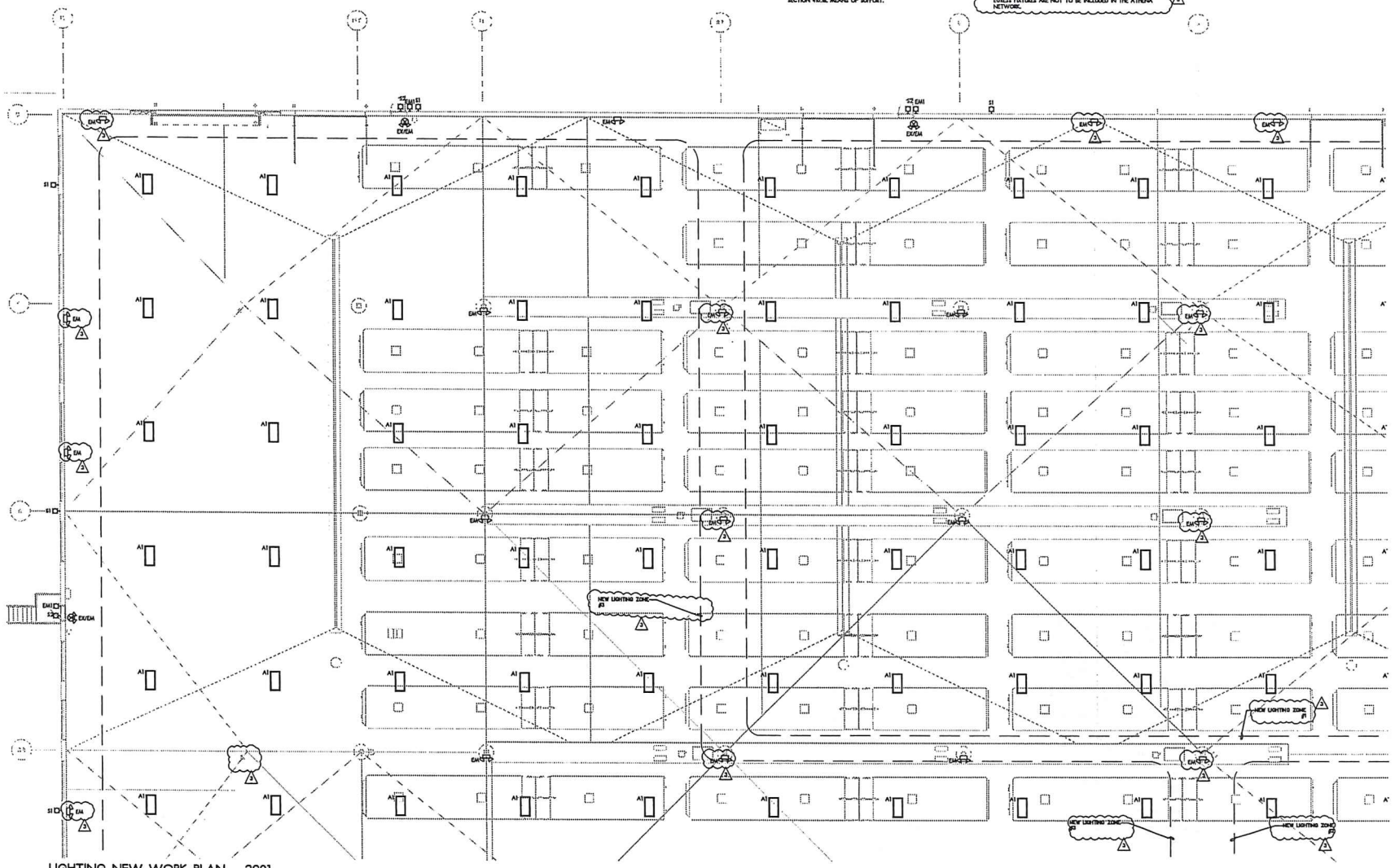

LIGHTING NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION A

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

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

BID SET	9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
3	ADDENDUM 3	10/19/2023

DRAWN BY Author

CHECKED BY Checker

LIGHTING NEW WORK PLAN - 3901 STORAGE BDLG - SECTION A

KEYPLAN

E101A

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
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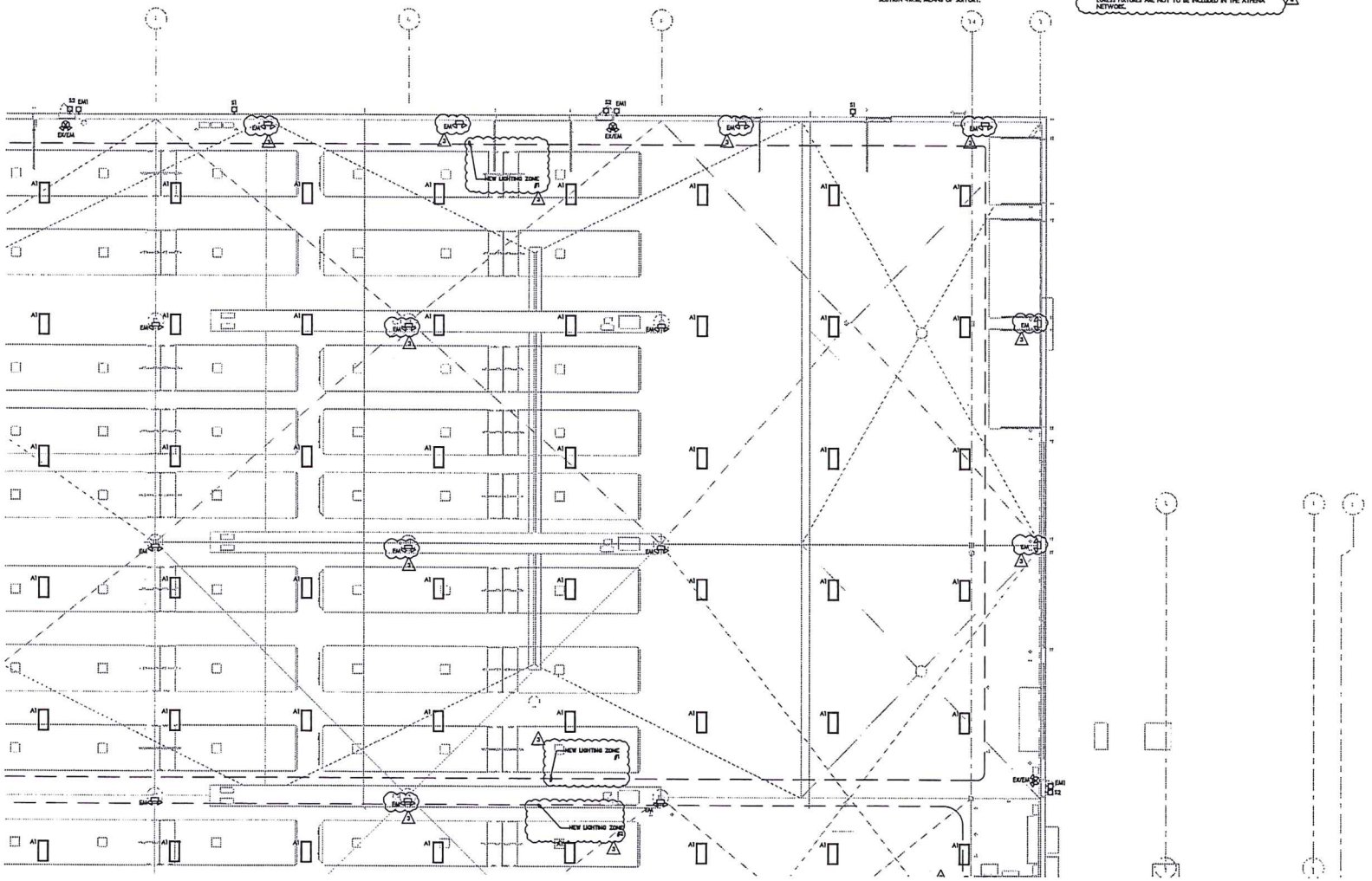

1 LIGHTING NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION B
SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
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NO.	DESCRIPTION	DATE
3	ADDENDUM 3	10/19/2023

DRAWN BY Author
CHECKED BY Checker

LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B

KEYPLAN: A | B / C | D

E101B

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
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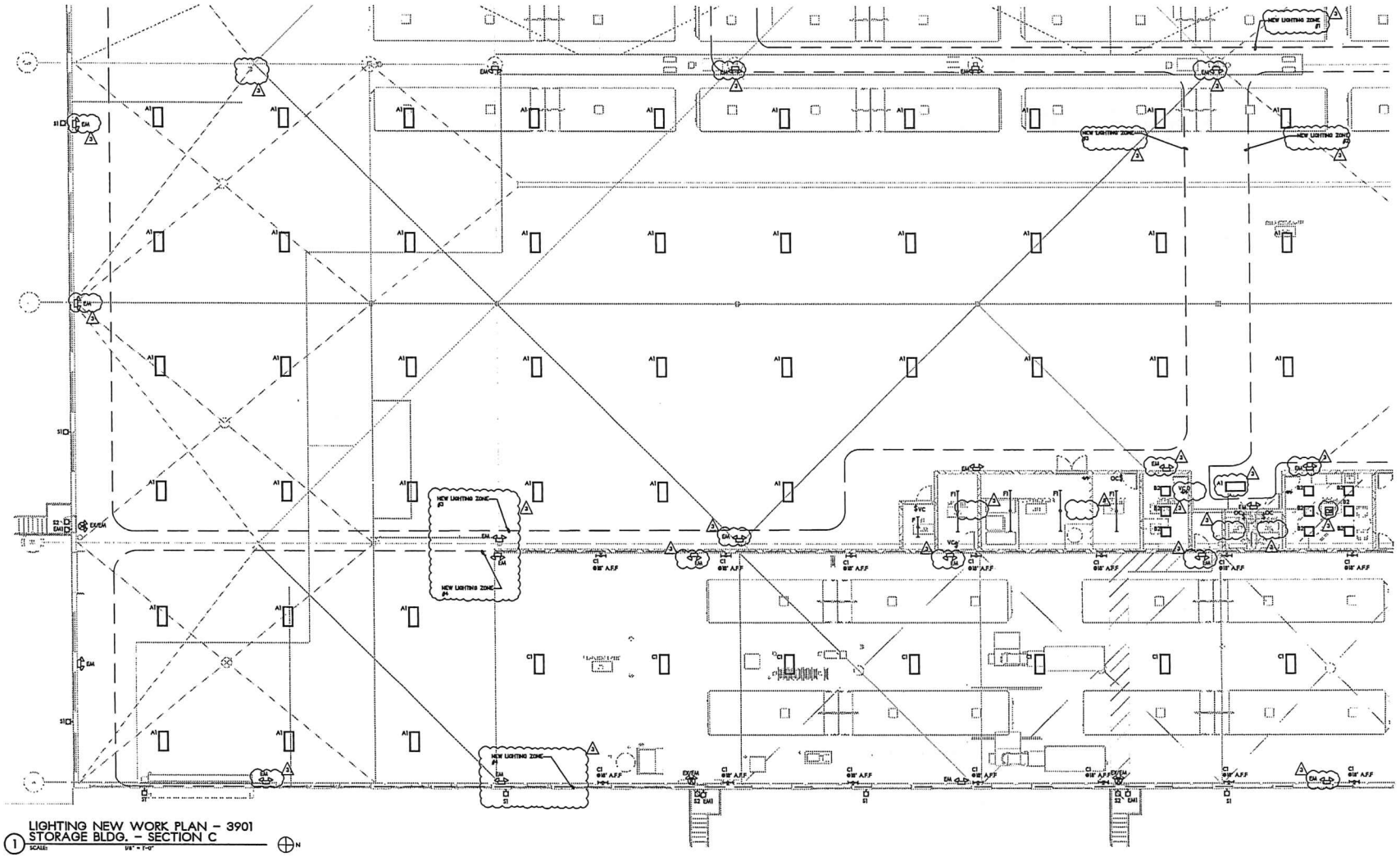
10. UNLESS SPECIFIED OTHERWISE REUSE EXISTING CIRCUITS FOR NEW LIGHTING FIXTURES.
11. IN GENERAL, THE EXISTING LIGHTING INFRASTRUCTURE (CIRCUITRY/PLUGS) SHALL REMAIN. THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED AND REPLACED APPROXIMATELY ONE-FOR-ONE AS SHOWN WITH NEW COED/PLUG FIXTURES. ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 24'-0" A.F.F.
12. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS, LUTRON ENERGI SAVE WIRELESS NODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUB, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.
13. ALL EXTERIOR LIGHTING SHALL BE FED FROM EXISTING CIRCUITS. EXTERIOR LIGHTING SHALL BE CONTROLLED VIA LUTRON ATHENA NETWORK TIMECLOCK FUNCTIONS. PROVIDE WIRELESS MODE/POWERPACK ON THE INTERIOR OF THE BUILDING IN LINE AT EACH EXTERIOR LIGHT LOCATION. THE EXTERIOR EMERGENCY EGRESS FIXTURES ARE NOT TO BE INCLUDED IN THE ATHENA NETWORK.
14. ALL EMERGENCY LIGHTING SHALL BE FED FROM THE NEAREST NORMAL LIGHTING CIRCUIT IN THE AREA.



1 LIGHTING NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION C
SCALE: 1/8" = 1'-0"

N

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HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

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3	ADDENDUM 3	10/19/2023

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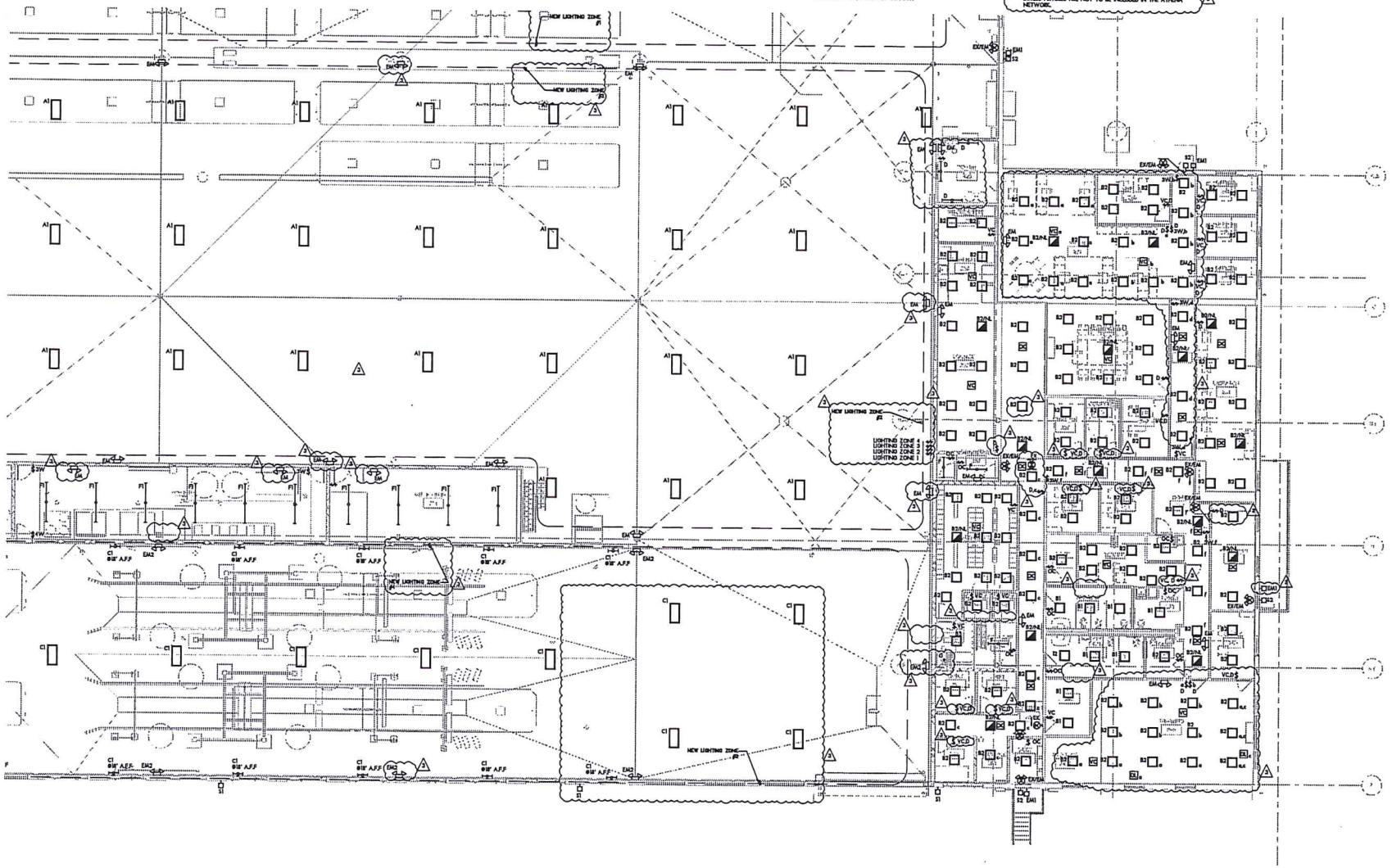
LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION C

KEYPLAN

E101C

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/GENERAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'-0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. UNLESS SPECIFIED OTHERWISE REUSE EXISTING CIRCUITS FOR NEW LIGHTING FIXTURES.
11. IN GENERAL, THE EXISTING LIGHTING INFRASTRUCTURE (CIRCUITRY/PLUGS) SHALL REMAIN. THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED AND REPLACED APPROXIMATELY ONE-FOR-ONE AS SHOWN WITH NEW CORD/PLUG FIXTURES, AND ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 21'-0" A.F.F.
12. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS. LUTRON ENERGI SAVR WIRELESS NODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUBS, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.
13. ALL EXTERIOR LIGHTING SHALL BE FED FROM EXISTING CIRCUITS. EXTERIOR LIGHTING SHALL BE CONTROLLED VIA LUTRON ATHENA NETWORK, TIMECLOCK FUNCTIONS. PROVIDE WIRELESS NODE/POWERPACK ON THE INTERIOR OF THE BUILDING IN LINE AT EACH EXTERIOR LIGHT LOCATION. THE EXTERIOR EMERGENCY EGRESS FIXTURES ARE NOT TO BE INCLUDED IN THE ATHENA NETWORK.
14. ALL EMERGENCY LIGHTING SHALL BE FED FROM THE NEAREST NORMAL LIGHTING CIRCUIT IN THE AREA.



1 LIGHTING NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION D
SCALE: 1/8" = 1'-0"

N

Engberg Anderson ARCHITECTS
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HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
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PROJECT NUMBER 213419.00

ISSUED FOR:

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3	ADDENDUM 3	10/19/2023

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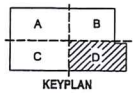
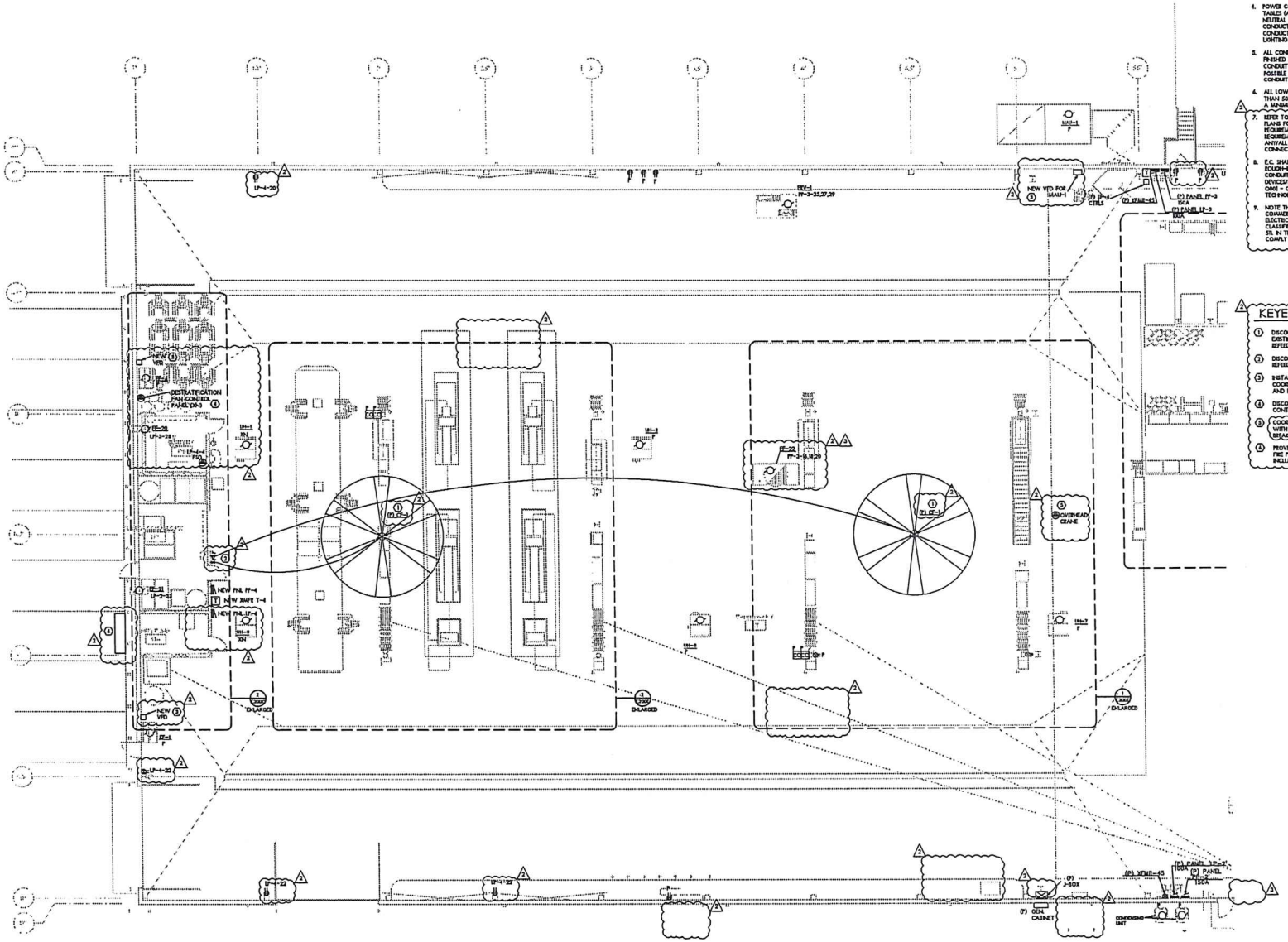
LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D

KEYPLAN



E101D



POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED FOR THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. REFER TO OWNER/OWNERS VENDORS EQUIPMENT SCHEDULES AND PLANS FOR ALL EXACT EQUIPMENT LOCATIONS AND ELECTRICAL REQUIREMENTS. ALL EXACT/FINAL EQUIPMENT ELECTRICAL REQUIREMENTS SHALL BE COORDINATED PRIOR TO ROUGH-IN. ANY/ALL ASSOCIATED ELECTRICAL EQUIPMENT REQUIRED FOR THESE CONNECTIONS SHALL BE CONFIRMED IN ADVANCE OF PURCHASING.
8. E.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE ROUGH-INS, CONSISTING OF EMPTY JUNCTION BOXES AND CONDUITS, AS REQUIRED FOR ALL LOW VOLTAGE SYSTEMS DEVICES/EQUIPMENT SHOWN ON THE TECHNOLOGY PLANS (SHEETS G001 - G700). COORDINATE ALL REQUIREMENTS WITH TECHNOLOGY CONTRACTORS.
9. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE. AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.

KEYED NOTES:

1. DISCONNECT EXISTING CEILING FAN FOR RELOCATION OF EXISTING CONTROLS. REFER TO KEYED NOTE 2. REFEED/RECONNECT ONCE NEW CONTROLS ARE RELOCATED.
2. DISCONNECT AND RELOCATE EXISTING CEILING FAN CONTROLS. REFEED/RECONNECT TO EXISTING CIRCUITS.
3. INSTALL/CONNECT NEW VFD FOR EXISTING HVAC EQUIPMENT. COORDINATE ALL REQUIREMENTS WITH HVAC CONTRACTOR AND FIELD VERIFY ALL REQUIREMENTS.
4. DISCONNECT AND RELOCATE EXISTING DESTRATIFICATION FAN CONTROL PANEL. REFEED/RECONNECT TO EXISTING CIRCUITS.
5. COORDINATE EXACT REQUIREMENT, LOCATION FOR POWER FEED WITH OWNER. FEED FROM PANEL FP-3 WITH 50A-3P (APPROX.) BREAKER.
6. PROVIDE NEW MAKE ELECTRICAL SERVICE AS REQUIRED FOR NEW FIRE PUMP. COORDINATE ALL REQUIREMENTS WITH MG&E AND INCLUDE ALL COSTS IN BID.

Engberg Anderson ARCHITECTS

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HEG HEIN Engineering Group

REVISIONS

SATELLITE BUS FACILITY REMODEL

3829-3901 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	9/19/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023
3	ADDENDUM 3	10/19/2023

DRAWN BY	EP
CHECKED BY	MK

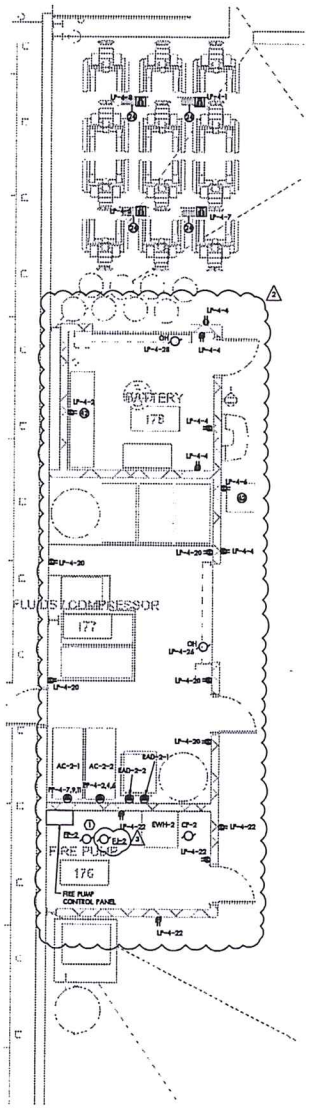
POWER NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION A

KEYPLAN

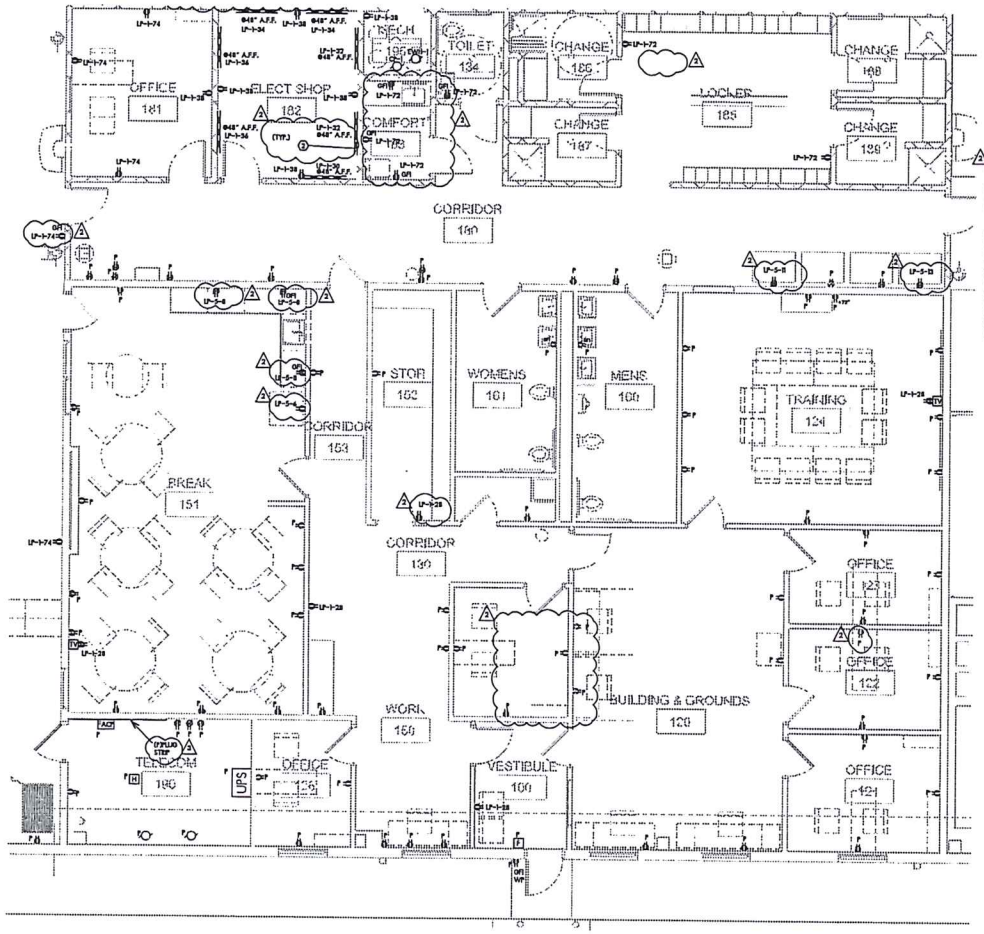
1 POWER NEW WORK PLAN – 3829 MAINT. BLDG. SECTION A
SCALE 1/8" = 1'-0"

N

E200A



2 MAINTENANCE BUILDING
BATTERY RM, BULK FLUIDS/ COMPRESSOR, FIRE PUMP RM.
SCALE: 1/4" = 1'-0"



1 MAINTENANCE BUILDING
OFFICE AREA
SCALE: 1/4" = 1'-0"

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. REFER TO OWNER/OWNERS VENDORS EQUIPMENT SCHEDULES AND PLANS FOR ALL EXACT EQUIPMENT LOCATIONS AND ELECTRICAL REQUIREMENTS. ALL EXACT/FINAL EQUIPMENT ELECTRICAL REQUIREMENTS SHALL BE COORDINATED PRIOR TO ROUGH-IN AND ALL ASSOCIATED ELECTRICAL EQUIPMENT REQUIRED FOR THESE CONNECTIONS SHALL BE CONFIRMED IN ADVANCE OF PURCHASING.
8. E.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE ROUGH-INS, CONSISTING OF EMPTY JUNCTION BOXES AND CONDUITS, AS REQUIRED FOR ALL LOW VOLTAGE SYSTEMS DEVICES/EQUIPMENT SHOWN ON THE TECHNOLOGY PLANS (SHEETS Q001 – Q701). COORDINATE ALL REQUIREMENTS WITH TECHNOLOGY CONTRACTORS.
9. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.

KEYED NOTES:

1. FP-2 – FIRE PUMP – TEMPOMARD, 480V, 3P, FED FROM NEW 1000A MAKE SERVICE. PUMP IS SIZED AS A BASIS OF DESIGN ONLY. COORDINATE EXACT FINAL PUMP SIZE AND ANY/ALL ELECTRICAL REQUIREMENTS WITH FIRE PROTECTION CONTRACTOR. PROVIDE FIRE PUMP ALARM AND SIGNALS AS REQUIRED BY NFPA 20:
   - PUMP OR MOTOR RUNNING
   - LOSS OF PHASE
   - PHASE REVERSAL
   - CONTROLLER OR SYSTEM TROUBLE (GROUND-FAULT, PRESSURE-SENSING, VARIABLE SPEED TROUBLE, FAIL-TO-START)
2. TYPICAL. PROVIDE A WIREMOLD #2000 SERIES PLUGMOLD. CIRCUIT AS INDICATED

Engberg Anderson ARCHITECTS
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SATELLITE BUS FACILITY REMODEL

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CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
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3	ADDENDUM 3	10/19/2023

DRAWN BY EP
CHECKED BY MK

POWER NEW WORK
ENLARGED PLANS - 3829
MAINT. BLDG. .

KEYPLAN

E200C

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
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6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. E.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE ROUGH-INS, CONSISTING OF EMPTY JUNCTION BOXES AND CONDUITS, AS REQUIRED FOR ALL LOW VOLTAGE SYSTEMS DEVICES/EQUIPMENT SHOWN ON THE TECHNOLOGY PLANS (SHEETS G001 – G703). COORDINATE ALL REQUIREMENTS WITH TECHNOLOGY CONTRACTORS.
8. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE, AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.
9. REFER TO OWNER/OWNERS VENDORS EQUIPMENT SCHEDULES AND PLANS FOR ALL EXACT EQUIPMENT LOCATIONS AND ELECTRICAL REQUIREMENTS. ALL EXACT/FINAL EQUIPMENT ELECTRICAL REQUIREMENTS SHALL BE COORDINATED PRIOR TO ROUGH-IN'S. ANY/ALL ASSOCIATED ELECTRICAL EQUIPMENT REQUIRED FOR THESE CONNECTIONS SHALL BE CONFIRMED IN ADVANCE OF PURCHASING.
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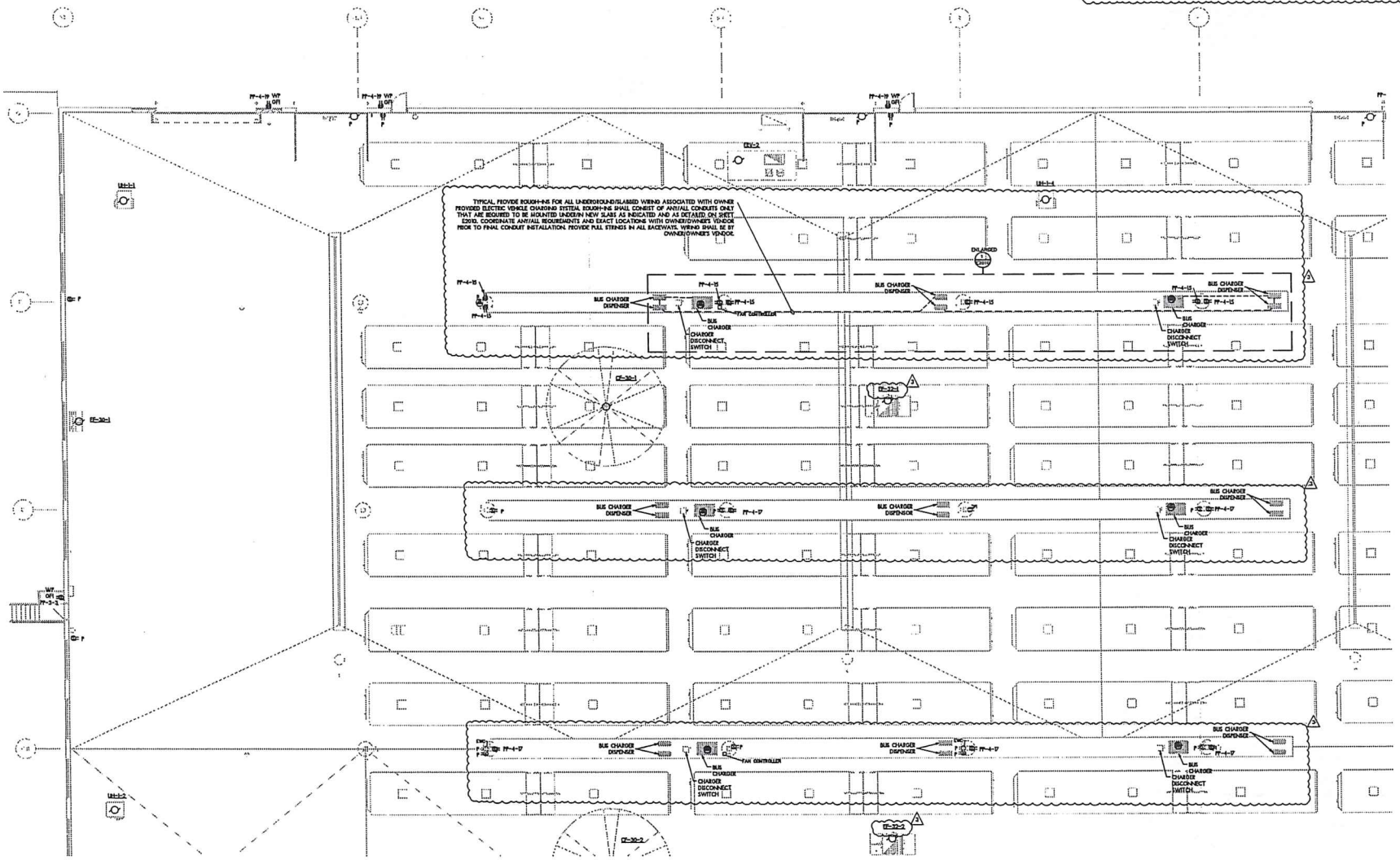

POWER NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION A
SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
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REVISION

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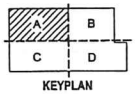
POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION A

KEYPLAN



E201A

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
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8. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE, AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.
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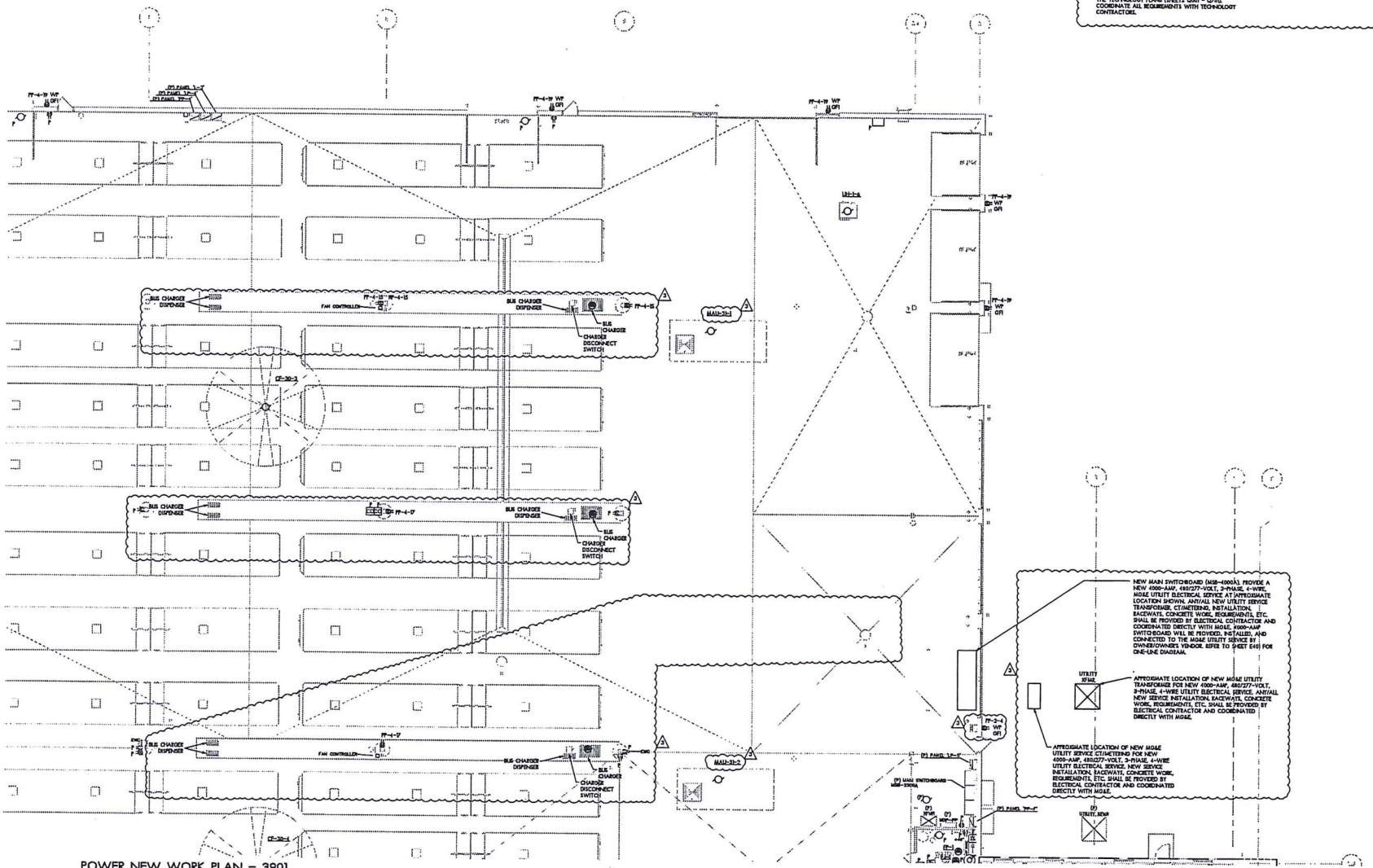

POWER NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION B

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

N

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG Engineering Group

REVISION

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POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B

KEYPLAN

A | B
C | D

E201B

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (3RD) AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. E.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE ROUGH-INS, CONSISTING OF EMPTY JUNCTION BOXES AND CONDUITS, AS REQUIRED FOR ALL LOW VOLTAGE SYSTEMS DEVICES/EQUIPMENT SHOWN ON THE TECHNOLOGY PLANS (SHEETS G001 – G701). COORDINATE ALL REQUIREMENTS WITH TECHNOLOGY CONTRACTORS.
8. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE. AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.
9. REFER TO OWNER/OWNERS VENDORS EQUIPMENT SCHEDULES AND PLANS FOR ALL EXACT EQUIPMENT LOCATIONS AND ELECTRICAL REQUIREMENTS. ALL EXACT/FINAL EQUIPMENT ELECTRICAL REQUIREMENTS SHALL BE COORDINATED PRIOR TO ROUGH-IN. ANY/ALL ASSOCIATED ELECTRICAL EQUIPMENT REQUIRED FOR THESE CONNECTIONS SHALL BE CONFIRMED IN ADVANCE OF PURCHASING.
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Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

BID SET	9/15/2023

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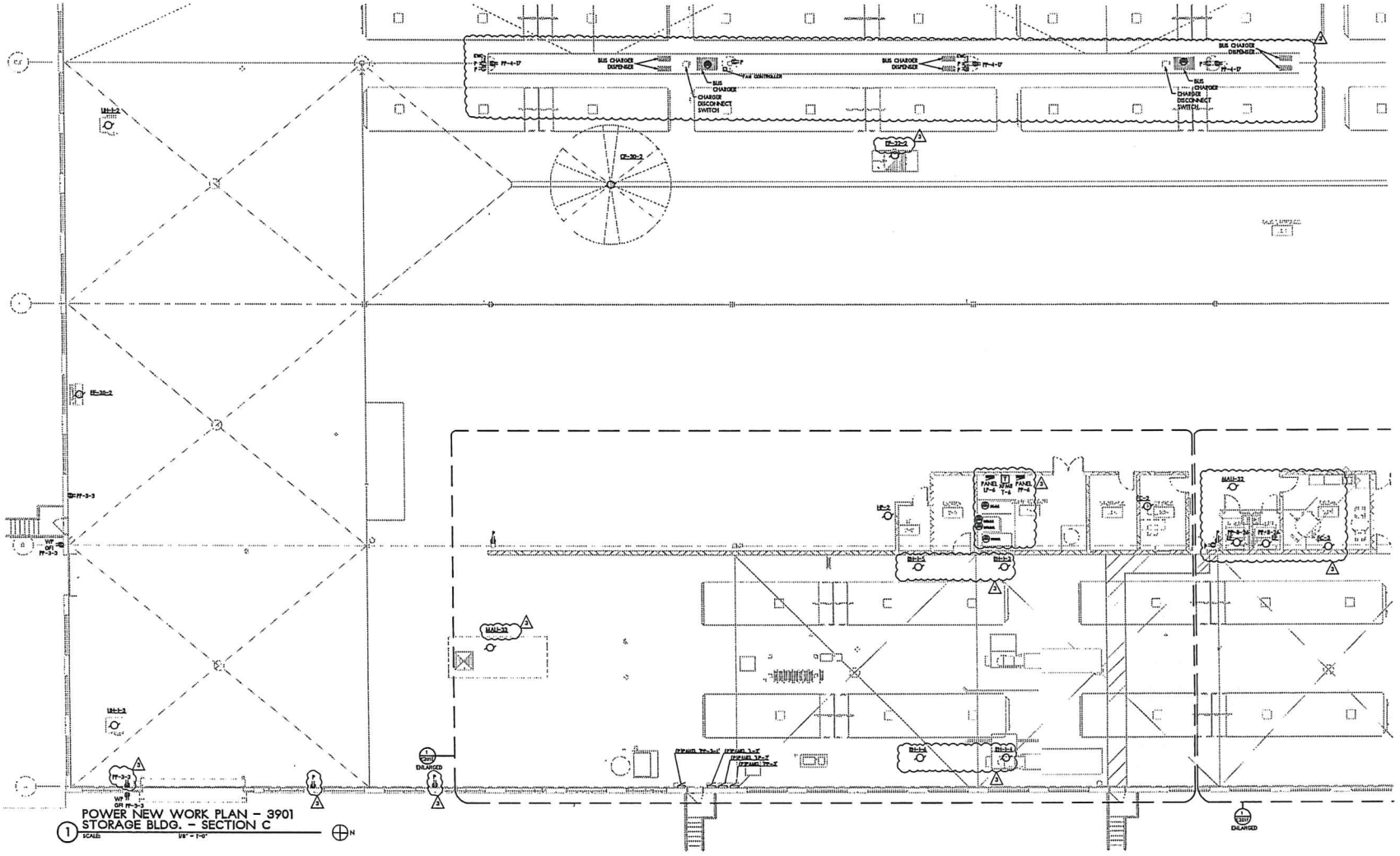
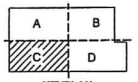


1 POWER NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION C
SCALE: 1/8" = 1'-0"

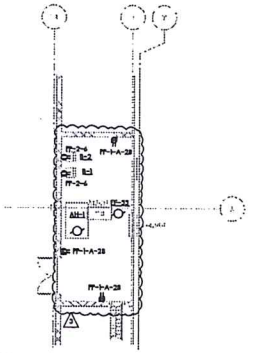
DRAWN BY Author
CHECKED BY Checker

POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION C

KEYPLAN



E201C



MECHANICAL PLATFORM PLAN – MECH 300
2 SCALE: 1/8" = 1'-0"

KEYED NOTES:

1. CIRCUIT NUMBERS FOR NEW RECEPTACLES IN THIS AREA ARE TO BE FED FROM NEW PANEL FP-1-A.
2. VERIFY EXACT LOCATION WITH OWNER.

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (TYP) AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS, RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. E.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING THE ROUGH-INS, CONSISTING OF EMPTY JUNCTION BOXES AND CONDUITS, AS REQUIRED FOR ALL LOW VOLTAGE SYSTEMS DEVICES/EQUIPMENT SHOWN ON THE TECHNOLOGY PLANS (SHEETS G001 – G705. COORDINATE ALL REQUIREMENTS WITH TECHNOLOGY CONTRACTORS.
8. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE, AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.
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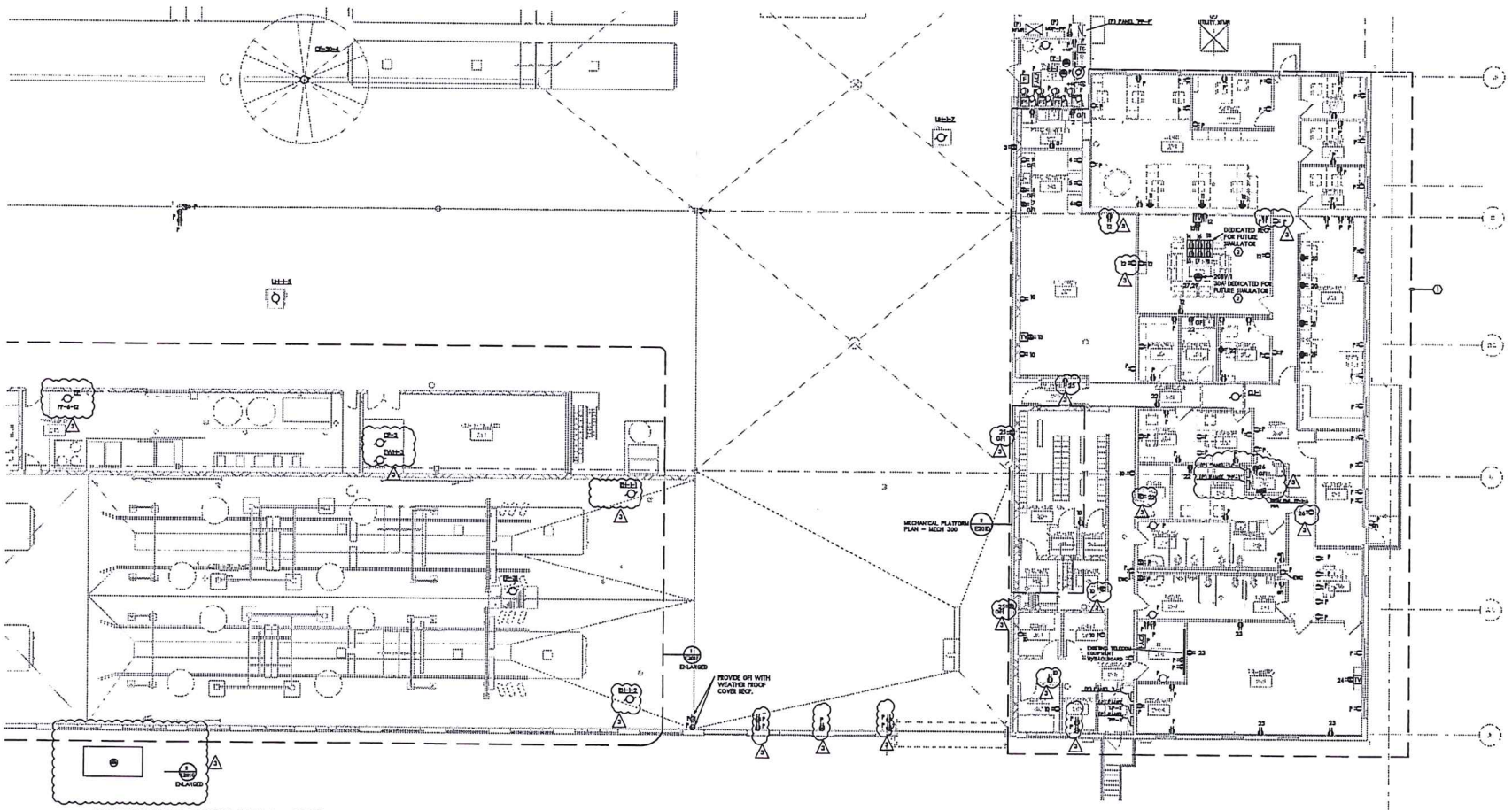

POWER NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION D
1 SCALE: 1/8" = 1'-0"

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CHECKED BY: Checker

POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D

KEYPLAN

E201D

POWER GENERAL NOTES:

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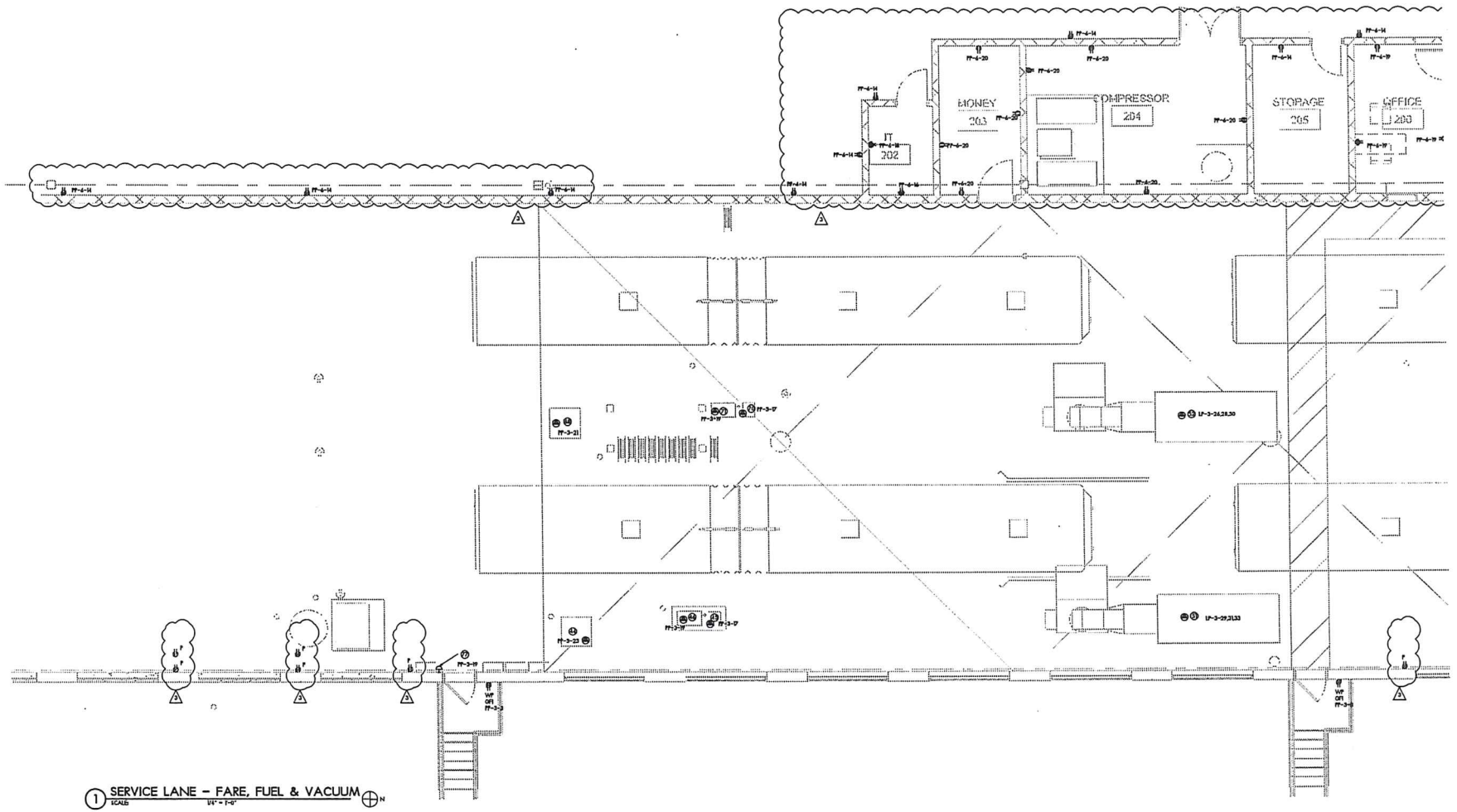

1 SERVICE LANE – FARE, FUEL & VACUUM
SCALE: 1/4" = 1'-0"

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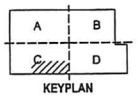
POWER NEW WORK ENLARGED PLAN - 3901 STORAGE BLDG.



KEYPLAN

E201E

POWER GENERAL NOTES:

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8. NOTE THAT THE BUILDING CONSISTS OF AREAS UTILIZED FOR COMMERCIAL GARAGES, REPAIR AND STORAGE, AS A RESULT, ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ANY/ALL AREAS CLASSIFIED AS COMMERCIAL GARAGE, REPAIR & STORAGE PER NEC 511. IN THESE AREAS, ANY/ALL ELECTRICAL WORK WITHIN SHALL COMPLY WITH NEC 511.
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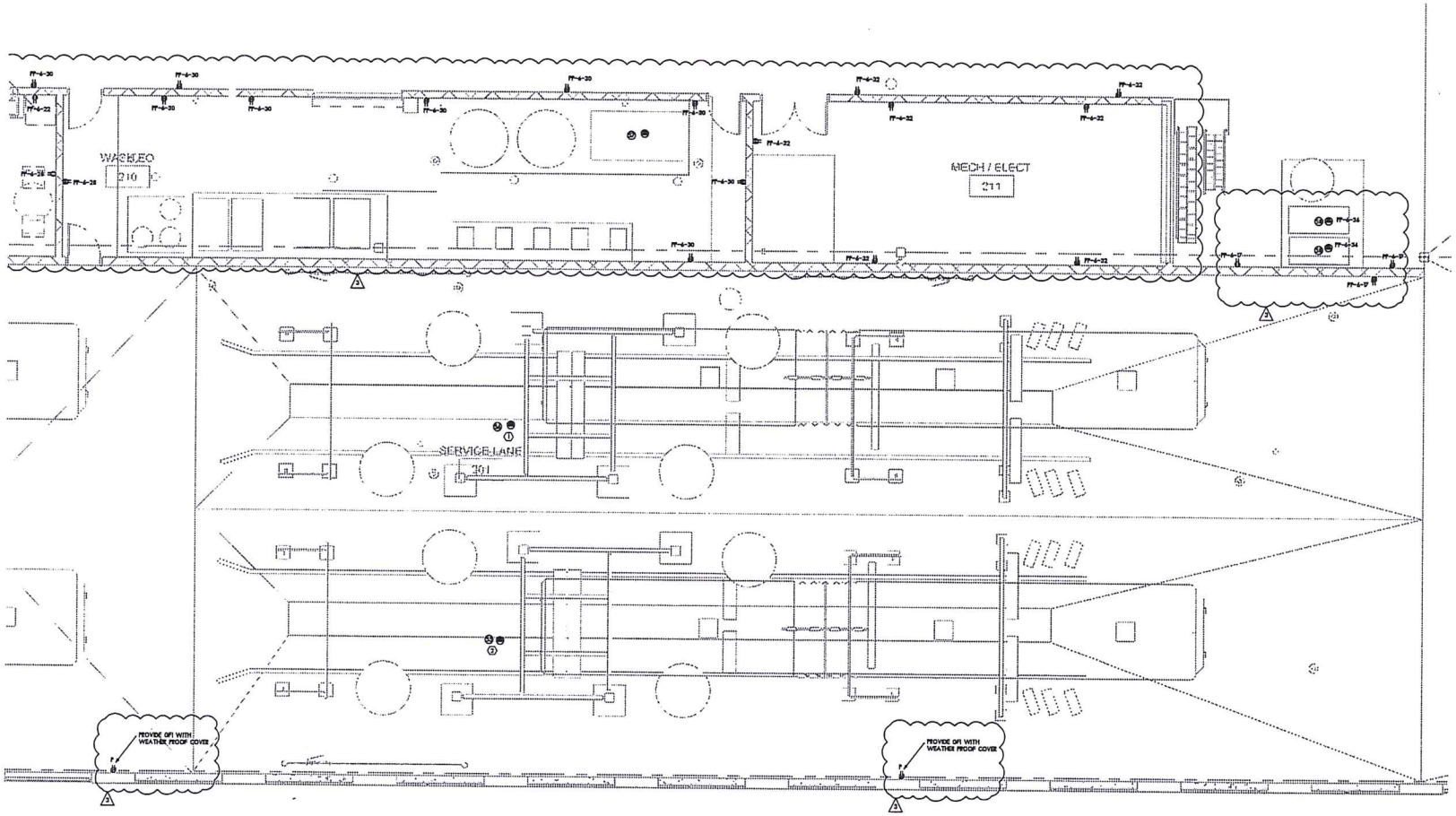

1 SERVICE LANE – BUS VACUUM & WASH
SCALE: 1/4" = 1'-0"

N

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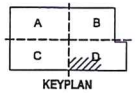
POWER NEW WORK ENLARGED PLAN - 3901 STORAGE BLDG.

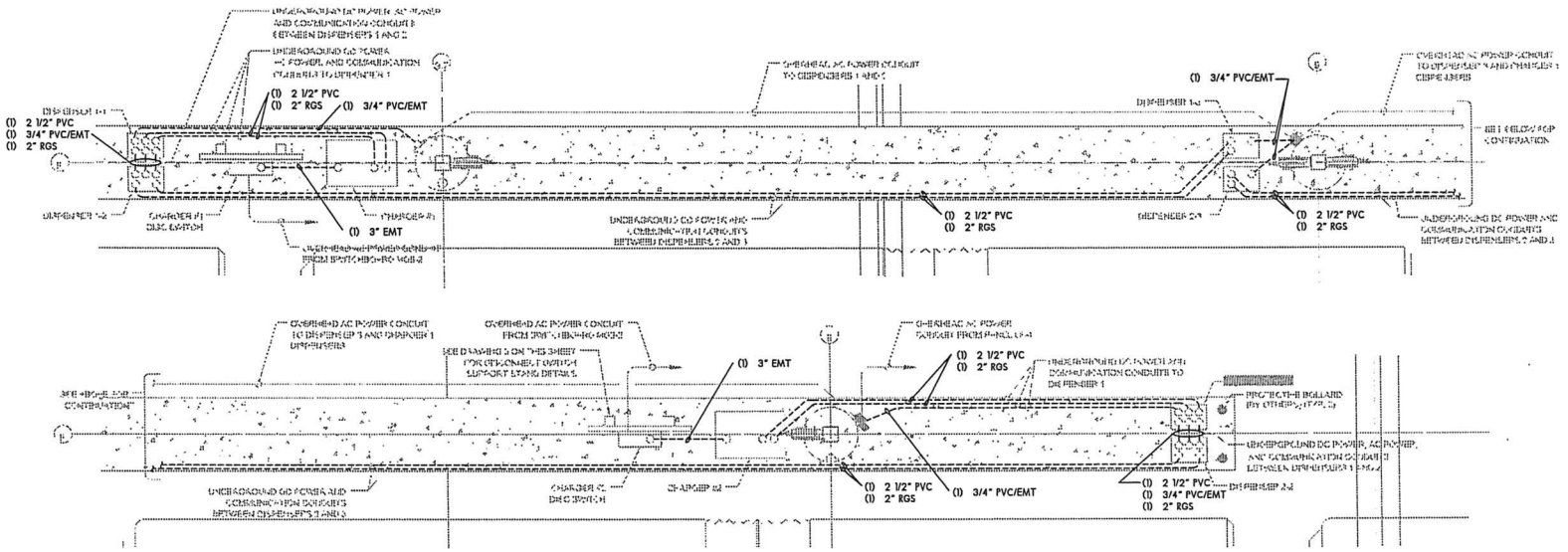


KEYPLAN

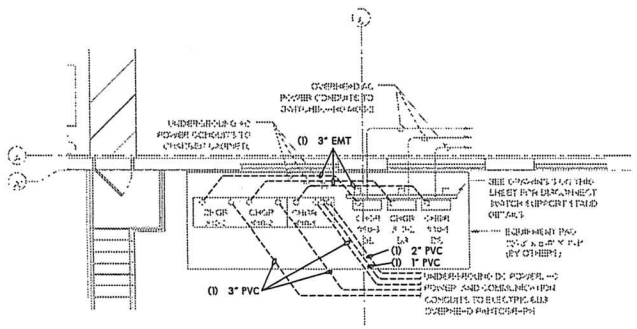
E201F

POWER GENERAL NOTES:

1. THIS DETAIL IS INCLUDED FOR BIDDING PURPOSES ONLY AND APPROXIMATE INSTALLATION INFORMATION ONLY. OWNER/OWNER'S VENDOR WILL BE PROVIDING AND INSTALLING A NEW ELECTRIC BUS CHARGING SYSTEM WITHIN THE BUILDING AS PART OF ANOTHER PROJECT. AS PART OF THIS PROJECT, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE CONDUITS/PULL STRINGS THAT ARE REQUIRED TO BE MOUNTED UNDER/IN NEW SLABS AS INDICATED (APPROXIMATELY). RACEWAYS AS SHOWN, WITH PULL STRINGS, ARE FOR FUTURE USE BY THE OWNER/OWNER'S VENDOR. ONCE THE OTHER PROJECT IS AWARDED AND CONSTRUCTION COMMENCES ON THAT PROJECT, ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT CONDUIT/INSTALLATION REQUIREMENTS WITH OWNER/OWNER'S VENDOR TO FINALIZE ANY/ALL RACEWAYS AND LOCATIONS.



1 ENLARGED ELECTRICAL PLAN – CHARGER 1 AND 2
SCALE 1/8" = 1'-0"



2 ENLARGED ELECTRICAL PLAN – CHARGER 10
SCALE 1/8" = 1'-0"

THIS SHEET ADDED A

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POWER NEW WORK ENLARGED PLAN - 3901 STORAGE BLDG.

KEYPLAN
A B
C D

E201G

PANEL SCHEDULE GENERAL NOTES:

1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE NEW WORK CONDITIONS AND ARE INCLUDED TO ASSIST IN COMMUNICATING AVAILABLE AND NEW WORK CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE AVAILABILITY FOR POTENTIAL USE/REUSE. PANEL SCHEDULES FOR ANY/ALL NEW PANELS PROVIDED AS PART OF THIS PROJECT ARE ALSO REFLECTED ON THIS SHEET.

PANEL MSB-1200A — REVISED SCHEDULE

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	FUSIBLE SWITCH SIZE (A)	P	FUSE (A)	CONNECTED KVA	CONNECTED AMP	DEMAND KVA	DEMAND AMP	REMARKS
EXISTING LOAD	100	3						
EXISTING LOAD	150	3						
EXISTING LOAD	200	3						
EXISTING LOAD	90	3						
EXISTING LOAD	150	3						
EXISTING LOAD	100	3						
EXISTING LOAD (FOR NEWFLYER)	400	3						
TRANSFORMER T-5	125	3						
PP-4	400	3						

BUS RATING 1200 A — MAIN BREAKER 1200 A — SHORT CIRCUIT CURRENT RATING: FIELD VERIFY — A.I.C.: FIELD VERIFY

PANEL PP-1 (FED FROM MDP) — REVISED SCHEDULE

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	3	1	4,872			2	20	1			BUILDING & GROUNDS LIGHTS
-			-	-	3		2,068		4	20	1			PARTS STORAGE LIGHTS
-			-	-	5				6	20	1			SPARE
EXISTING LOAD			20	3	7				8	20	1			SPARE
-			-	-	9				10	20	1			EXISTING LOAD
-			-	-	11				12	20	1			EXISTING LOAD
EXISTING LOAD			20	1	13				14	20	3			EXISTING LOAD
EXISTING LOAD			20	1	15				16	-	-			-
EXISTING LOAD			20	1	17				18	-	-			-
EXISTING LOAD			20	1	19				20	20	3			EXISTING LOAD
EXISTING LOAD			20	1	21				22	-	-			-
EXISTING LOAD			20	1	23				24	-	-			-
EXISTING LOAD			20	1	25				26	20	1			SPARE (OFF)
NEW OFFICE SPACE LIGHTING			20		27	823			28					SPACE
ERV-3	1,354		15	3	29		1,354		30					SPACE
-	1,354		-		31	1,354			32					SPACE
-	1,354		-		33		1,354		34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A — FEED THRU LUGS A

PANEL LP-1 (FED FROM XFMR T-1) (SEC 1) — REVISED SCHEDULE

VOLTS 120/208 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	1				2	20	1			EXISTING LOAD
EXISTING LOAD			20	1	3				4	20	1			EXISTING LOAD
EXISTING LOAD			20	1	5				6	20	1			EXISTING LOAD
EXISTING LOAD			20	1	7				8	20	1			EXISTING LOAD
EXISTING LOAD			20	1	9				10	20	1			EXISTING LOAD
EXISTING LOAD			20	1	11				12	20	1			EXISTING LOAD
EXISTING LOAD			20	1	13				14	20	1			EXISTING LOAD
EXISTING LOAD			20	1	15				16	20	1			EXISTING LOAD
EXISTING LOAD			20	1	17				18	20	1			EXISTING LOAD
EXISTING LOAD			20	1	19				20	20	1			EXISTING LOAD
EXISTING LOAD			20	1	21				22	20	1			EXISTING LOAD
EXISTING LOAD			20	1	23				24	20	1			EXISTING LOAD
EXISTING LOAD			20	1	25				26	20	1			EXISTING LOAD
EXISTING LOAD			20	1	27	720			28	20	1			NEW TV RECP.
EXISTING LOAD			20	1	29		720		30	20	1		1,080	ELEC SHOP PLUG MOLD
EXISTING LOAD			20	1	31	1,440			32	20	1		1,080	ELEC SHOP PLUG MOLD
EXISTING LOAD			20	1	33		1,400		34	20	1		1,080	ELEC SHOP PLUG MOLD
EXISTING LOAD			20	1	35			1,440	36	20	1		1,080	ELEC SHOP PLUG MOLD
EXISTING LOAD			20	1	37	1,260			38	20	1		1,080	ELEC SHOP RECP.
EXISTING LOAD			20	1	39		1,034		40	20	1		1,034	FUEL PUMP AND FUEL MANAGEME
SPACE					41				42	20	1			SPARE (OFF)

BUS RATING 200 A — MAIN BREAKER 200 A

PANEL LP-1 (FED FROM XFMR T-1) (SEC 2) — REVISED SCHEDULE

VOLTS 120/208 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	43				44	20	1			EXISTING LOAD
EXISTING LOAD			20	1	45				46	20	1			EXISTING LOAD
EXISTING LOAD			20	1	47				48	20	1			EXISTING LOAD
EXISTING LOAD			20	1	49				50	20	1			EXISTING LOAD
EXISTING LOAD			20	1	51				52	20	1			EXISTING LOAD
EXISTING LOAD			20	1	53				54	20	1			EXISTING LOAD
EXISTING LOAD			20	1	55				56	20	1			EXISTING LOAD
EXISTING LOAD			20	1	57				58	20	1			EXISTING LOAD
EXISTING LOAD			20	1	59				60	20	1			EXISTING LOAD
EXISTING LOAD			20	1	61				62	20	1			EXISTING LOAD
EXISTING LOAD			20	1	63				64	20	1			EXISTING LOAD
EXISTING LOAD			20	1	65				66	25	1			EXISTING LOAD
EXISTING LOAD			20	1	67				68	90	2			EXISTING LOAD
EXISTING LOAD			20	1	69				70					-
EXISTING LOAD			20	1	71			1,440	72	20	1		1,080	COMFORT, TOILET 184, LOCKER RE
EXISTING LOAD			20	3	73	540			74	20	1		540	OFFICE 181 RECP.
-			-	-	75		180		76	20	1		180	EQUIP. # 67 COPIER
-			-	-	77			180	78	20	1		180	EXISTING SPACE
EXISTING LOAD			20	3	79	1,020			80	20	1		1,020	BLDG AND GROUNDS RECP
-			-	-	81		55		82	15	1		55	CP-1
-			-	-	83				84					SPACE

BUS RATING 400 A — FEED THRU LUGS 400 A

PANEL PP-2 (FED FROM MDP) — REVISED SCHEDULE

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			60	3	1				2	20	3			EXISTING LOAD
-			-	-	3				4	-	-			-
-			-	-	5				6	-	-			-
MAINT. LIGHTS	3,132		20	1	7	3,132			8	20	1			SPARE
SPARE			20	1	9				10	20	1			EXISTING LOAD
EXISTING LOAD			20	3	11				12	20	1			EXISTING SPARE (OFF)
-			-	-	13				14	20	1			EXISTING SPARE (OFF)
-			-	-	15				16	20	1			EXISTING SPARE (OFF)
BATTERY, FLUIDS/COMP, FIRE	244		20	1	17			244	18	20	1			EXISTING SPARE (OFF)
EXISTING SPACE					19	18,000			20	90	3		18,000	EV BATTERY TENDER
EXISTING SPACE					21		18,000		22	-	-		18,000	-
EXISTING SPACE					23			18,000	24	-	-		18,000	-
OVERHEAD CRANE			50	3	25				26					EXISTING SPACE
-			-	-	27				28					EXISTING SPACE
-			-	-	29				30					EXISTING SPACE
EXISTING SPACE					31				32					EXISTING SPACE
EXISTING SPACE			-	-	33				34					EXISTING SPACE
EXISTING SPACE			-	-	35				36					EXISTING SPACE
EXISTING SPACE					37				38					EXISTING SPACE
EXISTING SPACE					39				40					EXISTING SPACE
EXISTING SPACE					41				42					EXISTING SPACE

BUS RATING 150 A — FEED THRU LUGS - A

PANEL LP-2 (FED FROM XFMR T-2) — REVISED SCHEDULE

VOLTS 120/208 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	1				2	20	2			EXISTING LOAD
EXISTING LOAD			20	1	3				4	-	-			-
EXISTING LOAD			20	1	5				6	20	1			EXISTING LOAD
EXISTING LOAD			20	1	7				8	20	1			EXISTING LOAD
EXISTING LOAD			20	1	9				10	20	1			EXISTING LOAD
EXISTING LOAD			20	1	11				12	20	1			EXISTING LOAD
EXISTING LOAD			20	1	13				14	20	1			EXISTING LOAD
EXISTING LOAD			20	1	15				16	20	1			EXISTING LOAD
EXISTING LOAD			20	1	17				18	20	1			EXISTING LOAD
EXISTING LOAD			20	1	19				20	20	1			EXISTING LOAD
SPARE (ON)			20	1	21				22	20	1			EXISTING LOAD
SPARE (ON)			20	1	23				24	20	2			EXISTING LOAD
MAINT. BAY RECP.	1,080		20	1	25	1,080			26	-	-			EXISTING LOAD
MAINT. BAY RECP.	1,440		20	1	27		1,440		28	20	2			EXISTING LOAD
MAINT. BAY RECP.	1,440		20	1	29			1,440	30	-	-			EXISTING LOAD
MAINT. BAY RECP.	1,440		20	1	31	1,440			32	20	1			EXISTING LOAD
EF-21	180		20	1	33		180		34					EXISTING SPACE
EXISTING SPACE					35				36					EXISTING SPACE
EXISTING SPACE					37				38					EXISTING SPACE
EXISTING SPACE					39				40					EXISTING SPACE
EXISTING SPACE					41				42					EXISTING SPACE

BUS RATING 100 A — FEED THRU LUGS 100 A

PANEL LP-3 (FED FROM XFMR T-3) — REVISED SCHEDULE

VOLTS 120/208 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	1				2	20	1			EXISTING LOAD
EXISTING LOAD			20	1	3				4	20	1			EXISTING LOAD
EXISTING LOAD			20	1	5				6	20	1			EXISTING LOAD
EXISTING LOAD			20	1	7				8	20	1			EXISTING LOAD
EXISTING LOAD			20	1	9				10	20	1			EXISTING LOAD
SPARE (ON)			20	1	11				12	20	1			EXISTING LOAD
SPARE (ON)			20	1	13				14	20	1			EXISTING LOAD
TIRE CAROUSEL	1,040		20	3	15	1,040			16	20	1			EXISTING LOAD
-	1,040		-	-	17		1,040		18	20	1			EXISTING LOAD
-	1,040		-	-	19	1,040			20	20	1			EXISTING LOAD
TIRE INFLATION CAGE	1,500		20	1	21		1,500		22	20	1			EXISTING LOAD
SPARE			20	1	23				24	20	1			EXISTING LOAD
CONVENIENCE RECP.	1,080		20	1	25	1,080			26	20	1			EXISTING LOAD
RECP.	900		20	1	27		1,080		28	20	1		180	EF-20
RECEIVING RECP.	720		20	1	29			1,880	30	20	3		1,160	TIRE CHANGER
RECP.	1,080		20	1	31	2,240			32	-	-		1,160	-
EQUIP. #41 VENDING MACH.	1,500		20	1	33		2,660		34	-	-		1,160	-
EQUIP. #41 VENDING MACH.	1,500		20	1	35			3,000	36	20	1		1,500	DRILL PRESS
EQUIP. #41 VENDING MACH.	1,500		20	1	37	3,000			38	20	1		1,500	BENCH GRINDER
PARTS STOR. RECP.	720		20	1	39		720		40					EXISTING SPACE
EXISTING SPACE					41				42					EXISTING SPACE

BUS RATING 100 A — FEED THRU LUGS 100 A

PANEL PP-3 (FED FROM MDP) — REVISED SCHEDULE

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			60	3	1				2	20	3			EXISTING LOAD
-			-	-	3				4	-	-			-
-			-	-	5				6	-	-			-
MAINT. LIGHTS			20	1	7	3,132			8	20	3			EXISTING LOAD
MAINT. LIGHTS			20	1	9		5,220		10	-	-			-
SPARE			20	1	11				12	-	-			-
SPARE			20	1	13				14	20	1			EXISTING LOAD
EXISTING LOAD			20	1	15	1,859			16	20	3			EF-22-1
EXISTING LOAD			20	1	17		1,859		18	-	-			-
EXISTING LOAD			60	3	19	1,859			20	-	-			-
-			-	-	21		748		22	20	3		748	SHOP PRESS
-			-	-	23			745	24	-	-		748	-
ERV-1			20	3	25	2,789			26	-	-		748	-
-			-	-	27		2,789		28					SPACE
-			-	-	29			2,789	30					SPACE
EV BATTERY TENDER	18,000		90	3	31	18,000			32					SPACE
-	18,000		-	-	33		18,000		34					SPACE
-	18,000		-	-	35			18,000	36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

PHASE

BUS RATING 225 A — FEED THRU LUGS - A

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023
3	ADDENDUM 3	10/19/2023

DRAWN BY EP
CHECKED BY MK

EXISTING REVISED PANEL SCHEDULES - 3829 MAINT. BLDG.

E300A

PANEL MSB-2500A — REVISED

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION		SIZE (A)	P	FUSE (A)	CONNECTED KVA	CONNECTED AMP	DEMAND KVA	DEMAND AMP	REMARKS
		FUSIBLE SWITCH							
PANEL LP5	EXISTING	250	3						
PANEL L3	EXISTING	100	3						
PANEL LP4	EXISTING	200	3						
PANEL LP3	EXISTING	200	3						
PANEL LP1	EXISTING	200	3						
PANEL L2	EXISTING	100	3						
PANEL LP2	EXISTING	200	3						
XFMR 1 FOR MDP-PF	EXISTING	400	3						
MCC (OFF)		600	3						
PANEL LP5	EXISTING	200	3						
PANEL L1	EXISTING	100	3						
MCP-37 (OFF)	EXISTING	250	3						
MCP-3	EXISTING	150	3						
BUS WASH #1		250	3			250.0			
BUS WASH #2		250	3			250.0			
SPACE (OPEN NEEDS ATTN!)									
PANEL LP-6		400	3						

BUS RATING 2500 A — SHORT CIRCUIT CURRENT RATING - A
MAIN BREAKER 2500 A — A.I.C. - A

PANEL LP-1 (FED FROM MSB-2500A)

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	3	1				2	50	3			SPARE
-			-	-	3				4	-	-			-
-			-	-	5				6	-	-			-
EXISTING LOAD			20	3	7				8	20	3			EXISTING LOAD
-			-	-	9				10	-	-			-
-			-	-	11				12	-	-			-
SPARE			20	1	13				14	20	3			EXISTING LOAD
EXISTING LOAD			20	1	15				16	-	-			-
EXISTING LOAD			20	1	17				18	-	-			-
EXISTING LOAD			20	1	19				20	20	1			EXISTING LOAD
EXISTING LOAD			20	1	21				22	20	1			EXISTING LOAD
EXISTING LOAD			20	1	23				24	20	1			EXISTING LOAD
SPACE					25				26	20	1			EXISTING LOAD
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
MAIN BREAKER - A

PANEL LP-2 (FED FROM MSB-2500A) — REVISED

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
AH-1	2,045		20	3	1	4,037			2	20	3		1,992	EF-31
-	2,045		-	-	3		4,037		4	-	-		1,992	-
-	2,045		-	-	5			4,037	6	-	-		1,992	-
			20	1	7				8	20	1			EXISTING LOAD
			20	1	9				10	20	1			EXISTING LOAD
			20	1	11				12	20	1			EXISTING LOAD
			20	1	13				14	20	1			EXISTING LOAD
SPARE (ON)			20	1	15				16					SPACE
SPARE (OFF)			20	1	17				18					SPACE
SPARE (OFF)			20	1	19				20					SPACE
			30	3	21				22					SPACE
-			-	-	23				24					SPACE
-			-	-	25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
FEED THRU LUGS - A

PANEL LP-3 (FED FROM MSB-2500A) — REVISED

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
CF-30-1	2,656		20	3	1	5,577			2	20	3		2,921	EF-22-2
-	2,655		-	-	3		5,577		4	-	-		2,921	-
-	2,656		-	-	5			5,577	6	-	-		2,921	-
CF-30-2	2,656		20	3	7	5,577			8	20	3		2,921	EF-30-1
-	2,656		-	-	9		5,577		10	-	-		2,921	-
-	2,656		-	-	11			5,577	12	-	-		2,921	-
			20	1	13				14	20	1			EXISTING LOAD
EXISTING LOAD			20	1	15				16	20	1			
			20	1	17				18	20	1			
EXISTING LOAD			20	1	19	2,921			20	20	3		2,921	EF-30-2
			20	2	21		2,921		22	-	-		2,921	-
			-	-	23			2,921	24	-	-		2,921	-
			20	1	25	16,129			26	80	3		16,129	BUS VACUUM SYSTEM
EXISTING LOAD			20	1	27		16,129		28	-	-		16,129	-
BUS VACUUM SYSTEM	16,129		80	3	29			32,258	30	-	-		16,129	-
-	16,129		-	-	31	16,129			32					
-	16,129		-	-	33		16,129		34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
FEED THRU LUGS - A

PANEL LP-4 (FED FROM MSB-2500A) — REVISED

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			-	-	1				2	20	1			EXISTING LOAD
-			-	-	3				4	20	1			EXISTING LOAD
-			-	-	5			2,921	6	20	3		2,921	EF-22-1
CF-30-3	2,656		20	3	7	5,577			8	-	-		2,921	-
-	2,656		-	-	9		5,577		10	-	-		2,921	-
-	2,656		-	-	11			2,656	12	20	1			SPARE (ON)
CF-30-4	2,656		20	3	13	2,656			14	20	1			EXISTING LOAD
-	2,656		-	-	15		7,064		16	20	3		4,408	ERV-1
-	2,656		-	-	17			7,064	18	-	-		4,408	-
EISTING LOAD			-	3	19	4,408			20	-	-		4,408	-
-			-	-	21				22					SPACE
-			-	-	23				24					SPACE
			20	1	25				26					SPACE
			20	3	27				28					SPACE
			-	-	29				30					SPACE
			-	-	31				32					SPACE
			20	1	33				34					SPACE
EXISTING LOAD			20	1	35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
FEED THRU LUGS - A

PANEL LP-5 (FED FROM MSB-2500A) — REVISED

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	1				2	30	3			SPARE
SPARE			20	1	3				4	-	-			-
EXISTING LOAD			20	1	5				6	-	-			-
EXISTING LOAD			20	1	7				8	20	1			EXISTING LOAD
EXISTING LOAD			20	1	9	9,699			10	45	3		9,699	CU-1
EXISTING LOAD			20	1	11		9,699		12	-	-		9,699	-
MAU-31-1	18,290		90	3	13	27,900			14	-	-		9,699	-
-	18,290		-	-	15		18,290		16	20	2			EXISTING LOAD
-	18,290		-	-	17			18,290	18	-	-			EXISTING LOAD
MAU-31-2	18,290		90	3	19	18,290			20	20	3			FU-1
-	18,290		-	-	21		18,290		22	-				-
-	18,290		-	-	23			18,290	24	-				-
SPACE					25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
FEED THRU LUGS - A

PANEL L-1 (FED FROM MSB-2500A)

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	1				2	20	1			EXISTING LOAD
EXISTING LOAD			20	1	3				4	20	1			EXISTING LOAD
EXISTING LOAD			20	1	5				6	20	1			EXISTING LOAD
EXISTING LOAD			20	1	7				8	20	1			EXISTING LOAD
EXISTING "SPARE (ON)			20	1	9				10	20	1			EXISTING LOAD
EXISTING "SPARE (ON)			20	1	11				12	20	1			EXISTING LOAD
EXISTING "SPARE (ON)			20	1	13				14					EXISTING SPACE
EXISTING SPACE					15				16					EXISTING SPACE
EXISTING SPACE					17				18					EXISTING SPACE
EXISTING SPACE					19				20					EXISTING SPACE
EXISTING SPACE					21				22					EXISTING SPACE
EXISTING SPACE					23				24					EXISTING SPACE

BUS RATING 100 A
MAIN BREAKER - A

PANEL L-2 (FED FROM MSB-2500A) — REVISED

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	1				2	20	1			EXISTING LOAD
EXISTING LOAD			20	1	3				4	20	1			EXISTING LOAD
EXISTING LOAD			20	1	5				6	20	1			EXISTING LOAD
SPARE			20	1	7				8	20	1			EXISTING LOAD
SPARE			20	1	9				10	20	1			EXISTING LOAD
SPARE			20	1	11				12	20	1			EXISTING LOAD
MAU-33	7,543		35	3	13	7,543			14	20	1			SPARE
-	7,543		-	-	15		7,543		16	20	1			SPARE
-	7,543		-	-	17			7,543	18					EXISTING SPACE
EXISTING SPACE					19				20					EXISTING SPACE
EXISTING SPACE					21				22					EXISTING SPACE
EXISTING SPACE					23				24					EXISTING SPACE

BUS RATING 100 A
FEED THRU LUGS A

PANEL L-3 (FED FROM MSB-2500A)

VOLTS 277/480 V — PHASE 3 Ø — # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	1				2	20	1			EXISTING LOAD
EXISTING LOAD			20	1	3				4	20	1			EXISTING LOAD
EXISTING LOAD			20	1	5				6	20	1			EXISTING LOAD
EXISTING LOAD			20	1	7				8	20	1			EXISTING LOAD
EXISTING LOAD			20	1	9				10	20	1			EXISTING LOAD
EXISTING LOAD			20	1	11				12	20	1			EXISTING LOAD
EXISTING LOAD			20	1	13				14	20	2			EXISTING LOAD
EXISTING LOAD			20	2	15				16	-	-			EXISTING LOAD
EXISTING LOAD			-	-	17				18					EXISTING SPACE
(UNLABELED)			20	1	19				20					EXISTING SPACE
EXISTING SPACE					21				22					EXISTING SPACE
EXISTING SPACE					23				24					EXISTING SPACE

BUS RATING 100 A
MAIN BREAKER - A

KEYED NOTES:
① PROVIDE COVER FOR OPEN SPACE

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
3	ADDENDUM 3	10/19/2023

DRAWN BY Author
CHECKED BY Checker

EXISTING REVISED PANEL SCHEDULES - 3901 STORAGE BLDG.

E301A

PANEL MDP-PP (FED FROM MSB-2500A VIA XFMR 1) REVISED

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	SIZE (A)	P	FUSE (A)	CONNECTED KVA	CONNECTED AMP	DEMAND KVA	DEMAND AMP	REMARKS
PANEL PP-1 EXISTING	200	3						
PANEL PP-3 EXISTING	200	3						
PANEL PP-5 (guardhouse???) EX	200	3						
PANEL PP-4 EXISTING	200	3						
PANEL PP-F fuel EXISTING	125	3						
PANEL PP-2 EXISTING	200	3						
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
MAIN	800	3						

BUS RATING 2500 A | MAIN BREAKER 2500 A | SHORT CIRCUIT CURRENT RATING - A | A.I.C. - A

PANEL PP-1 (FED FROM MDP-PP-800A)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	BREAKER P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	BREAKER P	BREAKER TY	LOAD (VA)	DESCRIPTION
EXISTING SPACE					1				2	20	1			EXISTING LOAD
EXISTING LOAD			20	1	3				4	20	1			EXISTING LOAD
EXISTING LOAD			20	1	5				6	20	1			EXISTING SPARE
EXISTING LOAD			20	1	7				8	20	1			EXISTING LOAD
EXISTING LOAD			20	1	9				10	20	1			EXISTING LOAD
EXISTING LOAD			20	1	11				12	20	1			EXISTING LOAD
EXISTING LOAD			20	1	13				14	20	1			EXISTING LOAD
EXISTING LOAD			20	1	15				16	20	1			EXISTING LOAD
EXISTING LOAD			20	1	17				18	20	1			EXISTING LOAD
EXISTING LOAD			20	1	19				20	20	1			EXISTING LOAD
EXISTING LOAD			20	1	21				22	20	2			EXISTING LOAD
EXISTING LOAD			20	1	23				24	-	-			EXISTING LOAD
EXISTING LOAD			20	1	25				26	20	3			EXISTING LOAD
EXISTING LOAD			20	1	27				28	-	-			EXISTING LOAD
EXISTING LOAD			20	1	29				30	-	-			EXISTING LOAD
EXISTING LOAD			20	1	31				32	20	2			EXISTING LOAD
EXISTING LOAD			20	1	33				34	-	-			EXISTING LOAD
EXISTING LOAD			20	1	35				36	20	1			EXISTING LOAD
EXISTING LOAD			20	1	37				38	20	2			EXISTING LOAD
EXISTING LOAD			20	1	39				40	-	-			EXISTING LOAD
EXISTING LOAD			20	1	41				42					EXISTING SPACE

BUS RATING 225 A | MAIN BREAKER - A

PANEL PP-2 (FED FROM MDP-PP-800A)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	BREAKER P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	BREAKER P	BREAKER TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			70	3	1	1,056			2	20	1		1,056	UH-5,UH-7
-			-	-	3		180		4	20	1		180	OUTSIDE RECP.
-			-	-	5			360	6	20	1		360	B-1 & B-2
EXSTING LOAD			20	1	7	280			8	20	2		250	EF-33
EXSTING LOAD			20	1	9		280		10	-	-		280	-
EXSTING LOAD			20	1	11				12	20	1			EXISTING LOAD
EXSTING LOAD			20	1	13				14	20	1			EXISTING LOAD
EXSTING LOAD			20	1	15				16	20	1			EXISTING LOAD
EXSTING LOAD			20	1	17				18	20	1			EXISTING LOAD
EXSTING LOAD		x	20	1	19				20	20	1			EXISTING LOAD
EXSTING LOAD			20	1	21				22	20	1			EXISTING LOAD
-			-	-	23				24	20	1			EXISTING LOAD
EXSTING LOAD			20	1	25				26	20	1			EXISTING LOAD
EXSTING LOAD			20	1	27				28	20	1			EXISTING LOAD
EXSTING LOAD			20	1	29				30	20	2			EXISTING LOAD
EXSTING LOAD			20	1	31				32	-	-			-
EXSTING LOAD			20	1	33				34	20	2			EXISTING LOAD
EXSTING LOAD			20	1	35				36	-	-			-
EXSTING LOAD			20	1	37				38	20	2			EXISTING LOAD
EXSTING LOAD			25	2	39				40	-	-			-
-			-	-	41				42	20	1			EXISTING LOAD

BUS RATING 225 A | FEED THRU LUGS - A

PANEL PP-3 (FED FROM MDP-PP-800A) REVISED

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	BREAKER P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	BREAKER P	BREAKER TY	LOAD (VA)	DESCRIPTION
UH-1-2, UH-1-3	1,056		20	1	1	1,056			2	20	1			SPARE
EXTERIOR RECP	1,080		20	1	3		1,080		4	20	1			SPARE
SPARE			20	1	5				6	20	1			SPARE
EXISTING SUB PANEL (PP-3-1)			100	3	7				8	20	1			SPARE
-			-	-	9				10	20	1			SPARE
-			-	-	11				12	20	1			SPARE
EXISTING LOAD			50	2	13				14	20	1			SPARE
			-	-	15				16	20	1			SPARE
FUEL MANAGEMENT PED'S	576		20	1	17			576	18	20	1			SPARE
FUEL DISPENSER #1	1,492		20	1	19	1,492			20	20	1			SPARE
FAIR COLLECTION SYSTEM #2	1,500		20	1	21		1,500		22	20	1			SPARE
FAIR COLLECTION SYSTEM #1	1,500		20	1	23			1,500	24	20	1			SPARE
EXISTING LOAD			20	1	25				26	20	1			SPARE
EXISTING LOAD			20	1	27				28	20	1			EXISTING LOAD
EXISTING LOAD			20	1	29				30	20	1			EXISTING LOAD
EXISTING LOAD			20	1	31				32	20	1			SPARE
SPARE			20	1	33				34	20	1			SPARE
SPARE			20	1	35				36	20	1			SPARE
SPARE			20	1	37				38	20	1			SPARE
SPARE			20	1	39				40	20	1			SPARE
SPARE			20	1	41				42	20	1			SPARE

BUS RATING 225 A | FEED THRU LUGS - A

PANEL PP-4 (FED FROM MDP-PP-800A)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	BREAKER P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	BREAKER P	BREAKER TY	LOAD (VA)	DESCRIPTION
EXISTING LOAD			20	1	1				2	20	1			EXISTING LOAD
EXISTING LOAD			20	1	3				4	20	1			SPARE
UH-1,UH-4,UH-8	1,584		20	1	5			1,584	6	20	2			EXISTING LOAD
EXISTING LOAD			20	1	7				8	-	-			-
EXISTING LOAD			20	1	9				10	20	1			EXISTING LOAD
EXISTING LOAD			20	1	11				12	20	1			SPARE
EXISTING LOAD			20	1	13				14	20	2			SPARE
RECP.	1,620		20	1	15			1,620	16	-	-			-
RECP.	1,620		20	1	17	1,620			18	20	1			NEWFLYER LOADS
EXT. RECP.	1,440		20	1	19		1,440		20	20	1			NEWFLYER LOADS
			30	3	21				22	20	1			NEWFLYER LOADS
-			-	-	23				24	20	1			NEWFLYER LOADS
-			-	-	25				26	20	1			NEWFLYER LOADS
SPARE? (OFF)			20	1	27				28	20	1			NEWFLYER LOADS
SPARE? (OFF)			20	1	29				30	20	1			NEWFLYER LOADS
EXISTING LOAD			20	1	31				32	20	1			NEWFLYER LOADS
EXISTING LOAD			20	1	33				34	20	1			NEWFLYER LOADS
EXISTING SPACE					35				36	20	1			NEWFLYER LOADS
EXISTING SPACE					37				38					EXISTING SPACE
EXISTING SPACE					39				40					EXISTING SPACE
EXISTING SPACE					41				42					EXISTING SPACE

BUS RATING 225 A | FEED THRU LUGS - A

PANEL PP-3-1 (FED FROM PP-3-100A) REVISED

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	BREAKER P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	BREAKER P	BREAKER TY	LOAD (VA)	DESCRIPTION
SPARE			20	3	1				2	20	2			SPARE
-			-	-	3				4	-	-			-
-			-	-	5				6	20	2			SPARE
SPARE			20	2	7				8	-	-			SPRE
SPARE			-	-	9				10	30	2			SPARE
SPACE					11				12	-	-			-
SPARE			20	3	13				14	30	2			SPARE
-			-	-	15				16	-	-			SPARE
-			-	-	17				18	20	1			SPARE
SPARE			20	3	19				20	20	3			SPARE
SPARE			-	-	21				22	-	-			SPARE
SPARE			-	-	23				24	-	-			SPARE
SPARE			20	3	25				26	20	3			SPARE
SPARE			-	-	27				28	-	-			SPARE
SPARE			-	-	29				30	-	-			

BUS RATING 225 A | FEED THRU LUGS - A

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

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EXISTING REVISED PANEL SCHEDULES - 3901 STORAGE BLDG.

E301B

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS
FACILITY REMODEL

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PANEL PP-1-A (FED FROM PP-1)

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
KITCHENETTE 275 RECP	180		20	1	1				2	20	1		180	KITCHENETTE 275 RECP
KITCHENETTE 275 RECP	180		20	1	3				4	20	1		1,000	KITCHENETTE 258 RECP
KITCHENETTE 258 RECP	1,000		20	1	5				6	20	1		1,000	KITCHENETTE 258 RECP
KITCHENETTE 258 RECP	900		20	1	7				8	20	1		1,000	KITCHENETTE 258 RECP
KITCHENETTE 258 RECP	900		20	1	9				10	20	1		1,440	RECP
WORK 274 RECP	720		20	1	11				12	20	1		1,440	RECP
TV RECP	360		20	1	13				14	20	1		1,440	FUTURE SIMULATOR
FUTURE SIMULATOR	1,440		20	1	15				16	20	1		1,440	FUTURE SIMULATOR
FUTURE SIMULATOR	1,440		20	1	17				18	20	1		1,440	FUTURE SIMULATOR
FUTURE SIMULATOR	1,440		20	1	19				20	20	1		720	DISPATCH 251 RECP
DISPATCH 251 RECP	720		20	1	21				22	20	2		180	STORAGE 291 RECP
TRAINING 295 RECP	720		20	1	23				24	-	-		180	TRAINING 295 TV RECP.
RECP	360		20	1	25				26	20	3		360	RECP
FUTURE SIMULATOR			30	2	27				28	-	-			SPARE
-			-	-	29				30	-	-			SPARE
SPARE			20	1	31				32	20	2			SPARE
SPARE			20	1	33				34	-	-			SPARE
SPARE			20	1	35				36	20	1			SPARE
SPARE			20	1	37				38	20	2			SPARE
SPARE			20	1	39				40	-	-			SPARE
SPARE			20	1	41				42					SPARE

BUS RATING 100 A
MAIN BREAKER - A

PANEL LP-6 (FED FROM MSB-2500A) NEW

VOLTS 277/480 V | PHASE 3 Ø | # WIRE 4 W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
AC-1-1	25,761		125	3	1	51,522			2	125	3		25,761	AC-1-2
-	25,761		-	-	3		51,522		4	-	-		25,761	-
-	25,761		-	-	5			51,522	6	-	-		25,761	-
RAD-1-1, RAD-1-2	1,534		20	3	7	26,534			8	125	3		25,000	TRANSFORMER T-6
	1,534		-	-	9		26,534		10	-	-		25,000	-
	1,534		-	-	11			26,534	12	-	-		25,000	-
EQ. # 67 BUS EAS RECLAIM	8,888		40	3	13	10,860			14	20	3		1,992	EF-31
	8,888		-	-	15		10,860		16	-	-		1,992	-
	8,888		-	-	17			10,860	18	-	-		1,992	-
SPARE			20	1	19				20	20	1			SPARE
SPARE			20	1	21				22	20	1			SPARE
SPARE			20	1	23				24	20	1			SPARE
SPARE			20	1	25				26	20	1			SPARE
SPARE			20	1	27				28	20	1			SPARE
SPARE			20	1	29				30	20	1			SPARE
SPARE			20	1	31				32	20	1			SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 400 A
FEED THRU LUGS - A

PANEL PP-6 (FED FROM LP-6) NEW

VOLTS 120/208 V | PHASE 3 Ø | # WIRE 4 W

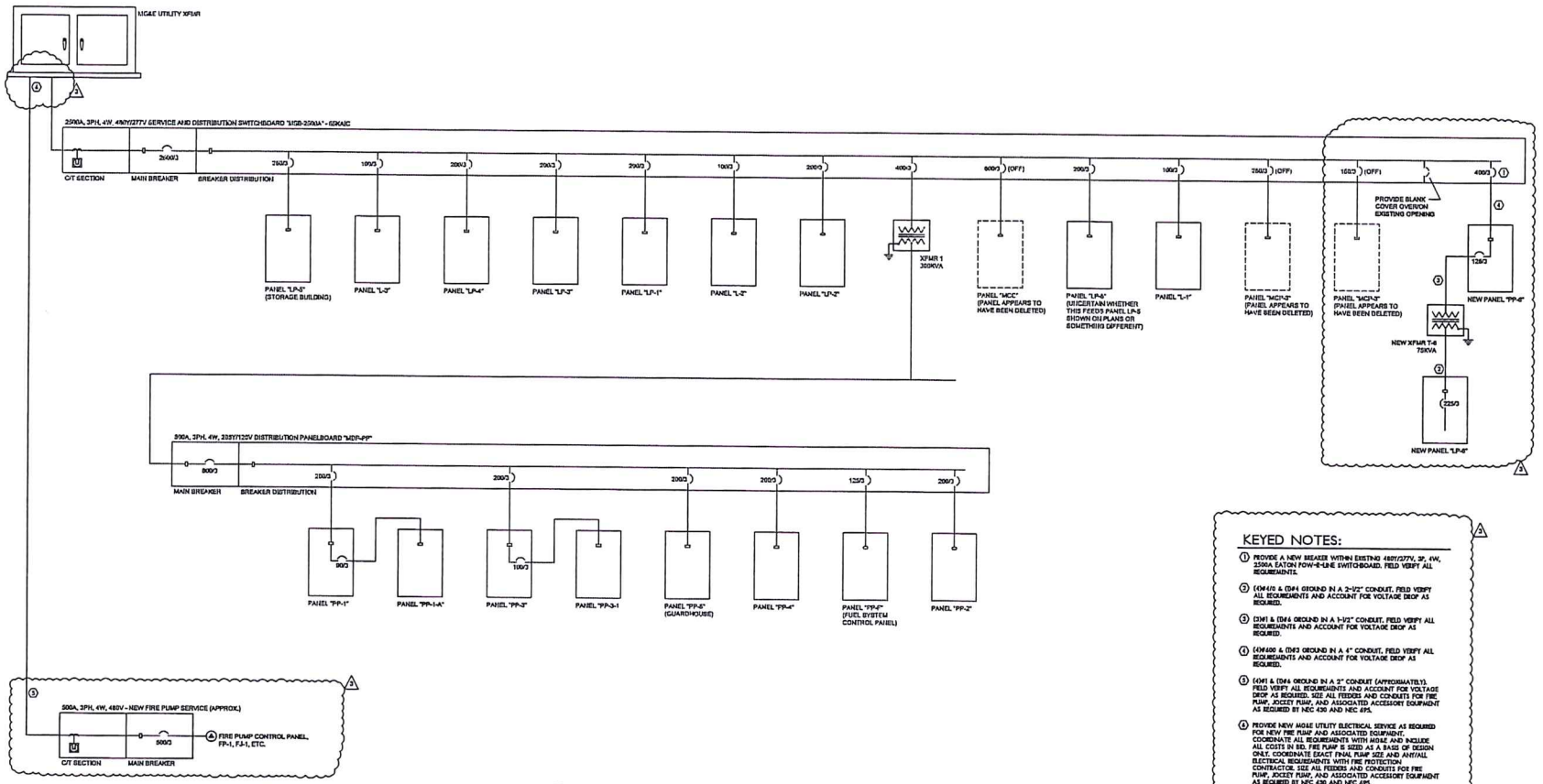
DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EWH-3	4,500		60	2	1	5,328			2	20	1		828	RH-1
-	4,500		-	-	3		5,420		4	15	2		920	FC-3
CP-3	270		20	1	5			1,190	6	-	-		920	-
MAU-32	996		15	2	7	3,181			8	25	2		2,185	HP-2
-	996		-	-	9		3,181		10	-	-		2,185	-
FC-2	920		15	2	11			1,470	12	20	1		960	EXHAUST FAN
-	920		-	-	13	2,180			14	20	1		1,260	CONV. RECP
TOILET 207,208 EF, RECP	720		20	1	15		1,080		16	20	1		360	IT RM RECP
RECP	360		20	1	17			540	18	20	1		180	IT RM RECP
OFFICE 206 RECP.	900		20	1	19	2,160			20	20	1		1,260	RECP
SPARE			20	1	21		1,200		22	20	1		1,200	REF. RECP.
SPARE			20	1	23			1,200	24	20	1		1,200	BREAK RM. COUNTER RECP
SPARE			20	1	25	1,200			26	20	1		1,200	BREAK RM. COUNTER RECP
SPARE			20	1	27		720		28	20	1		720	BREAK RM RECP
SPARE			20	1	29			900	30	20	1		900	RECP.
SPACE					31	1,440			32	20	1		1,440	RECP
SPACE					33		1,200		34	20	1		1,200	PRESSURE WASH UNIT
SPACE					35			1,200	36	20	1		1,200	PRESSURE WASH UNIT
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A
FEED THRU LUGS - A

DRAWN BY Author
CHECKED BY Checker

NEW PANEL SCHEDULES -
3901 STORAGE BLDG.

E301C



1 E401 3901 STORAGE BUILDING - ONE LINE DIAGRAM

KEYED NOTES:

1. PROVIDE A NEW BREAKER WITHIN EXISTING 480Y/277V, 3P, 4W, 2500A EATON POW-R-LINE SWITCHBOARD. FIELD VERIFY ALL REQUIREMENTS.
2. (4)#4/0 & (1)#4 GROUND IN A 2-1/2" CONDUIT. FIELD VERIFY ALL REQUIREMENTS AND ACCOUNT FOR VOLTAGE DROP AS REQUIRED.
3. (3)#1 & (1)#6 GROUND IN A 1-1/2" CONDUIT. FIELD VERIFY ALL REQUIREMENTS AND ACCOUNT FOR VOLTAGE DROP AS REQUIRED.
4. (4)#500 & (1)#3 GROUND IN A 4" CONDUIT. FIELD VERIFY ALL REQUIREMENTS AND ACCOUNT FOR VOLTAGE DROP AS REQUIRED.
5. (4)#1 & (1)#6 GROUND IN A 3" CONDUIT (APPROXIMATELY). FIELD VERIFY ALL REQUIREMENTS AND ACCOUNT FOR VOLTAGE DROP AS REQUIRED. SIZE ALL FEEDERS AND CONDUITS FOR FIRE PUMP, JOCKEY PUMP, AND ASSOCIATED ACCESSORY EQUIPMENT AS REQUIRED BY NEC 430 AND NEC 695.
6. PROVIDE NEW MG&E UTILITY ELECTRICAL SERVICE AS REQUIRED FOR NEW FIRE PUMP AND ASSOCIATED EQUIPMENT. COORDINATE ALL REQUIREMENTS WITH MG&E AND INCLUDE ALL COSTS IN BID. FIRE PUMP IS SIZED AS A BASIS OF DESIGN ONLY. COORDINATE EXACT FINAL PUMP SIZE AND ANY/ALL ELECTRICAL REQUIREMENTS WITH FIRE PROTECTION CONTRACTOR. SIZE ALL FEEDERS AND CONDUITS FOR FIRE PUMP, JOCKEY PUMP, AND ASSOCIATED ACCESSORY EQUIPMENT AS REQUIRED BY NEC 430 AND NEC 695.
7. NEW MAIN SWITCHBOARD (MSB-4000A). PROVIDE A NEW 4000-AMP, 480/277-VOLT, 3-PHASE, 4-WIRE, MG&E UTILITY ELECTRICAL SERVICE AT APPROXIMATE LOCATION SHOWN. ANY/ALL NEW UTILITY SERVICE TRANSFORMER, CT/METERING, INSTALLATION, RACEWAYS, CONCRETE WORK, REQUIREMENTS, ETC. SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR AND COORDINATED DIRECTLY WITH MG&E. 4000-AMP SWITCHBOARD WILL BE PROVIDED, INSTALLED, AND CONNECTED TO THE MG&E UTILITY SERVICE BY OWNER/OWNER'S VENDOR. REFER TO SHEET E401 FOR ONE-LINE DIAGRAM.
8. NEW MG&E UTILITY SERVICE CT/METERING/TRANSFORMER FOR NEW 4000-AMP, 480/277-VOLT, 3-PHASE, 4-WIRE UTILITY ELECTRICAL SERVICE. NEW SERVICE INSTALLATION, RACEWAYS, CONCRETE WORK, REQUIREMENTS, ETC. SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR AND COORDINATED DIRECTLY WITH MG&E.

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ONE LINE DIAGRAM - 3901 STORAGE BLDG.

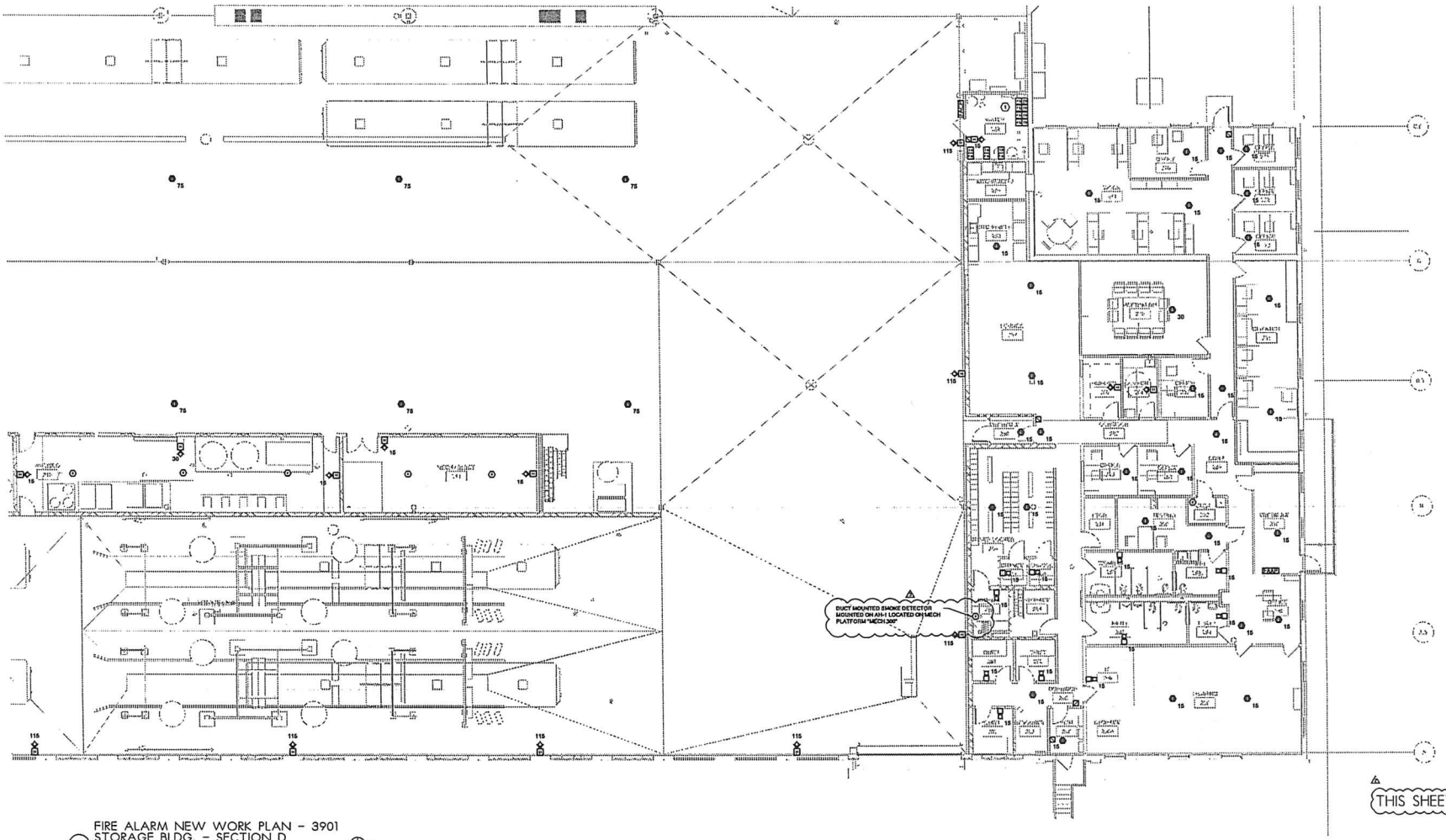
E401

FIRE ALARM GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION UNTIL NEW SYSTEM IS INSTALLED, INSPECTED, APPROVED, AND ONLINE/OPERATIONAL. REMOVE ANY/ALL EXISTING FIRE ALARM DEVICES ONCE THE NEW SYSTEM IS ONLINE/OPERATIONAL. PROVIDE FIRE WATCH, ETC. AS REQUIRED BY LOCAL AHJ DURING CONSTRUCTION.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.

FIRE ALARM KEYED NOTES:

1. PROVIDE FIRE PUMP ALARM AND SIGNALS AS REQUIRED BY NFPA 20:
   - PUMP OR MOTOR RUNNING
   - LOSS OF PHASE
   - PHASE REVERSAL
   - CONTROLLER OR SYSTEM TROUBLE (GROUND FAULT, PRESSURE-SENSING, VARIABLE SPEED TROUBLE, FAIL-TO-START.)



FIRE ALARM NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D
1 SCALE: 1/8" = 1'-0"

THIS SHEET ADDED

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/14/2023
3	ADDENDUM 3	10/19/2023

DRAWN BY Author
CHECKED BY Checker

FIRE ALARM NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D

KEYPLAN

E501D

LIGHT FIXTURE SCHEDULE

TAG	DESCRIPTION	MOUNTING	VOLTAGE	INPUT WATTS	LAMP TYPE	MANUFACTURER	CATALOG NUMBER	NOTES
A	HIGH BAY	SUSPENDED	277	190	LED	CURRENT (GE/JASCO)	ABC1430481DDG41ACW	6
A1	HIGH BAY	SUSPENDED	277	190	LED	CURRENT (GE/JASCO)	ABC1430481DDG41ACWAWN	1,6
B1	2X2 FLAT PANEL WITH DRYWALL ADAPTOR	RECESSED	277	34	LED	CURRENT (GE/JASCO)	LPL22IDG9A4BRDWDLTWHITE	2,6
B2	2X2 FLAT PANEL	GRIDLAY-IN	277	34	LED	CURRENT (GE/JASCO)	LPL22IDG9A4BRDWDLTWHITE	6
C	WET RATED HIGH BAY	WALL	277	200	LED	CURRENT (GE/JASCO)	PRCSDXB80BLOVSTACS	6
C1	WET RATED HIGH BAY	CEILING	277	200	LED	CURRENT (GE/JASCO)	PRCSDXB80BLOVSTACS	6
D	4' LINEAR STRIP LIGHT	WALL	277	38	LED	CURRENT (GE/JASCO)	ALVD04T5HT48IDSGDDSTKDW	6
F	4' LINEAR STRIP LIGHT	SURFACE/ SUSPENDED	277	38	LED	CURRENT (GE/JASCO)	ALVD04T5HT48IDSGDDS1ACW	2,6
F1	8' LINEAR STRIP LIGHT	SURFACE/ SUSPENDED	277	62	LED	CURRENT (GE/JASCO)	ALVD08T8HT48IDSGDDS1ACW	2,6
G	4" RECESSED DOWNLIGHT - WET RATED	RECESSED	277	9	LED	CURRENT (GE/JASCO)	JUJO R4 07 S CW MD - FRAME 4R	6
S1	EXTERIOR	WALL MOUNT	277	186	LED	CURRENT (GE/JASCO)	EAL2DSUAAF7450AVTDWBZ	6
S2	EXTERIOR WALL PACK	WALL MOUNT	277	17	LED	CURRENT (GE/JASCO)	EWL0803SAF7450N1TWDWBZ	6
S3	EXTERIOR WALL PACK	WALL MOUNT	277	88	LED	CURRENT (GE/JASCO)	EWA0610EAAF7450N1TWDWBZ	6
EM	BATTERY OPERATED EMERGENCY LIGHT	SUSPENDED	277	4	LED	EELP	EMB-E-HO-RD	4,6
EM1	OUTDOOR EMERGENCY LIGHT	WALL	277	11.8	LED	EELP	DFEALED-RR-ACEM-PC	5,6
EM2	WET RATED EMERGENCY LIGHT	WALL	277	1.8	LED	EELP	WLEM-LED	6
EMEM	EXIT SIGN COMBO EM LIGHT WITH BATTERY	SUSPENDED	277	4	LED	EELP	XCSERW-HO-RD	4,6

NOTES:
1. WITH LUTRON ATHENA MODE
2. WITH DRYWALL MOUNT KIT
3. WET CAPABLE, WET CORD AT TWIST LOCK PLUG FOR SUSPENDED MOUNT
4. VERIFY MOUNTING METHOD
5. VERIFY OPERATION
6. EQUIVALENT LIGHT FIXTURES AND ASSOCIATED CONTROL SYSTEMS WILL BE CONSIDERED. ALL PROPOSED SUBSTITUTIONS MUST BE REVIEWED AND APPROVED IN WRITING BY OWNER/ARCHITECT/ENGINEER AT LEAST 5 DAYS PRIOR TO BID. NO SUBSTITUTIONS WILL BE CONSIDERED AFTER THIS DATE HAS PASSED.

MOTOR AND EQUIPMENT SCHEDULE

EQUIP. TAG	EQUIPMENT	LOAD: VOLTS	LOAD: PHASE	LOAD: H.P.	LOAD: AMP	LOAD: KW/A	SOURCE OF POWER: PANEL	SOURCE OF POWER: CIRCUIT NO.	PROTECTION (AMPS)	STARTER: SIZE	STARTER: TYPE	DISCONNECT: SIZE	DISCONNECT: TYPE	NOTES
CP-1	CIRCULATION PUMP	120	1	-	-	55W	LP-1	27	20A/1P	-	-	-	-	2
CP-2	CIRCULATION PUMP	120	1	-	-	39W	LP-2	13	20A/1P	-	-	-	-	2
EF-1,2	EXHAUST FAN	115	1	1/15 TO	-	-	LP-3	29	20A/1P	-	-	BY MC	BY MC	-
EF-21	EXHAUST FAN	115	1	1/4	-	-	LP-3	31	20A/1P	-	-	BY MC	BY MC	-
EF-22	EXHAUST FAN	480	3	1 1/2	-	-	PP-3	19,21,23	15A/3P	1	COMBO	30	3R	-
ERV-1	ENERGY RECOVERY UNIT	480	3	5	15.5	-	PP-3	13,17,19	20A/3P	1	COMBO	30	3R	-
ERV-2	ENERGY RECOVERY UNIT	480	3	5	-	40W	LP-1	29,31,33	15A/3P	-	-	-	-	2
EWH-1	ELECTRIC WATER HEATER	208	1	-	-	36W	LP-1	40,42	15A/2P	-	-	-	-	2
EWH-2	ELECTRIC WATER HEATER	208	1	-	-	8KW	LP-4	9,11,13	30A/2P	-	-	-	-	2
HC-1	FAN COIL UNIT	230	1	-	60	-	LP-1	2,4	60A/2P	-	FACTORY	INSTALLED	-	-
HP-2	PIAC PUMP	480	3	1/5	-	-	MSSP	-	20A/3P	-	-	-	-	2
PSD	PRESSURE DAMPER	120	1	-	-	-	LP-2	4	20A/1P	-	-	-	-	1,2
RP-1	HEAT PUMP	230	1	-	30	-	LP-1	2,4	40A/2P	-	-	-	-	2
TP-2	HOCKEY PUMP	480	3	10	-	-	PP-4	13,15,17	20A/3P	-	-	-	-	2
TRU-1	AIR COMPRESSOR	480	3	60	-	-	PP-4	7,9,11	125A/3P	-	-	-	-	2
AC-2,3	AIR COMPRESSOR	480	3	60	-	-	PP-4	2,4,6	125A/3P	-	-	-	-	2
AHD-2-1	AIR DRYER	480	3	-	25	-	PP-4	8	30A/3P	-	-	-	-	2
AHD-2-2	AIR DRYER	480	3	-	-	-	PP-4	8	30A/3P	-	-	-	-	2
15	TV BATTERY TENDER	480	3	-	-	3A	SEE PLAN	SEE PLAN	90A/3P	-	-	-	-	2
16	LIFT CONTROL	208	3	25 HP	-	-	SEE PLAN	SEE PLAN	60A/3P	-	-	-	-	2
24	50' HOSE REEL	120	1	-	-	-	SEE PLAN	SEE PLAN	20A/1P	-	-	-	-	2
31	TIRE CAROUSEL	208	3	-	25	-	LP-3	53,57,59	30A/3P	-	-	-	-	2
32	TIRE CHANGER	240	1	-	24.5	-	LP-3	30,32,34	30A/1P	-	-	-	-	2
33	ENCLOSED TIRE INFLATION CAGE	120	1	-	25	-	LP-3	21	20A/1P	-	-	-	-	2
35	FLOOR STANDING DRILL PRESS	230	1	-	15	-	LP-3	36	20A/1P	-	-	-	-	2
36	SHOP HOIST	480	3	5	-	-	PP-3	22,24,26	20A/3P	-	-	-	-	2
39	RECEIVING COUNTER	120	1	-	-	-	LP-3	29	20A/1P	-	-	-	-	2
41	TOOL CONSUMABLE VENDING	120	1	-	25	-	SEE PLAN	SEE PLAN	20A/1P	-	-	-	-	2
42	BATTERY REMOVAL	120	1	-	15	-	LP-4	3	20A/1P	-	-	-	-	2
45	FLUID MANAGEMENT PEDESTAL	120	1	-	-	-	LP-3	48	20A/1P	-	-	-	-	2
62	OIL FILTER CRUSHER	120	1	-	25	-	LP-4	5	20A/1P	-	-	-	-	2
67	MULTI FUNCTION PRINTER	120	1	-	5	-	LP-3	26	20A/1P	-	-	-	-	2
73	FUEL DISPENSER PUMP	230	1	3	-	-	LP-1	48	20A/2P	-	-	-	-	2
74	1000 GALLON ABOVE GROUND FUEL TANK	120	1	-	-	-	LP-1	46	20A/1P	-	-	-	-	2
77	EMERGENCY FUEL SHUT OFF	120	1	-	-	-	LP-3	42	20A/1P	-	-	-	-	2
[illegible]	[illegible]	480	3	-	31	-	PP-3	21,23,25	50A/3P	-	-	-	-	2

NOTES:
1. CONNECT TO NEW FIRE ALARM SYSTEM. PROVIDE CONTROL MODULES, ETC. AS REQUIRED.
2. AT A MINIMUM, ELECTRICAL CONTRACTOR SHALL PROVIDE/INSTALL A DISCONNECT AT EACH PIECE OF EQUIPMENT ON THIS SCHEDULE, FIELD VERIFY PLUMBING REQUIREMENTS AND PROVIDE AS REQUIRED.

FEEDER SCHEDULE

FEEDER AMPACITY	CONDUCTOR SIZE (Cu+e): # & N	CONDUCTOR SIZE (Cu+e): GND	CONDUIT SIZE: (3) & (3G)	CONDUIT SIZE: (4) & (4G)
50	#6	#10	1"	1"
70	#4	#8	1-1/4"	1-1/4"
80	#3	#8	1-1/4"	1-1/4"
100	#1	#8	1-1/2"	2"
110	#2	#6	1-1/4"	1-1/2"
125	#1	#6	1-1/2"	2"
150	#1/0	#6	1-1/2"	2"
175	#2/0	#6	2"	2"
200	#3/0	#6	2"	2-1/2"
225	#4/0	#4	2"	2-1/2"
250	#250	#4	2-1/2"	3"
300	#350	#4	3"	3"
350	#500	#3	3"	3-1/2"
380	#500	#2	3"	3-1/2"
400	(2) # 3/0	(2) # 3	(2) 2"	(2) 2-1/2"
450	(2) # 4/0	(2) # 2	(2) 2"	(2) 2-1/2"
500	(2) # 250	(2) # 2	(2) 2-1/2"	(2) 3"
600	(2) # 350	(2) # 1	(2) 3"	(2) 3"
700	(2) # 500	(2) # 1/0	(2) 3"	(2) 3-1/2"
800	(2) # 600	(2) # 1/0	(2) 3-1/2"	(2) 4"
1000	(3) # 400	(2) # 2/0	(3) 3"	(3) 3-1/2"
1200	(3) # 600	(2) # 3/0	(3) 3-1/2"	(3) 4"
1600	(4) # 600	(4) # 4/0	(4) 3-1/2"	(4) 4"
2000	(5) # 600	(5) # 250	(5) 3-1/2"	(5) 4"

GENERAL NOTES:
1. THE ABOVE FEEDER SCHEDULE IS A SCHEDULE OF TYPICAL FEEDERS AND SOME SIZES MAY NOT BE UTILIZED.
2. ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 310-16 OF THE NEC FOR COPPER CONDUCTOR TYPE THW/THWN.
3. FEEDER SIZES SHOWN ON THE RISER DIAGRAM INDICATE FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR THE DERATION FACTORS REQUIRED BY CODE AND/OR ARE OVERSIZED FOR VOLTAGE DROP.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO
HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
2	ADDENDUM 2	10/13/2023
3	ADDENDUM 3	10/19/2023

DRAWN BY EP
CHECKED BY MK

MOTOR AND EQUIPMENT SCHEDULES - 3829 MAINT. BLDG.

E600

LIGHT FIXTURE SCHEDULE

TAG	DESCRIPTION	MOUNTING	VOLTAGE	INPUT WATTS	LAMP TYPE	MANUFACTURER	CATALOG NUMBER	NOTES
A	HIGH BAY	SUSPENDED	277	199	LED	CURRENT (GE) BRAND(S)	NBC14LW40 SSOO4 HCW	8
A1	HIGH BAY	SUSPENDED	277	199	LED	CURRENT (GE) BRAND(S)	NBC14LW40 SSOO4 HCW WHK	1,8
B1	2X2 FLAT PANEL, WITH DIFFUSER	RECESSED	277	34	LED	CURRENT (GE) BRAND(S)	PLL2X2 SSOO4 LA40 ADO LTWHTE + OCSENST	2,6
B2	2X2 FLAT PANEL	UNDERLAY BE	277	34	LED	CURRENT (GE) BRAND(S)	PLL2X2 SSOO4 LA40 ADO LTWHTE	5
C	WET RATED HIGH BAY	WALL	277	200	LED	CURRENT (GE) BRAND(S)	PRC2C1500WL DYS 740B	8
C1	WET RATED HIGH BAY	CEILING	277	200	LED	CURRENT (GE) BRAND(S)	PRC2C1500WL DYS 740B	8
D	4' LINEAR STRIP LIGHT	WALL	277	35	LED	CURRENT (GE) BRAND(S)	NLW3W7W740 SSOO2 SSTNDW	8
F	4' LINEAR STRIP LIGHT	SURFACE/ SUSPENDED	277	35	LED	CURRENT (GE) BRAND(S)	NLW3W7W740 SSOO2 SSTNDW	3,8
F1	8' LINEAR STRIP LIGHT	SURFACE/ SUSPENDED	277	62	LED	CURRENT (GE) BRAND(S)	NLW8W7W740 SSOO4 SSTNDW	3,8
G	6" RECESSED DOWNLIGHT - WET RATED	RECESSED	277	9	LED	CURRENT (GE) BRAND(S)	LRSD 6-9 ST 8 CW WD - 7 FAME 6R	8
S1	EXTERIOR	WALL MOUNT	277	168	LED	CURRENT (GE) BRAND(S)	ELA1 SSOO4 ST 740 HA WD SPBZ	6
S2	EXTERIOR WALL PACK	WALL MOUNT	277	17	LED	CURRENT (GE) BRAND(S)	EWL SSOO2 SAT 740 HA WD MDBZ	8
S3	EXTERIOR WALL PACK	WALL MOUNT	277	49	LED	CURRENT (GE) BRAND(S)	EWA SSOO4 SAT 740 HA WD MDBZ	8
EM	BATTERY OPERATED EMERGENCY LIGHT	SURFACE	277	4	LED	EELP	EMDR-E-HO-SD	4,8
EMO	OUTDOOR EMERGENCY LIGHT	WALL	277	11.8	LED	EELP	EDUAL LED-RH-MOS-WHPC	3,8
EMW	WET RATED EMERGENCY LIGHT	WALL	277	3.8	LED	EELP	WLS-M-LED	8
EMEW	EXIT SIGN COMPBO EM LIGHT WITH BATTERY	SUSPENDED	277	4	LED	EELP	XCSPW-W-D-SD	4,8

NOTES:
1. WITH LITHIUM ION BATTERY BACKUP.
2. WITH DRYWALL MOUNT KIT.
3. KIT CLASS 1, KIT CONSISTS OF THREE 1 FOOT PIECES AND SUSPENDED MOUNT.
4. WITH BATTERY BACKUP.
5. WITH OCCUPANCY SENSOR.
6. SOLAR PLANT LIGHT FIXTURES AND ASSOCIATED CONTROL SYSTEMS SHALL BE ITEM NUMBERS, ALL PROPOSED SUBSTITUTIONS MUST BE REVIEWED AND APPROVED IN WRITING BY OWNER/ARCHITECT/ENGINEER AT LEAST 5 DAYS PRIOR TO BID. NO SUBSTITUTIONS SHALL BE CONSIDERED AFTER THIS DATE HAS PASSED.

MOTOR AND EQUIPMENT SCHEDULE

EQUIP. TAG	EQUIPMENT	LOAD					SOURCE OF POWER		PROTECTION (AMPS)	STARTER		DISCONNECT		NOTES
		VOLTS	PHASE	H.P.	AMP	KVA	PANEL	CCT. NO.		SIZE	TYPE	SIZE	TYPE	
AC-1-1	AIR COMPRESSOR	460	3	60	-	-	LP-6	1,2,3	125A-3P	-	-	-	-	1
AC-1-2	AIR COMPRESSOR	460	3	60	-	-	LP-6	2,4,6	125A-3P	-	-	-	-	1
AH-1	AIR HANDLING UNIT	460	3	5	-	-	LP-2	1,3,5	20A-3P	-	-	-	-	1
B-1	BOILER	120	1	-	-	-	PP-2	8	20A-1P	-	-	-	-	1
B-2	BOILER	120	1	-	-	-	PP-2	6	20A-1P	-	-	-	-	1
CF-30-1	CEILING FAN	460	3	-	10	-	LP-3	1,3,5	20A-3P	-	-	-	-	1
CF-30-2	CEILING FAN	460	3	-	10	-	LP-4	7,9,11	20A-3P	-	-	-	-	1
CF-30-3	CEILING FAN	460	3	-	10	-	LP-4	7,9,11	20A-3P	-	-	-	-	1
CF-30-4	CEILING FAN	460	3	-	10	-	LP-4	13,15,17	20A-3P	-	-	-	-	1
CP-3	CIRCULATION PUMP	120	1	-	27.0W	-	PP-8	5	20A-1P	-	-	-	-	1
CU-1	AIR COOLED CONDENSING UNIT	460	3	-	35	-	LP-5	10,12,14	45A-3P	-	-	-	-	1
EF	EXHAUST FAN	120	1	-	-	-	SEE PLAN	SEE PLAN	20A1P	-	-	-	-	1
EF-32-1	EXHAUST FAN	460	3	7.5	-	-	LP-4	8,8,10	20A-3P	-	-	-	-	1
EF-32-2	EXHAUST FAN	460	3	7.5	-	-	LP-3	2,4,6	20A-3P	-	-	-	-	1
EF-30-1	EXHAUST FAN	460	3	7.5	-	-	LP-3	8,10,12	20A-3P	-	-	-	-	1
EF-30-2	EXHAUST FAN	460	3	7.5	-	-	LP-3	20,22,24	20A-3P	-	-	-	-	1
EF-31	EXHAUST FAN	460	3	7.5	-	-	LP-6	14,16,18	20A-3P	-	-	-	-	1
EF-33	EXHAUST FAN	230	1	3/4	-	-	PP-2	8,10	20A-2P					
ERV-2	ENERGY RECOVERY UNIT	460	3	-	18.8	-	LP-4	18,18,20	20A-3P	-	-	-	-	1
EWH-3	ELECTRIC WATER HEATER	208	1	-	8KW	-	PP-8	1,3	60A-2P	-	-	-	-	1
FC-2	FAN COIL	230	1	-	8	-	PP-6	11,13	15A-2P	-	-	-	-	1
FC-3	FAN COIL	230	1	-	8	-	PP-6	4,6	15A-2P	-	-	-	-	1
FP-1	FIRE PUMP	480	3	57	-	-	MG&E	-	450A-3P	-	-	-	-	1
HP-2	HEAT PUMP	230	1	-	19	-	PP-3	36,38	25A2P	-	-	-	-	1
FJ-1	JOCKEY PUMP	460	3	10	-	-	LP-5	20,22,24	20A-3P	-	-	-	-	1
MAU-31-1	MAKE UP AIR UNIT	460	3	-	65.9	-	LP-5	13,15,17	90A-3P	-	-	-	-	1
MAU-31-2	MAKE UP AIR UNIT	460	3	-	65.9	-	LP-5	19,21,23	90A-3P	-	-	-	-	1
MAU-32	MAKE UP AIR UNIT	240	1	-	8.3	-	PP-6	7,9	15A-2P	-	-	-	-	1
MAU-33	MAKE UP AIR UNIT	460	3	-	28.4	-	L-2	13,15,17	35A-3P	-	-	-	-	1
RAD-1-1	AIR DRYER	460	3	-	2.3KW	-	LP-6	7,9,11	20A-3P	-	-	-	-	1
RAD-1-2	AIR DRYER	460	3	-	2.3KW	-	LP-7	7,9,11	20A-3P	-	-	-	-	1
RH-1-1	RADIANT HEATER	115	1	-	1.2	-	PP-6	2	20A-1P	-	-	-	-	1
RH-1-2	RADIANT HEATER	115	1	-	1.2	-	PP-7	3	20A-1P	-	-	-	-	1
RH-1-3	RADIANT HEATER	115	1	-	1.2	-	PP-8	4	20A-1P	-	-	-	-	1
RH-1-4	RADIANT HEATER	115	1	-	1.2	-	PP-9	5	20A-1P	-	-	-	-	1
RH-1-5	RADIANT HEATER	115	1	-	1.2	-	PP-10	6	20A-1P	-	-	-	-	1
RH-1-6	RADIANT HEATER	115	1	-	1.2	-	PP-11	7	20A-1P	-	-	-	-	1
UH-1-1	UNIT HEATER	115	1	1/2	-	-	PP-4	5	20A-1P	-	-	-	-	1
UH-1-2	UNIT HEATER	115	1	1/2	-	-	PP-3	1	20A-1P	-	-	-	-	1
UH-1-3	UNIT HEATER	115	1	1/2	-	-	PP-3	1	20A-1P	-	-	-	-	1
UH-1-4	UNIT HEATER	115	1	1/2	-	-	PP-4	3	20A-1P	-	-	-	-	1
UH-1-5	UNIT HEATER	115	1	1/2	-	-	PP-2	2	20A-1P	-	-	-	-	1
UH-1-6	UNIT HEATER	115	1	1/2	-	-	PP-4	3	20A-1P	-	-	-	-	1
UH-1-7	UNIT HEATER	115	1	1/2	-	-	PP-2	2	20A-1P	-	-	-	-	1
44	FARE COLLETION SYSTEM	120	-	-	-	-	PP-3	23	20A-1P	-	-	-	-	1
45	FUEL MANAGEMENT PEDASTAL	120	1	-	-	-	PP-3	17	20A-1P	-	-	-	-	1
46	FUEL DISPENSOR PUMP W/2 HOSES	120	1	1	-	-	PP-3	19	20A-1P	-	-	-	-	1
51	BUS VACUUM	480	3	37.5	-	-	LP-3	29,31,33	80A-3P	-	-	-	-	1
52	FUTURE BUS VACUUM	480	3	37.5	-	-	LP-4	26,28,30	80A-3P	-	-	-	-	1
55	BUS WASH SYSTEM	480	3	-	250	-	MSB-2500A	-	250A-3P	-	-	-	-	1
56	FUTURE BUS WASH SYSTEM	480	3	-	250	-	MSB-2500A	-	250A-3P	-	-	-	-	1
57	BUS WASH RECLAIM UNIT	480	3	-	-	-	LP-8	13,15,17	40A-3P	-	-	-	-	1
68	FUTURE FARE COLLETION SYSTEM	120	1	-	-	-	PP-3	21	20A-1P	-	-	-	-	1
70	FUTURE FUEL MANAGEMENT PEDESTAL	120	1	-	-	-	PP-3	17	20A-1P	-	-	-	-	1
71	FUTURE FUEL DISPENSOR W/2 HOSES	120	1	-	-	-	PP-3	19	20A-1P	-	-	-	-	1
77	EMERGENCY FUEL SHUTOFF	120	1	-	-	-	PP-3	19	20A-1P	-	-	-	-	1

NOTES:
1. AT A MINIMUM, ELECTRICAL CONTRACTOR SHALL PROVIDE/INSTALL A DISCONNECT AT EACH PIECE OF EQUIPMENT ON THIS SCHEDULE. FIELD VERIFY FUSING REQUIREMENTS AND PROVIDE AS REQUIRED.

FEEDER SCHEDULE

FEEDER AMPACITY	CONDUCTOR SIZE (1 cond)		CONDUIT SIZE	
	# & N	GRD	(3) & (30)	(4) & (40)
50	#6	#10	1"	1"
70	#4	#8	1-1/4"	1-1/4"
80	#3	#8	1-1/4"	1-1/4"
100	#1	#8	1-1/2"	2"
110	#2	#4	1-1/4"	1-1/2"
125	#1	#6	1-1/2"	2"
150	#1/0	#6	1-1/2"	2"
175	#2/0	#6	2"	2"
200	#3/0	#6	2"	2-1/2"
225	#4/0	#4	2"	2-1/2"
250	#250	#4	2-1/2"	3"
300	#350	#4	3"	3"
350	#500	#3	3"	3-1/2"
380	#500	#3	3"	3-1/2"
400	(2) # 3/0	(2) # 3	(2) 2"	(2) 2-1/2"
450	(2) # 4/0	(2) # 2	(2) 2"	(2) 2-1/2"
500	(2) # 250	(2) # 2	(2) 2-1/2"	(2) 3"
600	(2) # 350	(2) # 1	(2) 3"	(2) 3"
700	(2) # 500	(2) # 1/0	(2) 3"	(2) 3-1/2"
800	(2) # 600	(2) # 1/0	(2) 3-1/2"	(2) 4"
1000	(3) # 400	(3) # 2/0	(3) 3"	(3) 3-1/2"
1200	(3) # 600	(3) # 3/0	(3) 3-1/2"	(3) 4"
1600	(4) # 600	(4) # 4/0	(4) 3-1/2"	(4) 4"
2000	(5) # 600	(5) # 250	(5) 3-1/2"	(5) 4"

GENERAL NOTES:
1. THE ABOVE FEEDER SCHEDULE IS A SCHEDULE OF TYPICAL FEEDERS AND SOME SIZES MAY NOT BE UTILIZED.
2. ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 310-16 OF THE NEC FOR COPPER CONDUCTOR TYPE THW/THWN.
3. FEEDER SIZES SHOWN ON THE RISER DIAGRAM INDICATE FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR THE DERATION FACTORS REQUIRED BY CODE AND/OR ARE OVERSIZED FOR VOLTAGE DROP.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

REVISION

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

BID SET	9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE
3	ADDENDUM 3	10/19/2023

DRAWN BY Author

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LIGHTING, MOTOR AND EQUIPMENT SCHEDULES - 3901 STORAGE BLDG.

E601

SATELLITE BUS FACILITY REMODEL

METRO TRANSIT HANSON ROAD

3829-3901 HANSON ROAD
MADISON, WI 53704

PROJECT

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

0216/WAL

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PLUMBING
THUNDERBIRD ENGINEERING, INC.
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OREGON, WI 53575
PH 608-444-8067

DRAWINGS

T100	TITLE SHEET
1 OF 1	TOPOGRAPHIC SURVEY
C100	NOTES AND LEGEND
C200	DEMOLITION PLAN
C300	OVERALL SITE PLAN
C301	EAST BUILDING DETAILED SITE PLAN
C400	OVERALL GRADING & EROSION CONTROL PLAN
C401	EAST BUILDING DETAILED GRADING PLAN
C500	DETAILS
C501	DETAILS

L100	LANDSCAPE PLAN
L200	LANDSCAPE DETAILS AND NOTES

D100	DEMOLITION FLOOR PLAN - MAINTENANCE BUILDING
D101	DEMOLITION FLOOR PLAN - STORAGE BUILDING
D200	DEMOLITION REFLECTED CEILING PLAN - MAINTENANCE BUILDING
D201	DEMOLITION REFLECTED CEILING PLAN - STORAGE BUILDING
D400	DEMOLITION ELEVATIONS - MAINTENANCE BUILDING
D401	DEMOLITION ELEVATIONS - STORAGE BUILDING
D500	DEMOLITION ELEVATIONS - INTERIOR
A001	CODE CONFORMANCE
A050	SITE ACCESS & STAGING PLAN
A051	TEMPORARY CONSTRUCTION PLAN - STORAGE BUILDING
A100	FIRST FLOOR PLAN - MAINTENANCE BUILDING
A101	FIRST FLOOR PLAN - STORAGE BUILDING
A110	ROOF PLAN - MAINTENANCE BUILDING
A111	ROOF PLAN - STORAGE BUILDING
A200	REFLECTED CEILING PLAN - MAINTENANCE BUILDING
A201	REFLECTED CEILING PLAN - STORAGE BUILDING
A202	ENLARGED CEILING PLANS
A301	ENLARGED PLANS
A302	ENLARGED PLANS
A400	ELEVATIONS - MAINTENANCE BUILDING
A401	ELEVATIONS - STORAGE BUILDING
A501	PARTIAL BUILDING & WALL SECTIONS
A502	PARTIAL BUILDING & WALL SECTIONS
A505	EXTERIOR DETAILS
A506	EXTERIOR DETAILS
A601	DOOR SCHEDULE & WALL TYPES
A701	INTERIOR FINISHES & SCHEDULES
A702	INTERIOR FINISH PLANS
A801	INTERIOR ELEVATIONS
A802	INTERIOR ELEVATIONS
A811	INTERIOR DETAILS
A812	INTERIOR DETAILS
A813	INTERIOR DETAILS
A901	EQUIPMENT PLAN
A902	ENLARGED PLANS
A903	EQUIPMENT PLAN
A904	EQUIPMENT PLAN
A905	EQUIPMENT PLAN
A906	EQUIPMENT PLAN

S001	STRUCTURAL DETAILS
S100	FOUNDATION AND FRAMING PLANS - MAINTENANCE BUILDING
S101	FOUNDATION PLAN - STORAGE BUILDING
S102	ROOF FRAMING - STORAGE BLDG
S600	STRUCTURAL DETAILS
S601	STRUCTURAL DETAILS

F000	COVER SHEET - FIRE PROTECTION
F001	DETAILS - FIRE PROTECTION
FD100	FIRST FLOOR PLAN MAINTENANCE BUILDING FIRE PROTECTION DEMOLITION
FD101	FIRST FLOOR PLAN STORAGE BUILDING FIRE PROTECTION DEMOLITION
F100	FIRST FLOOR PLAN MAINTENANCE BUILDING FIRE PROTECTION
F101	FIRST FLOOR PLAN STORAGE BUILDING FIRE PROTECTION

P000	COVER SHEET - PLUMBING
P001	SCHEDULES
PD099	UNDERFLOOR PLAN MAINTENANCE BUILDING PLUMBING DEMOLITION
PD099	UNDERFLOOR PLAN STORAGE BUILDING PLUMBING DEMOLITION
PD100	FIRST FLOOR PLAN MAINTENANCE BUILDING PLUMBING DEMOLITION
PD101	FIRST FLOOR PLAN STORAGE BUILDING PLUMBING DEMOLITION
P099	UNDERFLOOR PLAN MAINTENANCE BUILDING PLUMBING
P099	UNDERFLOOR PLAN STORAGE BUILDING PLUMBING
P100	FIRST FLOOR PLAN MAINTENANCE BUILDING PLUMBING
P101	FIRST FLOOR PLAN STORAGE BUILDING PLUMBING
P200	ENLARGED PLANS MAINTENANCE BUILDING PLUMBING
P201	ENLARGED PLANS STORAGE BUILDING PLUMBING
P202	ENLARGED PLANS STORAGE BUILDING PLUMBING
P300	PLUMBING DETAILS
P301	PLUMBING DETAILS
P400	SANITARY WASTE & VENT ISOMETRIC DIAGRAMS MAINTENANCE BUILDING
P401	SANITARY WASTE & VENT ISOMETRIC DIAGRAMS STORAGE BUILDING
P500	DOMESTIC WATER SUPPLY ISOMETRIC DIAGRAMS MAINTENANCE BUILDING
P501	DOMESTIC WATER SUPPLY ISOMETRIC DIAGRAMS STORAGE BUILDING
P502	COMPRESSED AIR & SPECIALTY FLUIDS ISOMETRICS - PLUMBING
P503	SPECIALTY FLUIDS ISOMETRICS - PLUMBING

HD100A	MECHANICAL DEMO PLAN - MAINTENANCE BUILDING
HD100B	MECHANICAL DEMO PLAN - MAINTENANCE BUILDING
HD101A	MECHANICAL DEMO PLAN - STORAGE BUILDING
HD101B	MECHANICAL DEMO PLAN - STORAGE BUILDING
HD101C	MECHANICAL DEMO PLAN - STORAGE BUILDING
HD101D	MECHANICAL DEMO PLAN - STORAGE BUILDING
HD200	MECHANICAL ENLARGED DEMO PLAN - MAINTENANCE BUILDING
H100A	MECHANICAL FLOOR PLAN - MAINTENANCE BUILDING
H100B	MECHANICAL FLOOR PLAN - MAINTENANCE BUILDING
H101A	MECHANICAL FLOOR PLAN - STORAGE BUILDING
H101B	MECHANICAL FLOOR PLAN - STORAGE BUILDING
H101C	MECHANICAL FLOOR PLAN - STORAGE BUILDING
H101D	MECHANICAL FLOOR PLAN - STORAGE BUILDING
H200	MECHANICAL ENLARGED PLAN - MAINTENANCE BUILDING
H300	MECHANICAL SCHEDULES
H301	MECHANICAL SCHEDULES
H400	MECHANICAL SCHEMATICS
H500	MECHANICAL DETAILS

E001	NOTES, SYMBOLS, ABBREVIATIONS & SHEET INDEX
ED100A	LIGHTING DEMO PLAN - 3829 MAINT. BLDG. - SECTION A
ED100B	LIGHTING DEMO PLAN - 3829 MAINT. BLDG. - SECTION B
ED101A	LIGHTING DEMO PLAN - 3901 STORAGE BLDG. - SECTION A
ED101B	LIGHTING DEMO PLAN - 3901 STORAGE BLDG. - SECTION B
ED101C	LIGHTING DEMO PLAN - 3901 STORAGE BLDG. - SECTION C
ED101D	LIGHTING DEMO PLAN - 3901 STORAGE BLDG. - SECTION D
ED200A	POWER DEMO PLAN - 3829 MAINT. BLDG. - SECTION A
ED200B	POWER DEMO PLAN - 3829 MAINT. BLDG. - SECTION B
ED201A	POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION A
ED201B	POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION B
ED201C	POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION C
ED201D	POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION D
ED300	EXISTING PANEL SCHEDULES - 3829 MAINTENANCE BUILDING
ED301A	EXISTING PANEL SCHEDULES - 3901 STORAGE BLDG.
ED301B	EXISTING PANEL SCHEDULES - 3901 STORAGE BLDG.
E100A	LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION A
E100B	LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION B
E100C	LIGHTING NEW WORK - 3829 MAINT. BLDG. ENLARGED PLANS
E101A	LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION A
E101B	LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B
E101C	LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION C
E101D	LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D
E200A	POWER NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION A
E200B	POWER NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION B
E200C	POWER NEW WORK ENLARGED PLANS - 3829 MAINT. BLDG.
E200D	POWER NEW WORK ENLARGED PLANS - 3829 MAINT. BLDG.
E200E	POWER NEW WORK ENLARGED PLANS - 3829 MAINT. BLDG.
E201A	POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION A
E201B	POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B
E201C	POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION C
E201D	POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D
E201E	POWER NEW WORK ENLARGED PLAN - 3901 STORAGE BLDG.
E201F	POWER NEW WORK ENLARGED PLAN - 3901 STORAGE BLDG.
E300A	EXISTING REVISED PANEL SCHEDULES - 3829 MAINT. BLDG.
E300B	NEW PANEL SCHEDULES - 3829 MAINT. BLDG.
E301A	EXISTING REVISED PANEL SCHEDULES - 3901 STORAGE BLDG.
E301B	EXISTING REVISED PANEL SCHEDULES - 3901 STORAGE BLDG.
E400	ONE LINE DIAGRAM - 3829 MAINT. BLDG.
E401	ONE LINE DIAGRAM - 3901 STORAGE BLDG.
E600	MOTOR AND EQUIPMENT SCHEDULES - 3829 MAINT. BLDG.
E601	MOTOR AND EQUIPMENT SCHEDULES - 3901 STORAGE BLDG.

Q001	NOTES, SYMBOLS, AND ABBREVIATIONS
QD100	BUILDING 3829 DEMOLITION PLAN
QD200	BUILDING 3901 DEMOLITION PLAN
Q100	OVERALL BUILDING 3829 PLAN
Q101	OFFICE AREA BUILDING 3829 PLAN
Q102	AV BUILDING 3829 PLAN
Q103	ENLARGED IT ROOM BUILDING 3829 PLAN
Q200	OVERALL BUILDING 3901 PLAN
Q201	OFFICE AREA BUILDING 3901 PLAN
Q202	AV BUILDING 3901 PLAN
Q203	AV - BUILDING 3901 PLAN
Q204	ENLARGED IT ROOM BUILDING 3901 PLAN
Q501	DETAILS
Q502	DETAILS
Q601	SCHEDULES - CARD ACCESS AND CAMERA
Q701	ONE LINE DRAWINGS

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 313419.00

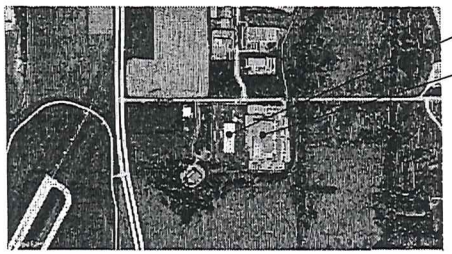
ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY JFB
CHECKED BY JH

TITLE SHEET

SITE LOCATION MAP



MAINTENANCE BUILDING ADDRESS:
3829 HANSON ROAD
MADISON, WI 53704

STORAGE BUILDING ADDRESS:
3901 HANSON ROAD
MADISON, WI 53704

NORTH

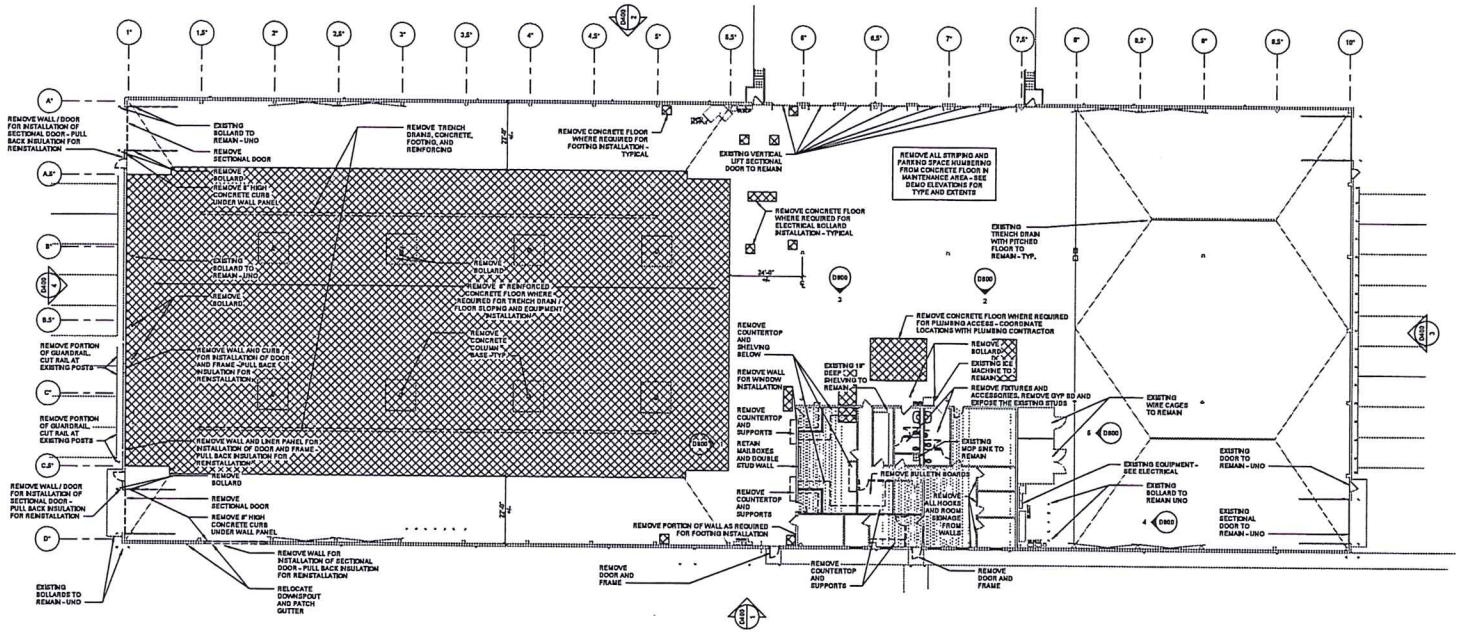
T100

DEMOLITION LEGEND

- EXISTING WALL TO BE REMOVED - MASONRY UNLESS NOTED OTHERWISE
- EXISTING WALL TO REMAIN
- REMOVE WAINSCOT AND GYPSUM BOARD FROM EXISTING WALL TO REMAIN
- EXISTING DOOR AND FRAME TO BE REMOVED
- EXISTING DOOR AND FRAME TO REMAIN
- EXTENTS TO REMOVE REINFORCED CONCRETE FLOOR SLAB
- EXTENTS TO REMOVE FLOOR FINISH AND BASE - PREPARE FOR FLOOR FINISH INSTALLATION

GENERAL NOTES - DEMOLITION:

1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. PROTECT ALL SURFACES, FIXTURES, WINDOWS, DOORS, ETC. TO REMAIN FROM DAMAGE CAUSED BY DEMOLITION.
3. PREPARE FLOORS, CEILINGS, AND ROOFING FOR FINISH INSTALLATION WHERE EXISTING FINISHES AND MATERIALS ARE REMOVED.
4. REMOVE GYPSUM BOARD TO 1' ABOVE FINISHED CEILING WHERE WAINSCOT IS REMOVED, E.G. 9' CEILING NOTED ON RCP IS 8'-0" AFF, REMOVE GYPSUM BOARD TO 9'-0" AFF.
5. REMOVE BASE WHERE FLOOR FINISH IS REMOVED UNLESS NOTED OTHERWISE. EXISTING FINISHES ARE VCT FLOORING WITH RUBBER BASE UNLESS NOTED OTHERWISE.
6. SALVAGE CERAMIC FLOOR, BASE, AND WALL TILE WHERE REMOVED IN STORAGE BUILDING FOR REPLACEMENT IN RESTROOMS TO REMAIN. SEE FINISH SCHEDULE FOR ADDITIONAL INFORMATION.
7. COORDINATE EXTENTS OF FLOORING REMOVAL WITH PLUMBING CONTRACTOR WHERE REQUIRED ONLY FOR REMOVAL AND/OR REPLACEMENT OF UNDERFLOOR PLUMBING. SEE PLUMBING FOR ADDITIONAL INFORMATION.
8. REMOVE BLINDS FROM ALL EXTERIOR WINDOWS.
9. SALVAGE COPING FOR REINSTALLATION WHERE WALL PANELS REMOVED AT STORAGE BUILDING.
10. MAINTENANCE BUILDING CIVIL ELEVATION: 100'-0" = 897.35'
11. STORAGE BUILDING CIVIL ELEVATION: 100'-0" = 897.20'



1 DEMOLITION FLOOR PLAN - MAINTENANCE BUILDING
SCALE: 1/16" = 1'-0"

NORTH

D100

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

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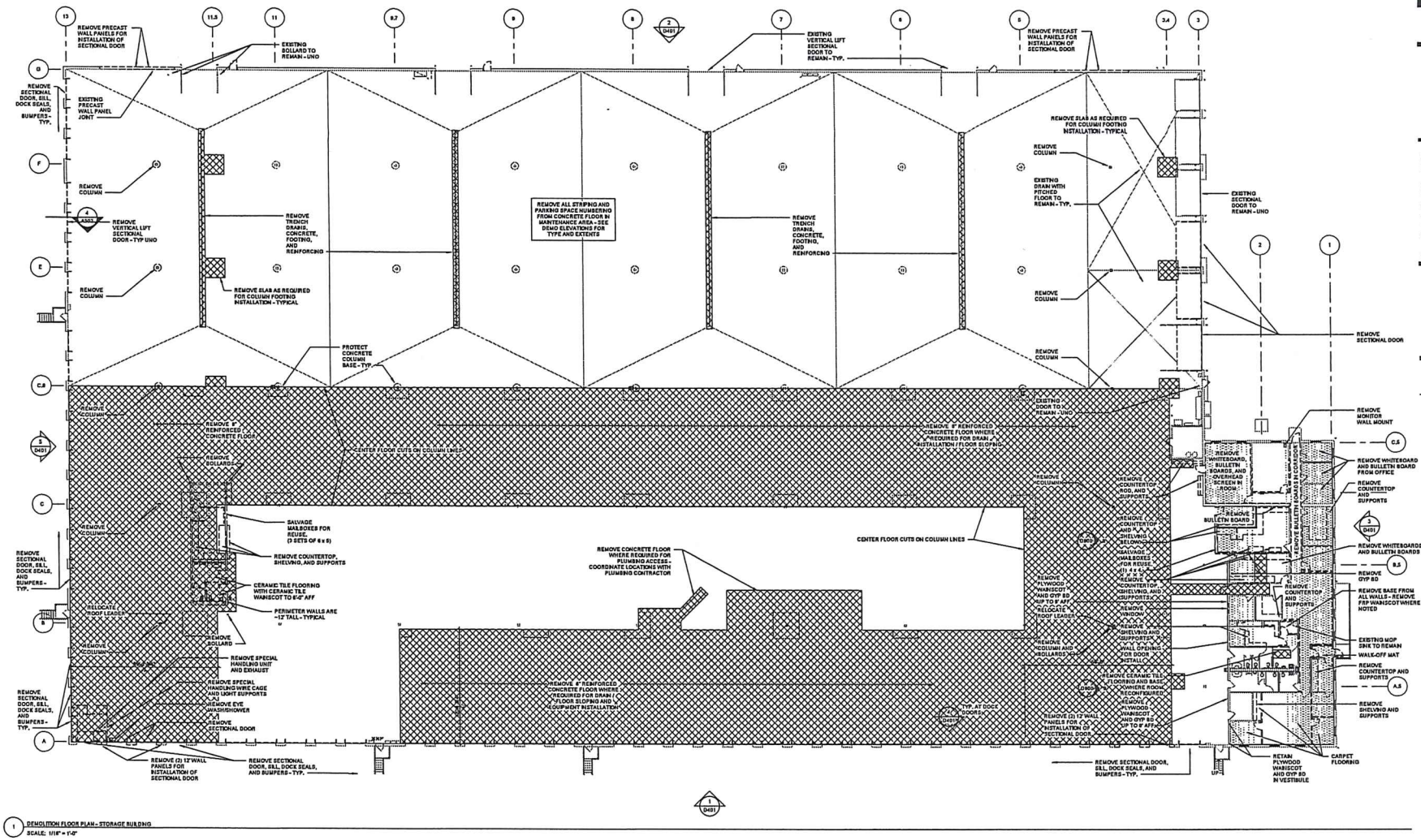
DEMOLITION FLOOR PLAN - MAINTENANCE BUILDING



1 DEMOLITION FLOOR PLAN - STORAGE BUILDING
SCALE: 1/16" = 1'-0"

DEMOLITION LEGEND

- EXISTING WALL TO BE REMOVED - MASONRY UNLESS NOTED OTHERWISE
- EXISTING WALL TO REMAIN
- REMOVE WAINSCOT AND GYPSUM BOARD FROM EXISTING WALL TO REMAIN
- EXISTING DOOR AND FRAME TO BE REMOVED
- EXISTING DOOR AND FRAME TO REMAIN
- EXTENTS TO REMOVE REINFORCED CONCRETE FLOOR SLAB
- EXTENTS TO REMOVE FLOOR FINISH AND BASE - PREPARE FOR FLOOR FINISH INSTALLATION

GENERAL NOTES - DEMOLITION:

1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. PROTECT ALL SURFACES, FIXTURES, WINDOWS, DOORS, ETC. TO REMAIN FROM DAMAGE CAUSED BY DEMOLITION.
3. PREPARE FLOORS, CEILINGS, AND ROOFING FOR FINISH INSTALLATION WHERE EXISTING FINISHES AND MATERIALS ARE REMOVED.
4. REMOVE GYPSUM BOARD TO 1' ABOVE FINISHED CEILING WHERE WAINSCOT IS REMOVED. E.G. 9' CEILING NOTED ON RCP IS 8'-0" AFF. REMOVE GYPSUM BOARD TO 8'-0" AFF.
5. REMOVE BASE WHERE FLOOR FINISH IS REMOVED UNLESS NOTED OTHERWISE. EXISTING FINISHES ARE VCT FLOORING WITH RUBBER BASE UNLESS NOTED OTHERWISE.
6. SALVAGE CERAMIC FLOOR, BASE, AND WALL TILE WHERE REMOVED IN STORAGE BUILDING FOR REPLACEMENT IN RESTROOMS TO REMAIN. SEE FINISH SCHEDULE FOR ADDITIONAL INFORMATION.
7. COORDINATE EXTENTS OF FLOORING REMOVAL WITH PLUMBING CONTRACTOR WHERE REQUIRED ONLY FOR REMOVAL AND/OR REPLACEMENT OF UNDERFLOOR PLUMBING. SEE PLUMBING FOR ADDITIONAL INFOMATION.
8. REMOVE BLINDS FROM ALL EXTERIOR WINDOWS.
9. SALVAGE COPING FOR REINSTALLATION WHERE WALL PANELS REMOVED AT STORAGE BUILDING.
10. MAINTENANCE BUILDING CIVIL ELEVATION: 100'-0" = 887.25'
11. STORAGE BUILDING CIVIL ELEVATION: 100'-0" = 897.25'

NORTH

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

0216 Mtce

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

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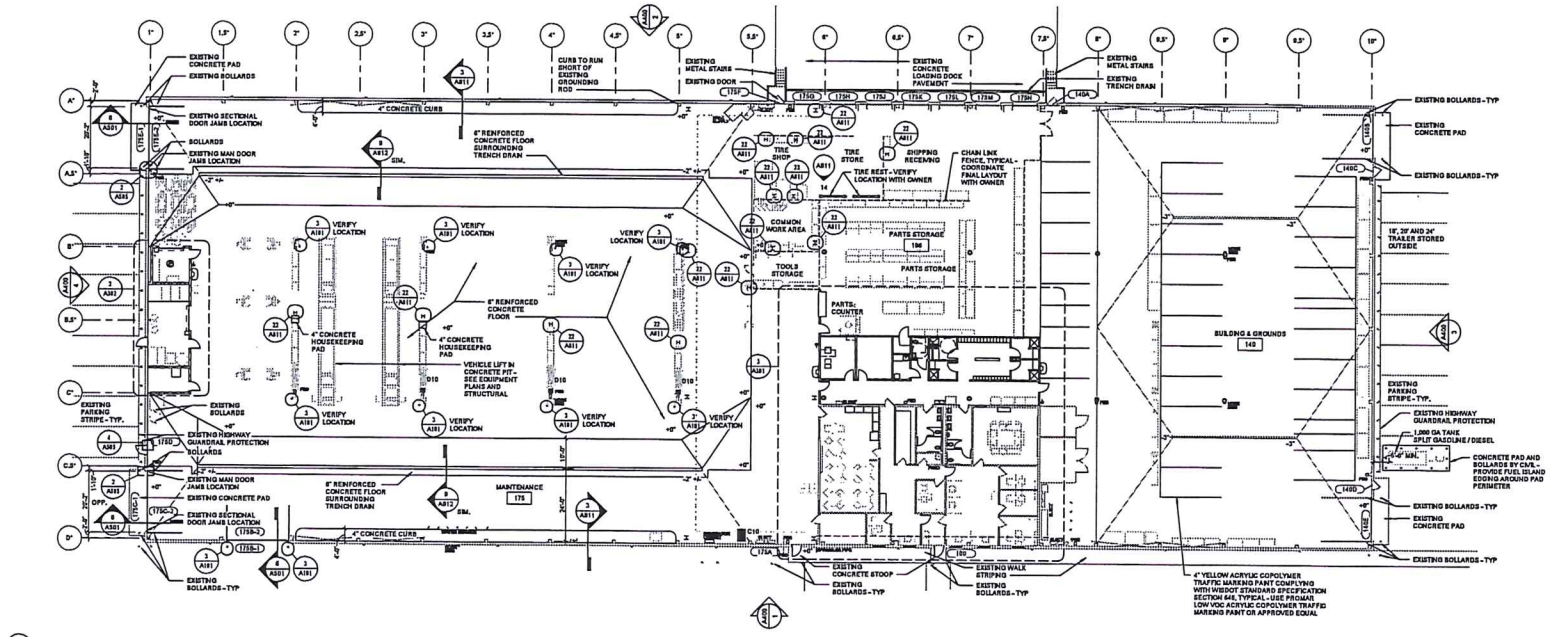
DEMOLITION FLOOR PLAN - STORAGE BUILDING

D101



1 FLOOR PLAN - MAINTENANCE BUILDING
SCALE: 1/16" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

ORIGINAL

SATELLITE BUS FACILITY REMODEL

2828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
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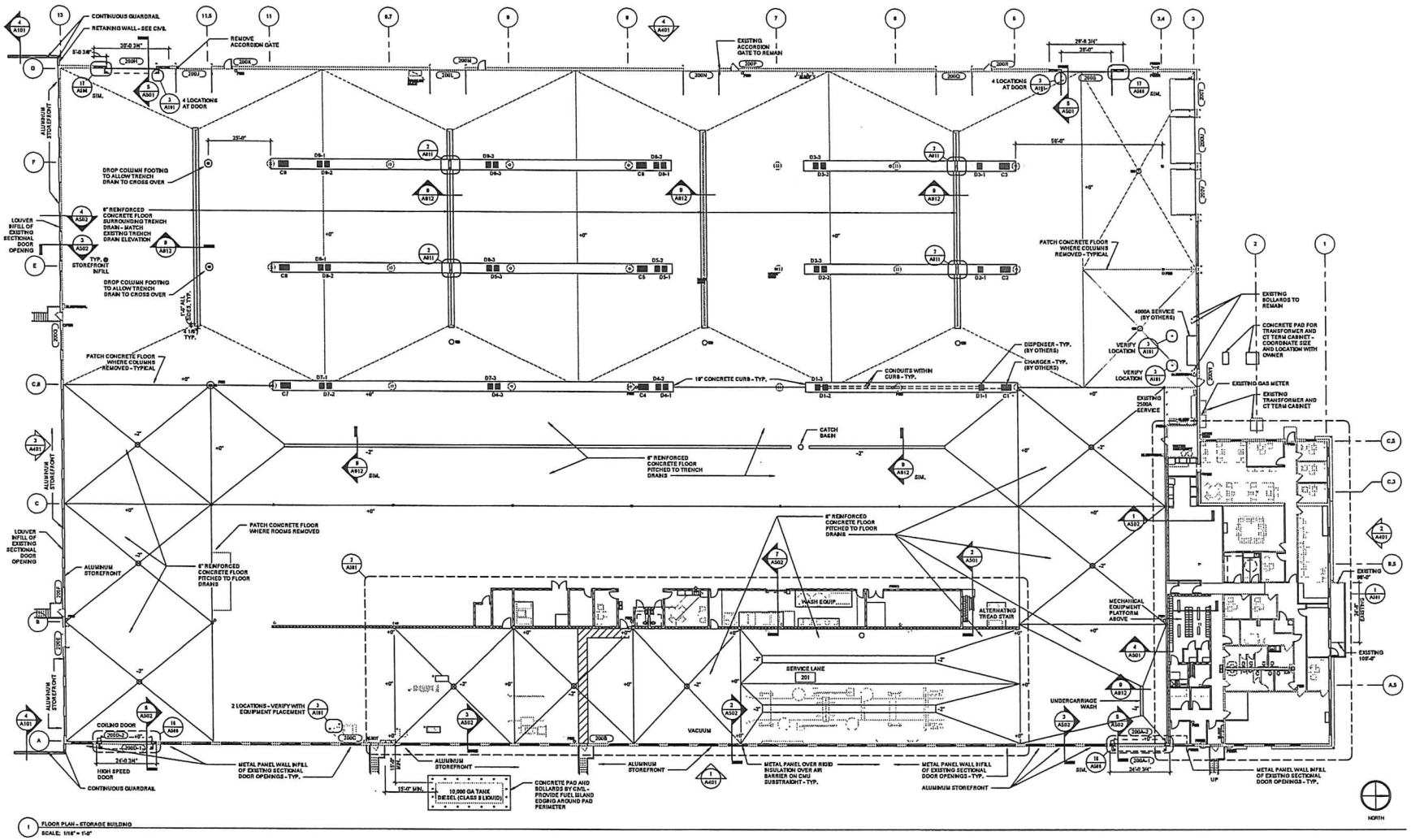
REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY JFB
CHECKED BY JH

FIRST FLOOR PLAN - MAINTENANCE BUILDING

A100



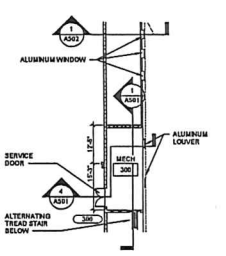
1 FLOOR PLAN - STORAGE BUILDING
SCALE: 1/16" = 1'-0"

FLOOR PLAN LEGEND

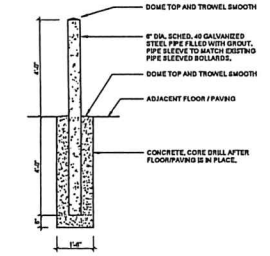
- METAL STUD WALL - SEE WALL TYPES
- MASONRY WALL - SEE WALL TYPES
- EXISTING WALL TO REMAIN
- DOOR AND FRAME - SEE DOOR SCHEDULE
- EXISTING DOOR AND FRAME TO REMAIN - SEE DOOR SCHEDULE

GENERAL NOTES - FLOOR PLANS:

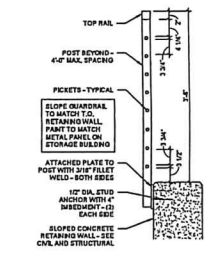
1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. INFILL AND PATCH EXISTING WALLS IN LOCATIONS WHERE WALLS AND ITEMS WERE REMOVED FROM WALLS TO REMAIN. PATCH AND REPAIR EXISTING WALLS, CEILINGS, AND FLOORS WHERE WALLS AND OTHER ITEMS WERE REMOVED DURING DEMOLITION TO MATCH ORIGINAL.
3. COORDINATE OPENINGS IN EXISTING WALLS WITH DEMOLITION CONTRACTOR.
4. REPLACE CONCRETE FLOOR IN ALL AREAS WHERE REMOVED. SEE DEMOLITION PLANS FOR EXTENTS.
5. DIMENSIONS ARE TO FACE OF CMU OR FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
6. REPLACE GYPSUM BOARD ON WALLS WHERE WAINSCOT AND GYPSUM BOARD WERE REMOVED AS INDICATED ON THE DEMOLITION PLANS. PROVIDE TAPED JOINTS AT TRANSITIONS TO EXISTING GYPSUM BOARD FINISH.
7. FOR BIDDING PURPOSES, ASSUME THAT ALL FIRE EXTINGUISHERS WILL HAVE TO BE TAKEN DOWN AND RE-MOUNTED.
8. ALL INTERIOR GLAZING IS CL-3 UNLESS NOTED OTHERWISE. SEE EXTERIOR ELEVATIONS FOR EXTERIOR GLAZING TYPES.
9. LOCATE DOOR FRAMES 4" FROM ADJACENT WALL UNLESS NOTED OTHERWISE.
10. SEE EQUIPMENT PLANS FOR FFAE TO BE PROVIDED BY THE CONTRACTOR.
11. MAINTENANCE BUILDING CIVIL ELEVATION: 100'-0" = 887.25'
12. STORAGE BUILDING CIVIL ELEVATION: 100'-0" = 887.25'



2 MECHANICAL EQUIPMENT PLATFORM
SCALE: 1/16" = 1'-0"



3 BOLLARD
SCALE: 1/2" = 1'-0"



4 GUARDRAIL DETAIL
SCALE: 1" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

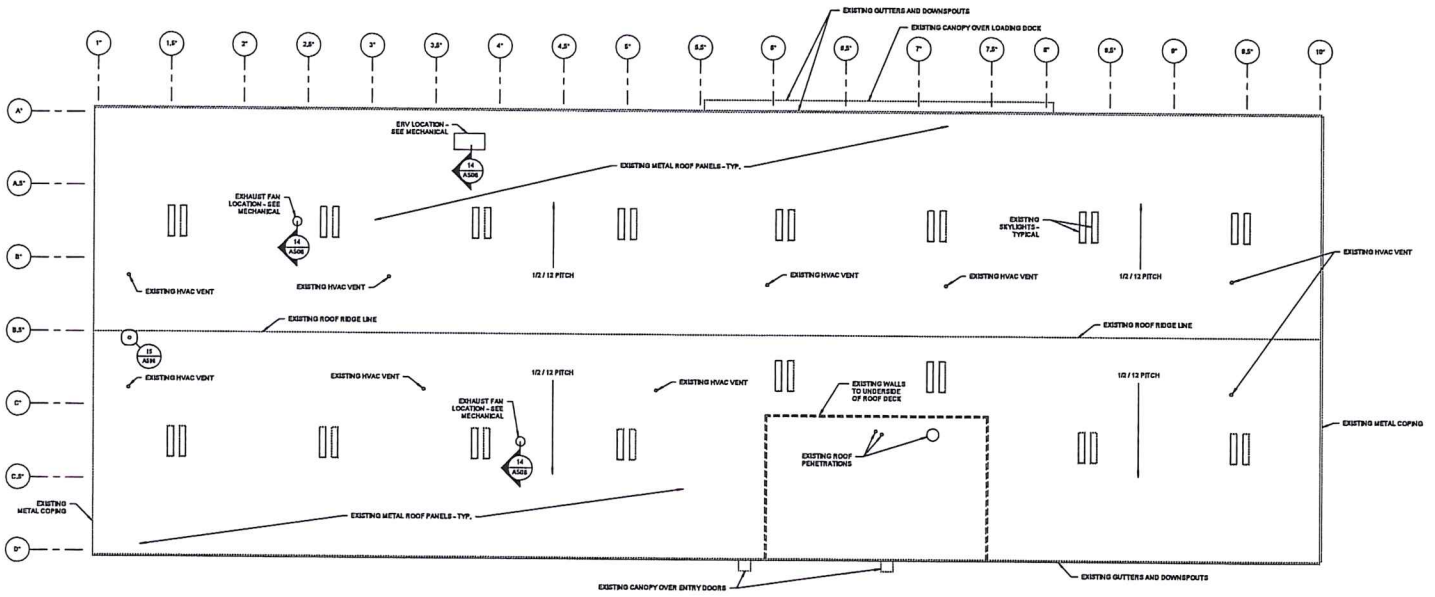
ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY JFB
CHECKED BY JH

FIRST FLOOR PLAN - STORAGE BUILDING

A101



1 ROOF PLAN - MAINTENANCE BUILDING
SCALE: 1/16" = 1'-0"

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

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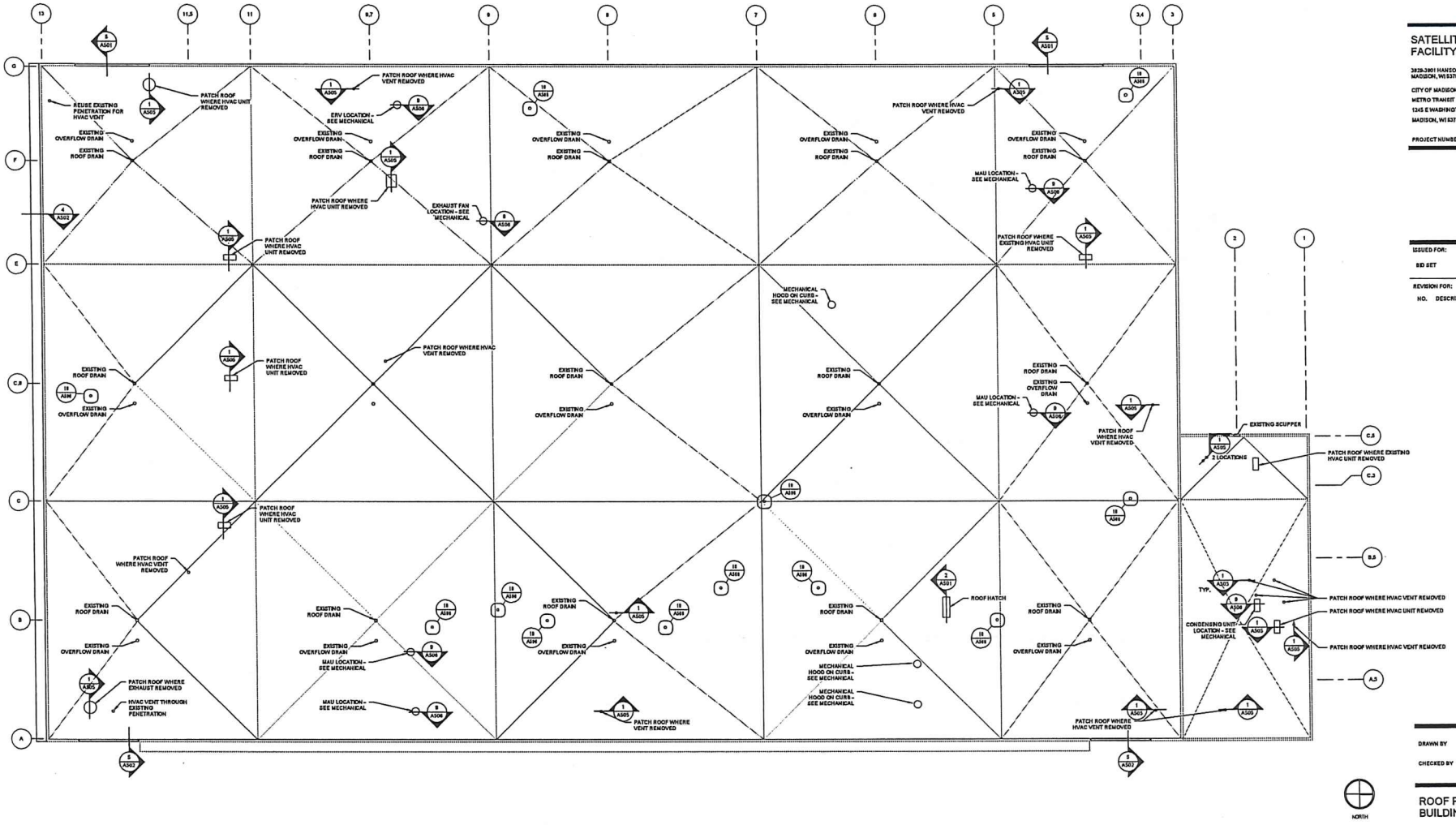
ROOF PLAN - MAINTENANCE BUILDING

A110



1 ROOF PLAN - STORAGE BUILDING
SCALE: 1/16" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

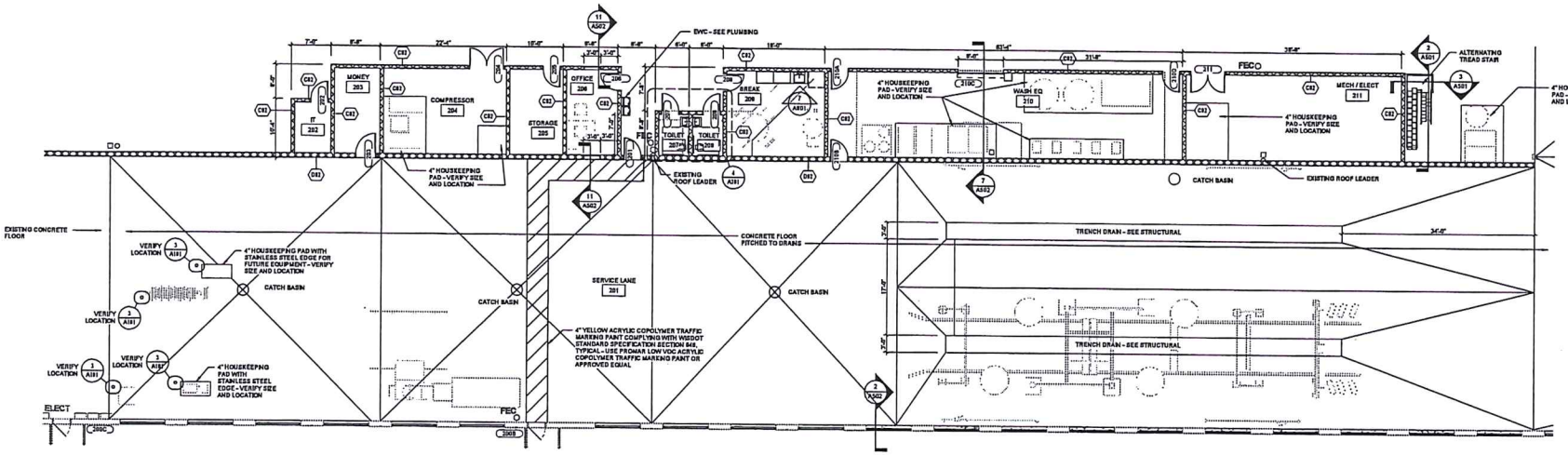
ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

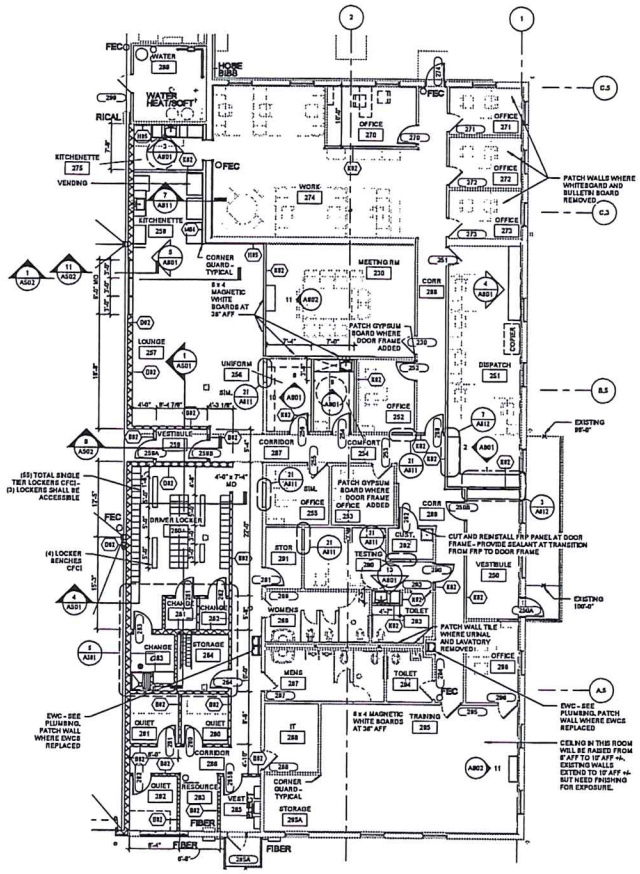
DRAWN BY JFB
CHECKED BY JH

ROOF PLAN - STORAGE BUILDING

A111



2 ENLARGED SERVICE LANE
SCALE: 1/8" = 1'-0"



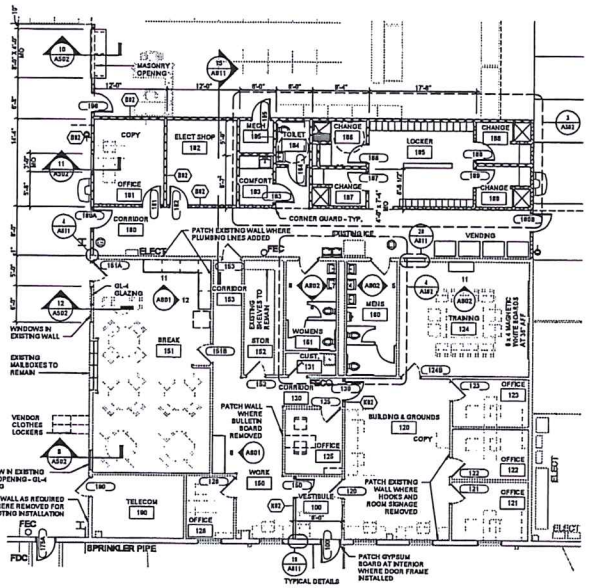
1 ENLARGED ADMINISTRATION & DRIVER SUPPORT - STORAGE BUILDING
SCALE: 1/8" = 1'-0"

FLOOR PLAN LEGEND

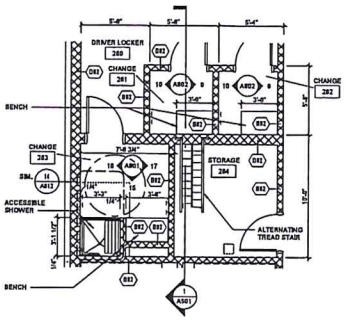
- METAL STUD WALL - SEE WALL TYPES
- MASONRY WALL - SEE WALL TYPES
- EXISTING WALL TO REMAIN
- DOOR AND FRAME - SEE DOOR SCHEDULE
- EXISTING DOOR AND FRAME TO REMAIN - SEE DOOR SCHEDULE

GENERAL NOTES - FLOOR PLANS:

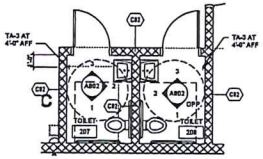
1. REFER TO MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, AND TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION.
2. INFILL AND PATCH EXISTING WALLS IN LOCATIONS WHERE WALLS AND ITEMS WERE REMOVED FROM WALLS TO REMAIN. PATCH AND REPAIR EXISTING WALLS, CEILINGS, AND FLOORS WHERE WALLS AND OTHER ITEMS WERE REMOVED DURING DEMOLITION TO MATCH ORIGINAL.
3. COORDINATE OPENINGS IN EXISTING WALLS WITH DEMOLITION CONTRACTOR.
4. REPLACE CONCRETE FLOOR IN ALL AREAS WHERE REMOVED. SEE DEMOLITION PLANS FOR EXTENTS.
5. DIMENSIONS ARE TO FACE OF CMU OR FINISHED FACE OF GYPSUM BOARD UNLESS NOTED OTHERWISE.
6. REPLACE GYPSUM BOARD ON WALLS WHERE WAINSCOT AND GYPSUM BOARD WERE REMOVED AS INDICATED ON THE DEMOLITION PLANS. PROVIDE TAPED JOINTS AT TRANSITIONS TO EXISTING GYPSUM BOARD FINISH.
7. FOR BIDDING PURPOSES, ASSUME THAT ALL FIRE EXTINGUISHERS WILL HAVE TO BE TAKEN DOWN AND RE-MOUNTED.
8. ALL INTERIOR GLAZING IS GL-3 UNLESS NOTED OTHERWISE. SEE EXTERIOR ELEVATIONS FOR EXTERIOR GLAZING TYPES.
9. LOCATE DOOR FRAMES 4" FROM ADJACENT WALL UNLESS NOTED OTHERWISE.
10. SEE EQUIPMENT PLANS FOR FFAE TO BE PROVIDED BY THE CONTRACTOR.
11. MAINTENANCE BUILDING CMU ELEVATION: 895'-0" = 897.25'
12. STORAGE BUILDING CMU ELEVATION: 893'-0" = 897.20'



2 ENLARGED PLAN - MAINTENANCE BUILDING
SCALE: 1/8" = 1'-0"



3 ENLARGED OPERATIONS CHANGING
SCALE: 1/4" = 1'-0"



4 ENLARGED SERVICE TOILETS
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

01216NH2

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
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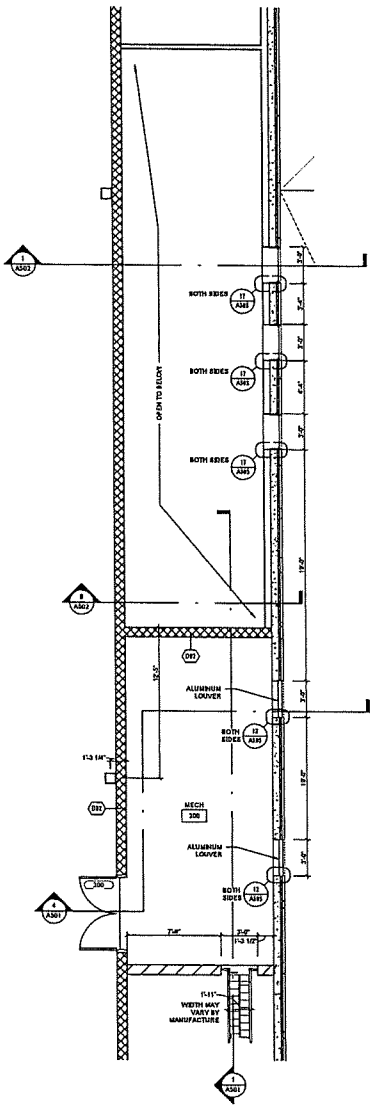
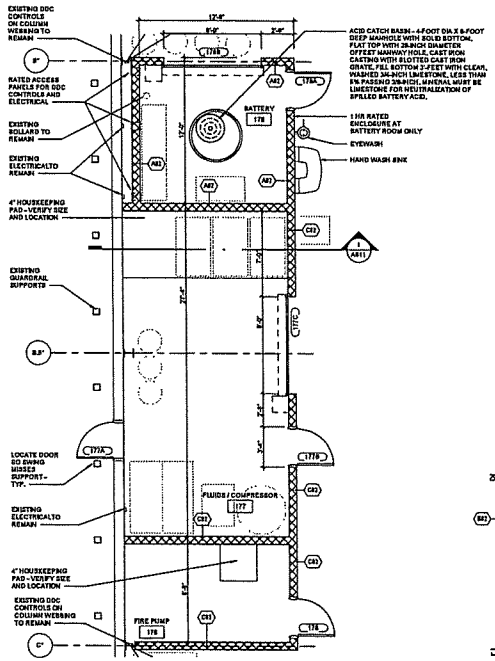
DRAWN BY JFB
CHECKED BY JH

ENLARGED PLANS

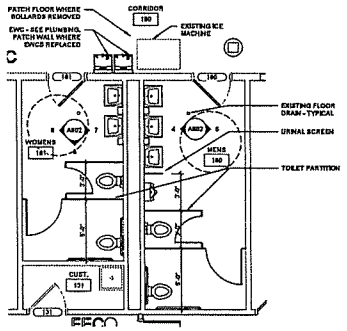
A301



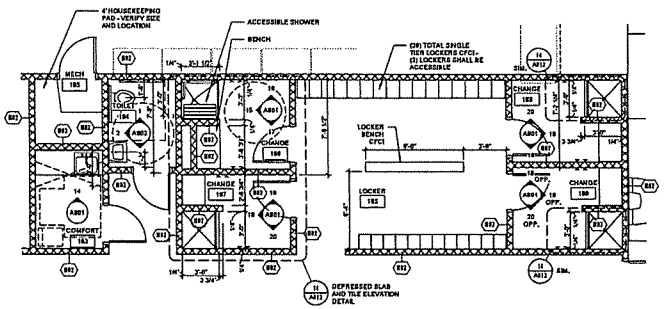
1 ENLARGED MECHANICAL EQUIPMENT PLATFORM
SCALE: 1/4" = 1'-0"



2 ENLARGED MAINTENANCE WORK
SCALE: 1/4" = 1'-0"



4 ENLARGED MAINTENANCE TOILET ROOMS
SCALE: 1/4" = 1'-0"



3 ENLARGED MAINTENANCE TOILET ROOM / SHOWER
SCALE: 1/4" = 1'-0"

FLOOR PLAN LEGEND

- METAL STUD WALL - SEE WALL TYPES
- MASONRY WALL - SEE WALL TYPES
- EXISTING WALL TO REMAIN
- DOOR AND FRAME - SEE DOOR SCHEDULE
- EXISTING DOOR AND FRAME TO REMAIN - SEE DOOR SCHEDULE

GENERAL NOTES - FLOOR PLANS:

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9. LOCATE DOOR FRAMES 4" FROM ADJACENT WALL UNLESS NOTED OTHERWISE.
10. SEE EQUIPMENT PLANS FOR FF&E TO BE PROVIDED BY THE CONTRACTOR.
11. MAINTENANCE BUILDING CIVIL ELEVATION: 100'-0" = 897.25'
12. STORAGE BUILDING CIVIL ELEVATION: 100'-0" = 897.30'

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

01210 JAN '25

SATELLITE BUS FACILITY REMODEL

2828-2901 | MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
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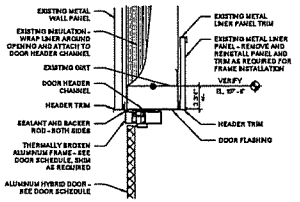
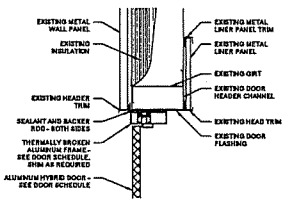
CHECKED BY JH

ENLARGED PLANS

A302

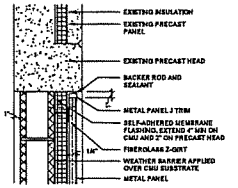


DOOR AND FRAME INSTALLED IN EXISTING WALL

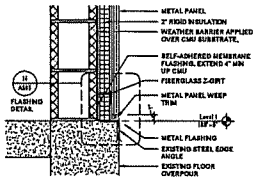


DOOR AND FRAME REPLACED IN EXISTING OPENING

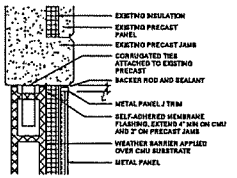
6 EXTERIOR DOOR HEAD
SCALE: 1 1/2" = 1'-0"



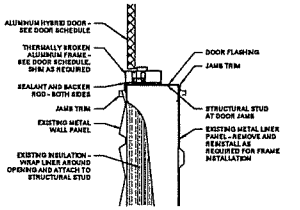
9 METAL PANEL HEAD
SCALE: 1 1/2" = 1'-0"



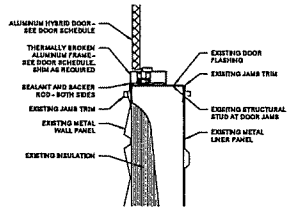
13 METAL PANEL SILL
SCALE: 1 1/2" = 1'-0"



10 METAL PANEL JAMB
SCALE: 1 1/2" = 1'-0"

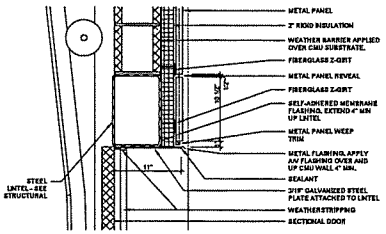


DOOR AND FRAME INSTALLED IN EXISTING WALL

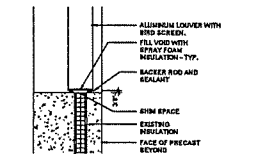


DOOR AND FRAME REPLACED IN EXISTING OPENING

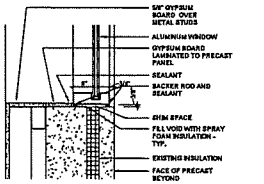
4 EXTERIOR DOOR JAMB
SCALE: 1 1/2" = 1'-0"



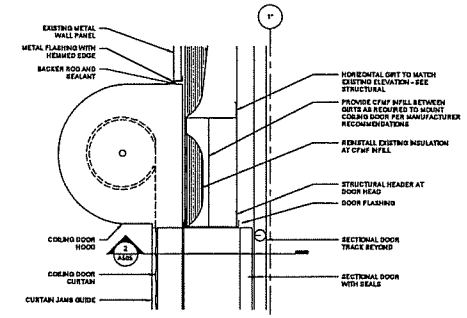
8 SECTIONAL DOOR HEAD
SCALE: 1 1/2" = 1'-0"



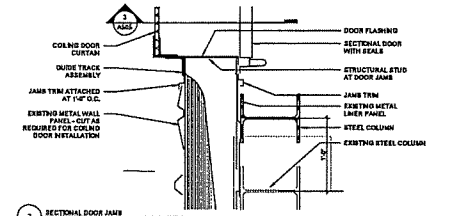
12 LOUVER JAMB
SCALE: 1 1/2" = 1'-0"



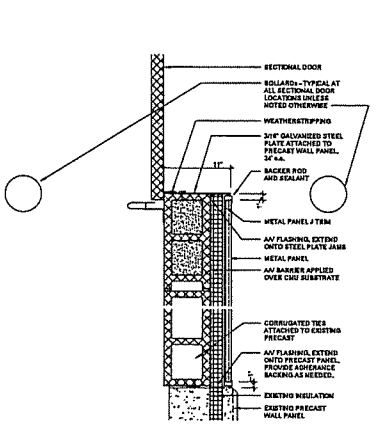
17 WINDOW JAMB
SCALE: 1 1/2" = 1'-0"



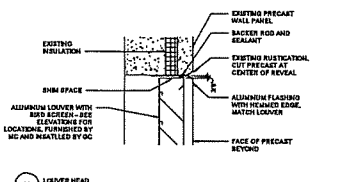
3 SECTIONAL DOOR HEAD
SCALE: 1 1/2" = 1'-0"



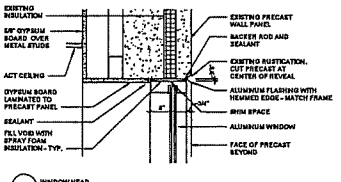
2 SECTIONAL DOOR JAMB
SCALE: 1 1/2" = 1'-0"



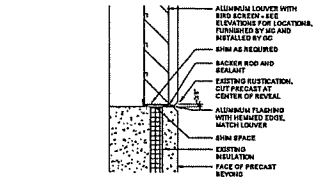
7 SECTIONAL DOOR JAMB
SCALE: 1 1/2" = 1'-0"



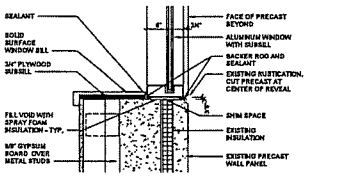
11 LOUVER HEAD
SCALE: 1 1/2" = 1'-0"



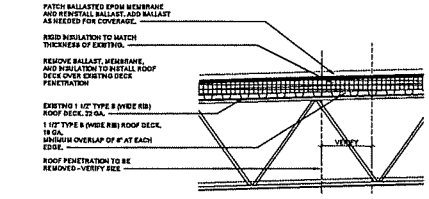
16 WINDOW HEAD
SCALE: 1 1/2" = 1'-0"



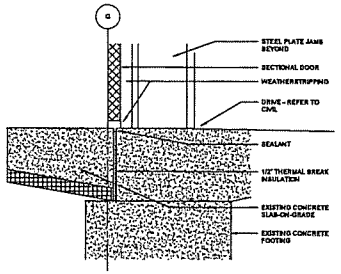
18 LOUVER SILL
SCALE: 1 1/2" = 1'-0"

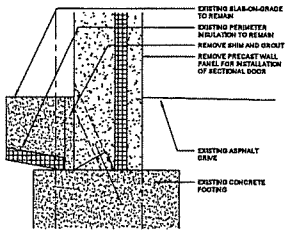


15 WINDOW SILL
SCALE: 1 1/2" = 1'-0"

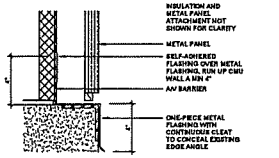


1 EPDM ROOF PATCH DETAIL
SCALE: 3/4" = 1'-0"





WALL PANEL DEMOLITION FOR SECTIONAL DOOR INSTALLATION



14 FLASHING DETAIL
SCALE: 3" = 1'-0"

8 SECTIONAL DOOR SILL
SCALE: 1 1/2" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

ORIGINAL

SATELLITE BUS FACILITY REMODEL

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CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

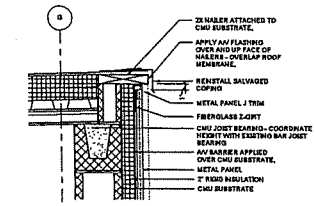
ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY JFB
CHECKED BY JH

EXTERIOR DETAILS

A505



6 METAL PANEL COPING DETAIL
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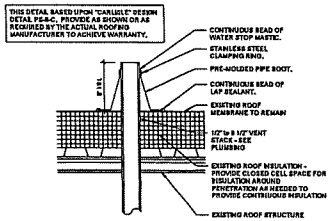

10 VENT STACK
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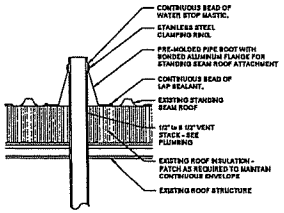

15 VENT STACK
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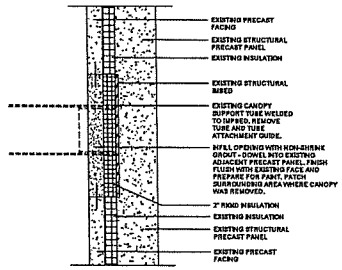

4 BEAM POCKET INFILL
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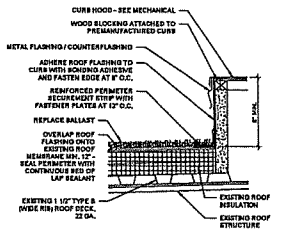
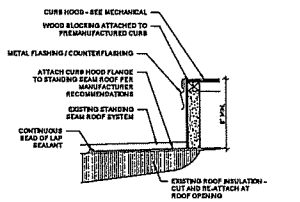


9 ROOF CURB DETAIL
SCALE: 1 1/2" = 1'-0"



14 ROOF CURB DETAIL
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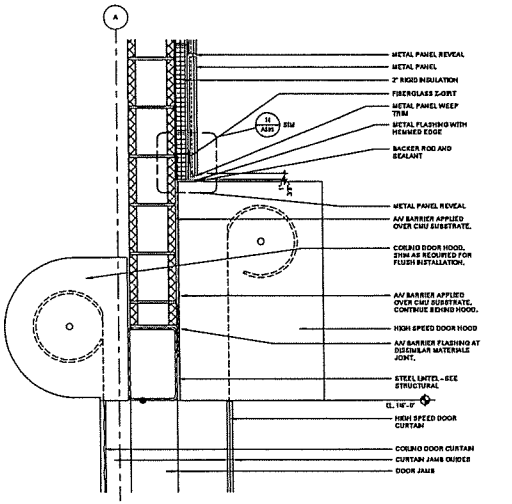
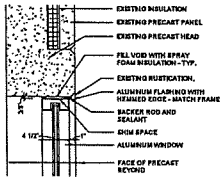
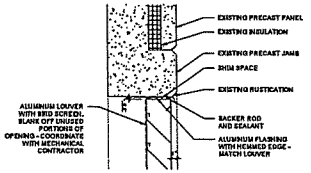


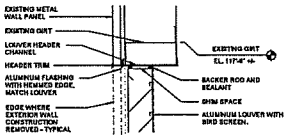
18 COILING / HIGH SPEED DOOR HEAD
SCALE: 1 1/2" = 1'-0"



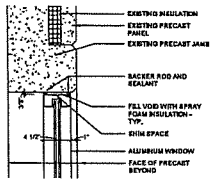
3 STOREFRONT HEAD
SCALE: 1 1/2" = 1'-0"



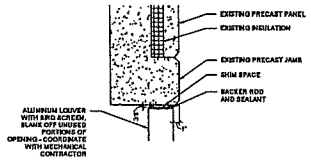
8 LOUVER HEAD
SCALE: 1 1/2" = 1'-0"



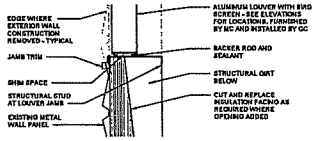
13 LOUVER HEAD
SCALE: 1 1/2" = 1'-0"



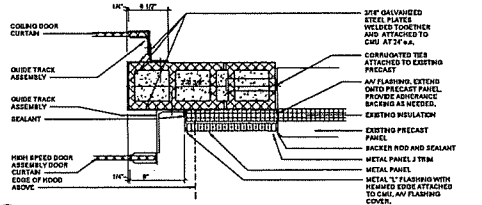
2 STOREFRONT JAMB
SCALE: 1 1/2" = 1'-0"



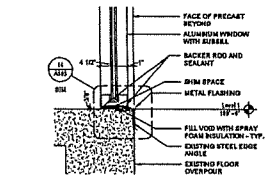
7 LOUVER JAMB
SCALE: 1 1/2" = 1'-0"



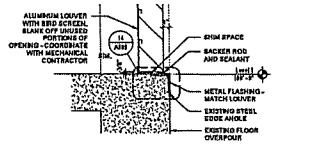
12 LOUVER JAMB
SCALE: 1 1/2" = 1'-0"



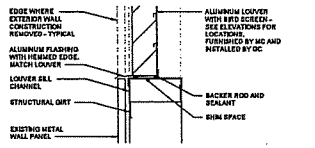
17 DOOR JAMB
SCALE: 1 1/2" = 1'-0"



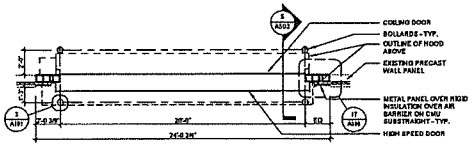
1 STOREFRONT SILL
SCALE: 1 1/2" = 1'-0"



6 LOUVER SILL
SCALE: 1 1/2" = 1'-0"



11 LOUVER SILL
SCALE: 1 1/2" = 1'-0"



16 DOOR PLAN DETAIL
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

01216 NTP2

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

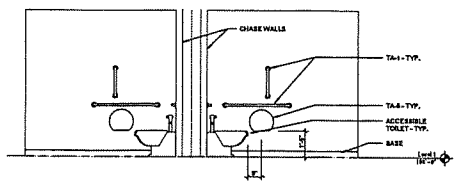
ISSUED FOR:
BID SET 8/18/2023

REVISION FOR:
NO. DESCRIPTION DATE

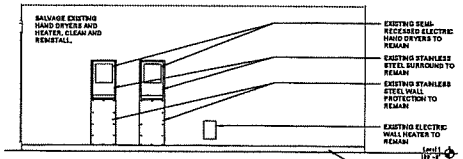
DRAWN BY JFB
CHECKED BY JH

EXTERIOR DETAILS

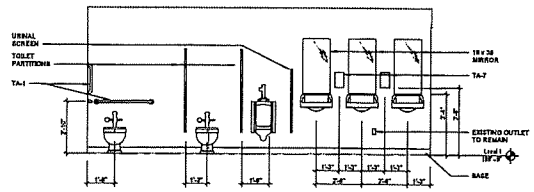
A506



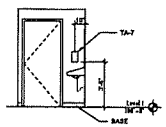
8 MENS/WOMENS C
SCALE: 3/8" = 1'-0"



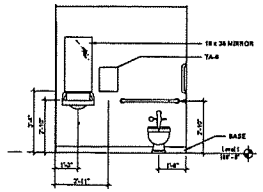
5 MENS ELEVATION B
SCALE: 3/8" = 1'-0"



4 MENS ELEVATION A
SCALE: 3/8" = 1'-0"



3 TOILET ELEVATION C
SCALE: 3/8" = 1'-0"



2 TOILET ELEVATION B
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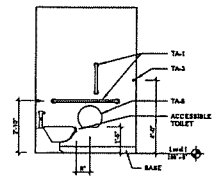
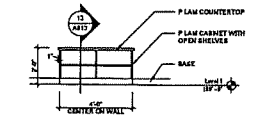
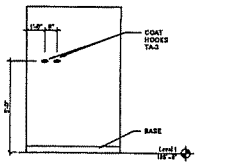


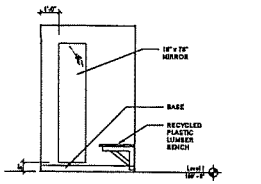
1 TOILET ELEVATION A
SCALE: 3/8" = 1'-0"



11 CONF ROOM CASEWORE
SCALE: 3/8" = 1'-0"



10 CHANGING ELEVATION B
SCALE: 3/8" = 1'-0"



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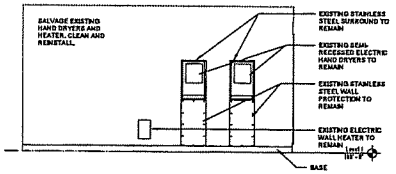
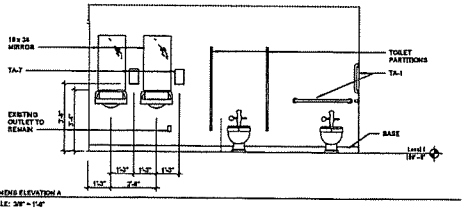
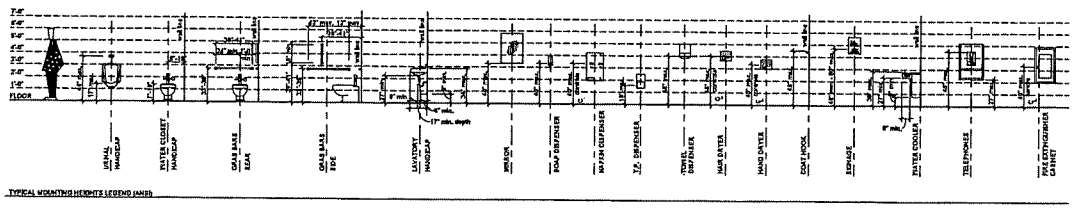


6 WOMENS ELEVATION B
SCALE: 3/8" = 1'-0"



7 WOMENS ELEVATION A
SCALE: 3/8" = 1'-0"



TYPICAL MOUNTING HEIGHTS LEGEND (AMD)

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

02/21/24

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	8/16/2023

REVISION FOR:

NO.	DESCRIPTION	DATE

DRAWN BY JTB

CHECKED BY JH

INTERIOR ELEVATIONS

A802

STRUCTURAL DESIGN CRITERIA

1. THESE NOTES SUPPLEMENT THE SPECIFICATIONS. PROJECT SPECIFICATIONS SHALL BE REFERRED TO FOR CLARIFICATIONS AND ADDITIONAL INFORMATION. IN CASE OF CONFLICT BETWEEN PROJECT SPECIFICATIONS AND THESE NOTES, THESE NOTES SHALL GOVERN.

2. GOVERNING BUILDING CODE: 2015 IBC AS AMENDED BY THE STATE OF WISCONSIN.

3. DESIGN LOADS

LIVE LOAD
- TYPICAL SLAB ON GRADE ---------- 100 psf
- MEZZANINE ---------- 100 psf

ROOF
- LIVE LOAD
- SNOW ---------- 30 psf+DRIFTING
- SUPERIMPOSED DEAD LOAD
- TOP CHORD ---------- 10 psf
- BOTTOM CHORD ---------- 10 psf

SNOW LOADS
- GROUND SNOW (Pg) ---------- 30 psf
- SNOW LOAD IMPORTANCE FACTOR (Is) ---------- 1.0
- SNOW LOAD EXPOSURE FACTOR (Ce) ---------- 1.0
- ROOF THERMAL LOAD FACTOR (Ct) AT BUILDING ---------- 1.0
- BASE ROOF SNOW LOAD AT BUILDING ---------- 23.1 psf

WIND LOADS
- BASIC WIND SPEED ---------- 115 mph
- BUILDING OCCUPANCY CATEGORY ---------- II
- WIND LOAD IMPORTANCE FACTOR (Iw) ---------- 1.0
- WIND EXPOSURE CATEGORY ---------- C
- INTERNAL PRESSURE COEFFICIENT ---------- ±0.18

COMPONENTS AND CLADDING:
(SEE ASCE/SEI 7-SECTION 6 FOR ZONE DEFINITIONS AND DIAGRAMS)
COMPONENT AND CLADDING SELECTED EDGE STRIP DISTANCE, (A) ---------- 3.5 ft

TRIBUTARY WIND LOAD AREAS	10 ft²	50 ft²	100 ft²
ROOF (MONOSLOPE):			
ZONE 1 (NEGATIVE)	18.7 psf	17.3 psf	16.3 psf
ZONE 2 (NEGATIVE)	23.0 psf	20.7 psf	18.7 psf
ZONE 3 (NEGATIVE)	23.0 psf	20.7 psf	18.7 psf
WALLS:			
ZONE 4 (NEGATIVE)	21.3 psf	19.3 psf	18.4 psf
ZONE 5 (NEGATIVE)	28.3 psf	22.3 psf	20.4 psf
ZONE 4 & 5 (NEGATIVE)	18.7 psf	17.8 psf	16.7 psf

SEISMIC LOADS
- SEISMIC USE GROUP / OCCUPANCY CATEGORY ---------- II
- SEISMIC IMPORTANCE FACTOR (Ie) ---------- 1.0
- SEISMIC SITE CLASS ---------- C
- SPECTRAL RESPONSE COEFFICIENT (Sds) ---------- 0.048
- SPECTRAL RESPONSE COEFFICIENT (Sd1) ---------- 0.032
- SEISMIC DESIGN CATEGORY ---------- A
- BASIC SEISMIC FORCE RESISTING SYSTEM:
  - BEARING WALL SYSTEM
  - FOR SHEAR RESISTANCE:
  - R = 1.5   Ωo = 2.5   Cd = 1.5
- ANALYSIS PROCEDURE:
  - EQUIVALENT LATERAL FORCE PROCEDURE

4. FOUNDATIONS AND EARTHWORK
- ALLOWABLE SOIL BEARING PRESSURE FOR FOOTINGS ---------- 4,000 psf
- BASED ON EXISTING DRAWING

5. CONCRETE
- MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)
  - FOOTINGS ---------- 4,000 psi
  - PIERS, WALLS ---------- 4,000 psi
  - SLAB-ON-GRADE (INTERIOR) ---------- 3,500 psi
  - SLAB-ON-GRADE (EXTERIOR) ---------- 4,500 psi
- COVER ON MILD STEEL REINFORCEMENT
  - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ---------- 3"
  - CONCRETE EXPOSED TO EARTH OR WEATHER
    - #5 BARS AND SMALLER ---------- 1 1/2"
    - #6 BARS AND LARGER ---------- 2"
  - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND ---------- 1"
- CONCRETE REINFORCEMENT YIELD STRENGTH (Fy)
  - ALL DEFORMED MILD STEEL ---------- 60,000 psi
  - WELDED WIRE FABRIC ---------- 65,000 psi

6. CONCRETE MASONRY
- DESIGN STRESSES
  - MASONRY (NORMAL WEIGHT) MEETING ASTM C90 ---------- f'm = 2,250 psi
  - GROUT: MIN COMPRESSIVE STRENGTH AT 28 DAYS MEETING ASTM C476 ---------- 3,000 psi
  - MINIMUM BLOCK COMPRESSIVE STRENGTH ---------- 2,800 psi

7. STRUCTURAL STEEL
- STRUCTURAL STEEL YIELD STRENGTH (Fy)
  - HSS RECTANGULAR ---------- 50,000 psi
  - HSS ROUND ---------- 46,000 psi
  - WF COLUMNS ---------- 50,000 psi
  - CHANNELS, ANGLES & PLATES ---------- 36,000 psi
- BOLTS FOR STANDARD FRAME CONNECTIONS ---------- 3/4" DIAMETER A325
- BOLTS FOR SINGLE SHEAR TAB CONNECTIONS ---------- 3/4" DIAMETER A325
- ANCHOR RODS ---------- F1554
- WELDING ELECTRODES ---------- E70

8. MISCELLANEOUS
- VERIFY OPENINGS THROUGH FLOOR AND WALLS WITH ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL REQUIREMENTS. CHANGES IN SIZE, LOCATION OR NUMBER OF OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER. NOT ALL OPENINGS ARE SHOWN ON THE STRUCTURAL DRAWINGS.

GENERAL

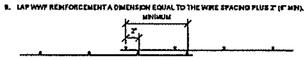
1. STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THE SHOP DRAWINGS AND WORK.
2. NO OPENING SHALL BE MADE IN ANY STRUCTURAL BEAM, COLUMN, SUPPORT FLOOR, LOAD BEARING WALL, FOOTING, OR FOUNDATION WALL WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER. OPENINGS IN NON-LOAD BEARING WALLS REQUIRE THE ARCHITECT'S APPROVAL.
3. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON NEW STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
4. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION. THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL TEMPORARY BRACING AND/OR SUPPORT THAT MAY BE REQUIRED AS THE RESULT OF THE CONTRACTOR'S CONSTRUCTION METHODS AND/OR SEQUENCES. THE STRUCTURAL ENGINEER ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION.
5. FIREPROOFING METHODS AND MATERIALS FOR STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR RATING REQUIREMENTS, FIREPROOFING METHODS AND MATERIALS.
6. ALL SECTIONS, DETAIL AND NOTES SHOWN ON THE STRUCTURAL DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE NOTED.
7. WHEN CONFLICTS ARE NOTED ON THE DRAWINGS, THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE A/E FOR RESOLUTION PRIOR TO FABRICATION OR INSTALLATION.

FOUNDATION NOTES

1. THE OWNER SHALL RETAIN A SOILS ENGINEERING FIRM TO MONITOR PROPER SUBGRADE PREPARATIONS AND TO OVERSEE THE TESTING AND COMPACTION OF COMPACTED FILL MATERIAL.
2. CONTRACTOR SHALL LOCATE EXISTING UNDERGROUND UTILITIES BEFORE FOUNDATION EXCAVATION IF UNDERGROUND UTILITY CONFLICTS ARE DISCOVERED BEFORE OR ENCOUNTERED DURING EXCAVATION, NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY.
3. CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ANY EXISTING FOUNDATIONS.
4. BEFORE PLACING FOOTINGS, FOUNDATIONS, GRADE BEAMS, OR SLAB-ON-GRADE, THE SUB-GRADE SHALL BE PREPARED AND INSPECTED AS REQUIRED BY THE SPECIFICATIONS AND THE DRAWINGS.
5. REINFORCE ALL FOUNDATION WALLS AND FOOTINGS AS SHOWN ON THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
6. CONTROL JOINTS IN THE CAST-IN-PLACE CONCRETE FOUNDATION WALLS SHALL BE PLACED AT NOT TO EXCEED 30' OC OR AS LOCATED ON THE DRAWINGS.
7. PERIMETER FOUNDATION WALL INSULATION IS NOT SHOWN ON THE FOUNDATION DETAILS. SEE ARCHITECTURAL DRAWINGS AND THE SPECIFICATIONS FOR INSULATION REQUIREMENTS.
8. SEE SPECIFICATIONS FOR FREE DRAINING BACKFILL BENEATH ALL CONCRETE WALKS AND SLABS ADJACENT TO STRUCTURE.
9. CONTRACTOR NOTE: THE BASE OF ALL EXCAVATIONS SHALL BE KEPT FREE OF WATER AND LOOSE SOIL PRIOR TO PLACING CONCRETE. CARE SHOULD BE TAKEN DURING EXCAVATION AND CONSTRUCTION TO MINIMIZE DISTURBANCE OF THE BEARING SOILS. THE CONCRETE SHOULD BE PLACED AS SOON AS POSSIBLE AFTER EXCAVATION TO PREVENT EXCESSIVE DRYING OR WETTING OF THE SOIL.

CONCRETE CONSTRUCTION NOTES

1. ALL CONCRETE DESIGN AND CONSTRUCTION SHALL CONFORM WITH THE LOCAL BUILDING CODE REQUIREMENTS AND THOSE OF THE FOLLOWING STANDARDS (LATEST EDITION):
   "ACI 318, BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
   "ACI 315, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT".
   "ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
   "ACI 347, RECOMMENDED PRACTICE FOR CONCRETE FORMWORK".
2. SEE SPECIFICATIONS FOR INFORMATION REGARDING CONCRETE MIX DESIGN, TESTING, MATERIALS, AND ADMIXTURES.
3. ALL CONCRETE REINFORCING STEEL IS TO BE ASTM A-615, GRADE 60.
4. PIPE SLEEVES OVER 1-1/2" INCHES IN DIAMETER WHICH PASS THROUGH CONCRETE WALLS OR SLABS SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE. ALL OTHER SLEEVES SHALL BE 14 GAUGE SHEET METAL. SLEEVES SHALL BE ONE SIZE LARGER THAN OUTSIDE DIAMETER OF PIPE PASSING THROUGH SLEEVE. VERIFY SIZE AND NUMBER WITH MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS.
5. ALUMINUM CONDUIT IS NOT PERMITTED TO BE EMBEDDED IN CONCRETE.
6. REFER TO ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES.
7. THE CONSTRUCTION JOINTS NOTED ON THE FRAMING PLANS MUST BE PLACED AS SHOWN. ADDITIONAL CONSTRUCTION JOINTS OR MODIFICATIONS TO THOSE SHOWN WILL BE ALLOWED ONLY AFTER THEIR LOCATION HAS BEEN APPROVED BY THE ARCHITECT/ENGINEER.
8. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB-ON-GRADE FINISH TYPES AND DEPRESSIONS AS REQUIRED FOR MATS, TILES, SLAB FLATNESS TOLERANCE, AND OTHER FINISH MATERIALS.
9. LAP WWF REINFORCEMENT A DIMENSION EQUAL TO THE WIRE SPACING PLUS 2" (6" MIN).



MASONRY NOTES

1. ALL MASONRY WALLS ARE TO HAVE HORIZONTAL REINFORCEMENT WHICH DOES NOT EXCEED 16 INCHES ON CENTER VERTICALLY. SEE SPECIFICATIONS FOR INFORMATION RELATING TO CONCRETE BLOCK, BRICK, AND WALL REINFORCING.
2. ALL VERTICAL REINFORCING STEEL IN MASONRY WALLS ARE TO COMPLY WITH ASTM A615, GRADE 60. LAPS SHALL BE 48 BAR DIAMETERS (12" MINIMUM).
3. PROVIDE SPLICE BARS FOR ALL BOND BEAM REINFORCING AT ALL CORNERS. SPLICE BAR TO BE THE SAME SIZE AS BARS IN THE BOND BEAM. LAPS SHALL BE 50 BAR DIAMETER.
4. WHERE MASONRY IS APPLIED ADJACENT TO STEEL MEMBERS (BEAMS AND COLUMNS) PROVIDE ANCHORING DEVICES PER SPECIFICATIONS.
5. REFER TO ARCHITECTURAL PLANS FOR ROUGH OPENING LOCATIONS, SIZES, AND ELEVATIONS.
6. USE SIMPSON TITEN HD OR APPROVED EQUAL TYPE ANCHORS IN CMU WALL PARTITIONS.
7. ALL NON-STRUCTURAL CMU WALLS SHALL BE REINFORCED WITH A #5 VERTICAL BAR AT 48" OC WITH THAT CMU CORE GROUTED AND HORIZONTAL JOINT REINFORCEMENT AT 16" OC THE BOTTOM TWO COURSES SHALL BE GROUTED SOLID. PROVIDE CONTINUOUS BOND BEAM AT TOP OF WALL WITH 2 #4's CONTINUOUS GROUT BOND BEAM SOLID. PROVIDE #5 DOWEL AT 48" OC MATCH VERTICAL BAR, LAP 50 BAR DIAMETERS. PROVIDE LINTEL BLOCK AS BOND BEAM WITH (2) #4 x CONT, AND 8" BEARING EACH END. TYPICAL UNLESS NOTED OTHERWISE.
8. CONSTRUCTION BRACING FOR MASONRY WALLS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED. MASONRY SUBMITTALS SHALL CONTAIN A LETTER SEALED BY THE ENGINEER AND SHALL BE ISSUED TO THE OWNER AFTER SUBMITTAL REVIEW AND PRIOR TO STARTING MASONRY CONSTRUCTION.

PRECAST AND/OR PRESTRESSED CONCRETE NOTES

1. USE THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL DRAWINGS TO OBTAIN THE NECESSARY INFORMATION AND DESIGN REQUIREMENTS FOR THE PRECAST UNITS.
2. THE STRUCTURAL DRAWINGS SHOW THE INTENT OF THE PRECAST CONCRETE FRAMING. REINFORCING AND PRESTRESSING SHOWN IS SCHEMATIC ONLY.
3. PRECAST MANUFACTURER SHALL FURNISH AND DESIGN HEADERS FOR OPENINGS AS REQUIRED OR INDICATED ON THE DRAWINGS. PRECAST MANUFACTURER SHALL PROVIDE WELD PLATES AND OTHER EMBEDDED ITEMS NOTED ON THE DRAWINGS.
4. DESIGN PLANK TO CARRY STAIR STRINGER LOADS.
5. PRECAST SUPPLIER TO DESIGN PRECAST PLANK AS A DIAPHRAGM WITH LOADS AND CONDITIONS PER PLANS, INCLUDING THE ADDITIONAL PRESTRESSING STRANDS FOR DIAPHRAGM TENSION CHORD MEMBERS, IF NECESSARY.
6. PRECAST SUPPLIER TO DESIGN CONNECTIONS BETWEEN PRECAST PLANK AND SHEAR WALLS AND BEAMS.
7. PRECAST SUPPLIER TO DESIGN PRECAST TO PRECAST CONNECTIONS.
8. DESIGN MUST INCLUDE VERIFICATION OF ALL OPENINGS AND MECHANICAL LOADS BY CONTRACT DOCUMENTS. ADDITIONAL OPENINGS OF GREATER THAN 12" DIMENSION SHALL NOT BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE PRECAST MANUFACTURER.
9. VIBRATION CRITERIA SHALL CONFORM TO THE RECOMMENDATIONS FROM THE PRESTRESSED CONCRETE INSTITUTE (PCI) DESIGN MANUAL, LATEST EDITION, OR OTHER APPLICABLE CODES.
10. CAMBER SHALL BE CONTROLLED SO AS TO PROVIDE NO DIFFERENTIAL CAMBER WHEN FINAL INSTALLATION IS COMPLETE.
11. ALL PRECAST UNITS TO HAVE 2 HOUR FIRE RATING.
12. PRECAST PLANK UNITS SHALL BE WELDED TO STEEL BEAMS AT ALTERNATE ENDS OF EACH PRECAST UNIT.
13. FINISH CONCRETE TOPPING ON PRECAST TO A LEVEL SURFACE WITH A MINIMUM THICKNESS AS CALLED FOR ON PLANS.
14. HOT DIP GALVANIZE ALL CONNECTOR ASSEMBLIES WHERE NOTED AS GALVANIZED, CLEAN AND COAT ALL FIELD WELDS WITH TWO COATS OF COLD GALVANIZING COMPOUND.

STRUCTURAL STEEL NOTES

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM WITH THE AISC (AMERICAN INSTITUTE OF STEEL CONSTRUCTION), "MANUAL OF STEEL CONSTRUCTION", LATEST EDITION.
2. ALL STEEL DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE AISC "SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN", LATEST EDITION.
3. ALL WELDING SHALL BE BY WELDERS HOLDING CURRENT VALID AWS CERTIFICATES IN THE TYPE OF WELD REQUIRED.
4. SHOP CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE BOLTED OR WELDED. FIELD CONNECTIONS SHALL BE BOLTED UNLESS SPECIFICALLY DETAILED OTHERWISE.
5. DESIGN IN ACCORDANCE WITH GUIDE DETAILS AND REACTIONS.
6. USE A325N BOLTS UNLESS NOTED OTHERWISE.
7. OVERSIZED OR SLOTTED HOLES SHALL NOT BE USED FOR ANY CONNECTIONS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER.
8. ALL BEAM COPES MUST BE MADE TO A RADIUS (1" MINIMUM). ALL BUTT AND FULL PENETRATION WELDS SHALL BE MADE USING RUN OFF TABS WHICH SHALL BE TRIMMED FLUSH AND GROUND SMOOTH AFTER WELD IS COMPLETED.
9. ALL WELDS INDICATED SHALL MEET THE MINIMUM WELD SIZE SPECIFIED BY THE CURRENT AISC MANUAL OF STEEL DESIGN. (SINGLE PASS AS REQUIRED).
10. CUTS, HOLES, COPING, ETC. REQUIRED FOR WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS AND MADE IN THE SHOP. CUTS OR BURNING OF HOLES IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED.
11. PROVIDE ANY NECESSARY TEMPORARY BRACING OR GUYS TO PROVIDE LATERAL SUPPORT OF THE BUILDING UNTIL PERMANENT FRAME IS COMPLETELY INSTALLED.
12. INSTALL EXPANSION BOLTS IN ACCORDANCE WITH THE ICBO REPORT RECOMMENDATIONS.
13. ALL ELEVATOR GUIDE BEAMS SHALL BE S8x18.4 UNLESS NOTED OTHERWISE. SLOPE TO MATCH BEAM SLOPE.
14. STRUCTURAL STEEL FRAMING SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINALLY BOLTED OR WELDED.

SPREAD FOOTING SCHEDULE

MARK	FOOTING DIMENSIONS LENGTH	WIDTH	THICKNESS	FOOTING REINFORCEMENT	REMARKS
F1	8'-0"	3'-0"	1'-8"	(6) #7; B, EW	
F30	3'-0"	3'-0"	1'-4"	(4) #5; B, EW	
F80	8'-0"	8'-0"	1'-8"	(6) #7; B, EW	

WALL FOOTING SCHEDULE

MARK	CONTINUOUS FOOTING DIMENSIONS WIDTH	THICKNESS	FOOTING REINFORCEMENT	REMARKS
W30	3'-0"	1'-0"	(2) #5; B, CONT	
W50	5'-0"	1'-8"	(5) #5 CONT AND #5 TRANSVERSE AT 12" OC	

LOOSE STEEL LINTEL SCHEDULE

PROVIDE WHERE OTHER LINTELS ARE NOT SPECIFICALLY DETAILED

WALL THICK	CLEAR MASONRY OPENING WIDTH	SECTION
ALL	AT FIRE EXTINGUISHER CABINETS AND DRINKING FOUNTAINS	1/4" PLATE
4"	TO 5'-0"	ST3x6.25 (3/16 1 1/2-8)
4"	TO 7'-0"	PL 3/8 x 4 1/2 ON PL 3/8 x 3 1/2
4"	TO 8'-0"	PL3/8"x7 1/2" ON PL3/8"x3 1/2"
8"	TO 6'-0"	(2) L3 1/2x2 1/2x1/4 (LLV)
8"	TO 7'-0"	WT4x10.5
8"	TO 8'-0"	WT7x11
8"	TO 12'-0"	WT7x13 WITH PL 1/2"x2" (3/16 1 1/2-8)
8"	TO 6'-0"	(2) L3 1/2x3 1/2x1/4
8"	TO 7'-0"	(2) L4x3 1/2x5/16 (LLV)
8"	TO 8'-0"	WT7x15
10"	TO 7'-0"	W8x10 WITH PL5/16"x8" (3/16 1 1/2-8)
10"	TO 10'-0"	W8x15 WITH PL5/16"x8"
12"	TO 5'-0"	(3) L3 1/2x3 1/2x1/4
12"	TO 7'-0"	W8x10 WITH PL5/16"x11" (3/16 1 1/2-8)
12"	TO 10'-0"	W8x15 WITH PL5/16"x11"

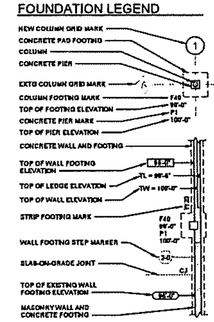
NOTES:

1. PROVIDE MINIMUM 8" BEARING AT EACH END OF LINTEL.
2. GROUT BLOCK CORES AND REINFORCE WITH (1) #5 VERT BELOW LINTEL BEARING.
3. CENTER LINTELS IN WALL UNLESS OTHERWISE NOTED.
4. BOTTOM PLATES UNDER WIDE FLANGE SHAPES SHALL BE EXTENDED FULL LENGTH OF LINTEL.
5. WELD LINTEL COMPONENTS INTO SINGLE UNIT.
6. NOT LINTELS ARE REQUIRED FOR 4" AND 8" NON-BEARING MASONRY WALLS WHERE GROUTED HOLLOW METAL FRAMES HAVE A HEADSPAN OF 4'-0" OR LESS.

ABBREVIATION LIST

AB	ANCHOR BOLT (ROD)
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ARCH	ARCHITECTURAL
BLDG	BUILDING
BRG	BEARING
BP(#)	BASE PLATE CALL-OUT
CF	COLD-FORMED
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLR	CLEAR (DISTANCE)
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
DBA	DEFORMED BAR ANCHOR
DEMO	DEMOLITION / DEMOLISH
DIA	DIAMETER
DWG	DRAWING
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EF	EACH FACE
EJ	EXPANSION JOINT
ELEV	ELEVATION
EQ	EQUAL
EW	EACH WAY
EWEF	EACH WAY EACH FACE
EXP	EXPANSION
EXT	EXTERIOR
EXTG	EXISTING
FD	FLOOR DRAIN
FLR	FLOOR
FV	FIELD VERIFY
F(##)	FOOTING CALL-OUT
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLULAM	GLUE-LAMINATED BEAM(S)
HK	HOOK
HORIZ	HORIZONTAL
HP	HIGH POINT
HWS	HEADED WELDED STUD(S)
IF	INSIDE FACE
INT	INTERIOR
JBE	JOIST BEARING ELEVATION
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSL	LAMINATED STRAND LUMBER
LTWT	LIGHTWEIGHT
LVL	LAMINATED VENEER LUMBER
LW	LONG WAY
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
NA	NOT APPLICABLE
NTS	NOT TO SCALE
OC	ON CENTER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
PC	PRECAST / PRESTRESSED
PCI	POUNDS PER CUBIC INCH
PCF	POUNDS PER CUBIC FOOT
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PROJ	PROJECTION
PSF	POUNDS PER CUBIC FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRE (POST)-TENSIONED
P(#)	PIER CALL-OUT
RD	ROOF DRAIN
REINF	REINFORCE(D)(ING)
RTU	ROOF TOP UNIT
SIM	SIMILAR
SOG	SLAB-ON-GRADE
SPA	SPACE(S)(ED)(ING)
SPEC	SPECIFICATION(S)
SQ	SQUARE
SS	STAINLESS STEEL
SW	SHORT WAY
TL	TOP OF LEDGE
TP	TOP OF PIER
TW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WP	WORKING POINT
WWF	WELDED WIRE FABRIC

FOUNDATION LEGEND



Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

OERTEL ARCHITECTS

ORIGINAL

SATELLITE BUS FACILITY REMODEL

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CITY OF MADISON
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PROJECT NUMBER 213419.00

ONEIDA Total Integrated Enterprises
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ISSUED FOR:
BID SET 8/18/2023

REVISION FOR:
NO. DESCRIPTION DATE

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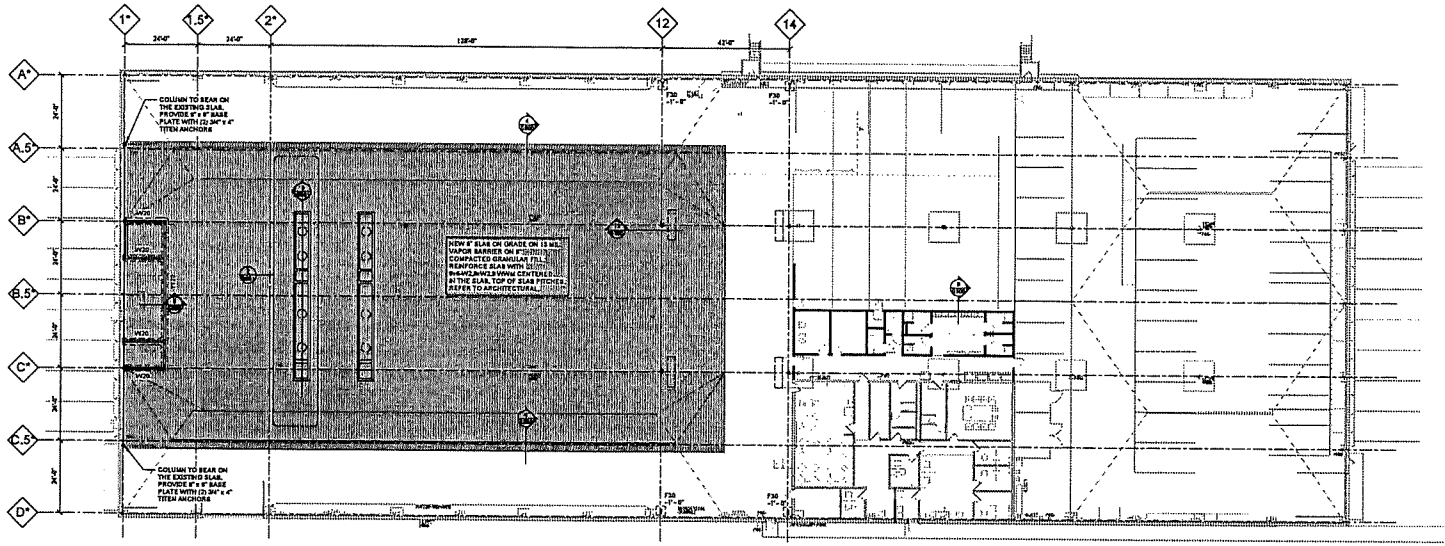
STRUCTURAL DETAILS

S001

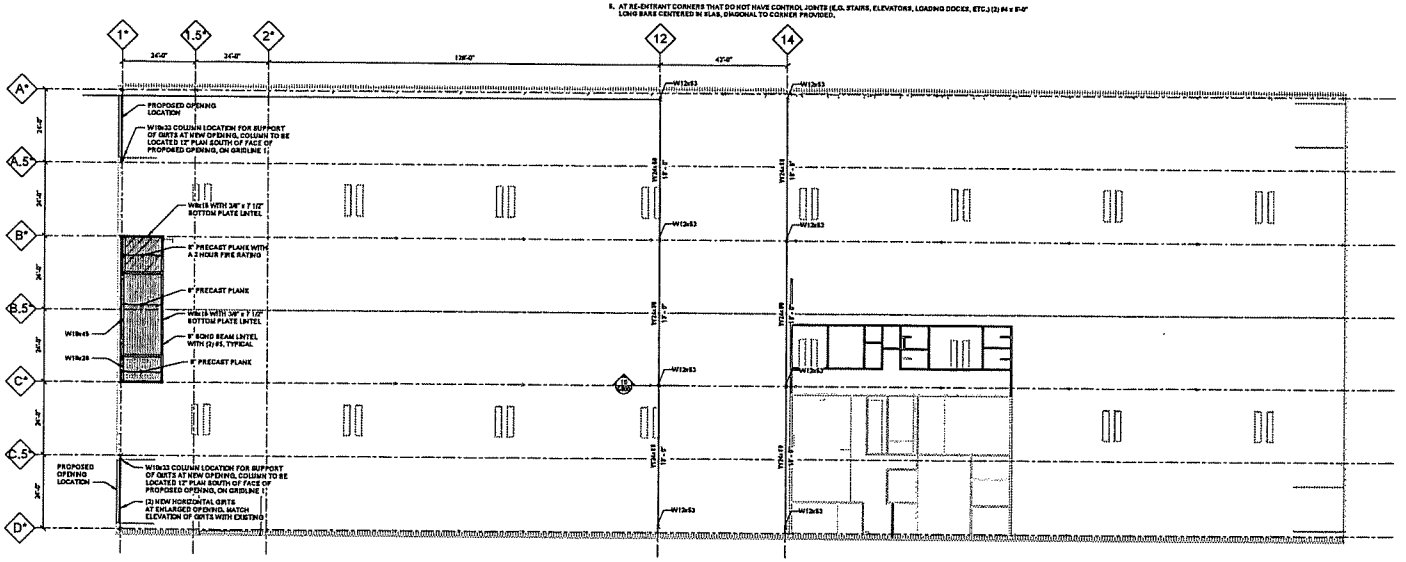


1 FOUNDATION PLAN - MAINTENANCE BUILDING

SCALE: 1/16" = 1'-0"

NOTES

1. SEE S000 FOR TYPICAL DETAILS AND S001 FOR DESIGN CRITERIA.
2. TYPICAL WHERE SLAB ABUTS COLUMN OR WALL, PROVIDE 1/2" x 2LAB WIDTH ISOLATION FILLER STRIP, SET STRIP 1/4" BELOW FINISHED SLAB ELEVATION AND FILL GAP WITH SEALANT PER DIVISION 9 SPECIFICATIONS.
3. AVOID SITUATIONS WHERE CONTROL JOINTS ARE DISCONTINUOUS ACROSS AN ADJACENT JOINT BUT WHERE ABSOLUTELY NECESSARY, PROVIDE (1) #4 x 5'-0" LONG BARS IN UNBROKEN SLAB AT THIS T-INTERSECTION WITH THE UNDERSTANDING THAT BARS WILL LIMIT CRACK WIDTH BUT NOT PREVENT IT.
4. CONTROL JOINTS PLACED AT COLUMN LINES WHERE LAYOUT PERMITS. JOINT SPACING 2 TO 3 TIMES THE SLAB THICKNESS (INCHES) AS FEET ON CENTER (MAXIMUM OF 12'-0" ON CENTER), RESULTING PANEL ASPECT RATIO LESS THAN 1.5 AND ACUTE ANGLES LESS THAN 45 DEGREES AVOIDED, SEE s0tes FOR JOINT INFORMATION. ALL JOINTS SHALL BE EPOXY FILLED.
5. AT RE-ENTRANT CORNERS THAT DO NOT HAVE CONTROL JOINTS (E.G. STAIRS, ELEVATORS, LOADING DOCKS, ETC.) (2) #4 x 5'-0" LONG BARS CENTERED IN SLAB, DIAGONAL TO CORNER PROVIDED.



2 PRECAST FRAMING - MAINTENANCE BUILDING

SCALE: 1/16" = 1'-0"

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PROJECT NUMBER 213419.00

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BID SET 8/16/2023

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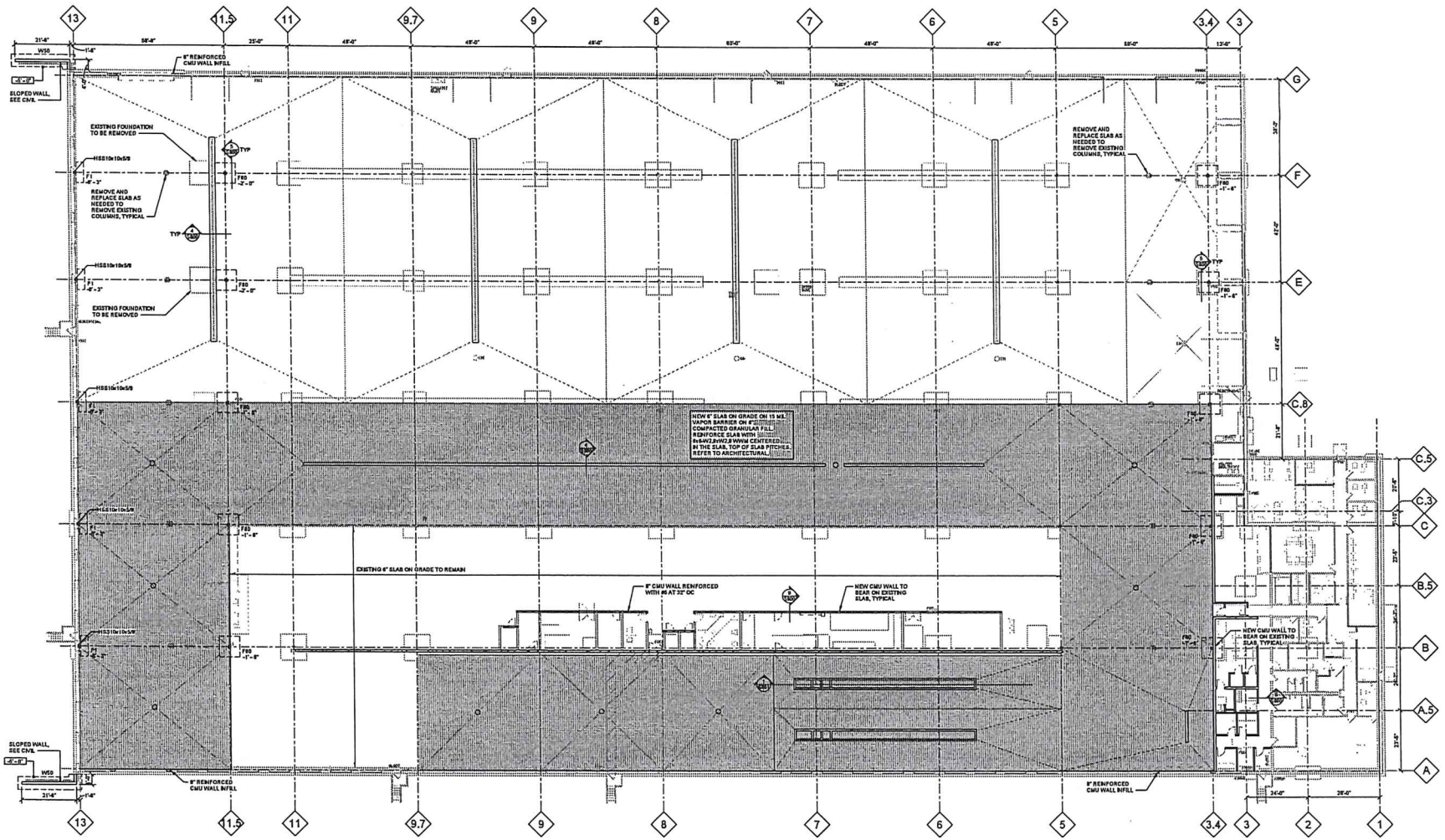
FOUNDATION AND FRAMING PLANS - MAINTENANCE BUILDING

S100



1 FOUNDATION PLAN - STORAGE BLDG

SCALE: 1/16" = 1'-0"

NOTES

1. SEE S900 FOR TYPICAL DETAILS AND S001 FOR DESIGN CRITERIA.
2. TYPICAL WHERE SLAB ABUTS COLUMN OR WALL, PROVIDE 1/2" x SLAB WIDTH ISOLATION FILLER STRIP. SET STRIP 1/4" BELOW FINISHED SLAB ELEVATION AND FILL GAP WITH SEALANT PER DIVISION 9 SPECIFICATIONS.
3. AVOID SITUATIONS WHERE CONTROL JOINTS ARE DISCONTINUOUS ACROSS AN ADJACENT JOINT BUT WHERE ABSOLUTELY NECESSARY, PROVIDE (2) #4 x 5'-0" LONG BARS IN UNBROKEN SLAB AT THE T-INTERSECTION WITH THE UNDERSTANDING THAT BARS WILL LIMIT CRACK WIDTH BUT NOT PREVENT IT.
4. CONTROL JOINTS PLACED AT COLUMN LINES WHERE LAYOUT PERMITS, JOINT SPACING 2 TO 3 TIMES THE SLAB THICKNESS (INCHES) AS FEET ON CENTER (MAXIMUM OF 15'-0" ON CENTER), RESULTING PANEL ASPECT RATIO LESS THAN 1.5 AND ACUTE ANGLES LESS THAN 45 DEGREES AVOIDED. SEE s-new FOR JOINT INFORMATION. ALL JOINTS SHALL BE EPOXY FILLED.
5. AT RE-ENTRANT CORNERS THAT DO NOT HAVE CONTROL JOINTS (E.G. STAIRS, ELEVATORS, LOADING DOCKS, ETC.) (2) #4 x 5'-0" LONG BARS CENTERED IN SLAB, DIAGONAL TO CORNER PROVIDED.

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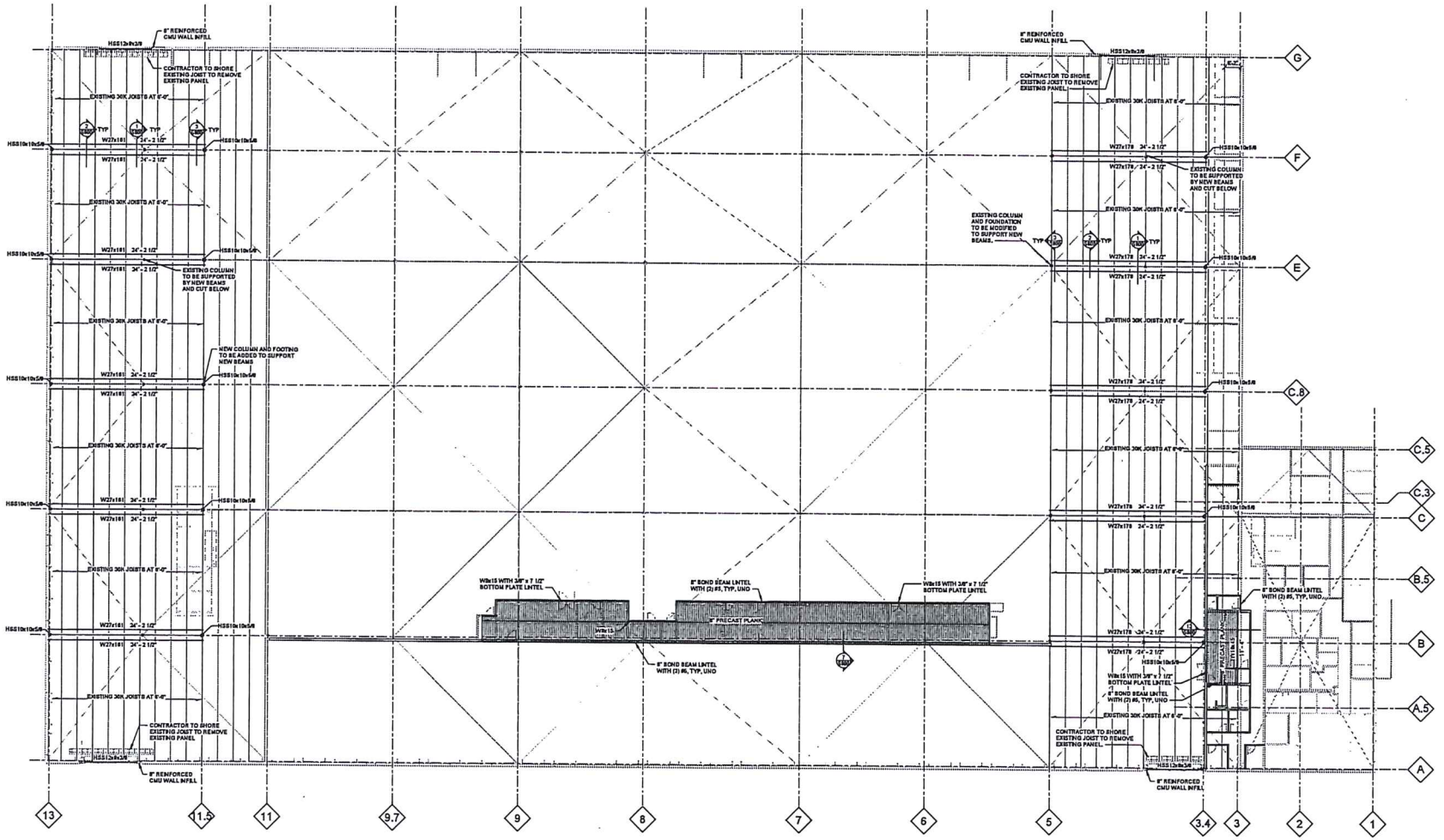
FOUNDATION PLAN - STORAGE BLDG

S101



1 ROOF FRAMING - STORAGE BLDG
SCALE: 1/16" = 1'-0"

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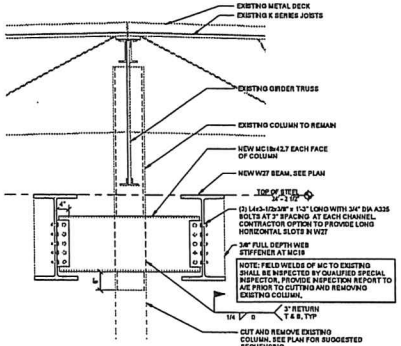
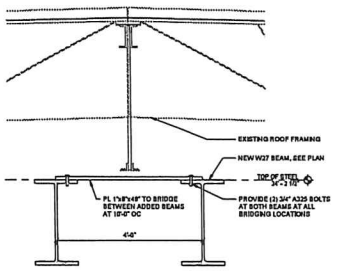
ROOF FRAMING - STORAGE BLDG

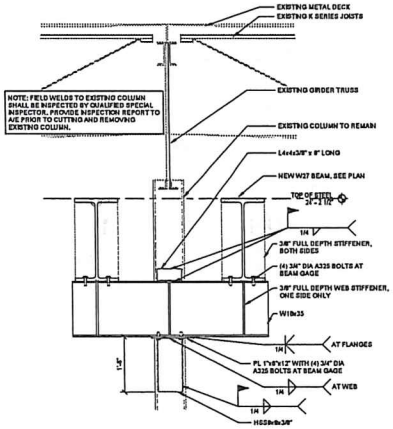
S102



1 MC SUPPORT AT EXISTING COLUMN
SCALE: 3/4" = 1'-0"



2 INTERMITTENT BRIDGING DETAIL
SCALE: 3/4" = 1'-0"



3 BEAM SUPPORT AT EXISTING COLUMN
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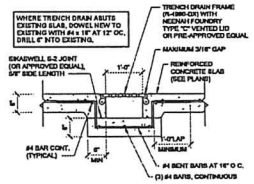

4 TRENCH DRAIN SECTION
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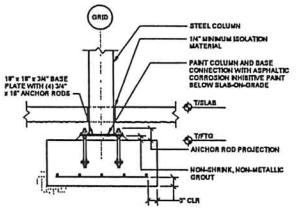
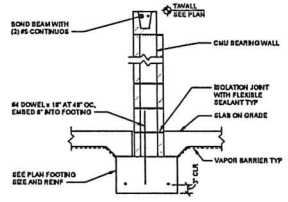
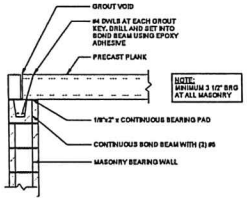


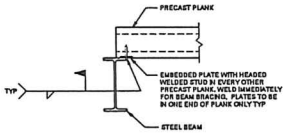
TYP INTERIOR COLUMN FOOOTING
SCALE: 3/4" = 1'-0"



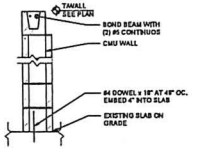
6 INTERIOR WALL FOOTING
SCALE: 3/4" = 1'-0"



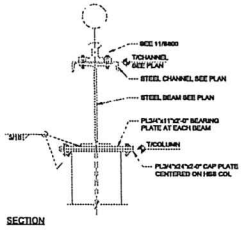
PRECAST PLANK BEARING AT MASONRY WALL
SCALE: 3/4" = 1'-0"

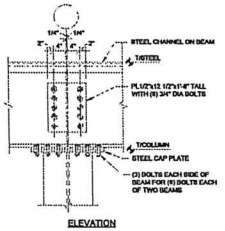


PRECAST BEARING ON STEEL BEAM
SCALE: 3/4" = 1'-0"

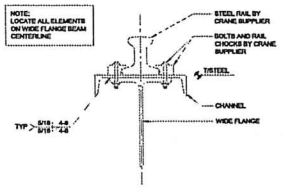


9 INTERIOR WALL FOOTING
SCALE: 3/4" = 1'-0"

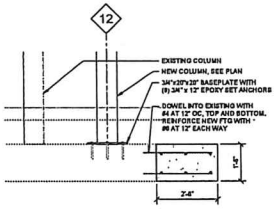




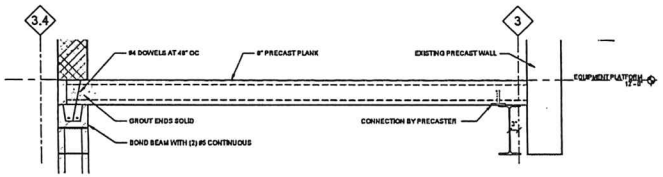
10 CRANE BEAM CONNECTION
SCALE: 3/4" = 1'-0"



11 TYP CRANE RAIL BEAM
SCALE: 1 1/2" = 1'-0"



12 NEW FTG TO EXIST
SCALE: 1/2" = 1'-0"



13 EQUIPMENT PLATFORM SECTION
SCALE: 3/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

OERTEL ARCHITECTS

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ONEIDA Total Integrated Enterprises
Office 608.240.0911 Fax 608.241.3614
5100 Eastpark Blvd, Suite 300,
Madison, Wisconsin 53718

ISSUED FOR:

BID SET	9/15/2023

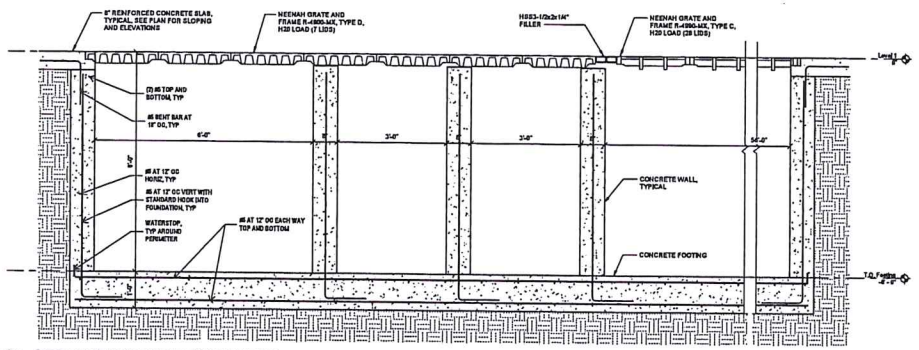
REVISION FOR:

NO.	DESCRIPTION	DATE

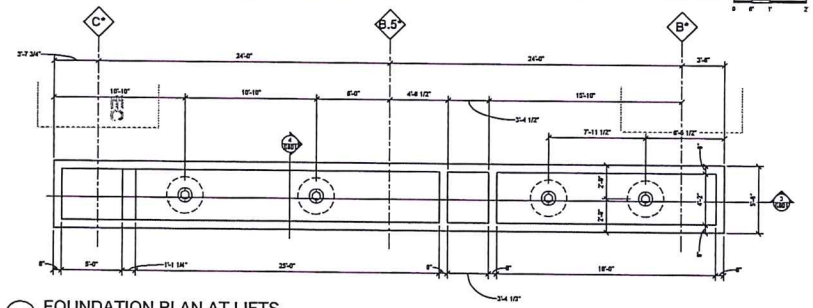
DRAWN BY	DJW
CHECKED BY	TJJ

STRUCTURAL DETAILS

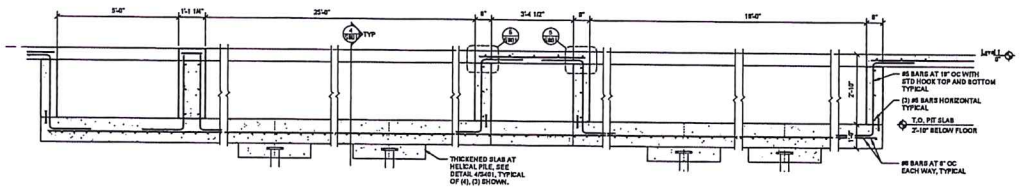
S800



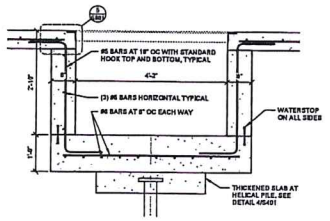
1 SERVICE BAY TRENCH DRAIN
SCALE: 3/4" = 1'-0"



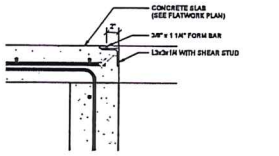
2 FOUNDATION PLAN AT LIFTS
SCALE: 1/4" = 1'-0"



3 FOUNDATION SECTION AT LIFT
SCALE: 1/2" = 1'-0"



4 FOUNDATION SECTION AT LIFTS
SCALE: 3/4" = 1'-0"



5 FOUNDATION SECTION AT LIFT
SCALE: 1 1/2" = 1'-0"

Engberg Anderson ARCHITECTS
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OERTEL ARCHITECTS

ORIGINAL

SATELLITE BUS FACILITY REMODEL

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ONEIDA Total Integrated Enterprises
5100 Eastpark Blvd, Suite 200,
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ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

STRUCTURAL DETAILS

S801

WATER SOFTENER SCHEDULE (EACH VESSEL)

TAG	LOCATION	MANUFACTURER	MODEL	TOTAL WATER HARDNESS GPG (GRAINS/GALLON)	NORMAL FLOW/PD (GPM/PSI)	MAXIMUM FLOW/PD (GPM/PSI)	EX. SETTING CU FT OF RESIN GRAINS/LBS	FLOW BETWEEN REGENERATIONS (GALLONS)	BACKWASH FLOW (GPM)	BACKWASH RESIN CU FT	NO. OF SOFTENERS	DIAMETER / HEIGHT	PIPE SIZE (INCHES)	BRINE MAKER NO.	BRINE MAKER SIZE	CAPACITY DRY SALT STORAGE LBS	WATER METER NO.	WATER METER SIZE
WS-1	MECH 195	HELLENBRAND	H151 HE-18	20	25/10	27/15	4800	4800	38.4	5	1	18"X65"	1-1/2"	1	24"X50"	749	1	1-1/2"
WS-2	FIRE PUMP 178	HELLENBRAND	ECOMAX-9	20	8.8/10	9/15	5200	1330	5	.75	1	9"X48"	1"	1	18"X40"	343	1	1"
WS-3	MECH/ELEC 211	HELLENBRAND	H125 HE-12	20	13.8/10	16/15	5200	2750	-	-	1	12"X52"	1-1/4"	1	18"X40"	343	1	1-1/4"

AIR COMPRESSOR SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	HP	SCFM	PSIG	MAX PSIG	RPM	EQUIPMENT VOLTAGE/HERTZ/PHASE	WEIGHT (LBS)	REMARKS
AC-1	COMPRESSOR 204	QUINCY	QSI-60	60	281.1	115	125	3530	460/60/3	2235.5	TOTAL OF TWO UNITS
AC-2	FLUIDS/COMP 177	QUINCY	QSI-60	60	281.1	115	125	3530	460/60/3	2235.5	TOTAL OF TWO UNITS

AIR DRYER SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	LOAD	SCFM	PSIG	MAX PSIG	RPM	EQUIPMENT VOLTAGE/HERTZ/PHASE	REMARKS
RAD-1	COMPRESSOR 204	SAMMUEL	A10049	2.3 KW	297	100	210	VARIBLE	460/60/3	TOTAL OF TWO UNITS
RAD-2	FLUIDS/COMP 177	SAMMUEL	A10049	2.3 KW	297	100	210	VARIBLE	460/60/3	TOTAL OF TWO UNITS

AIR STORAGE TANK SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	SERVICE	VOLUME (GALLONS)	DIAMETER (INCHES)	HEIGHT (INCHES)	INLET SIZE (INCHES)	OUTLET SIZE (INCHES)	AIR PRV CONNECTION (INCHES)	AIR PRES. CONNECTION (INCHES)	AIR OUTLET CONNECTION (INCHES)	DRAIN OUTLET (INCHES)	SENSOR PORT OUTLET (INCHES)	REMARKS
ART-1	COMPRESSOR 204	SAMMUEL	A10048	MAINTENENCE BUILDING	500	38	125	3	3	1	1/2	-	1	1/4	
ART-2	FLUIDS/COMP 177	SAMMUEL	A10048	BUS WASH SERVICES	500	38	125	3	3	1	1/2	-	1	1/4	

PUMP SCHEDULE (AIR POWERED)

TAG	LOCATION	MANUFACTURER	MODEL	SERVICE	FLOW (GPM)	HEAD (FT)	MOTOR (HP)	RPM	REMARKS
P-1	FLUIDS/COMP 177	GRACO	SEE REMARKS	WASTE OIL	-	-	-	-	SELECTION BY LUBE SYSTEM CONTRACTOR
P-2	FLUIDS/COMP 177	GRACO	SEE REMARKS	WASTE COOLANT	-	-	-	-	SELECTION BY LUBE SYSTEM CONTRACTOR
P-3	FLUIDS/COMP 177	GRACO	SEE REMARKS	COOLANT	-	-	-	-	SELECTION BY LUBE SYSTEM CONTRACTOR
P-4	FLUIDS/COMP 177	GRACO	SEE REMARKS	ATF	-	-	-	-	SELECTION BY LUBE SYSTEM CONTRACTOR
P-5	FLUIDS/COMP 177	GRACO	SEE REMARKS	GEAR OIL	-	-	-	-	SELECTION BY LUBE SYSTEM CONTRACTOR
P-6	FLUIDS/COMP 177	GRACO	SEE REMARKS	ENGINE OIL	-	-	-	-	SELECTION BY LUBE SYSTEM CONTRACTOR
P-7	WASH EQ 210	GRACO	SEE REMARKS	ENGINE OIL	-	-	-	-	SELECTION BY LUBE SYSTEM CONTRACTOR
P-8	WASH EQ 210	GRACO	SEE REMARKS	ATF	-	-	-	-	SELECTION BY LUBE SYSTEM CONTRACTOR
P-9	WASH EQ 210	GRACO	SEE REMARKS	DEF	-	-	-	-	SELECTION BY LUBE SYSTEM CONTRACTOR
P-10	WASH EQ 210	GRACO	SEE REMARKS	COOLANT	-	-	-	-	SELECTION BY LUBE SYSTEM CONTRACTOR
P-11	WASH EQ 210	GRACO	SEE REMARKS	WASHER FLUID	-	-	-	-	SELECTION BY LUBE SYSTEM CONTRACTOR

ELECTRIC WATER HEATER SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	TOTAL VOLUME (GALLONS)	INPUT (KW)	RECOVERY (GPH)	TEMPERATURE RISE (F)	EQUIPMENT VOLTAGE/HERTZ/PHASE	REMARKS
EWH-1	MECH 195	AO SMITH	CAHP 120	119	9@208V	HYBRID: 60	100	208/60/1	SET WATER HEATER TEMPERATURE AT 125°F
EWH-2	FIRE PUMP 178	AO SMITH	HPTU-66CTA	66	9@208V	HYBRID: 38	100	208/60/1	SET WATER HEATER TEMPERATURE AT 125°F
EWH-3	MECH/ELEC 211	AO SMITH	CAHP 120	119	9@208V	HYBRID: 60	100	208/60/1	SET WATER HEATER TEMPERATURE AT 125°F

INLINE PUMP SCHEDULE

TAG	LOCATION	MANUFACTURER	MODEL	SERVICE	FLOW (GPM)	HEAD (FT)	MOTOR (WATTS)	RPM	EQUIPMENT VOLTAGE/HERTZ/PHASE	REMARKS
CP-1	MECH 195	BELL & GOSSETT	NBF-10S/LW	HWR	3	7.5	55 WATTS	2800	120/60/1	PROVIDE AQUASTAT
CP-2	FIRE PUMP 178	BELL & GOSSETT	NBF-8S/LW	HWR	1	3	38 WATTS	2800	120/60/1	PROVIDE AQUASTAT
CP-3	MECH/ELEC 211	BELL & GOSSETT	NBF-36	HWR	4.5	27	270 WATTS	3300	120/60/1	PROVIDE AQUASTAT, SET AT SPEED 3

PLUMBING MOTOR LOAD COORDINATION SCHEDULE - REFERENCE ONLY

TAG	EQUIPMENT DESCRIPTION	LOCATION	POWER DATA: LOAD	POWER DATA: EQUIPMENT VOLTAGE/HERTZ/PHASE	EMERG. POWER	DISCONNECT: FURNISH BY	DISCONNECT: INSTALL BY	DISCONNECT: WIRED BY	REMARKS
AC-1	AIR COMPRESSOR	COMPRESSOR 204	60	460/60/3	NO	DIV 26	DIV 26	DIV 26	HARD WIRED (TOTAL OF 2 UNITS)
AC-2	AIR COMPRESSOR	FLUIDS/COMP 177	60	460/60/3	NO	DIV 26	DIV 26	DIV 26	HARD WIRED (TOTAL OF 2 UNITS)
CP-1	CIRCULATION PUMP	MECH 195	55 WATTS	120/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
CP-2	CIRCULATION PUMP	FIRE PUMP 178	38 WATTS	120/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
CP-3	CIRCULATION PUMP	MECH/ELEC 211	270 WATTS	120/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
EWH-1	ELECTRIC WATER HEATER	MECH 195	9 KW	208/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
EWH-2	ELECTRIC WATER HEATER	FIRE PUMP 178	9 KW	208/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
EWH-3	ELECTRIC WATER HEATER	MECH/ELEC 211	9 KW	208/60/1	NO	DIV 26	DIV 26	DIV 26	HARD WIRED
RAD-1	REFRIGERANT AIR DRYER	COMPRESSOR 204	2.3 KW	460/60/3	NO	DIV 26	DIV 26	DIV 26	HARD WIRED (TOTAL OF 2 UNITS)
RAD-2	REFRIGERANT AIR DRYER	FLUIDS/COMP 177	2.3 KW	460/60/3	NO	DIV 26	DIV 26	DIV 26	HARD WIRED (TOTAL OF 2 UNITS)
WS-1	WATER SOFTNER	MECH 195	-	120/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG IN
WS-2	WATER SOFTNER	FIRE PUMP 178	-	120/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG IN
WS-3	WATER SOFTNER	MECH/ELEC 211	-	120/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG IN

PLUMBING FIXTURE LOAD COORDINATION SCHEDULE - REFERENCE ONLY

TAG	COUNT	FIXTURE TYPE	LOCATION	POWER DATA: LOAD	POWER DATA: EQUIPMENT VOLTAGE/HERTZ/PHASE	EMERG. POWER	DISCONNECT: FURNISH BY	DISCONNECT: INSTALL BY	DISCONNECT: WIRED BY	REMARKS
EWC-1	3	ELECTRIC WATER COOLER	VARIES	370 WATTS	115/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG-IN
EWC-2	1	ELECTRIC WATER COOLER	CORR 289	370 WATTS	115/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG-IN
S-1	4	SINK W/DISPOSER	VARIES BREAKROOM	1 HP	115/60/1	NO	DIV 26	DIV 26	DIV 26	PLUG PROVIDED BY PC; EC TO PROVIDE GFCI OUTLET UNDER COUNTER AND HARD WIRE TO WALL SWITCH.

REDUCED PRESSURE BACKFLOW PREVENTOR SCHEDULE

TAG	SIZE	MANUFACTURER	MODEL	LOCATION	SERVICE	EQUIPMENT SYMBOL	EQUIPMENT SERVED	REMARKS
RPBP-1	3"	WILKINS	375 FSC-AG	MECH/ELEC 211	HOSE REELS	RPBP	HOSE REELS	
RPBP-2	3"	WILKINS	375 FSC-AG	WASH EQ 210	BUS WASH EQUIPMENT	RPBP	BUS WASH EQUIPMENT	
RPBP-3	3"	WILKINS	375 FSC-AG	COMPRESSOR 204	HOSE REELS	RPBP	HOSE REELS	
RPBP-4	3"	WILKINS	375 FSC-AG	MAINTENANCE 175	HOSE REELS	RPBP	HOSE REELS	
RPBP-5	1 1/4"	WILKINS	975 XL-3D-AG	WASH EQ 210	HOTSYS	RPBP	HOTSYS	

Table 382.40-5 - May 2018

MAXIMUM ALLOWABLE LOAD FOR COPPER TUBE - TYPE L, ASTM B88 (C=150)

PIPE DIAMETER (IN INCHES)

PRESSURE LOSS DUE TO FRICTION (PSI LOSS, PER 100 FT OF LENGTH)	1/2" GPM	1/2" WSFU FM	1/2" WSFU FT	3/4" GPM	3/4" WSFU FM	3/4" WSFU FT	1" GPM	1" WSFU FM	1" WSFU FT	1-1/4" GPM	1-1/4" WSFU FM	1-1/4" WSFU FT	1-1/2" GPM	1-1/2" WSFU FM	1-1/2" WSFU FT	2" GPM	2" WSFU FM	2" WSFU FT	2-1/2" GPM	2-1/2" WSFU FM	2-1/2" WSFU FT	3" GPM	3" WSFU FM	3" WSFU FT	4" GPM	4" WSFU FM	4" WSFU FT
0.5	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NP			NP		
5	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NP								
6	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NP											
7	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]												
8	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NP														
9	[illegible]	—	[illegible]	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	NP																	
10	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]																		
11	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]																		
12	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]	NP																				
13	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]																					
14	[illegible]	—	[illegible]	[illegible]	[illegible]	[illegible]																					
15	[illegible]	—	[illegible]	NP																							
16	[illegible]	—	[illegible]																								
17	[illegible]	—	[illegible]																								
18	[illegible]	—	[illegible]																								
19	[illegible]	—	[illegible]																								
20	[illegible]	—	[illegible]																								
	NP																										

NOTES

[illegible]

WATER CALCULATION WORKSHEET (CW)

MAINTENANCE BUILDING 3829

INFORMATION REQUIRED TO CALCULATE WATER SERVICE SIZE

1. DEMAND OF BUILDING IN GALLONS PER MINUTE. — WSFU'S 196 =(GPM) 82
2. DIFFERENCE IN ELEVATION FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE — (FEET) 6
3. SIZE OF WATER METER — (INCHES) 2
4. DEVELOPED LENGTH FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE — (FEET) 620
5. LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK — (PSI) 82

CALCULATE WATER SERVICE PRESSURE LOSS

6. LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK. (VALUE OF # 5 ABOVE) — 82
7. DETERMINE PRESSURE LOSS DUE TO FRICTION IN 6 INCH DIAMETER WATER SERVICE. — SUBTRACT VALUE OF "7" 1
   WATER SERVICE MATERIAL DUCTILE IRON — SUBTOTAL 81
8. DETERMINE PRESSURE LOSS DUE TO ELEVATION, (MULTIPLY THE VALUE OF #2 ABOVE BY .434) — SUBTRACT VALUE OF "8" 3.5
9. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE. (ENTER IN "B" BELOW) — SUBTOTAL 77.5

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

B. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE. (FROM "9" ABOVE) — VALUE OF "B" 77.5
C. PRESSURE LOSS OF WATER METER (WHEN METER IS REQUIRED) — SUBTRACT VALUE OF "C" 3; SUBTOTAL 74.5
D. (PRESSURE INCREASE DUE TO -) — ADD VALUE OF "D" 0; SUBTOTAL 74.5
E. PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS AND BACKFLOW PREVENTERS WHICH SERVE THE CONTROLLING FIXTURE. — SUBTRACT VALUE OF "E" 10
   (PRESSURE LOSS DUE TO TMV — SUBTOTAL 64.5
F. DIFFERENCE IN ELEVATION BETWEEN THE BUILDING CONTROL VALVE AND THE CONTROLLING FIXTURE IN FEET 2 X .434 PSI/FT — SUBTRACT VALUE OF "F" 1; SUBTOTAL 63.5
G. PRESSURE AT CONTROLLING FIXTURE. (CONTROLLING FIXTURE IS EEW ROOM 140 — (SUBTRACT VALUE OF "G") 30; SUBTOTAL 33.5
H. DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET 300 X 1.5 — DIVIDE BY VALUE OF "H" 450
   WATER DISTRIBUTION MATERIAL TYPE L COPPER — SUBTOTAL 0.074; MULTIPLY BY 100
A. PRESSURE AVAILABLE FOR UNIFORM LOSS — "A" = 7.4

WATER CALCULATION WORKSHEET (HW)

MAINTENANCE BUILDING 3829

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

B. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE. (FROM "9" ABOVE) — VALUE OF "B" 77.5
C. PRESSURE LOSS OF WATER METER (WHEN METER IS REQUIRED) — SUBTRACT VALUE OF "C" 3; SUBTOTAL 74.5
D. (PRESSURE INCREASE DUE TO -) — ADD VALUE OF "D" 0; SUBTOTAL 74.5
E. PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS AND BACKFLOW PREVENTERS WHICH SERVE THE CONTROLLING FIXTURE. — SUBTRACT VALUE OF "E" 15
   (PRESSURE LOSS DUE TO SOFTENER AND TMV — SUBTOTAL 59.5
F. DIFFERENCE IN ELEVATION BETWEEN THE BUILDING CONTROL VALVE AND THE CONTROLLING FIXTURE IN FEET 2 X .434 PSI/FT — SUBTRACT VALUE OF "F" 1; SUBTOTAL 58.5
G. PRESSURE AT CONTROLLING FIXTURE. (CONTROLLING FIXTURE IS EEW RM 140 — (SUBTRACT VALUE OF "G") 30; SUBTOTAL 28.5
H. DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET 360 X 1.5 — DIVIDE BY VALUE OF "H" 540
   WATER DISTRIBUTION MATERIAL TYPE L COPPER — SUBTOTAL 0.053; MULTIPLY BY 100
A. PRESSURE AVAILABLE FOR UNIFORM LOSS — "A" = 5.3

WATER CALCULATION WORKSHEET (CW)

MAINTENANCE BUILDING 3881

INFORMATION REQUIRED TO CALCULATE WATER SERVICE SIZE

1. DEMAND OF BUILDING IN GALLONS PER MINUTE. — WSFU'S 385 =(GPM) 124
2. DIFFERENCE IN ELEVATION FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE — (FEET) 8
3. SIZE OF WATER METER — (INCHES) 3
4. DEVELOPED LENGTH FROM MAIN OR EXTERNAL PRESSURE TANK TO BUILDING CONTROL VALVE — (FEET) 280
5. LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK — (PSI) 82

CALCULATE WATER SERVICE PRESSURE LOSS

6. LOW PRESSURE AT MAIN IN STREET OR EXTERNAL PRESSURE TANK. (VALUE OF # 5 ABOVE) — 82
7. DETERMINE PRESSURE LOSS DUE TO FRICTION IN 8 INCH DIAMETER WATER SERVICE. — SUBTRACT VALUE OF "7" 1
   WATER SERVICE MATERIAL DUCTILE IRON — SUBTOTAL 81
8. DETERMINE PRESSURE LOSS DUE TO ELEVATION, (MULTIPLY THE VALUE OF #2 ABOVE BY .434) — SUBTRACT VALUE OF "8" 3.5
9. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE. (ENTER IN "B" BELOW) — SUBTOTAL 77.5

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

B. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE. (FROM "9" ABOVE) — VALUE OF "B" 77.5
C. PRESSURE LOSS OF WATER METER (WHEN METER IS REQUIRED) — SUBTRACT VALUE OF "C" 4; SUBTOTAL 73.5
D. (PRESSURE INCREASE DUE TO -) — ADD VALUE OF "D" -; SUBTOTAL 73.5
E. PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS AND BACKFLOW PREVENTERS WHICH SERVE THE CONTROLLING FIXTURE. — SUBTRACT VALUE OF "E" 12
   (PRESSURE LOSS DUE TO RPBP — SUBTOTAL 61.5
F. DIFFERENCE IN ELEVATION BETWEEN THE BUILDING CONTROL VALVE AND THE CONTROLLING FIXTURE IN FEET 10 X .434 PSI/FT — SUBTRACT VALUE OF "F" 5; SUBTOTAL 56.5
G. PRESSURE AT CONTROLLING FIXTURE. CONTROLLING FIXTURE IS WASH EQUIPMENT — (SUBTRACT VALUE OF "G") 30; SUBTOTAL 26.5
H. DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET 312 X 1.5 — DIVIDE BY VALUE OF "H" 468
   WATER DISTRIBUTION MATERIAL TYPE L COPPER — SUBTOTAL 0.057; MULTIPLY BY 100
A. PRESSURE AVAILABLE FOR UNIFORM LOSS — "A" = 5.7

WATER CALCULATION WORKSHEET (HW)

MAINTENANCE BUILDING 3881

CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")

B. AVAILABLE PRESSURE AFTER THE BUILDING CONTROL VALVE. (FROM "9" ABOVE) — VALUE OF "B" 77.5
C. PRESSURE LOSS OF WATER METER (WHEN METER IS REQUIRED) — SUBTRACT VALUE OF "C" 4; SUBTOTAL 73.5
D. (PRESSURE INCREASE DUE TO -) — ADD VALUE OF "D" -; SUBTOTAL 73.5
E. PRESSURE LOSS DUE TO WATER TREATMENT DEVICES, INSTANTANEOUS WATER HEATERS AND BACKFLOW PREVENTERS WHICH SERVE THE CONTROLLING FIXTURE. — SUBTRACT VALUE OF "E" 10
   (PRESSURE LOSS DUE TO SOFTENER — SUBTOTAL 63.5
F. DIFFERENCE IN ELEVATION BETWEEN THE BUILDING CONTROL VALVE AND THE CONTROLLING FIXTURE IN FEET 2 X .434 PSI/FT — SUBTRACT VALUE OF "F" 1; SUBTOTAL 62.5
G. PRESSURE AT CONTROLLING FIXTURE. (CONTROLLING FIXTURE IS LAV ROOM 294 — (SUBTRACT VALUE OF "G") 8; SUBTOTAL 54.5
H. DEVELOPED LENGTH FROM BUILDING CONTROL VALVE TO CONTROLLING FIXTURE IN FEET 640 X 1.5 — DIVIDE BY VALUE OF "H" 960
   WATER DISTRIBUTION MATERIAL TYPE L COPPER — SUBTOTAL 0.057; MULTIPLY BY 100
A. PRESSURE AVAILABLE FOR UNIFORM LOSS — "A" = 5.7

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

SCHEDULES

P001

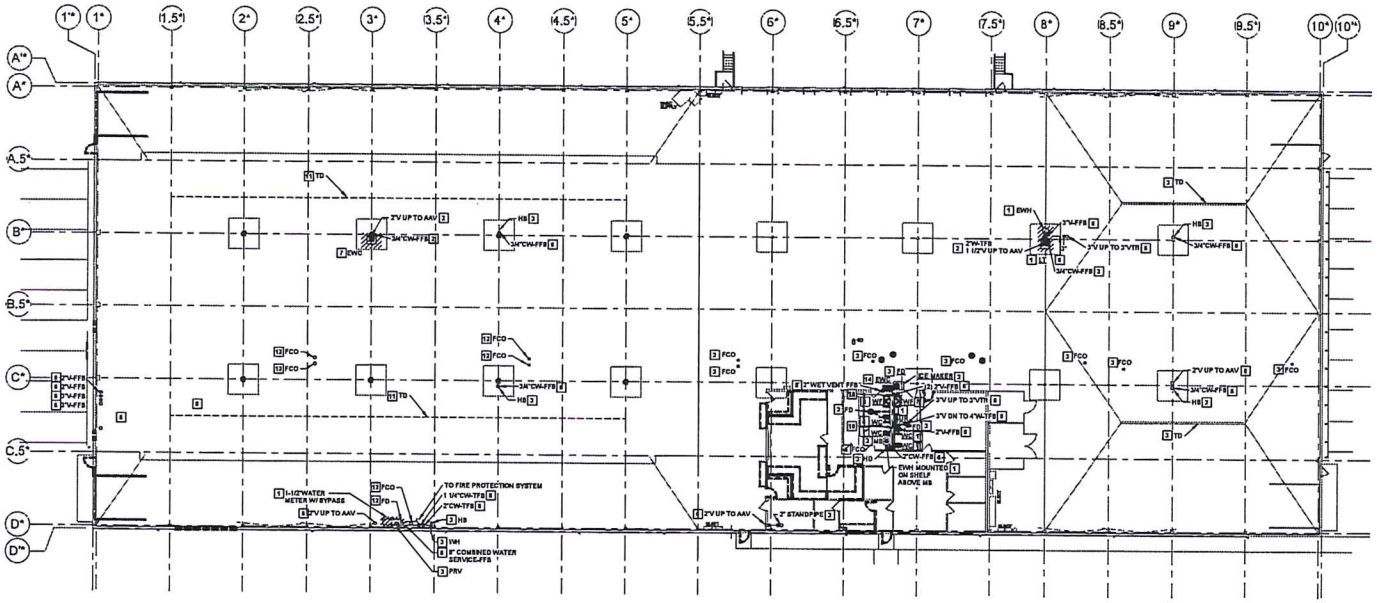
DEMO KEY NOTES:

(THIS IS A COMPOSITE LIST OF DEMOLITION NOTES NOT ALL APPLY ON SPECIFICALLY TO THIS SHEET.)

1. REMOVE FIXTURES, EQUIPMENT AND PIPING COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILING AND WALLS TO MATCH.
2. REMOVE PIPING COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILING AND WALLS TO MATCH.
3. PIPING, FIXTURE & EQUIPMENT TO REMAIN AS IS.
4. CAP PIPING
5. REMOVE PIPING UP TO FIXTURES COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILINGS & WALLS TO MATCH.
6. PIPING TO REMAIN.
7. REMOVE FIXTURES AND PIPING COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILINGS & WALLS TO MATCH.
8. ABANDON PIPING IN PLACE.
9. SAW CUTTING, REMOVAL & PATCHING OF FLOOR BY GPC. PC TO EXCAVATE AND BACKFILL FOR REMOVAL, REPLACEMENT AND/OR INSTALLATION OF NEW UNDERGROUND PIPING. PC TO COORDINATE CUTTING AND PATCHING WITH GPC IN FIELD.
10. REWORK EXISTING PIPING WITHIN CHASE FOR NEW PLUMBING FIXTURES.
11. TRENCH DRAIN TO BE REMOVED BY GPC.
12. REMOVE FIXTURE AND REINSTALL NEW WITHIN NEW FLOOR AND/OR RAISED CURB AREA.
13. ESTIMATED ROUTE OF UNDER FLOOR STORM PIPING.
14. REMOVE EXISTING EWC. EXISTING PIPING TO REMAIN TO BE REUSED FOR NEW EWC INSTALLATION.

DEMO GENERAL NOTES:

1. ALL PLUMBING PIPE RELATED CUTTING, PATCHING AND/OR REMOVAL AND REPLACEMENT OF EXISTING WALLS, FLOORS & CEILINGS SHALL BE BY P.C., EXCEPT WHEN NEW WALLS & CEILING ARE TO BE INSTALLED IN WHICH CASE GPC SHALL BE RESPONSIBLE FOR INSTALLING NEW SURFACES ON FLOORS, WALLS & CEILING.
2. WHEN REMOVING PIPING, FIXTURES AND EQUIPMENT FROM EACH AREA OF CONSTRUCTION, ALL OTHER SYSTEMS IN THE BUILDING MUST REMAIN OPERATIONAL WHILE EACH AREA IS UNDER CONSTRUCTION, UNLESS VERIFIED OTHERWISE.
3. ALL EXISTING PIPE SIZES SHALL BE VERIFIED.
4. PATCH ALL HOLES THROUGH FLOORS WITH NON-SHRINK GROUT.



1 FIRST FLOOR PLUMBING PLAN - 3829 DEMOLITION

0' 4' 8' 16' 24'

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC
MADISON, WI
PH: (608) 241-2424
MILWAUKEE, WI
PH: (262) 827-7744

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
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FIRST FLOOR PLAN
MAINTENANCE BUILDING
PLUMBING DEMOLITION

PD100

DEMO GENERAL NOTES:

1. ALL PLUMBING PIPE RELATED CUTTING, PATCHING AND/OR REMOVAL AND REPLACEMENT OF EXISTING WALLS, FLOORS & CEILINGS SHALL BE BY P.C. EXCEPT WHERE NEW WALLS & CEILING ARE TO BE INSTALLED IN WHICH CASE GPC SHALL BE RESPONSIBLE FOR INSTALLING NEW SURFACES ON FLOORS, WALLS & CEILING.
2. WHEN REMOVING PIPING, FIXTURES AND EQUIPMENT FROM EACH AREA OF CONSTRUCTION, ALL OTHER SYSTEMS IN THE BUILDING MUST REMAIN OPERATIONAL WHILE EACH AREA IS UNDER CONSTRUCTION, UNLESS VERIFIED OTHERWISE.
3. ALL EXISTING PIPE SIZES SHALL BE VERIFIED.
4. PATCH ALL HOLES THROUGH FLOORS WITH NON-SHRINK GROUT.

DEMO KEY NOTES:

(THIS IS A COMPOSITE LIST OF DEMOLITION NOTES. NOT ALL PERTAIN SPECIFICALLY TO THIS SHEET.)

1. REMOVE FIXTURES, EQUIPMENT AND PIPING COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILING AND WALLS TO MATCH.
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5. REMOVE PIPING UP TO FIXTURES COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILINGS & WALLS TO MATCH.
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7. REMOVE FIXTURES AND PIPING COMPLETELY, UNLESS NOTED OTHERWISE. PATCH ALL HOLES THROUGH FLOORS, CEILINGS & WALLS TO MATCH.
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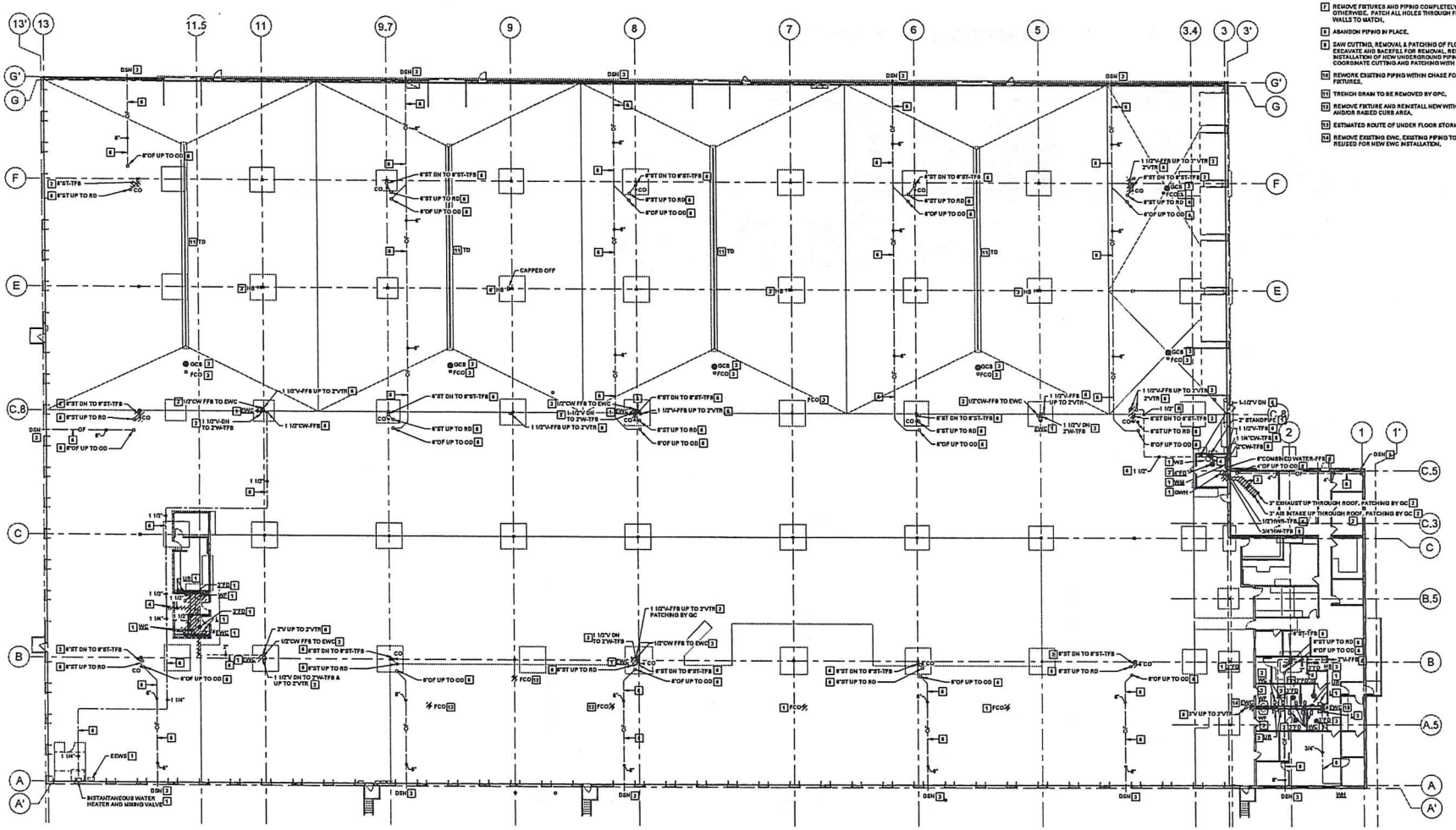
13. ESTIMATED ROUTE OF UNDER FLOOR STORM PIPING.
14. REMOVE EXISTING EWC. EXISTING PIPING TO REMAIN TO BE REUSED FOR NEW EWC INSTALLATION.



1 FIRST FLOOR PLUMBING PLAN - 3901 DEMOLITION

0' 4' 8' 16' 24'

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

MILWAUKEE MIDDLETON

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

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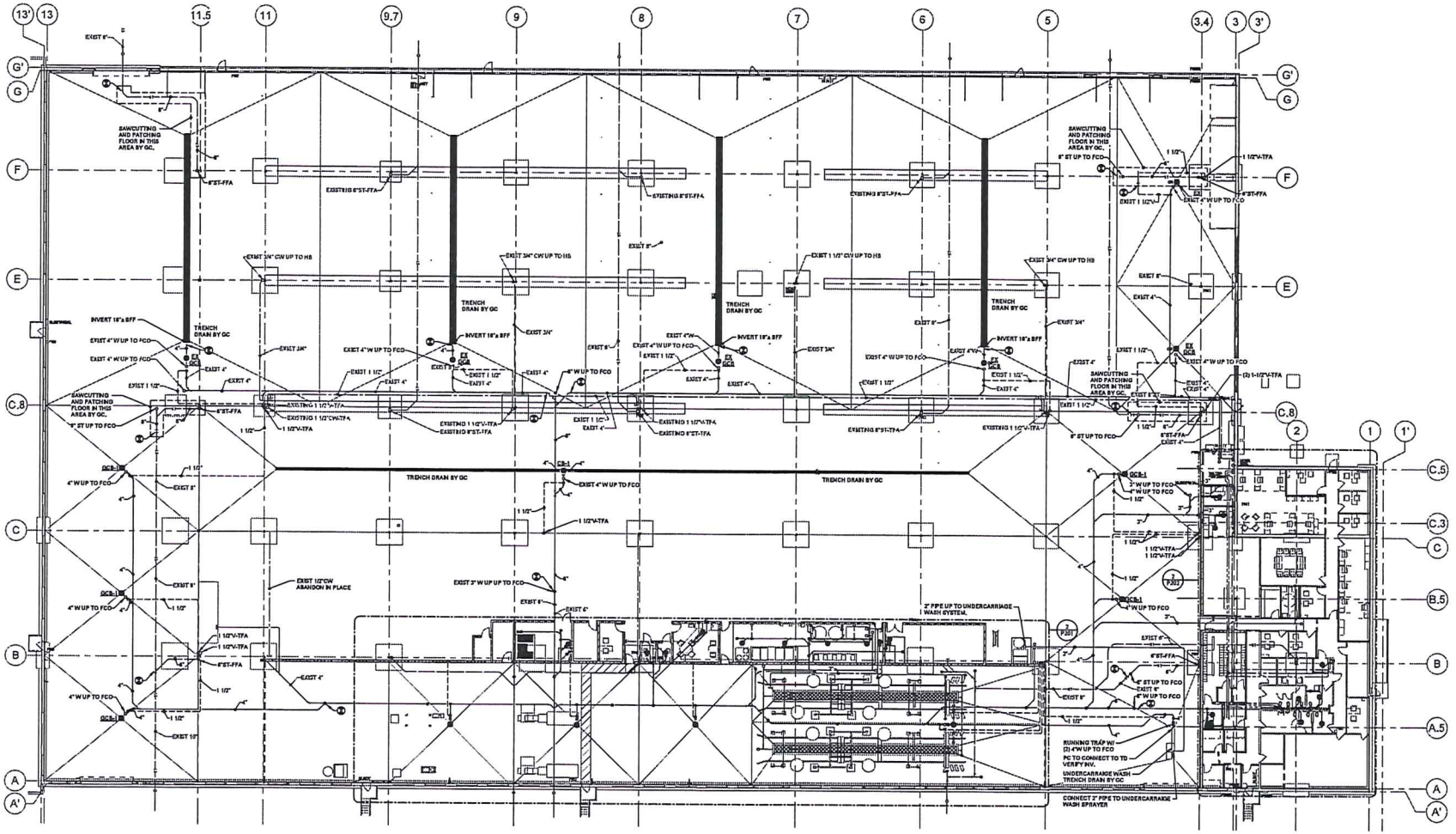
FIRST FLOOR PLAN
STORAGE BUILDING
PLUMBING DEMOLITION

PD101



1 UNDERFLOOR PLUMBING PLAN - 3901

0' 4' 8' 16' 24'

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC
MADISON, WI
MILWAUKEE, WI

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
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UNDERFLOOR PLAN
STORAGE BUILDING
PLUMBING

P099

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THUNDERBIRD ENGINEERING INC

ORIGINAL

SATELLITE BUS FACILITY REMODEL

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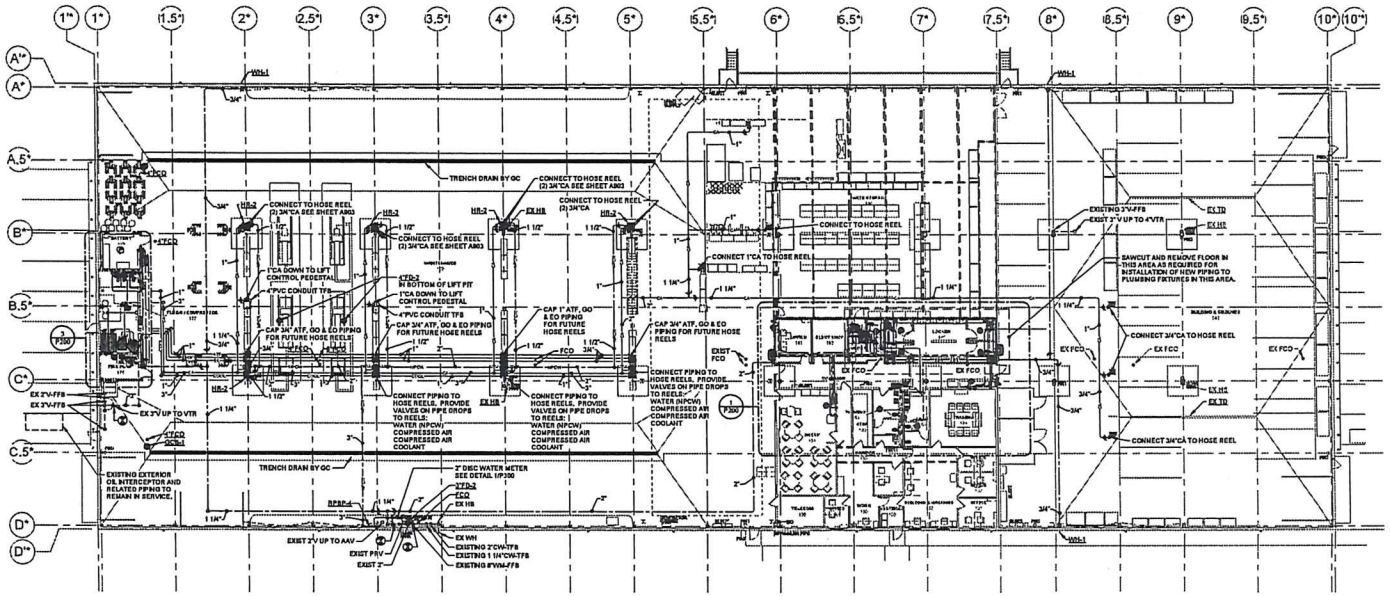
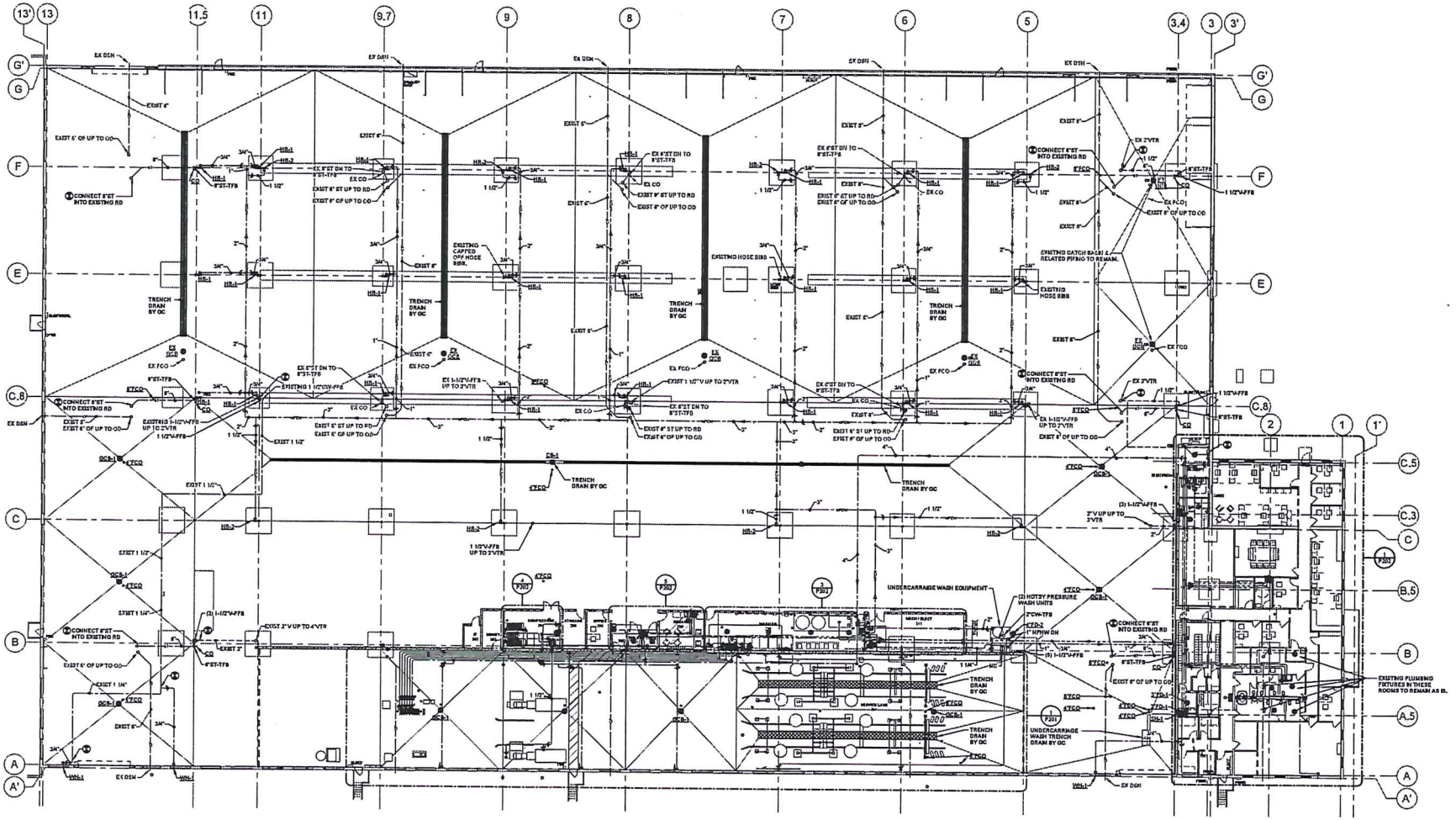


1 FIRST FLOOR PLUMBING PLAN - 3829

DRAWN BY Author
CHECKED BY Checker

FIRST FLOOR PLAN
MAINTENANCE BUILDING
PLUMBING

P100



1 FIRST FLOOR PLUMBING PLAN - 3901

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

MADISON MILWAUKEE

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
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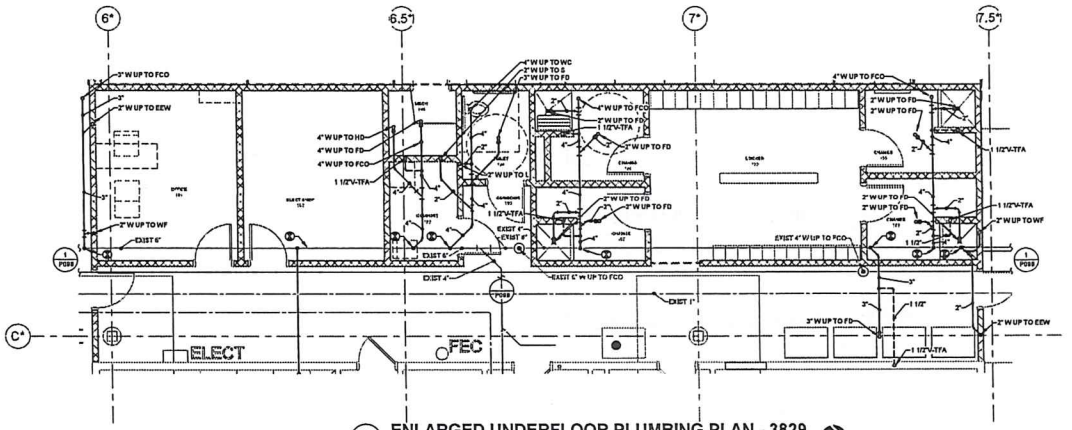
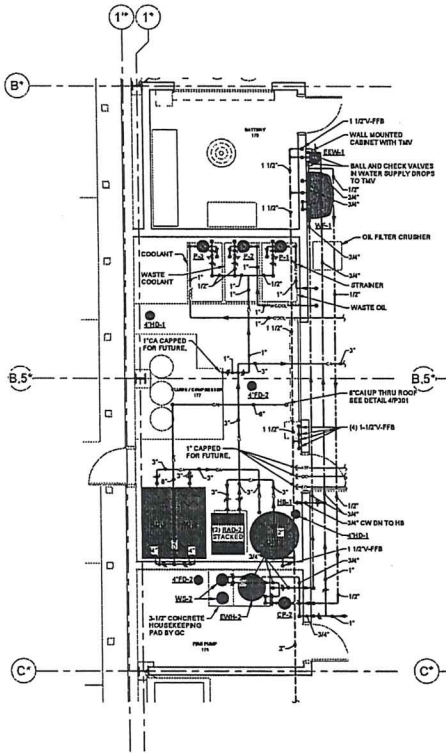
FIRST FLOOR PLAN
STORAGE BUILDING
PLUMBING

ORIGINAL

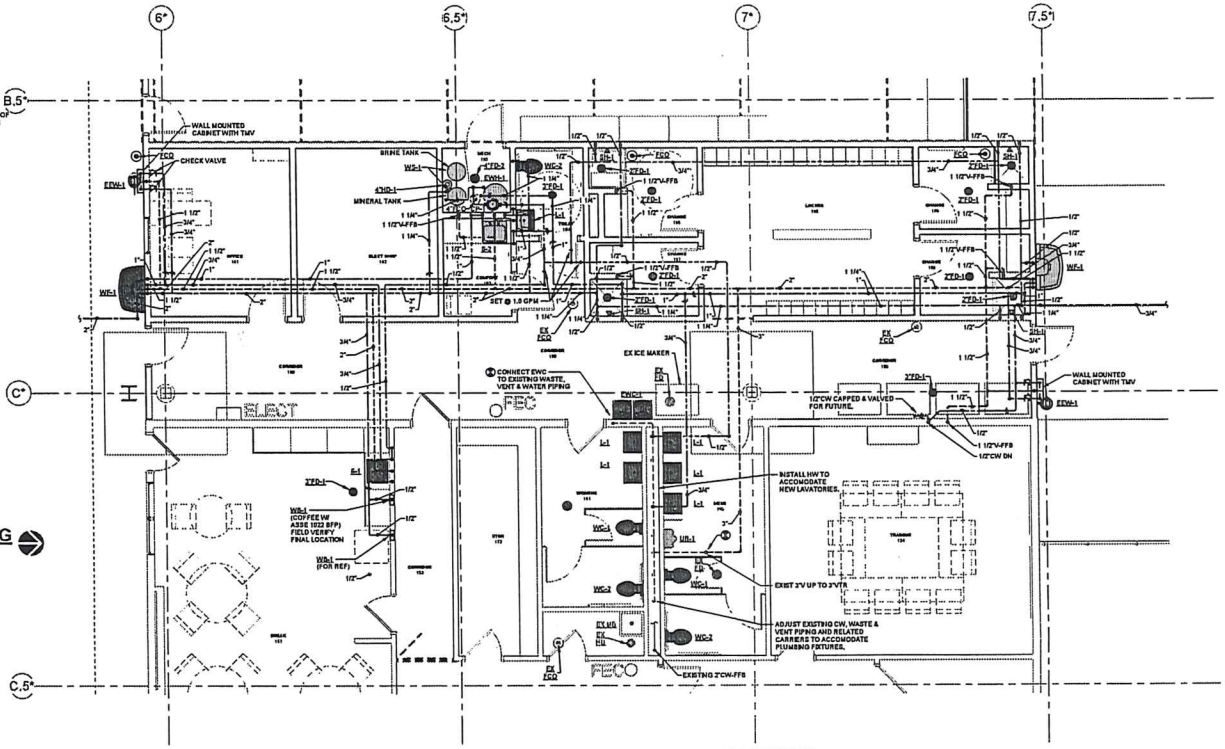
P101



2 ENLARGED UNDERFLOOR PLUMBING PLAN - 3829



3 ENLARGED MAINTENANCE WORK - 3829 PLUMBING



1 ENLARGED MAINTENANCE - 3829 PLUMBING

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MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC
MADISON, WI
MILWAUKEE, WI

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
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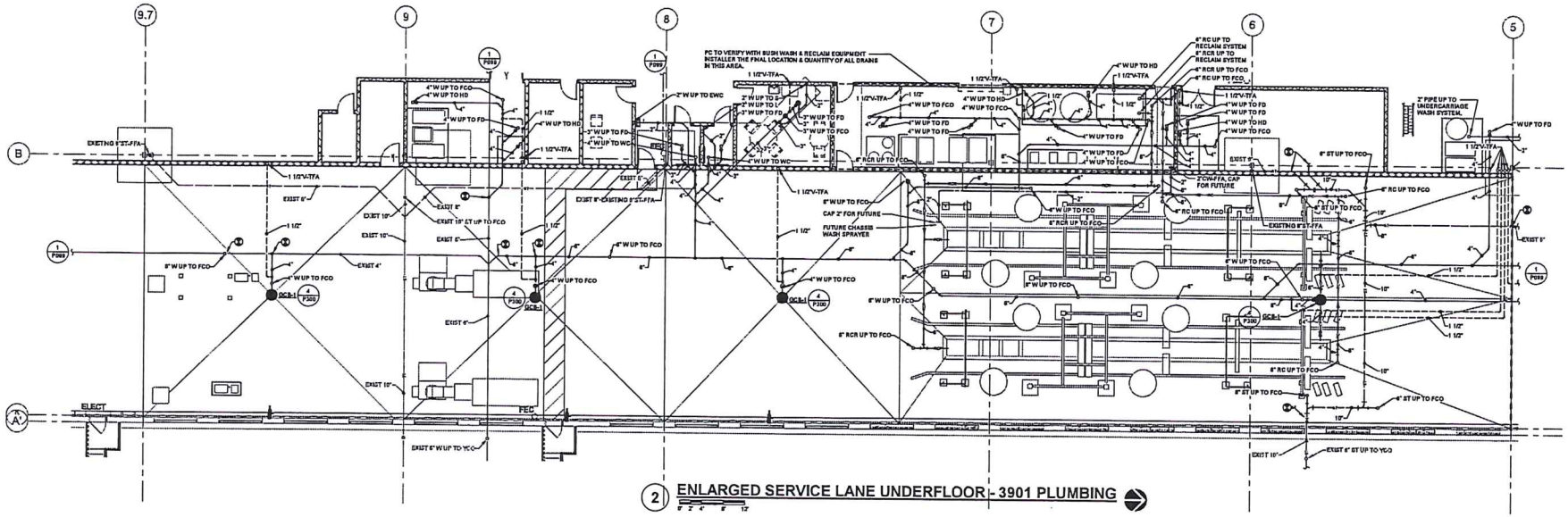
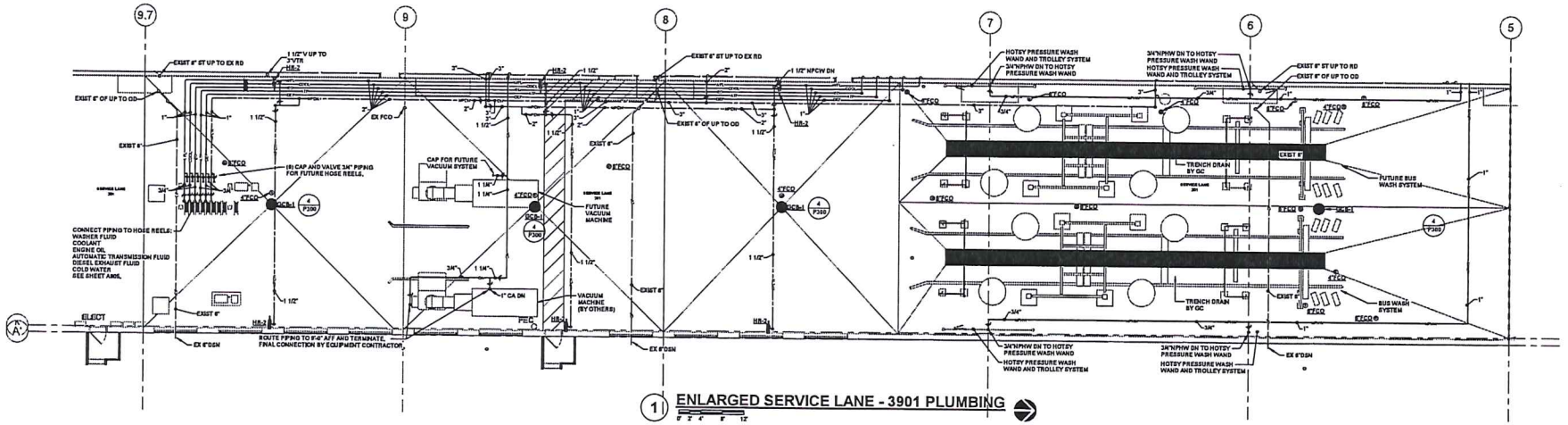
ENLARGED PLANS
MAINTENANCE BUILDING
PLUMBING

P200



2 ENLARGED SERVICE LANE UNDERFLOOR - 3901 PLUMBING



1 ENLARGED SERVICE LANE - 3901 PLUMBING

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3928-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

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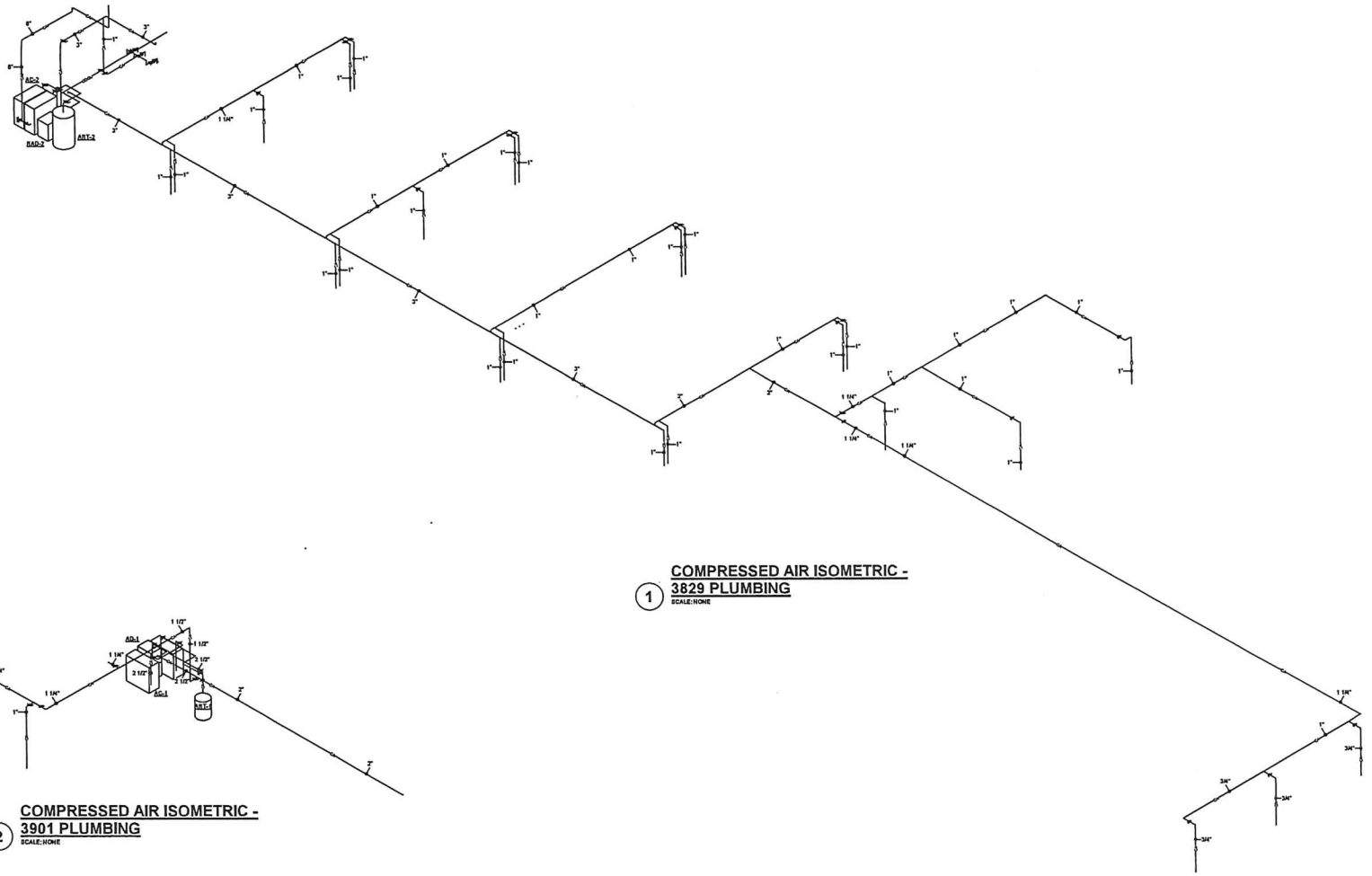
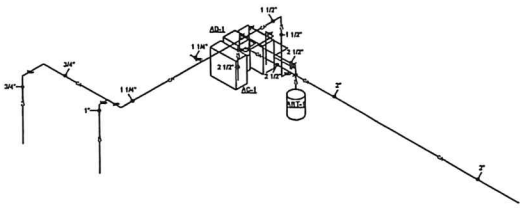
ENLARGED PLANS
STORAGE BUILDING
PLUMBING

P201



1 COMPRESSED AIR ISOMETRIC - 3829 PLUMBING
SCALE: NONE



2 COMPRESSED AIR ISOMETRIC - 3901 PLUMBING
SCALE: NONE

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

THUNDERBIRD ENGINEERING INC

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

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METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

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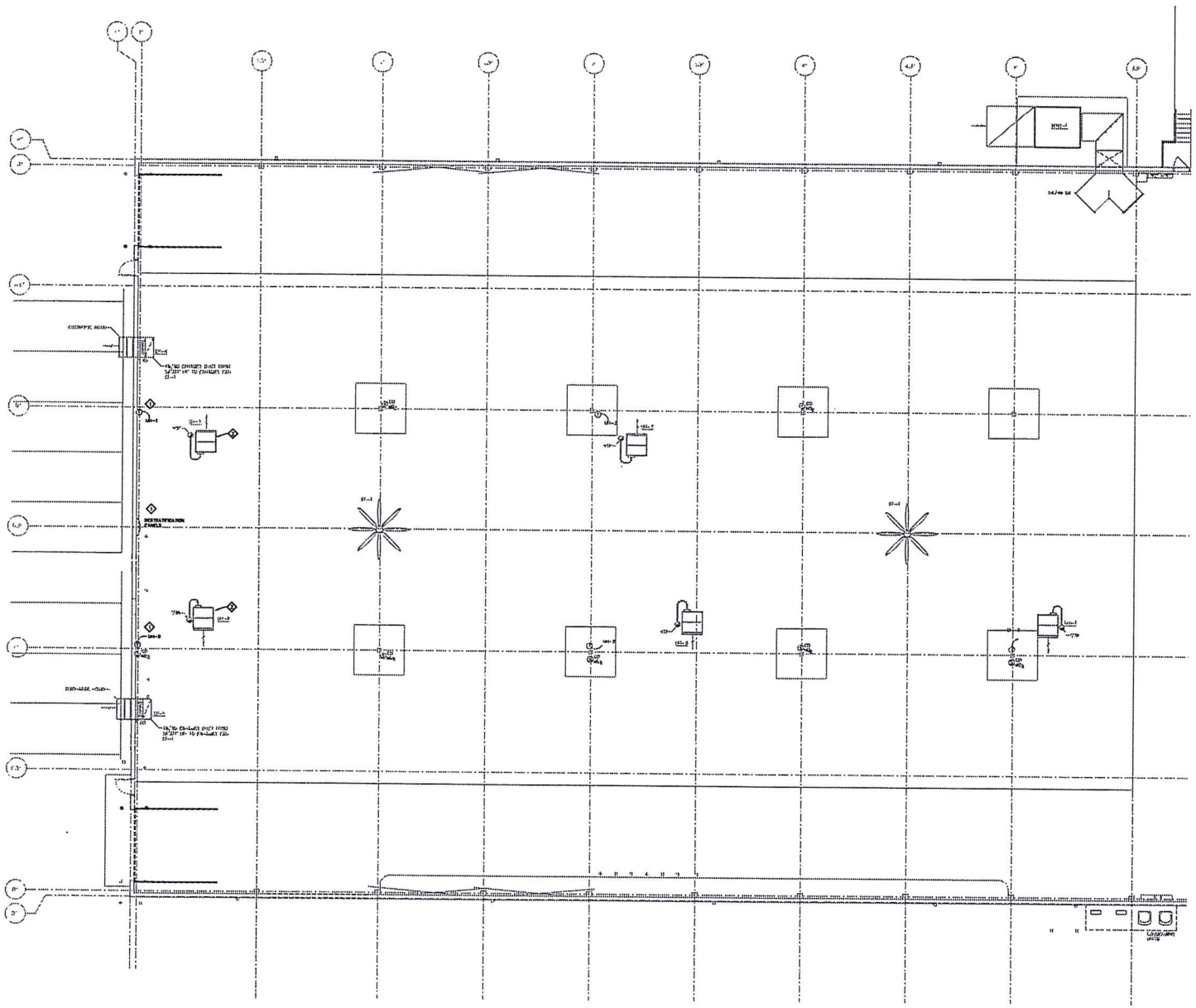
COMPRESSED AIR & SPECIALTY FLUIDS ISOMETRICS - PLUMBING

P502



① MECHANICAL DEMO PLAN - MAINTENANCE BUILDING
1/8" = 1'-0"

HVAC GENERAL NOTES:

1. HVAC CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS. THE HVAC DRAWINGS ARE INTENDED TO BE AN EXPRESSION OF THE DESIGN INTENT AND NOT ALL INCLUSIVE OF HVAC WORK REQUIRED.
2. COORDINATE AND SCHEDULE ALL HVAC WORK WITH THE OWNER'S GENERAL CONTRACTOR AND OWNER PRIOR TO STARTING WORK.

HVAC PLAN NOTES:

1. REMOVE EQUIPMENT FOR RE-USE/RELOCATION.
2. RELOCATE NORTH TO AVOID AIRFLOW DISRUPTION PATTERN FROM NEW CONSTRUCTION (APPROX. 5FT), FIELD VERIFY.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | TUCSON | CHICAGO

HEG
HEIN Engineering Group
17 Applegate Court, Suite 200
Madison, WI 53713
Phone: (608) 288-8280
email: hein@heinengrp.com
Project No. H2322

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

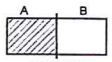
BID SET	8/15/2025

REVISION FOR:

NO.	DESCRIPTION	DATE

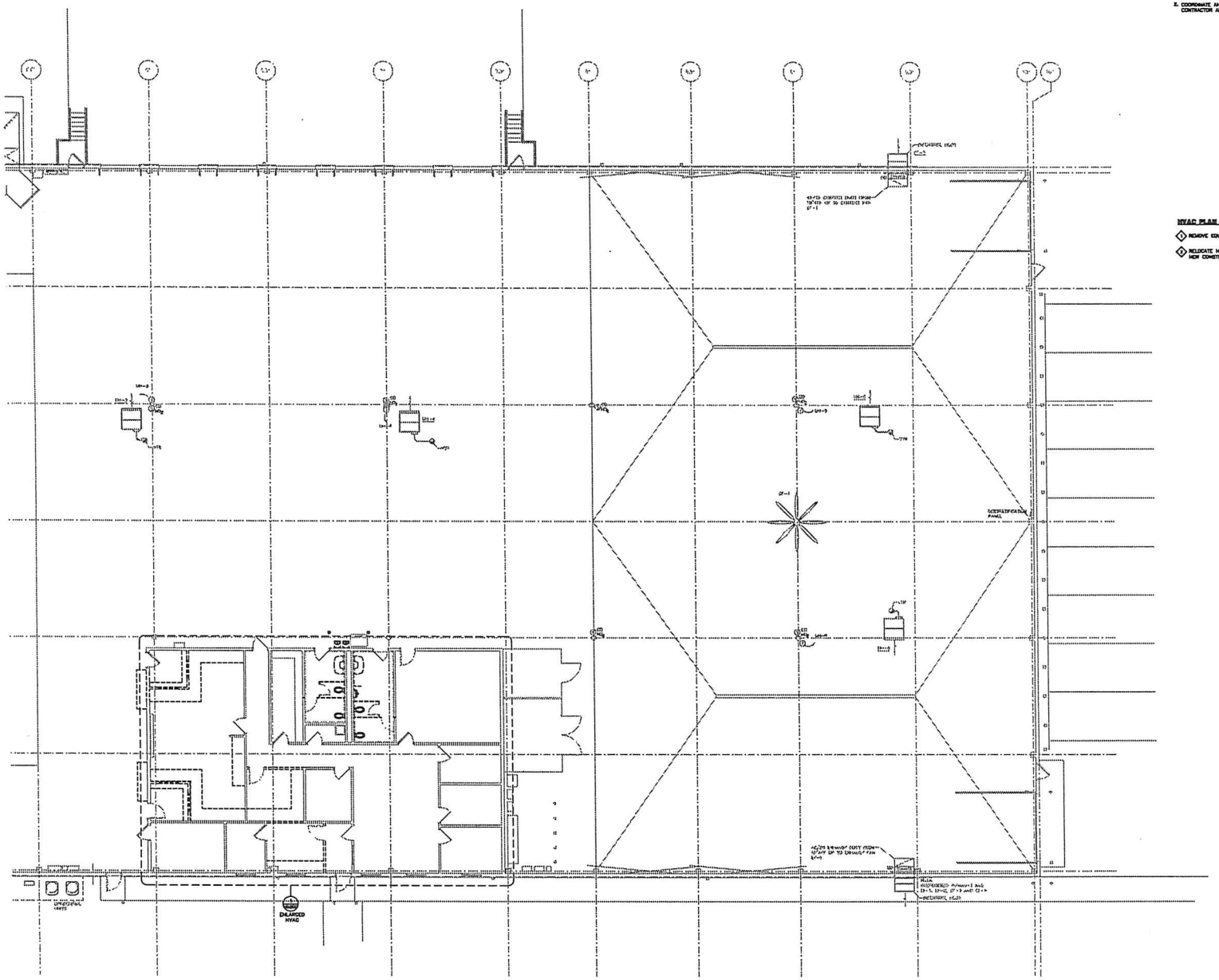
DRAWN BY	JR
CHECKED BY	BC

MECHANICAL DEMO PLAN - MAINTENANCE BUILDING



KEYPLAN

HD100A



HVAC GENERAL NOTES:

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HVAC PLAN NOTES:

1. REMOVE EQUIPMENT FOR RE-USE/RELOCATION.
2. RELOCATE NORTH TO AVOID AIRFLOW DISRUPTION PATTERN FROM NEW CONSTRUCTION (APPROX. 3FT), FIELD VERIFY.

1 MECHANICAL DEMO PLAN - MAINTENANCE BUILDING
1/8" = 1'-0"

0 4' 8' 16' N

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | TUCSON | CHICAGO

HEG
HEIN Engineering Group
17 Applegate Court, Suite 200
Madison, WI 53717
Phone: (608) 288-8260
email: hein@heinengrp.com
Project No. H2222

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
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DRAWN BY JR
CHECKED BY BC

MECHANICAL DEMO PLAN - MAINTENANCE BUILDING

A B
KEYPLAN

HD100B

HVAC GENERAL NOTES:

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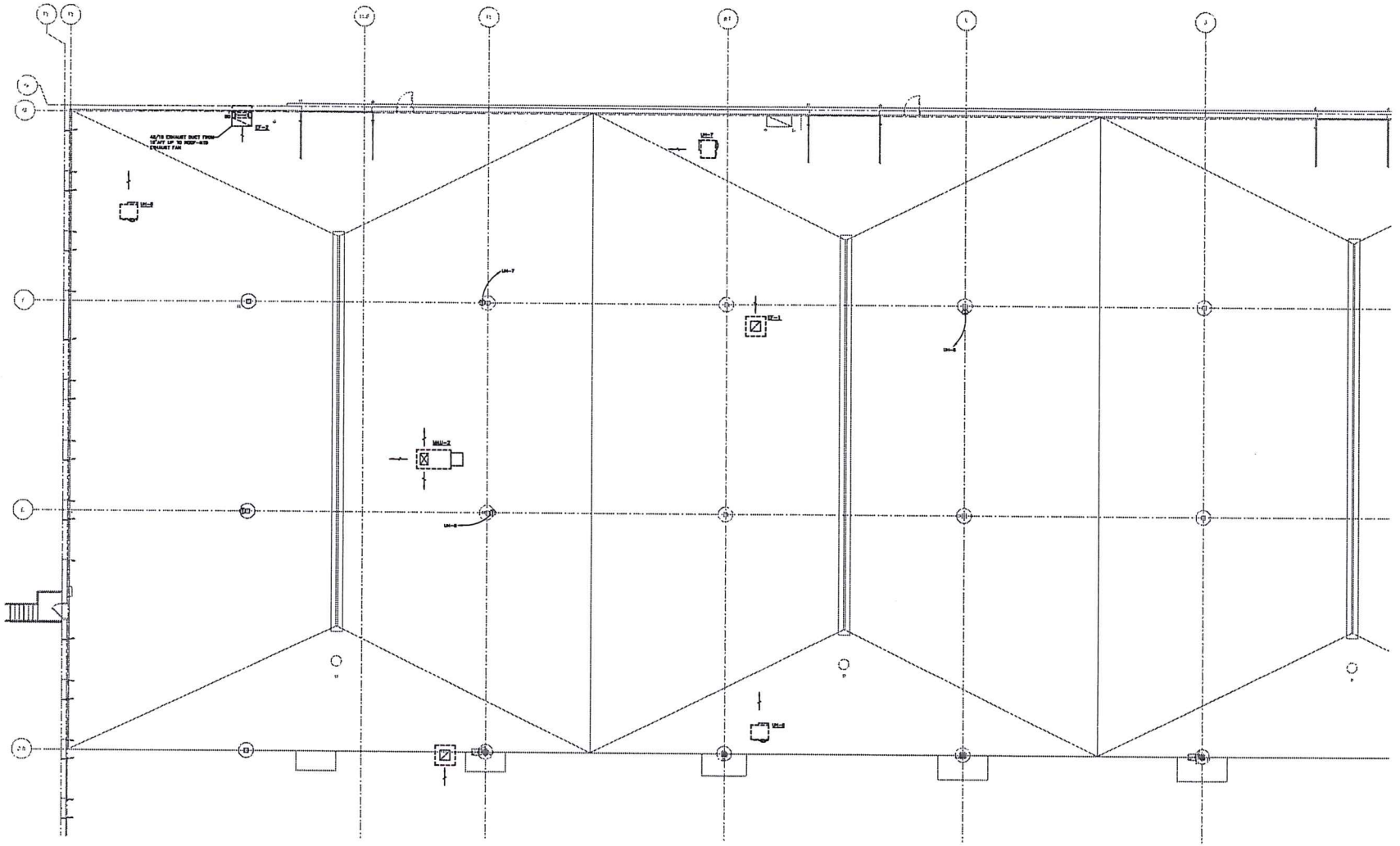
2. COORDINATE AND SCHEDULE ALL HVAC WORK WITH THE OWNER'S GENERAL CONTRACTOR AND OWNER PRIOR TO STARTING WORK.
3. COORDINATE ALL HVAC WORK WITH OTHER TRADES.

HVAC PLAN NOTES:

1. DISCONNECT AND REMOVE EXISTING EQUIPMENT, INCLUDING CONTROLS AND RELATED.



1 MECHANICAL DEMO PLAN - STORAGE BUILDING
1/8" = 1'-0"

Engberg Anderson ARCHITECTS
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Project No. H2222

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY JR
CHECKED BY BC

MECHANICAL DEMO PLAN - STORAGE BUILDING

KEYPLAN

HD101A

HVAC GENERAL NOTES:

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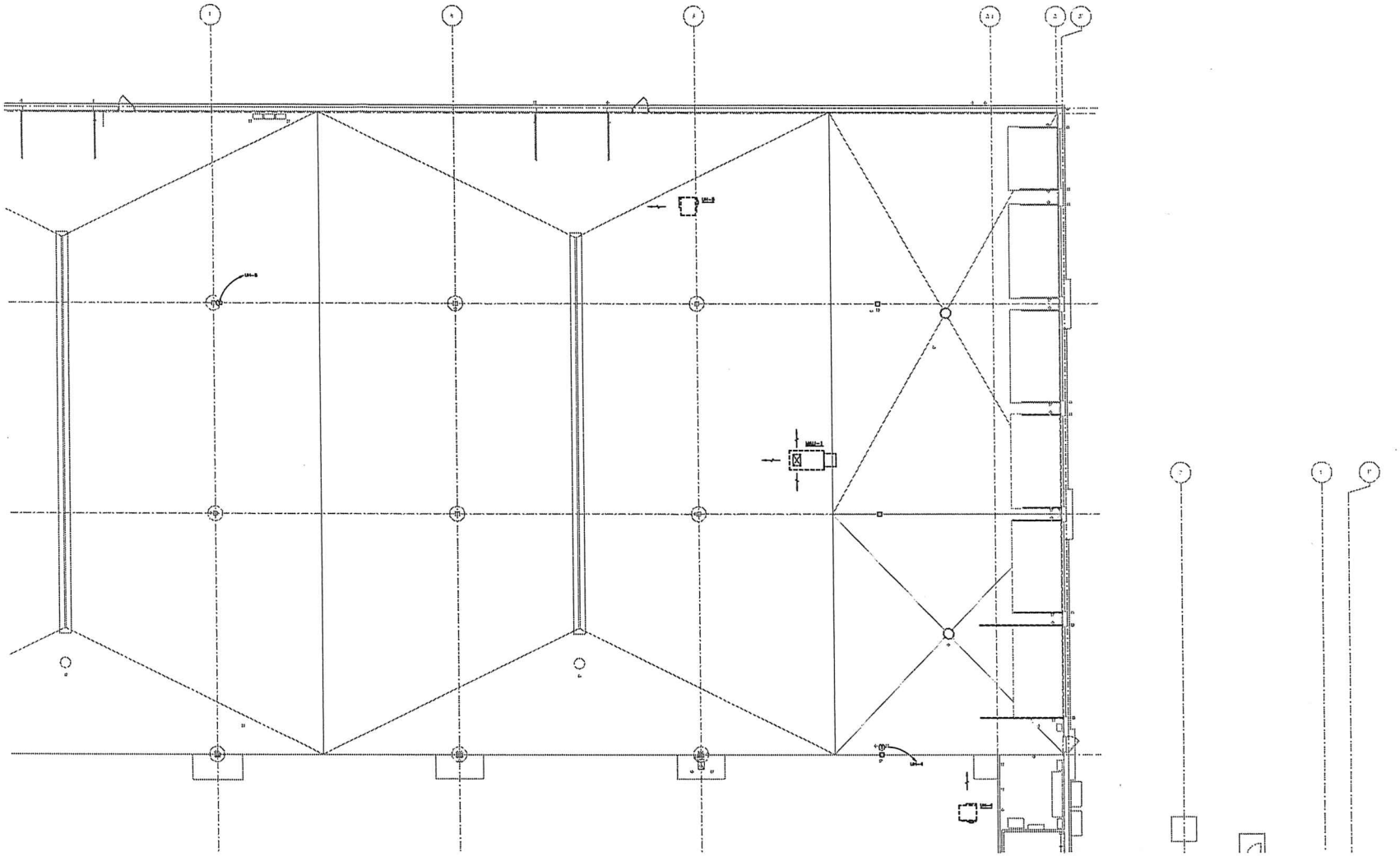

① MECHANICAL DEMO PLAN - STORAGE BUILDING
1/8" = 1'-0"

N

Engberg Anderson ARCHITECTS

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ORIGINAL

SATELLITE BUS FACILITY REMODEL

2828-2901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213410.00

ISSUED FOR:

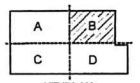
BID SET	9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE

DRAWN BY	JR
CHECKED BY	BC

MECHANICAL DEMO PLAN - STORAGE BUILDING



KEYPLAN

HD101B

HVAC GENERAL NOTES:

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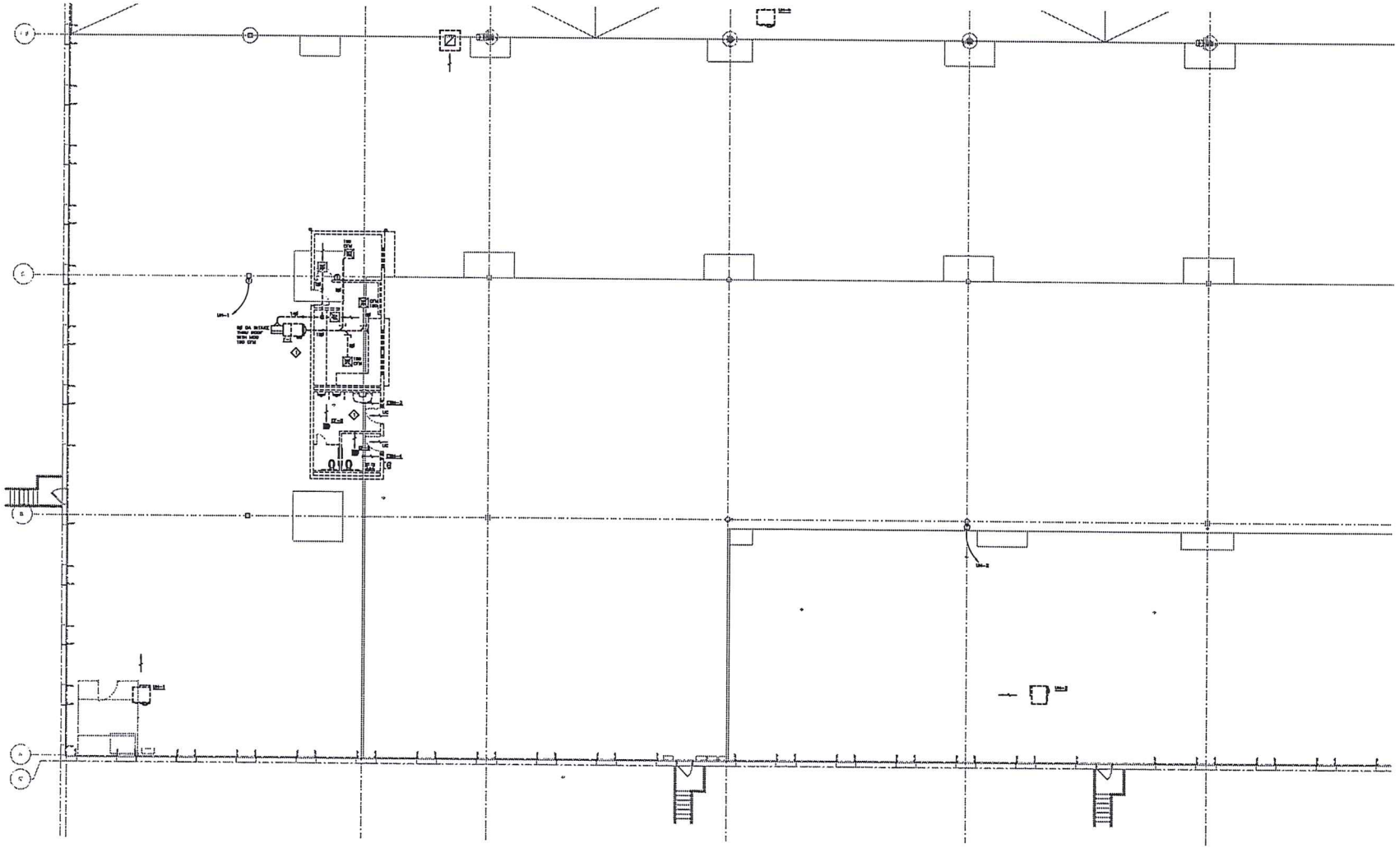

① MECHANICAL DEMO PLAN - STORAGE BUILDING
1/8" = 1'-0"

0 4' 8' 16'

N

Engberg Anderson ARCHITECTS
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ORIG INAL

SATELLITE BUS FACILITY REMODEL

2828-2901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	8/15/2023

REVISION FOR:

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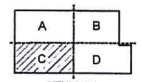
MECHANICAL DEMO PLAN - STORAGE BUILDING



KEYPLAN

HD101C

HVAC GENERAL NOTES:

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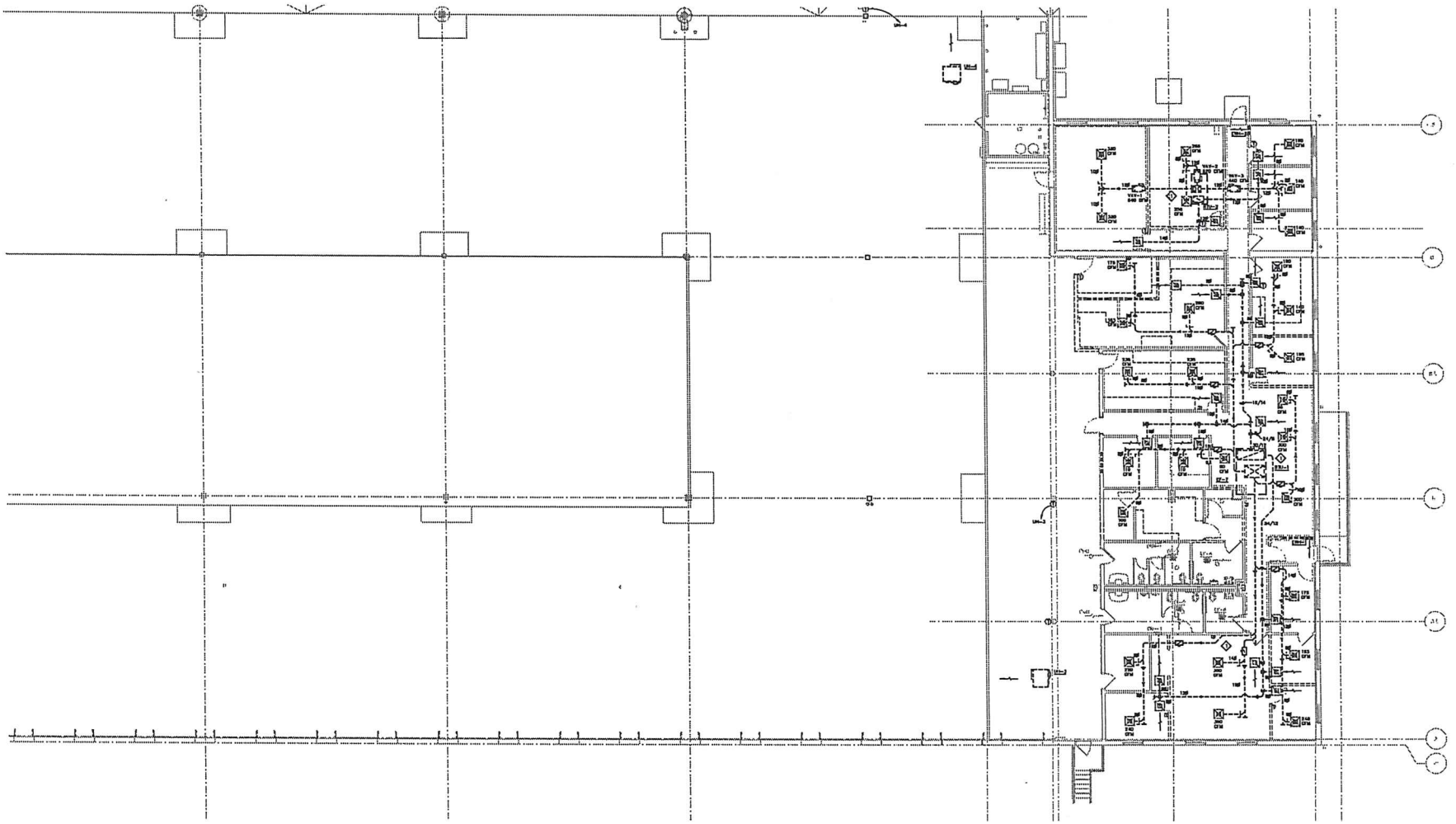

1 MECHANICAL DEMO PLAN - STORAGE BUILDING
1/8" = 1'-0"

N

Engberg Anderson ARCHITECTS
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0216/1416

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE

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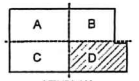
CHECKED BY	BC

MECHANICAL DEMO PLAN - STORAGE BUILDING



KEYPLAN

HD101D

HVAC GENERAL NOTES:

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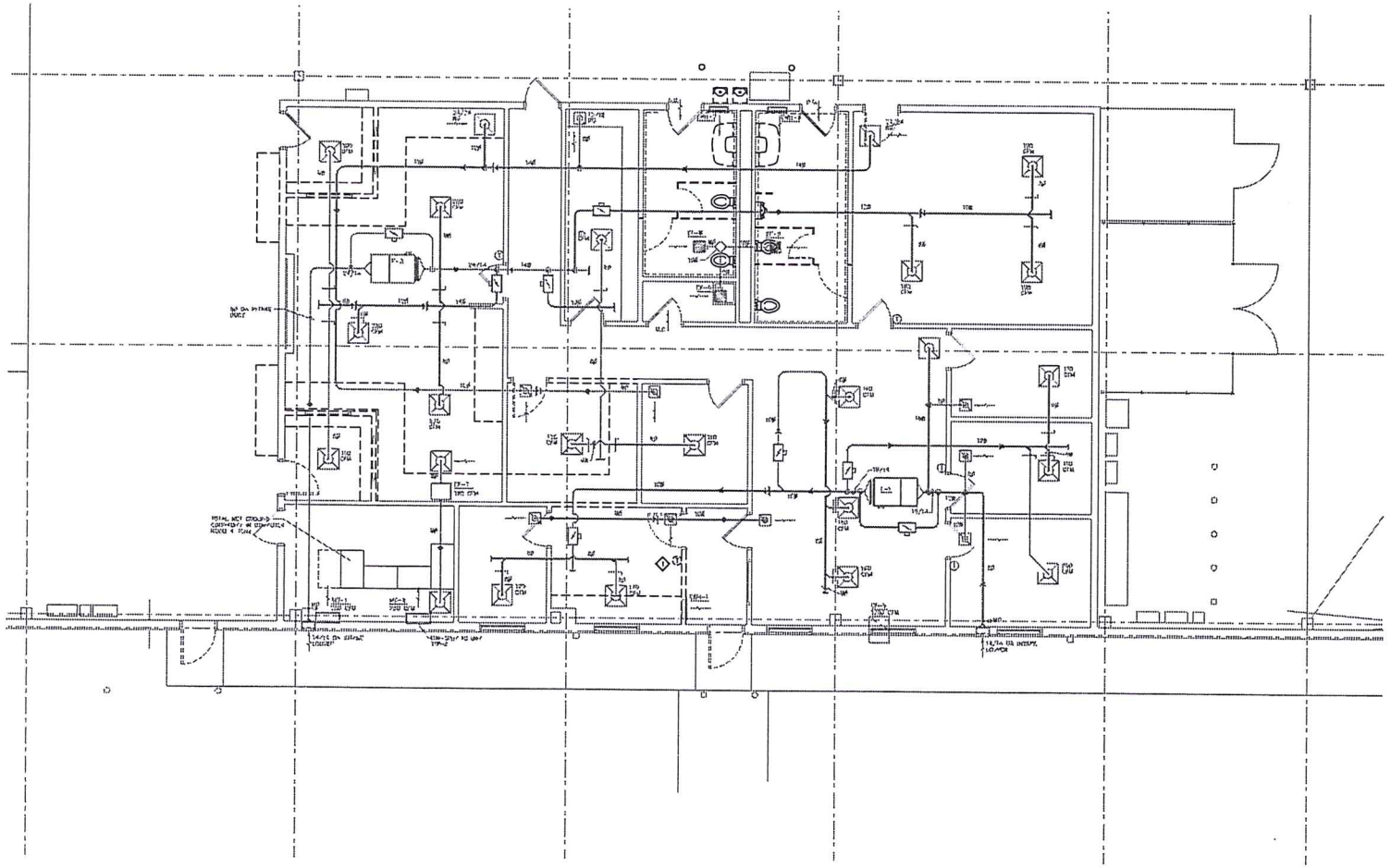
HVAC PLAN NOTES:

◇ RELOCATE THERMOSTATE FROM DEMO WALLS.



① MECHANICAL ENLARGED DEMO PLAN - MAINTENANCE BUILDING
1/8" = 1'-0"

Engberg Anderson ARCHITECTS
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ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

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NO.	DESCRIPTION	DATE

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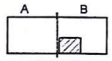
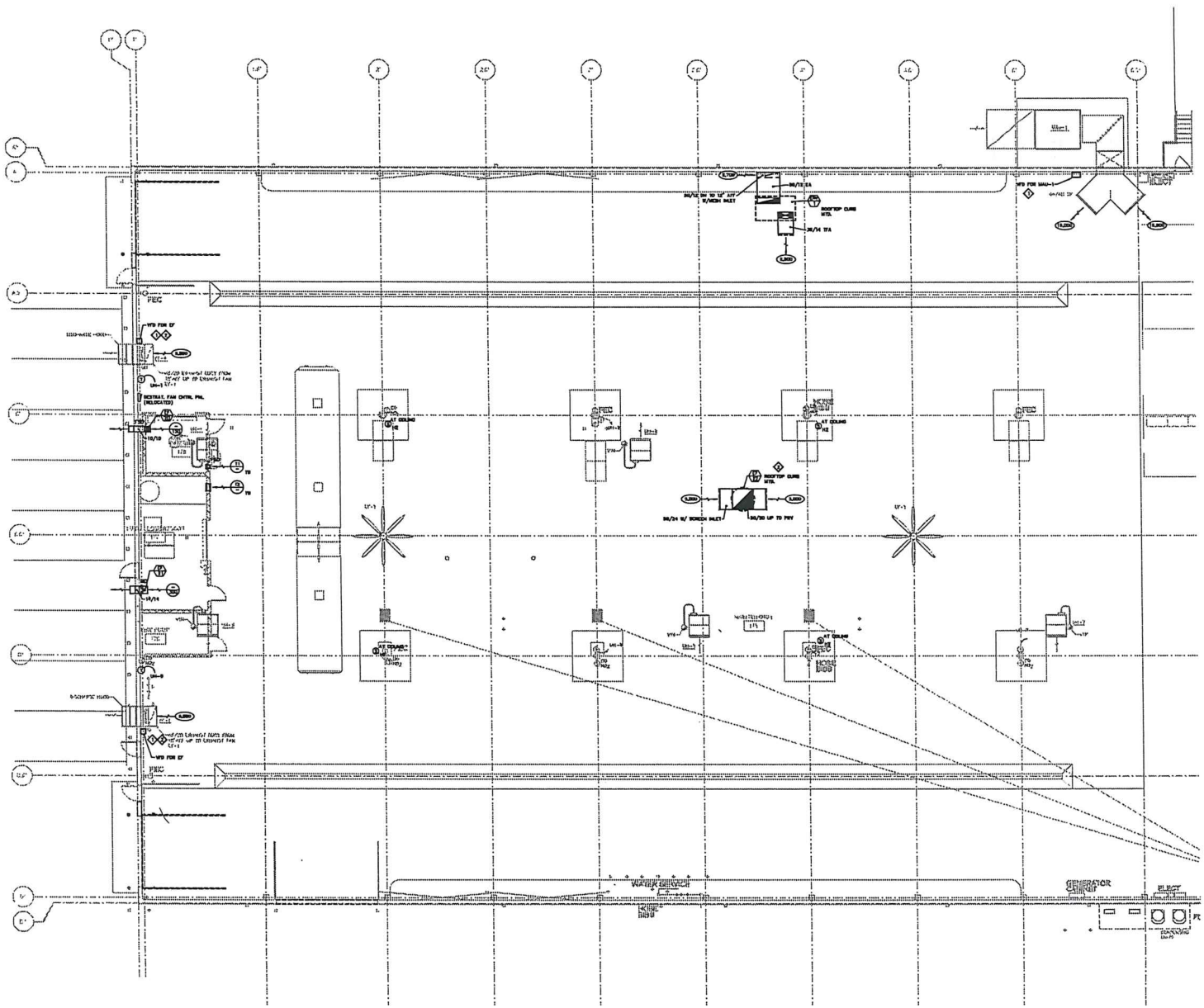
MECHANICAL ENLARGED DEMO PLAN - MAINTENANCE BUILDING



KEYPLAN

HD200



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4. H.C. TO FURNISH LOUVERS TO G.C. FOR INSTALLATION.
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6. SLEEVE AND SEAL ALL EXTERIOR WALL PENETRATIONS WATERTIGHT. COORDINATE OPENINGS & FLASHING MATERIALS WITH GENERAL TRADES.

HVAD PLAN NOTES:

1. PROVIDE VFD SPEED CONTROL FOR BALANCING EXISTING EQUIPMENT. FIELD VERIFY EXISTING CONDITIONS.
2. PROVIDE CONTROL VIA CO AND H2 SENSORS. INTERLOCK WITH EXISTING MAU-1.

Engberg Anderson ARCHITECTS

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ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

BID SET	9/15/2023

REVISION FOR:

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DRAWN BY	JR
CHECKED BY	BC

MECHANICAL FLOOR PLAN - MAINTENANCE BUILDING

KEYPLAN

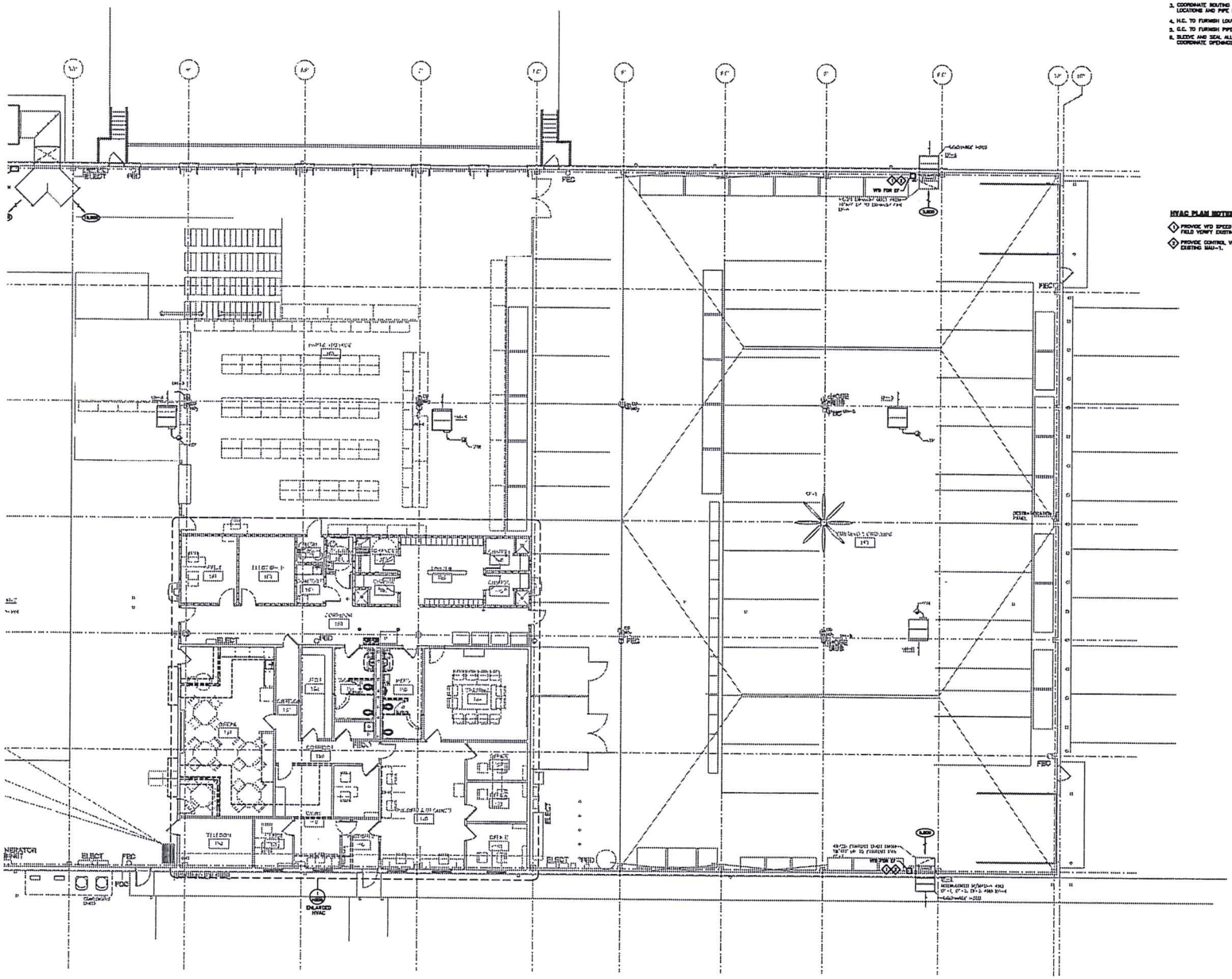
A B

1 MECHANICAL FLOOR PLAN - MAINTENANCE BUILDING
1/8" = 1'-0"

0 4' 8' 16'

N

H100A



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2. PROVIDE CONTROL VIA CO AND H2 SENSORS. INTERLOCK WITH EXISTING MAU-1.

Engberg Anderson ARCHITECTS

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Project No. H2222

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

BID SET 8/15/2023

REVISION FOR:

NO. DESCRIPTION DATE

DRAWN BY JR

CHECKED BY BC

MECHANICAL FLOOR PLAN - MAINTENANCE BUILDING

KEYPLAN

A B

① MECHANICAL FLOOR PLAN - MAINTENANCE BUILDING

H100B

HVAC GENERAL NOTES:

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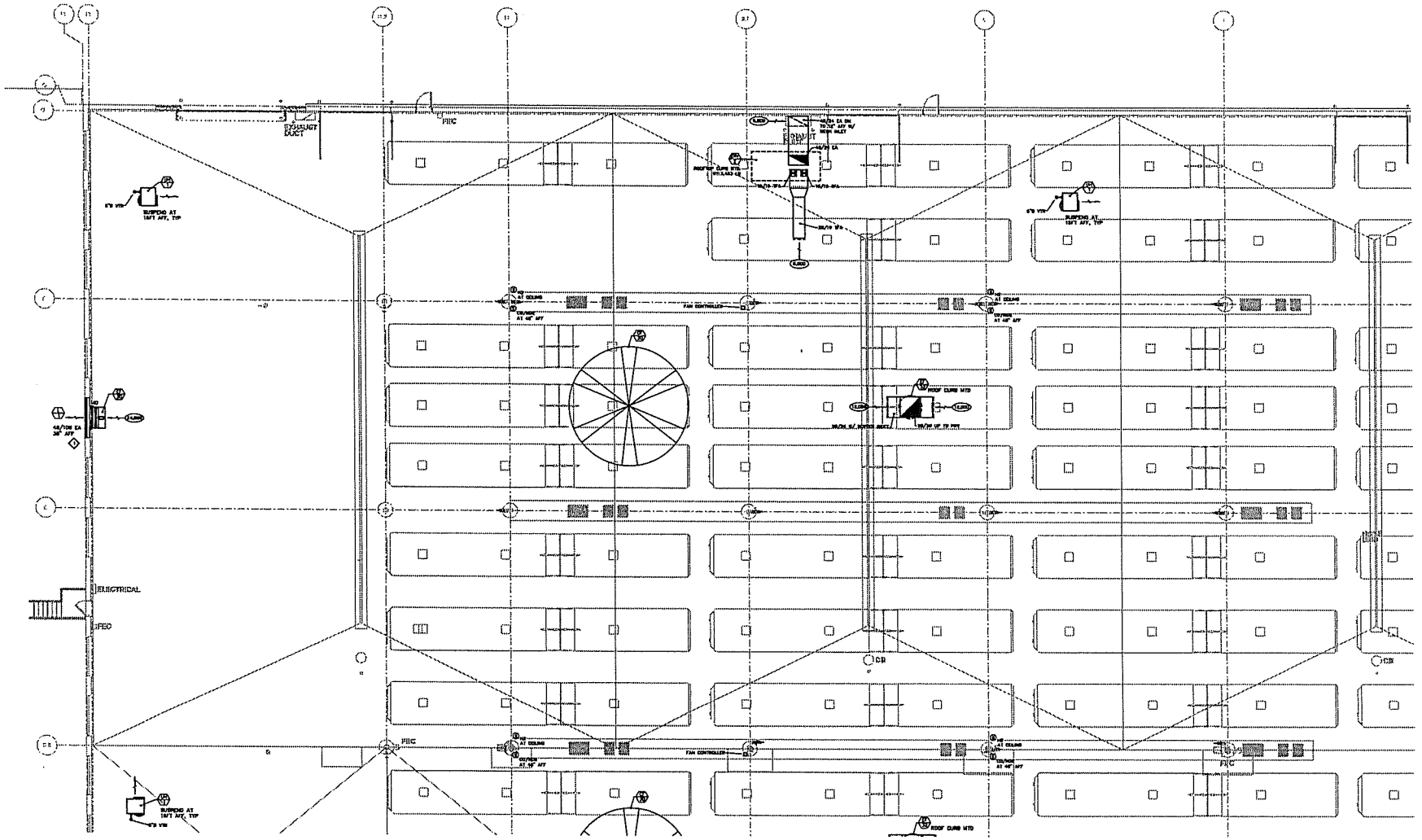
4. PROVIDE LINED OUTLET DUCTS & HOT WATER REHEAT COIL CONNECTIONS.
5. PROVIDE (2) SUPPLY DUCT STATIC PRESSURE SENSORS.



① MECHANICAL FLOOR PLAN - STORAGE BUILDING
1/8" = 1'-0"

Engberg Anderson ARCHITECTS
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Project No. H2222

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3629-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341B.00

ISSUED FOR:
BID SET 6/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY JR
CHECKED BY BC

MECHANICAL FLOOR PLAN - STORAGE BUILDING

KEYPLAN

H101A

HVAC GENERAL NOTES:

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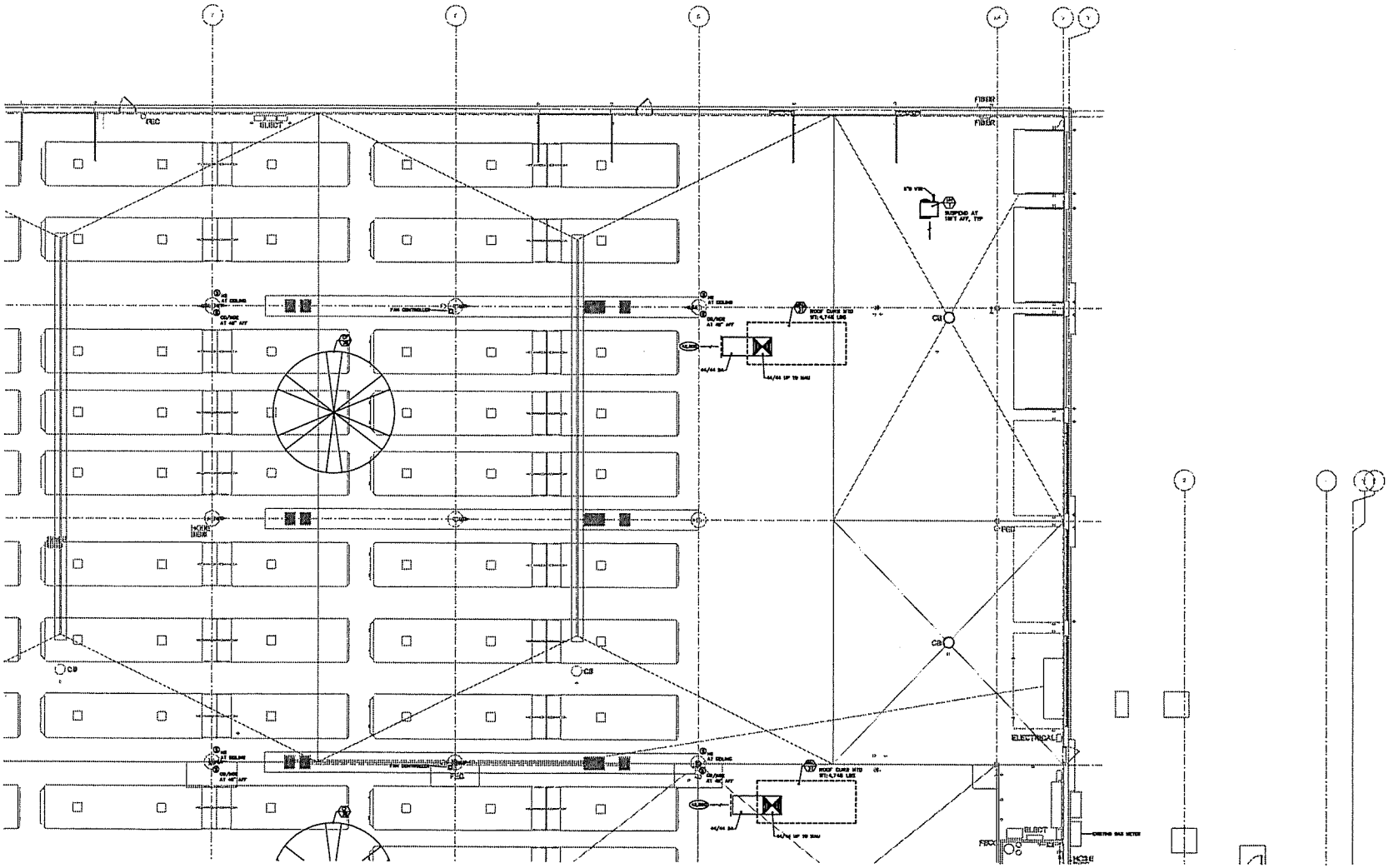
4. PROVIDE LINED OUTLET DUCTS @ HOT WATER REHEAT COIL CONNECTIONS.
5. PROVIDE (2) SUPPLY DUCT STATIC PRESSURE SENSORS.



1 MECHANICAL FLOOR PLAN - STORAGE BUILDING

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | TUCSON | CHICAGO

HEG Engineering Group

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ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3881 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

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MECHANICAL FLOOR PLAN - STORAGE BUILDING

KEYPLAN
A B C D

H101B

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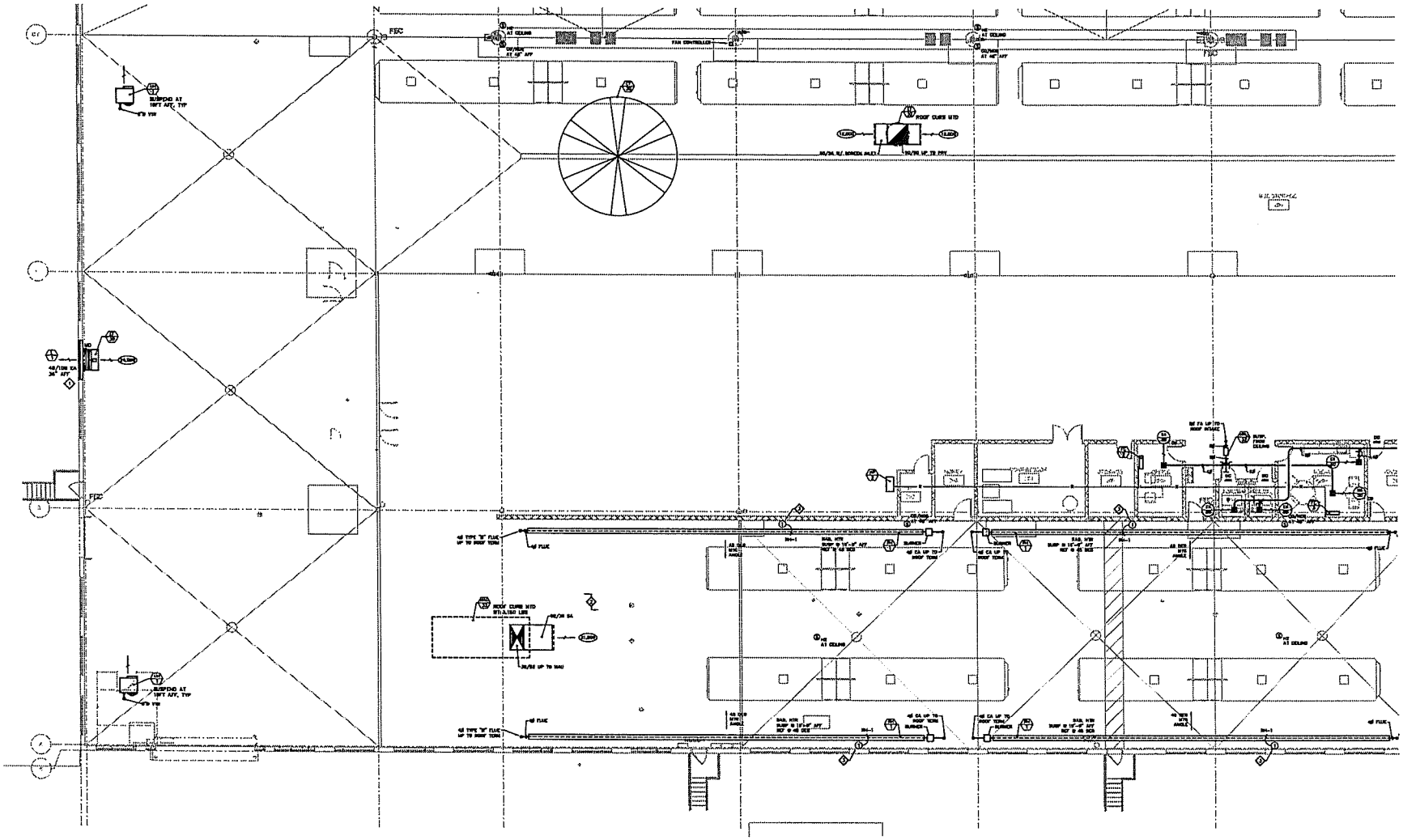

1 MECHANICAL FLOOR PLAN - STORAGE BUILDING

Engberg Anderson ARCHITECTS

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Project No. H3232

ORIGINAL

SATELLITE BUS FACILITY REMODEL

2828-2901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	9/18/2023

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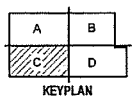
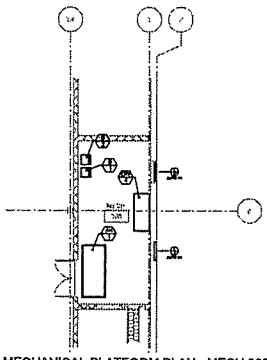
MECHANICAL FLOOR PLAN - STORAGE BUILDING



KEYPLAN

H101C



② MECHANICAL PLATFORM PLAN - MECH 300
1/8" = 1'-0"

HVAC GENERAL NOTES:

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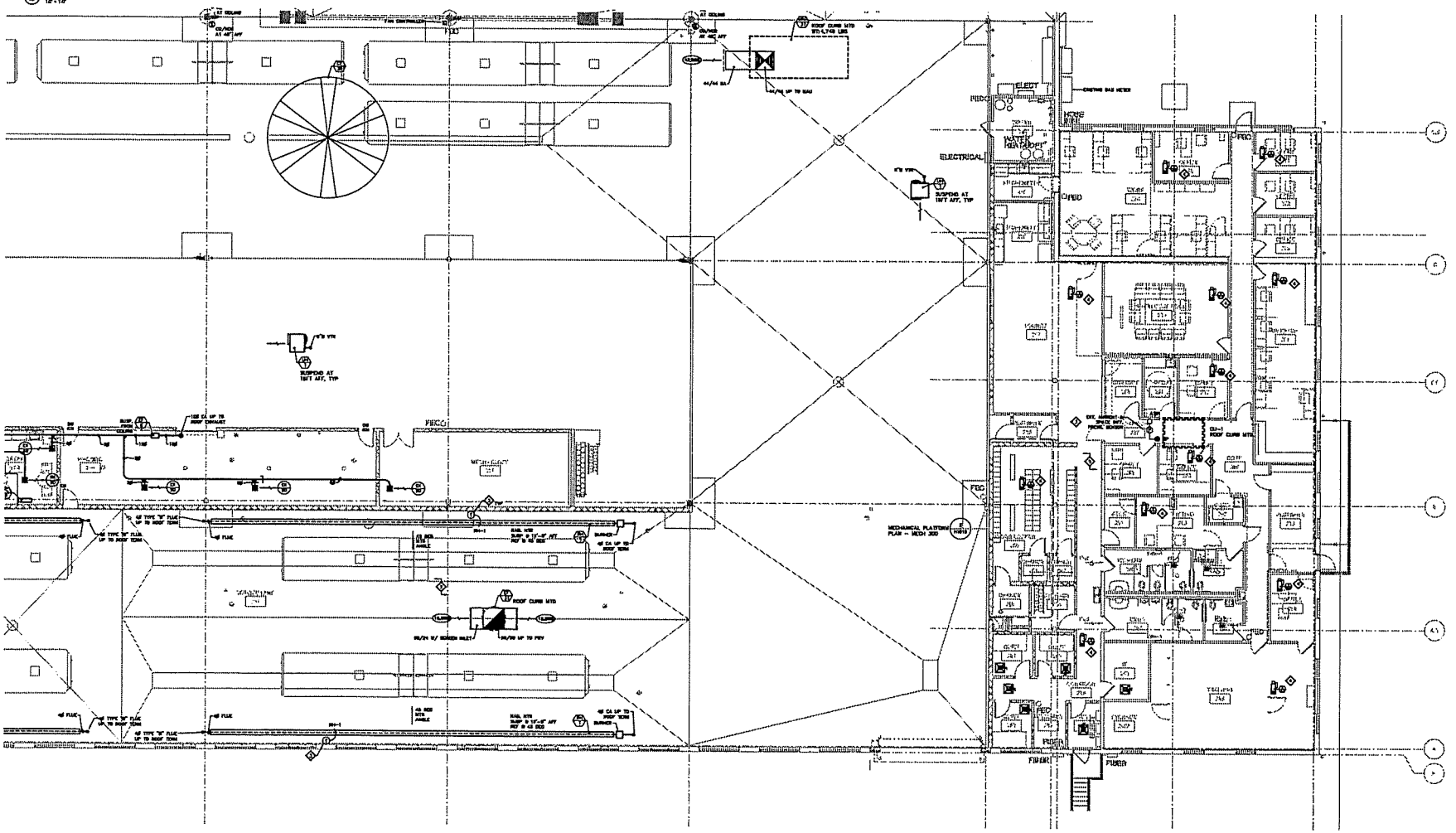

① MECHANICAL FLOOR PLAN - STORAGE BUILDING
1/8" = 1'-0"

Engberg Anderson ARCHITECTS
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Project No. H2232

01/21/2022 INAC

SATELLITE BUS FACILITY REMODEL

2828-3861 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

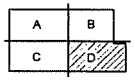
PROJECT NUMBER 21341800

ISSUED FOR:
BID SET 01/21/2022

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY JR
CHECKED BY BC

MECHANICAL FLOOR PLAN - STORAGE BUILDING



KEYPLAN

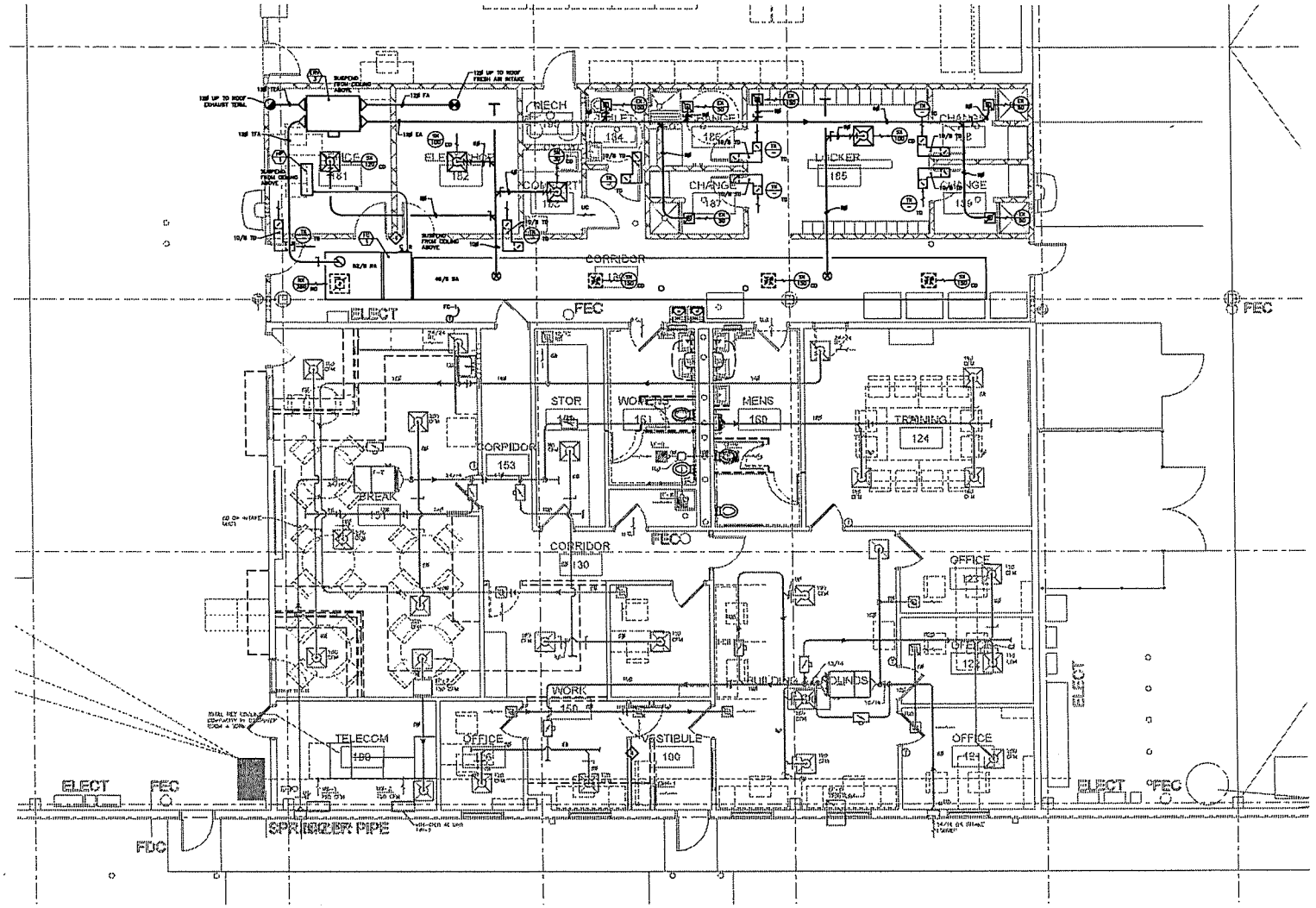
H101D

HVAC GENERAL NOTES:

1. HVAC CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS. THE HVAC DRAWINGS ARE SKETCHED TO BE AN EXPRESSION OF THE DESIGN INTENT AND NOT ALL INCLUSIVE OF HVAC WORK REQUIRED.
2. COORDINATE AND SCHEDULE ALL HVAC WORK WITH THE OWNER'S GENERAL CONTRACTOR AND OWNER PRIOR TO STARTING WORK.
3. COORDINATE ROUTING WITH OTHER TRADES FOR PROPER MOUNTING LOCATIONS AND PIPE DRAINAGE TO LOW POINT.
4. H.C. TO FURNISH LOUVERS TO G.C. FOR INSTALLATION.
5. G.C. TO FURNISH PIPE BOOTS FOR ROOF VENTS.
6. SLEEVE AND SEAL ALL EXTERIOR WALL PENETRATIONS WATERTIGHT. COORDINATE OPENINGS & FLASHING MATERIALS WITH GENERAL TRADES.

HVAC PLAN NOTES:

1. COORDINATE CONDENSATE DRAIN WITH PLUMBING TRADE.



1 MECHANICAL ENLARGED PLAN - MAINTENANCE BUILDING

Engberg Anderson ARCHITECTS

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ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

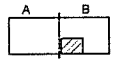
BID SET	6/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE

DRAWN BY	JR
CHECKED BY	BC

MECHANICAL ENLARGED PLAN - MAINTENANCE BUILDING



KEYPLAN

H200

HEAT PUMP SCHEDULE

GENERAL: TAG	HP-1	HP-2
MANUFACTURER	DAIKIN	DAIKIN
MODEL NO.	REQ412TBYAUA	3MB37AMAUA
TYPE	HEAT PUMP	HEAT PUMP
REFRIG. TYPE	R410A	R410A
COND. DISCHARGE	HORIZONTAL	HORIZONTAL
COND. FAN CFM	3,741	2,084
CAPACITY MBH(C)	14-130	14-100
CAPACITY INDEX (C)	–	–
SOUND RATING DSP (dBA)	40.0	34.0
AMB. TEMP. (°F)	95	95
EERC (SEER2)	10.3 (10.8)	11.7 (12)
HEATING CAP. @ 17 DdBH (47°F)	47.0	24.0
CAP. LOW (MBH)	33.4 (17°F)	–
HSPF2	8.3	9.7
DIMENSIONS (H DIAM) (in)	35-7/16" x 19-5/8" x 57-15/16"	34-1/4" x 15-9/16" x 28-15/16"
CONNECTIONS: SD	3/8"	1/2"
RL	3/8"	1/4"
H/A, RC	–	–
ELECTRICAL: HP (kW)	(3.0)	(1.8)
VOLTAGE/PHASE	230/1	230/1
RATED LOAD AMPS – RLA	18.0	18.0
MIN. CKT AMPS – MCA	29.1	18.1
MOCP AMPS	35	25
REMARKS	WT = 229 lbs 3.0 TN HP FC-1	WT = 140 LBS 2 TN HP FC-2 & FC-3

MAKE-UP AIR HANDLING UNIT SCHEDULE

GENERAL: TAG	MAU-31	MAU-32	MAU-33
MANUFACTURER	GREENHECK	TRANE/LSC	GREENHECK
MODEL NO.	MCA-138-H42	FZD-A-3-240-B	MCA-F22-H36-BF3
TYPE	OUTDOOR, DIRECT-FIRED	INDOOR	OUTDOOR, DIRECT-FIRED
ARRANGEMENT	HORIZONTAL ROOF CURB MTD	CONFLICT HORIZONTAL SUSPENDED	HORIZONTAL ROOF CURB MTD
LOCATION	2001 – BUS BAY STORAGE	2001 – BUS BAY/OFFICE	2001 – BUS BAY/OFFICE
CFM	42,000	9,000	21,000
TYPE	FORWARD CURVE	AERO, FAN	(2) PLENUM
RPM	1,000	–	(2) 34
BHP	30.7	–	DIRECT
ESP ("WC)	0.50	0.50	0.50
TSP ("WC)	1.0	–	1.0
RPM	674	–	1418
BHP (MAX/INPUT (BHP)	4.88/5.416	2.98	3.388/3.944
EAT (F)	-30	-30	-30
LAT (F)	70.2	65	100.0
FILTER SECTION (QTY) SIZE	2" PLEATED 20% EFF./MERV 13 (24) 20"x20"x2"	WASHABLE REMOVABLE	2" PLEATED 30% EFF./MERV 13 (10) 20"x25"x2"
MOTOR: TYPE	PREMIUM EFFICIENCY	–	PREMIUM EFFICIENCY
HORSEPOWER (BHP)	40 (36.0)	–	1.5 + 7.5 (3.3 + 5.3)
VOLTAGE/PHASE	460/3	240/1	460/3
FLA	–	12.5	–
MCA	55.2	–	36.4
MOCP	110	15	35
REMARKS	UNIT WT = 5,130 lbs CURB WT = 2,410 lbs BUS STORAGE SIDE MAU-UP AIR UNIT	BUS STORAGE OFFICE MAKE-UP AIR UNIT	UNIT WT = 3,196 lbs MERGY UNIT WT=1,410 LBS CURB WT = 1,786 LBS

① MICROPROCESSOR CONTROLLER WITH BMS INTEGRATION, SHORCT TOP/P.
② BMS CONTROL – ELECTRONIC MODULATION WITH DUCTSTAT & REMOTE SETPOINT CONTROL.
③ PREMIUM EFFICIENCY MOTOR; VFD COMPATIBLE WITH SHAFT GROUNDING.
④ DIRTY FILTER PRESSURE SWITCH.
⑤ DOUBLE WALL INSULATED CONSTRUCTION; 16-PMB FILTER/DR PANEL.
⑥ 10-YR BURNER WARRANTY, FLAME ROD SENSING.
⑦ FAN VIBRATION ISOLATION AND NFPA ELEC SERVICE OUTLET.
⑧ VFD SPEED CONTROL WITH UNIT FAN BALANCING.
⑨ SMOKE DETECTOR FACTORY INSTALLED WITH SHUTDOWN INTERLOCK FOR MTR.
⑩ OUTDOOR AIR INLET LINE LEAKAGE MOTORIZED DAMPER.
⑪ WELDED DAMPER.
⑫ DDC TOUCH SCREEN CONTROLLER.
⑬ INTERLOCK WITH EF-31.
⑭ INTERLOCK WITH EF-30 & EF-32.

ENERGY RECOVERY VENTILATOR SCHEDULE

GENERAL: TAG	ERV-1	ERV-2	ERV-3	ERV-4
MANUFACTURER	RENEWAIRE	RENEWAIRE	DYNAIR ®	TBD
MODEL NO.	HE-KLWHY-3349RE---DVN4-----L	LE-BWRHYN34LJ---DVN4-A-L	ATAM (325-775CFM)	TBD
ARRANGEMENT	OUTDOOR-ROOF CURB	OUTDOOR-ROOF CURB	INDOOR	INDOOR
TYPE	ENTHALPIC STATIC PLATE	ENTHALPIC STATIC PLATE	ENTHALPIC STATIC PLATE	ENTHALPIC STATIC PLATE
FROST CONTROL	N.R.	N.R.	4KW ELECTRIC PREHEAT	–
EXHAUST AIR: CFM	1,700	8,800	430	1,200
EXT. SP "s.p.	0.5	0.5	0.5	0.5
FAN HP (BHP/MATING)	1.5 / 3	4.25 / 5	0.5 KW	–
RPM	1218	936	2347	–
DRIVE	BELT	BELT	DIRECT ECM	DIRECT ECM
FRESH AIR: CFM	1,700	8,800	430	1,400
EXT. SP "s.p.	0.5	0.5	0.5	0.5
FAN HP (BHP/MATING)	1.5 / 3	3.49 / 5	0.19 KW	–
RPM	1239	908	3132	–
DRIVE	BELT	BELT	DIRECT ECM	DIRECT ECM
COOLING MODE: FRESH AIR EAT db/wb F	–	–	90 / 74	90 / 74
FRESH AIR LAT db/wb F	–	–	79.3 / 67.5	–
EXHAUST AIR EAT db/wb F	–	–	75 / 63	75 / 63
TOTAL CFT/SENSIBLE	–	–	61.7% / 71.2%	–
HEATING MODE: FRESH AIR EAT db F	-15	-15	1 / -1.8	-15
FRESH AIR LAT db/wb F	41 / 30.8	39.3 / 34.3	30.1 / 28.3	–
EXHAUST AIR EAT db/wb F	80 / 47.8	80 / 47.8	70.8 / 55.8	–
MIN. SENSIBLE EFF.	74.2%	72.4%	71.3%	70%
DAMPER: TYPE	2" MDRV S DA 2" MDRV S RA	2" MDRV S DA 2" MDRV S RA	2" MDRV S DA 2" MDRV S RA	2" MDRV S DA 2" MDRV S RA
ELECTRICAL: VOLTAGE/PHASE	480/3	480/3	208/1	480/3
FLA	4.24	6.7	5.29	–
MCA	10.9	16.8	5.91	–
MOCP UNIT	15	20	15	–
REMARKS	UNIT WT = 1143 lbs ①②③④⑤⑥⑦	UNIT WT = 3653 lbs ①②③④⑤⑥⑦	UNIT WT = 281 lbs ⑤⑧	UNIT WT = 780 lbs ⑤⑧

① ROOF CURB MOUNTED, INSULATED.
② PROVIDE DISCONNECT SWITCH WITH UNIT NON-FUSED.
③ MOTORIZED LOW-LEAKAGE ISOLATION DAMPERS (SA & RA).
④ INTEGRATED PREMIUM PROGRAMMABLE CONTROLLER – BACNET TCP/IP.
⑤ FILTER ALARM (FA & RA).
⑥ INTEGRAL VFD, BOTH AIRSTREAMS.
⑦ 4KW ELECTRIC PREHEAT, SCR, 208V/1PH, 19.2/21/40 (FLA/MCA/MOCP), -15F DAT, 1F LAT.

HVAC SYMBOL SCHEDULE

SYMBOL	DESCRIPTION
	ZONE
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
C	CONDENSATE PIPING
RS	REFRIGERANT SUCTION
RL	REFRIGERANT LIQUID
O	PIPE UP
O	PIPE DOWN
	BALL VALVE
	BUTTERFLY VALVE
	PRESSURE RELIEF VALVE
	DRAIN VALVE
	SWING OR LIFT CHECK VALVE
	SPRING LOADED CHECK VALVE
	PRESSURE REDUCING VALVE
	TWO WAY TEMP CONTROL VALVE
	THREE WAY TEMP CONTROL VALVE
	TRIPLE DUTY VALVE
	BALANCE VALVE
	CALIBRATED BALANCING VALVE
	GAUGE VALVE
	FLOW METER
	INLINE STRAINER
	UNION
	FLANGE
	END CAP OR BLIND FLANGE
	THERMOMETER
	PRESSURE GAUGE
	FLEXIBLE CONNECTION
	ANCHOR
T & P	T & P TEST WELL
	A=AUTOMATIC AIR VENT M=MANUAL AIR VENT
	REDUCER, CONCENTRIC
	REDUCER, ECCENTRIC
	IMMERSION WELL

ABBREVIATIONS

ACD	AUTOMATIC CONTROL DAMPER
EA	EXHAUST AIR
FA	FRESH AIR
RA	RETURN AIR
SA	SUPPLY AIR
TSA	TEMPERED SUPPLY AIR
TEA	TEMPERED EXHAUST AIR
AFF	ABOVE FINISHED FLOOR
BOD	BOTTOM OF DUCT
OED	OPEN END DUCT
P	ROUND DUCT DIAMETER
⌀	OVAL DUCT DIMENSIONS
TD	TRANSFER GRILLE
TD	TRANSFER DUCT

HVAC SYMBOL SCHEDULE

SYMBOL	DESCRIPTION
	SQUARE/RECTANGULAR SUPPLY DIFFUSER, GRILLE OR REGISTER–HORIZONTAL MOUNT
	SQUARE/RECTANGULAR RETURN/EXHAUST REGISTER OR GRILLE–HORIZONTAL MOUNT
	SUPPLY REGISTER OR GRILLE VERT. MOUNT
	RETURN/EXHAUST REGISTER OR GRILLE VERT. MOUNT
	SLOT SUPPLY DIFFUSER
	VERTICAL SUPPLY DUCT UP
	VERTICAL RETURN/EXHAUST DUCT UP
	VERTICAL SUPPLY DUCT DOWN
	VERTICAL RETURN/EXHAUST DUCT DOWN
	VOLUME DAMPER
	SMOKE DAMPER
	FIRE DAMPER W/ACCESS PANEL
	MOTORIZED BACKDRAFT DAMPER
	GRAVITY BACKDRAFT DAMPER
	AUTOMATIC CONTROL DAMPER
	FLEXIBLE CONNECTION
	ROUND/FLEXIBLE DUCT
	ROUND RIGID DUCT
	SQUARE ELBOW W/TURNING VANES
	RADIUS ELBOW R/D = 1.5
	RADIUS TAKEOFF R/D = 1.5 "X"=TAKE-OFF WIDTH
	DUCT SIZE(W) OR SHOP(H)
	DIFFUSER/REGISTER/GRILLE TYPE
	EXHAUST CFM
	EQUIPMENT SYMBOL NO.
T	THERMOSTAT SENSOR
CO	DANGER MONOXIDE SENSOR
NO2	NITROUS DIOXIDE SENSOR
P	PRESSURE SENSOR
SP	SPACE STATIC PRESSURE SENSOR
ASP	AMBIENT STATIC PRESSURE SENSOR

EQUIPMENT SYMBOLS

AS	AIR SEPERATOR
B	BOILER
ET	EXPTER TANK
EF	EXHAUST FAN
EH	ELECTRIC HEAT
ERV	ENERGY RECOVERY VENTILATOR
P	PUMP
RH	RADIANT HEATER
RT	ROOFTOP
SF	SUPPLY FAN
V	VARIABLE AIR VOLUME UNIT
VFD	VARIABLE FREQUENCY DRIVE

DIFFUSERS, REGISTERS AND GRILLES SCHEDULE

TAG	MFGR	MODEL	SIZE: NECK DIAM	SIZE: FACE SZ	MOUNTING	SERVICE	CFM	REMARKS
T1	KRUEGER	380	8"ø	–	SURFACE/WALL	TRANSFER	–	① ALUM. TD
T2	KRUEGER	380	10"ø	–	SURFACE/WALL	TRANSFER	–	① ALUM. TD

REMARKS
① PLASTER FRAME, ALUMINUM

SD = SLOT DIFFUSER
CD = CEILING DIFFUSER
SG = DOOR GRILLE
RG = RETURN GRILLE
RT = RETURN REGISTER
SR = SUPPLY REGISTER
ER = EXHAUST REGISTER
TD = TRANSFER GRILLE
HD = HEAVY DUTY

HEATER - GAS FIRED SCHEDULE

GENERAL: TAG	UH-1	RH-1
MANUFACTURER	REZNOR	REZNOR
MODEL	UDH-400	WCS-200
TYPE	PROPELLOR/POWER UNIT	RADIANT MTR
LOCATION	BUS STORAGE	BUS SERVICE
CFM	3123	–
INLET (MBH)	400	200
OUTLET (MBH)	332	–
EAT (F)	60	–
LAT (F)	110	–
DIMENSIONS: HEIGHT	34¾"	–
WIDTH	41"	–
DEPTH	48¾"	–
VENT SIZE	8"ø	4"ø
WEIGHT: (lbs)	318	30
MOTOR: QTY	1050	–
HORSEPOWER	1/2	–
VOLTAGE/PHASE	115/1	115/1
FLA/MOCP	11/20	1.2
REMARKS	POWER VENT	SEALED COMBUSTION DOFT

AIR-COOLED CONDENSING UNITS SCHEDULE

GENERAL: TAG	CU-1
SERVICE	AH-1/CU-1
MANUFACTURER	AAON
MODEL NO.	CFA-015-B-4-3-DA0D4
NOMINAL TONS CAP.	15
AMBIENT TEMP.(F)	95
SUCTION TEMP F	45
CAPACITY MBH	172.3
NO. CAPACITY STEPS	(1)MINIMUM + (12)-STAGE
AIR FLOW (CFM)	–
NO. CONS. FANS	2
NO. CIRCUITS	2
NO. COMPRESSORS	2
REFRIGERANT	R-410A
REF. LINE SIZE: HG RL	2 @ 7/8"Ø 2 @ 1/2"Ø
EER (BCOR)	13.1
IPLV (ESTIMATED)	18.9
ELECTRICAL: VOLTAGE/PHASE	480/3
COMPRESSORS FLA	–
COND. FAN FLA	3.8 + 3.8
FLA	32
MCA	39
MOCP	45
REMARKS	WT = 1124 LBS ①②③④⑤⑥⑦

① EXTENDED 5 YEAR WARRANTY ON ALL COMPRESSORS.
② SERVICE VALVES, MOISTURE INDICATORS & LIQ LINE FILTER ON ALL REF. CIRCUITS.
③ AMBIENT HEAD PRESSURE CONTROL: MODULATING CONDENSER FAN SPEED CONTROL – ECM MOTORS.
④ SMC (1) VARIABLE CAPACITY DIGITAL SCROLL COMPRESSOR WITH INTEGRATED CONTROLS (MOC). (1) 2-STAGE COMPRESSOR.
⑤ TERMINAL CONTROL BLOCK WITH CONTROL TRANSFORMER. FIELD INSTALLED DDC CONTROLS BY TEMP. CTRL CONTRACTOR WITH ISOLATION RELAYS.
⑥ ANTI-CORROSION PAINT.
⑦ 100 AMP DISCONNECT WITH UNIT.

FAN COIL SCHEDULE

GENERAL: TAG	FC-1	FC-2	FC-3
MANUFACTURER	DAIKIN	DAIKIN	DAIKIN
MODEL NO.	FBQ42TPAU	FTXS09LVAU	FTXS09LVAU
TYPE	HORIZONTAL SUSPENDED	WALL MTD DUCTLESS	WALL MTD DUCTLESS
SERVICE	3829: OFFICE EXPANSION	3801,208 OFFICE	3801:209 BREAK
REFRIGERANT	R410a	R410a	R410a
FAN: CFM	918	381	381
ESP ("WC)	0.80	–	–
FA CFM (%)	425 (46%)	–	–
SPEED	LOW	HIGH	HIGH
COOLING: COOLING CAP(BTU/HR)	43,000	9,000	9,000
EAT DB/WB (F)	80/67	80/67	80/67
HEATING: HEATING CAP (BTU/HR)	47,000	12,000	12,000
EAT DB (F)	70	70	70
AUX. ELECTRIC HEAT: CAPACITY (MBH)	–	–	–
CAPACITY (KW)	–	–	–
VOLTAGE/PHASE	–	–	–
HEATER FLA – HTR	–	–	–
MCA – HTR	–	–	–
MOCP – HTR	–	–	–
DIMENSIONS: FACE CAULK (Weight)	N.A.	N.A.	N.A.
UNIT DIMENSIONS (WxHxD)	36-1/8"x 31-1/2"x 9-11/16"	31-1/2"x 9-7/16"x 11-9/8"	31-1/2"x 9-7/16"x 11-3/8"
UNIT RECESS DEPTH	N.A.	N.A.	N.A.
UNIT WT.	104 LBS	39 LBS	39 LBS
FILTER	FILTER BOX MERV 13	REMOVABLE WASHABLE	REMOVABLE WASHABLE
CONNECTIONS: RL	3/8" FLARE	1/4" FLARE	1/4" FLARE
HC	5/8" FLARE	3/8" FLARE	3/8" FLARE
DRAIN	¾" NPT	5/8" NPT	5/8" NPT
ELECTRICAL: VOLTAGE/PHASE	230/1	230/1	230/1
HP	0.3	82 W	82 W
FLA – FAN	2.9	0.13	0.13
MCA	3.8	5	5
MOCP	15	15	15
REMARKS	① 2½ TN	3/4 TN	3/4 TN

① SINGLE POINT ELECTRICAL CONNECTION WITH FACTORY INSTALLED (CB) DISCONNECT SWITCH.

LOUVER SCHEDULE

TAG	MANUFACTURER	MODEL	TYPE	METAL	LOUVER SIZE: L x W x HT.	FREE AREA SZ	SERVICE	REMARKS
L-1	VENT PRODUCTS	2730	STAT.	EXT. ALUM.	4" x 96" x 108"	18.8	EXHAUST AIR	①②③
L-2	VENT PRODUCTS	2730	STAT.	EXT. ALUM.	4" x 34" x 42"	9.2	FRESH AIR	①③
L-3	VENT PRODUCTS	2730	STAT.	EXT. ALUM.	4" x 34" x 42"	9.2	EXHAUST AIR	①③

① BIRD SCREEN – ALUM.
② POWDER COAT BAKED ENAMEL, FINISH, FINAL COLOR SELECTION BY ARCHITECT.
③ MULTI SECTION, (4) 48" X 54" (MIN).

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ORIGINAL

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NO.	DESCRIPTION	DATE
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DRAWN BY JR
CHECKED BY BC

MECHANICAL SCHEDULES

H300

PUMP SCHEDULE

TAG	P-1&2	P-3
MANUFACTURER	B&G	GRUNDFOS
MODEL NO.	EDDCIRC XLBS-1.25	UPS45L
TYPE	INLINE	INLINE
LOCATION	MECH. RM. 219	MECH. RM. 219
SERVICE	HW SYSTEM SECONDARY PUMP	HW BOILER PRIMARY PUMP
GPM	30	15
TDH (FT)	32	20
BHP (WATTS)	0.81 (49-823)	(180)
EFFICIENCY (%)	48.2%	N.A.
SUCTION I.D.	1-1/2"ø	1-1/4"ø
OUTLET I.D.	1-1/2"ø	1-1/4"ø
MOTOR: HORSEPOWER	1	1/12
VOLTAGE/PHASE	208/1	115/1
F.L.A.	3.8	1.8
REMARKS	HW SYSTEM PUMPS (TYP 2) (2)(3)(4)	BOILER PUMP (5)

① ECM MOTOR: SETUP OPERATING MODE FOR CONSTANT DIFFERENTIAL PRESSURE.
② PROVIDE 2"ø INLINE TRIPLE DUTY VALVE; B&G 3DV 2in#(NPT) AT PUMP DISCHARGE.
③ PROVIDE 1-1/2"ø INLINE TRIPLE DUTY VALVE; B&G 3DV 1½ in#(NPT) AT PUMP DISCHARGE.
④ PROVIDE 1-1/4" INLINE TRIPLE DUTY VALVE; B&G 3DV 1¼ in#(NPT) AT PUMP DISCHARGE.
⑤ BOILER PUMP SUPPLIED WITH BOILER; FIELD INSTALLED BY THE HVAC CONTRACTOR.
⑥ PROVIDE Y-STRAINER AT PUMP SUCTION WITH MAGNETIC INSERT FOR FERROUS DEBRIS.

VARIABLE AIR VOLUME TERMINALS SCHEDULE

GENERAL TAG		V-1.1	V-1.2	V-1.3	V-1.4	V-1.5	V-1.6	V-1.7	V-1.8	V-1.9	V-1.10	V-1.11	V-1.12
SERVICE		TRAINING 205	OFFICE 206	DISPATCH 221	OFFICE 271	WORK 274	LOUNGE 257	ADMIN CONF 230	OFFICE 232	DRYER LOCKER 280	QUIET 282	TESTING 290	OFFICE 233
MANUFACTURER		DAVID-TEC	DAVID-TEC	DAVID-TEC	DAVID-TEC	DAVID-TEC	DAVID-TEC	DAVID-TEC	DAVID-TEC	DAVID-TEC	DAVID-TEC	DAVID-TEC	DAVID-TEC
MODEL NO.		SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC	SDR-WC
CONNECTIONS ARRG.	CTRL	--	--	--	--	--	--	--	--	--	--	--	--
	COIL	--	--	--	--	--	--	--	--	--	--	--	--
SIZE		8	4	3	8	8	8	8	4	3	8	3	4
INLET		8"ø	4"ø	3"ø	8"ø	8"ø	8"ø	8"ø	4"ø	3"ø	8"ø	3"ø	4"ø
OUTLET (WxH)		12"x10"	10"x10"	10"x10"	10"x10"	12"x10"	18"x10"	10"x10"	10"x10"	10"x10"	18"x10"	10"x10"	10"x10"
MIN. CFM OR MIN DTR	①	420/784	36/130	46/218	83/261	105/340	264/363	278/361	33/80	90/131	179/240	180/180	24/80
MAX. CFM		784	130	218	261	340	363	361	80	131	240	180	80
UNIT APD("WC) @MAX		0.81	.06	0.15	0.21	0.33	0.33	0.72	0.03	0.08	0.11	0.11	0.03
VAV ACTUATOR		ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC	ELECTRIC
VAV CONTROL	②	DDC	DDC	DDC	DDC	DDC	DDC	DDC	DDC	DDC	DDC	DDC	DDC
HW HEATING COIL: TYPE		2R/1D FPI/3CKT	1R/1D FPI/1CKT	2R/1D FPI/2CKT	2R/1D FPI/2CKT	4R/1D FPI/4CKT	4R/1D FPI/4CKT	4R/1D FPI/4CKT	2R/1D FPI/2CKT	2R/1D FPI/2CKT	2R/1D FPI/2CKT	2R/1D FPI/2CKT	2R/1D FPI/2CKT
EAT (F) @ HTG CFM		55	58	50	58	50	55	55	55	58	50	55	55
LAT (F)		91.8	100.7	100.9	100.3	90.4	98.7	97.8	97.3	98.7	96.9	93.8	93.3
CAP. (MBH) @ HTG CFM		31.41	8.9	13.76	14.29	22.86	22.17	15.17	3.81	7.23	8.18	8.13	3.37
GPM		2.38	1.1	0.3	0.5	0.4	0.3	0.8	0.3	0.8	1.7	1.7	1.7
EWT (F)		180	180	180	180	180	180	180	180	180	180	180	180
WPD (FT)		0.88	0.88	0.32	0.42	0.11	0.08	0.03	0.01	0.08	0.73	0.07	0.01
SOUND (ASN-BASE)	RAD NC	18	<15	15	<15	<15	<13	15	<13	<13	13	<15	<15
	DUC NC	<15	18	19	<15	<15	<13	<15	15	15	<15	18	15
REMARKS		(11)	(11)(12)	(12)	(12)	(12)	(12)	(12)	(12)	(12)	(12)	(12)	(12)

① MINIMUM AIR FLOW/HEATING AIR FLOW.
② VAV BOX ACTUATOR AND DDC CONTROLS FURNISHED AND FIELD INSTALLED BY THE TEMP. CONTROL CONTRACTOR.

AIR HANDLING UNIT SCHEDULE

GENERAL TAG	AH-1
LOCATION	3901; MECH 300
SERVICE	OFFICE
MANUFACTURER	DAIKIN
MODEL/SIZE	IQ-CME-3-0-183C-11H
ARRANGEMENT	HORIZONTAL
DRIVE SIDE	RIGHT
VIBRATION ISOLATION	INTERNAL
BASE RAIL HEIGHT(in)	4"
WEIGHT(lb)	322 lbs
SUPPLY FAN (2)(3)	3F-1
QTY.	2700
D.A.V. (CFM)	3886 (1400)
D.V. VELOCITY	984
EXTERNAL S.P.("W.G.)	1.78
TOTAL S.P. ("W.G.)	3.08
RPM	2449
MOTOR HP (BHP) (3)	5 (3.47)
VOLTAGE/PHASE	480/3
FAN WHEEL SIZE/TYPE/CLASS	18.6" AF/1-PLENUM FAN
SYSTEM TYPE (4)	VAV W/VFD
HOT WTR COIL: APD, HTG CFM (7)	HC-1: 3R/8FPI (3R9-D8020)
EAT	2900
LAT	83.0
APD ("W.G.)	88.2
FV (FPM)	0.22
WATER: EWT/LWT(DEG F)	300
WPD(FT)	180/138.8
GPM	8.2
TOTAL CAP (MBH)	4.7
COOLING COIL: (5)(7) (1)	72.7
MFG.	CC-1: 8R/13FPI
EAT (db/wb °F)	81.8/66.1
LAT (db/wb °F)	54.8/53.1
APD ("W.G.)	0.82
FV (FPM)	813 (7.2 FT^2)
DIRECT EXPANSION	
TOTAL CAP (MBH)	172.93
SENSIBLE CAP (MBH)	114.14
SUCTION TEMP.(F)	41.14
REFRIGERANT	R-410a
FILTER BOX: (6) TYPE	FLAT ARRANGEMENT SIDE ACCESS
FILTER MEDIA	4" 5A 30R (MERV 13)
FILTER APD - CLEAN ("WG) (1)	0.87
SIZES (MHF)	(12)24"x24"x(12)24"x30"
NET AREA (S.F.)	9.9
FV (FPM)	473
BYPASS BOX: (8) TYPE	PARALLEL BLADE-LOW LEAKAGE
ARRANGEMENT	TOP & END INLETS
INLET SIZE FA	16"x24" (SWD)
INLET SIZE MA	8"x24" (TOP)
FV (FPM) - FA	635
APD ("W) - FA	0.03
RELIEF/EXHAUST FAN: MODEL/SIZE (3)	RF-1
ARRANGEMENT	HWT/MLWC
DRIVE SIDE	RIGHT
VIBRATION ISOLATION	INTERNAL
WEIGHT	624 lbs
CFM	1900
EXTERNAL SP ("W.G.)	0.50
TOTAL S.P. ("W.G.)	0.54
RPM	1573
MOTOR HP (BHP) (3)	1 (0.37)
VOLTAGE/PHASE	480/3
FAN WHEEL SIZE/TYPE	14" AF/1-PLENUM FAN
SYSTEM TYPE (4)	VAV W/VFD
INLET BA (9)	8"x44"
OUTLET EA	18"x14"

① DOUBLE WALL CASING/PAINT EXTERIOR FINISH.
② BEARINGS = L50 (100K).
③ AIR PRESSURE DROP BASED ON MEAN FILTER AIR PRESSURE DROP.
④ PROVIDE INTERNAL FILTER AIR PRESSURE GAUGE (MAGNEHELIC 0-1").
⑤ MOTORS SHALL BE PREMIUM EFFICIENCY VFD COMPATIBLE W/SPLIT SHAFT GROUNDING COUPLER.
⑥ STAINLESS STEEL DRAIN PAN.
⑦ COIL CABINET W/ACCESS DOOR.
⑧ MIXING BOX CABINET W/ACCESS DOOR.
⑨ VFD REMOTE MOUNTED WITH DISCONNECT (NON-FUSED). REFER TO SPECIFICATIONS FOR VFD RQMTS.
⑩ PROVIDE MIXING BOX ATTACHED TO RELIEF/EXHAUST FAN WITHOUT BA DAMPERS FOR DRAWING DETAILS.
⑪ PROVIDE BI-POLAR IONIZATION BAR (SPS-MOD) IN COOLING COIL SECTION WITH POWER SUPPLY UNIT.

HOT WATER SPECIALTIES SCHEDULE

TAG	SERVICE	MANUFACTURER	MODEL NO.	CAPACITY	REMARKS
AIR SEPARATOR – AS-1	HW	SPIROTHERM	VSR-200-MT	2"ø MPT	W/AUTO AIR VENT & DRAIN
AIR SEPARATOR – AS-2	HW	SPIROTHERM	VLR-150-MT	1½"ø MPT	W/AUTO AIR VENT & DRAIN
EXPANSION TANK – ET-1	HW	B & C	B-80 LA	13 GAL. TANK (11 GAL ACCEPT)	① 1"ø CONN., 12"W37-3/16"L ASME 125 PSI
PRESSURE REDUCING VALVE (PRV)	HW	B & C	B3E	¾" NPT	12 PSIG SETTING; BRONZE BODY
HYDRONIC BUFFER TANK – BT-1	HW	HEAT-FLO	H1-40-B1-2	40 GAL	3"ø QUAD CONNECTIONS 23.5"ø-62"H, W/DRAIN & THERMOWELL
BYPASS CHEMICAL FEEDER	HW	CHEMPUMP	1SS-2.25-278	9 GAL	② BRONZE Y, ISOLATION VALVES 1/4" & BAG FILTER
CALIBRATED BALANCE VALVES	HW	B & C	CB SERIES	SIZE PLAN FOR SIZES	

① DIAMETER EXP. TANK TO 12 PSIG @180 deg. F MTR. TEMP IN HW LOOP.
② STAINLESS STEEL STRAINER BASKET & 23 MICRON BAG FILTER.

HOT WATER BOILER SCHEDULE

TAG	MANUFACTURER	MODEL NO.	TYPE	FUEL	INPUT (MBH)	OUTPUT (MBH)	QTY.	TURN DOWN RATIO	STAND BY LOSS	MAX. WATER TEMP.	STAND BY LOSS @ MAX. WATER TEMP.	ASH. APPL.	REMARKS
B-1	LOCHINVAR	BNH199	BOILER-CONDENSING MODULATING	N. GAS	199.9-199	192.5-185	1	20	3"ø	3"ø	1%"ø	N"ø	N"ø	(1)(2)(3)(4)(5)(6)(7)(8) WALL-HUNG BOILER
B-2	LOCHINVAR	BNH199	BOILER-CONDENSING MODULATING	N. GAS	199.9-199	192.5-185	1	20	3"ø	3"ø	1%"ø	N"ø	N"ø	(1)(2)(3)(4)(5)(6)(7)(8) WALL-HUNG BOILER

① 30 PSIG PRESSURE RELIEF VALVE & NON-LIMIT ADJUSTAT SUPPLIED WITH UNIT.
② BOILER PROVIDED WITH CONDENSATE TRAP & NEUTRALIZATION KIT.
③ PROVIDE CONCENTRIC ROOF VENT TERMINATIONS PER MANUFACTURER'S RECOMMENDATIONS W/B.S. BIRD SCREENS.
④ CPVC VENT PIPING; PVC COMBUSTION AIR PIPING.
⑤ WIRE OUTDOOR AMBIENT AND INDOOR SENSOR TO BOILER CONTROLLER.
⑥ WIRE HYDRONIC BUFFER TANK SAMSUNG SENSOR TO BOILER CONTROLLER.
⑦ BOILER PUMP PROVIDED WITH BOILER (GRUNDFOS UPS45L OR EQUAL).
⑧ BACnet TCP/IP INTERFACE WITH B.M.S.

FAN SCHEDULE

TAG	EF-20	EF-21	EF-22	EF-30	EF-31	EF-32	CF-30	EF-32
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	GREENHECK	BIG ASS FANS	GREENHECK
MODEL NO.	SEI-8-640-VG	SEI-12-432-VG	RDU-48-630-VG	AER-42-VG	RDU-48-830-VG	RDU-48-830-VG	BASIC 8 (24")	RDU-48-830-VG
AREA SERVED	3829 – 178 BATTERY	3829 – 177 FLUIDS	3826 – 175 MAINTENANCE	3801 – 202 B/S STORAGE	3801 – 201 SERVICE LANE	3801 – 200 B/S STORAGE	3801 – 200 B/S STORAGE	3801 – 200 B/S STORAGE
CFM	130	300	10,000	24,000	24,000	--	--	24,000
ESP (IN)	1/4"	1/4"	1/2"	1/2"	1/2"	--	--	1/2"
RPM	1140	1725	779	1000	779	81	775	779
MOUNTING	SIDEWALL	SIDEWALL	ROOFTOP CURB	SIDEWALL	ROOFTOP CURB	CEILING	CEILING	ROOFTOP CURB
DRIVE	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT-VFD	DIRECT	DIRECT
SONES (INLET/RADIATED)	2.3/-	3.7/-	30/-	34/-	30/-	-	30/-	30/-
ELECTRICAL: MOTOR HP (BHP)	1/19	1/4	7-1/2	7-1/2	7-1/2	2	7-1/2	7-1/2
FAN F.L.A.	1.3	2.95	9.8	9.3	9.8	MOCP:104	9.8	9.8
VOLTAGE/PHASE	115/1	115/1	480/3	460/3	480/3	480/3	480/3	480/3
CONTROL	MANUAL CONTINUOUS	MANUAL CONTINUOUS	MANUF. VENT KIT SCHEDULE	"GARAGE VENT." – CO/CO SENSORS	GARAGE SERVICE LANE	MANUAL – CONTROLLER	MANUF. VENT KIT SCHEDULE	MANUF. VENT KIT SCHEDULE
REMARKS	WALL EF (1)(2)(3)(5)(6)	WALL EF (1)(2)(3)(5)(6)	ROOF (1)(2)(3)(4)	WALL EF (1)(2)(3)(5)(6)	ROOF (1)(2)(3)(4)	ROOF (1)(2)(3)(4)	MAU-1 FAN (1)(2)(3)(5)	ROOF (1)(2)(3)(4)

NOTE: ALL EF LINE VOLTAGE CONTROLS WIRED BY E.C.
① WALL HOUSING AND 40GED ALUMINUM WEATHERHOOD.
② INSECT SCREEN.
③ BACKDRAFT DAMPER
④ ECM MOTOR WITH BALANCING DIAL.
⑤ NEMA 1 DISCONNECT SWITCH, UNIT MOUNTED.
⑥ INTERLOCK WITH BUILDING CONTROLS; OCCUPIED MODE SCHEDULE.
⑦ MOTORIZED (115V) OPPOSED BLADE, LOW LEAKAGE DAMPER.
⑧ ROOF CAP, CORROSION RESISTANT FASTENERS.
⑨ INTERLOCK WITH GARAGE VENTILATION CONTROLS NO.
⑩ INTERLOCK WITH GARAGE VENTILATION CONTROLS CO/NO.
⑪ 24"ø DIAMETER, MOUNT MIN 9FT BELOW CEILING.
⑫ STANDARD TOUCHSCREEN SPEED CONTROLLER.
⑬ MOUNTING KIT WITH DOWN ROD FOR EACH FAN.
⑭ INTERLOCK WITH EXISTING MAU-1.

DUCT SILENCER

TAG	MFGR	MODEL	SIZE	FACE DIM. (W x H)	LENGTH (IN)	AIR FLOW CFM	PRESSURE APD "W.G.	VELOCITY FPM	DYNAMIC INSERTION LOSS dB IN OCTAVE BAND								REMARKS
									63	125	250	500	1000	2000	4000	8000	
DS-1	VIBRO-ACOUSTICS	TBD	--	--	24"	3700	0.12	+814	5	11	18	28	37	42	31	22	(1)(2) DISCHARGE

DYNAMIC INSERTION LOSS PER ASTM E477-08A
① DUCT FLANGES
② 12 GA. CASING TO CONTROL BREAK-OUT.

RD = RECTANGULAR
REC = RECTANGULAR ELBOW DISSIPATIVE
T-REC = T-SHAPE RECTANGULAR ELBOW DISSIPATIVE

Engberg Anderson ARCHITECTS
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026 WAE

SATELLITE BUS FACILITY REMODEL

3826-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY JR
CHECKED BY BC

MECHANICAL SCHEDULES

H301

CONTROL POINTS

DIGITAL OUTPUTS – DO

DO-1	SV	START/STOP
DO-2	SV	START/STOP
DO-3	P2H	ENABLE/DISABLE
DO-4	P3	OPEN/CLOSE

ANALOG OUTPUTS – AO

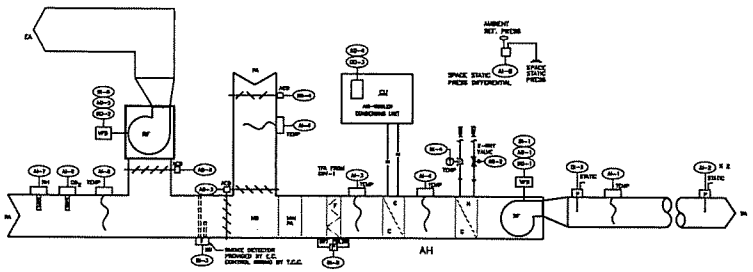
AO-1	SF-1 VFD SPEED
AO-2	HTG. 2-WAY VALVE
AO-3	MA DAMPERS
AO-4	CU-1 MODULATING COMPRESSOR CTRL.
AO-5	EF-1 VFD SPEED
AO-6	EA RELIEF DAMPER

DIGITAL INPUTS – DI

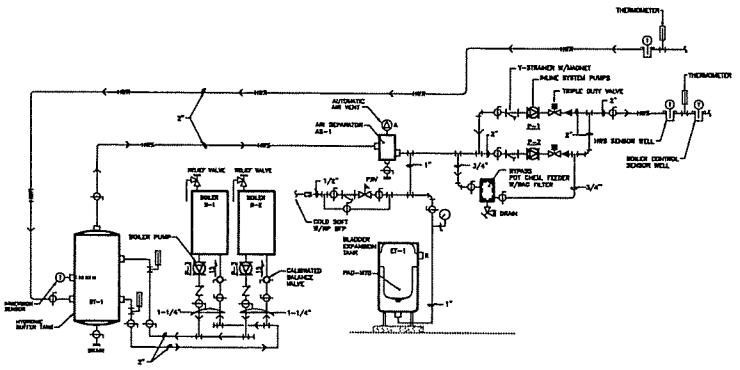
DI-1	SV	STATUS
DI-2	AH	HIGH STATIC LIMIT ALARM
DI-3	AH	SA SMOKE ALARM
DI-4	HC	HWB TEMP. FREEZE STAT
DI-5	RF	FILTER STATUS
DI-6	SF	STATUS

ANALOG INPUTS – AI

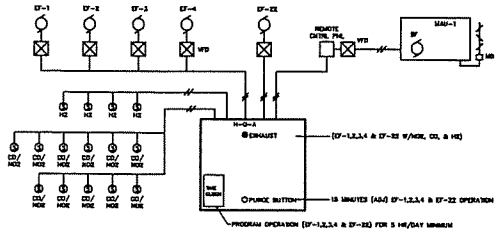
AI-1	AH	SA TEMP
AI-2	AH	SA DUCT STATIC (TYP 2)
AI-3	AH	MA TEMP
AI-4	AH	CA TEMP
AI-5	AH	CC LA TEMP
AI-6	SA	SA EDB
AI-7	SA	SA RH
AI-8	SPACE STATIC PRESS. DIFF.	



1 TEMPERATURE CONTROL SCHEMATIC - AH-1 & RF-1
N.T.S



2 BOILER/HYDRONIC PIPING SCHEMATIC
N.T.S



3 3829 GARAGE VENTILATION CONTROL SCHEMATIC
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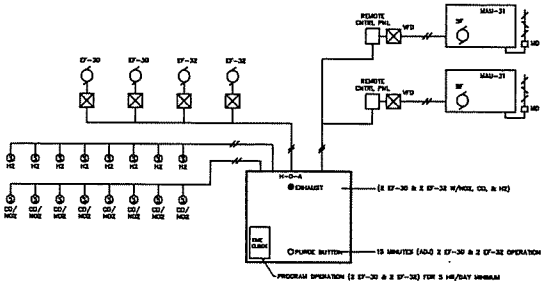
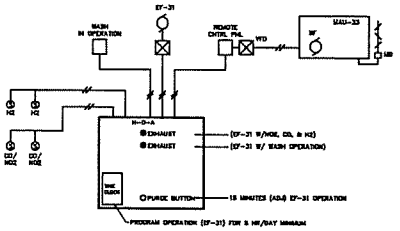


4 3901 GARAGE VENTILATION CONTROL SCHEMATIC
N.T.S



3 3901 SERVICE LANE VENTILATION CONTROL SCHEMATIC
N.T.S

Engberg Anderson ARCHITECTS

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ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HAWSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	9/14/2023

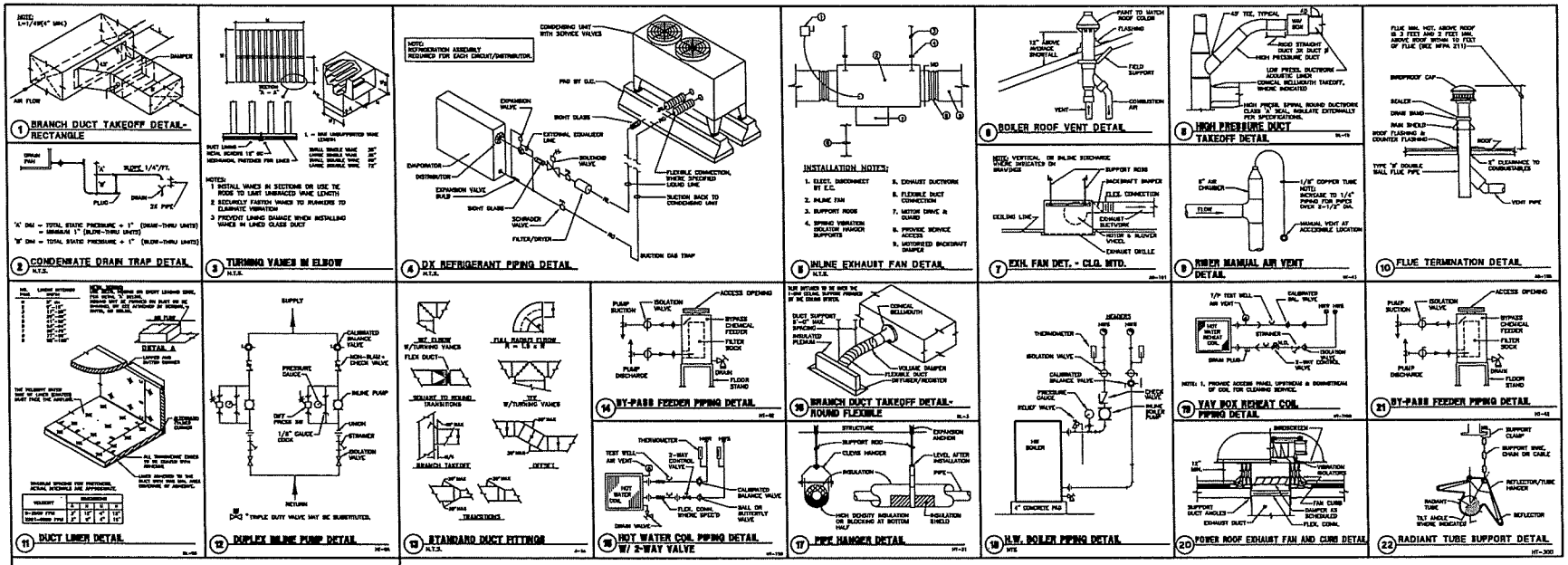
REVISION FOR:

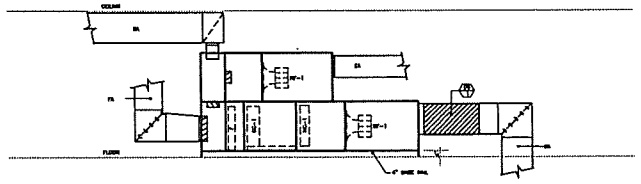
NO.	DESCRIPTION	DATE

DRAWN BY	JR
CHECKED BY	BC

MECHANICAL SCHEMATICS

H400





1 AH-1 ELEVATION

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ORIGINAL

SATELLITE BUS FACILITY REMODEL

3628-3801 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E. WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:

BID SET	8/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE

DRAWN BY	JR
CHECKED BY	BC

MECHANICAL DETAILS

H500

GENERAL NOTES

1. REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL GENERAL NOTES WHICH WILL APPLY HERE.
2. NOTES ON DRAWINGS SHALL APPLY TO ALL SIMILAR CONDITIONS WHETHER THEY ARE REPEATED OR NOT.
3. THE CONTRACTOR MUST VISIT THE SITE TO FAMILIARIZE HIMSELF WITH THE EXISTING SITE AND BUILDING CONDITIONS WHICH WILL BE AFFECTED DURING CONSTRUCTION PRIOR TO SUBMITTING HIS BID PROPOSAL. CONTRACTOR IS CAUTIONED THAT THE PROJECT IS A REMODELING JOB AND IT IS ASSUMED THAT HE HAS INCLUDED FUNDS IN HIS BID TO COVER UNFORESEEN ITEMS WHICH MUST BE MOVED, RELOCATED OR ADJUSTED TO FIT HIS WORK. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY EXTRA WORK CAUSED BY FAILURE TO VISIT, EXAMINE OR VERIFY.
4. ALL EXISTING EQUIPMENT IS TO REMAIN OPERATIONAL DURING CONSTRUCTION PERIOD. ALL TEMPORARY WIRING OR REROUTING OF CIRCUITRY TO ACHIEVE THIS IS BY THE ELECTRICAL CONTRACTOR. SHUTDOWN OF EXISTING SERVICES SHALL ONLY BE PERMITTED UPON WRITTEN APPROVAL FROM THE OWNER AND THEN ONLY FOR THAT DATE AND DURATION AGREED UPON. INCLUDE ALL PREMIUM TIME CHARGES IN THE BASE BID.
5. EXISTING CONDUIT IN SAME PLACE MAY BE REUSED WHERE POSSIBLE. PULL NEW WIRE AS REQUIRED. ALL UNUSED CONDUIT, WIRE, JUNCTION BOXES, ETC. WILL BE REMOVED. RELOCATED EXISTING CONDUIT SHALL NOT BE ALLOWED.
6. BOXES LOCATED ON OPPOSITE SIDES OF NON-FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALL SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU THE WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
7. ELECTRICAL CONTRACTOR SHALL VERIFY TOTAL CONNECTED LOAD/HP WITH ALL OTHER TRADES PRIOR TO WIRING OF ALL OTHER TRADES' EQUIPMENT. MAKE ANY CHANGES TO OVERCURRENT DEVICES AND FEEDER SIZE PER ELECTRICAL CODE AS REQUIRED.
8. ELECTRICAL CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION, THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
9. PROVIDE SLEEVES/CONDUITS FOR LOW VOLTAGE CABLES WHEN THEY TRAVERSE ABOVE NON ACCESSIBLE CEILING SPACE. ALSO, PROVIDE SLEEVES THROUGH MASONARY WALLS FOR LOW VOLTAGE CABLES. VERIFY SLEEVE/CONDUIT SIZE REQUIREMENTS AND LOCATION WITH THE CONTRACTOR INSTALLING LOW VOLTAGE SYSTEM.
10. ALL FIRE ALARM SYSTEM WIRING SHALL BE INSTALLED IN CONDUITS INCLUDING WIRING ABOVE ACCESSIBLE CEILING. ALL OTHER LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT EXCEPT SUCH WIRING ABOVE ACCESSIBLE CEILING SHALL BE EXPOSED. PROVIDE "J" HOOKS AS REQUIRED. USE CABLE TRAY WHERE APPLICABLE.
11. UNLESS NOTED OTHERWISE, THE CONDUITS AND BACK BOXES SHALL BE CONCEALED WITHIN ALL DRY WALLS, NEW MASONRY WALLS AND IN CEILING. SURFACE METAL RACEWAY SHALL BE USED FOR DEVICES ON EXISTING MASONRY WALLS AND ON EXISTING DRY WALL OR PLASTERED WALL. AS MUCH AS PRACTICAL, WHEREVER FEASIBLE, INSTALL CONDUITS BEHIND A WALL IN AN UNFINISHED ROOM AND PENETRATE INTO AN ELECTRICAL DEVICE TO BE INSTALLED IN FINISHED AREA. IF THIS IS NOT FEASIBLE, PROVIDE SURFACE METAL RACEWAY. IN THE ROOM WHERE ELECTRICAL DEVICE NEEDS TO BE INSTALLED. THE SURFACE METAL RACEWAY SHALL BE ROUTED IN THE CORNER AND/OR ADJACENT TO WINDOW, DOOR FRAMEWORK ETC. SO IT IS AS INCONSPICUOUS AS POSSIBLE. FOR SAKE OF SIMPLICITY ONLY THE TERM "CONDUIT" IS USED IN MOST CASES IN THIS DOCUMENT. HOWEVER, BASED UPON ABOVE, THE SURFACE METAL RACEWAY AND CONDUIT SHALL BE USED, AS APPLICABLE. WHERE SURFACE METAL RACEWAY IS USED ONE TWO CHANNEL RACEWAY WITH DIVIDER CAN BE USED (FOR POWER & LOW VOLTAGE) WHERE APPLICABLE.
12. WHERE POWER AND LOW VOLTAGE OUTLETS (SUCH AS DATA OUTLETS) ARE SHOWN TOGETHER ON DRAWINGS, PROVIDE THEM ADJACENT TO EACH OTHER.
13. PROVIDE CONCRETE PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. (SUCH AS SWITCHBOARDS, PANELS, TRANSFORMER, ETC.)
14. FOR THE AREA TO BE DEMOLISHED, THE DEMOLITION OF LIGHT FIXTURES, OUTLETS OR ANY OTHER ELECTRICAL EQUIPMENT/DEVICES SHALL BE PERFORMED AS REQUIRED. SEE ARCHITECTURAL DRAWINGS AND THE RESPECTIVE FLOOR PLANS IN ELECTRICAL DRAWINGS FOR DEMOLITION. ELECTRICAL CONTRACTOR SHALL REMOVE ALL ASSOCIATED RACEWAYS AND WIRING AS REQUIRED. ELECTRICAL CONTRACTOR SHALL DE-ENERGIZE AND DISCONNECT APPLICABLE WIRING TO FACILITATE SAFE DEMOLITION.
15. THE EXISTING EQUIPMENT IS SHOWN BASED UPON THE INFORMATION OBTAINED THROUGH BRIEF SURVEY OF THE FACILITY. CONTRACTOR IS TO SURVEY THE EXISTING FACILITY IN ORDER TO DETERMINE THE FULL EXTENT OF WORK AND BE COMPLETELY FAMILIAR WITH ALL THE EXISTING CONDITIONS INCLUDING PLUMBING, HVAC, ELECTRICAL, ETC. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY IN RESPECT TO THE ACCURACY OF SUCH INFORMATION SHOWN ON THE DRAWINGS. CONTRACTOR SHALL MAKE ADEQUATE ALLOWANCE IN HIS BID FOR SOME DEVIATIONS TO SUCH INFORMATION.
16. WHERE EXISTING CONDITIONS PREVENT PROPER INSTALLATION OF PROPOSED WORK, REROUTE, EXTEND OR ALTER EXISTING WORK SO AS TO ACCOMMODATE PROPOSED WORK REQUIREMENTS.
17. CIRCUIT NUMBERS SHOWN FOR EXISTING PANELS ARE FOR REFERENCE ONLY. USE NEXT AVAILABLE CIRCUITS AND PROVIDE APPROPRIATE SIZE BREAKERS.
18. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ELECTRICAL EQUIPMENT & DEVICES. THE ELECTRICAL DRAWINGS ARE FOR CONCEPT ONLY.
19. IN GENERAL, DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED, LIGHT SOLID LINES INDICATE ITEMS TO REMAIN AND DARK SOLID LINES INDICATE NEW ITEMS.
20. WHERE EXISTING WIRING DEVICE (SUCH AS RECEPTACLE, SWITCH, ETC.) IS INDICATED TO REMAIN, REUSE EXISTING JUNCTION BOX, RACEWAY, BUT PROVIDE NEW DEVICE AND ASSOCIATED COVERPLATE. RECONNECT THIS DEVICE TO NEW CIRCUIT AS INDICATED.
21. THE SYSTEMS PROVIDED BY THIS CONTRACTOR SHALL BE COMPLETELY OPERATIONAL REGARDLESS OF OMISSION OF MINOR ITEMS, SUCH AS CIRCUIT NUMBER FOR RELAY, A CIRCUIT NUMBER NEXT TO A LIGHTING FIXTURE, ETC.
22. ALL OUTDOOR DEVICES SUCH AS RECEPTACLES, DISCONNECTS, SPEAKERS, LIGHTING FIXTURES, JUNCTION BOXES, ETC. SHALL BE OUTDOOR TYPE.
23. THE EXIT SIGNS ARE PROVIDED FOR ROOMING PURPOSE. FINAL LOCATION SHALL BE AS DETERMINED BY LOCAL FIRE MARSHALL. IF REQUIRED BY FIRE MARSHALL, PROVIDE ADDITIONAL EXIT SIGNS WITHOUT ADDITIONAL COST TO OWNER.
24. PROVIDE LOCKING CLIPS ON CIRCUIT BREAKERS SERVING EMERGENCY LIGHTING, FIRE ALARM SYSTEM, PA/INTERCOMM, TELEPHONE SYSTEM AND SECURITY SYSTEM LOAD.
25. WHERE A NEW WALL IS TO BE BUILT PERPENDICULAR TO EXISTING WALL AND IF THERE IS AN EXISTING RECEPTACLE ON THE EXISTING WALL, RELOCATE THIS RECEPTACLE AS REQUIRED.
26. IN CERTAIN CASES LARGER SIZE CABLES ARE SPECIFIED IN ORDER TO COMPENSATE FOR VOLTAGE DROP. PROVIDE OVERSIZE AND/OR MULTIPLE LUGS AT THE LINE AND LOAD SIDE OF EQUIPMENT TO INCORPORATE LARGER AND ADDITIONAL CABLES. IF REQUIRED, PROVIDE SPLICE BOXES AT EITHER END OF CABLE TO INTERCEPT CHANGE IN THE CABLES.
27. PROVIDE LABEL ON MAIN ELECTRICAL SERVICE PANEL/SWITCHBOARD INDICATING THAT IT IS LISTED AND LABELED AS A SUITABLE CONNECTION TO AN ONSITE RENEWABLE ENERGY SOURCE TO COMPLY WITH ARTICLE 608.12 OF IGCC (INTERNATIONAL GREEN CONSTRUCTION CODE).
28. PROVIDE TYPED PANEL DIRECTORY INDICATING LOAD SERVED.
29. UNO, ALL OVERCURRENT PROTECTION DEVICES 800 AMP AND LARGER SHALL BE 100% RATED.
30. AS REQUIRED EXTEND EXISTING RECEPTACLES WHERE EXISTING WALLS ARE FURRED OUT. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENT OF THIS WORK.
31. DUE TO THE SMALL SCALE AND INTERFERENCE OF EXISTING EQUIPMENT, EACH AND EVERY ITEM IS NOT SHOWN. SHOWN INFORMATION IS INTENDED AS A GUIDE. CONTRACTOR SHALL VERIFY INFORMATION AND CONDITIONS IN THE FIELD.
32. RECONFIGURE LIGHTING FIXTURES AND OUTLETS IN MECHANICAL ROOMS TO BE COMPATIBLE WITH EQUIPMENT LAYOUT AS REQUIRED.
33. COORDINATE THE FINAL LOCATION OF RECEPTACLES IN TELECOMMUNICATION CLOSETS WITH TELECOMMUNICATION EQUIPMENT VENDOR.
34. ALL RECEPTACLES LOCATED WITHIN 6' OF SOURCE OF WATER (SUCH AS SINK) AND ALL OUTDOOR RECEPTACLES SHALL BE GFI TYPE, WHETHER SPECIFICALLY INDICATED OR NOT.
35. WHERE THE OUTLETS ARE SHOWN ON FURNITURE/DESK THEY SHALL BE PROVIDED EITHER UNDER THE DESK OR AS A PART OF MILLWORK AS INDICATED ON ARCHITECTURAL DRAWINGS. PROVIDE CONDUITS AND WIRING UNDER OR WITHIN THE FURNITURE/DESK. THE QUANTITY AND LOCATION OF INDICATED OUTLETS IS APPROXIMATE. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT AND MILLWORK VENDOR. IF FURNITURE/DESK IS NEXT TO WALL, THE ROUGH-IN SHALL BE PROVIDED FROM WALL. IF FURNITURE/DESK IS FREE STANDING, THE ROUGH-IN SHALL BE PROVIDED FROM FLOOR. THE POWER POLE IS NOT ALLOWED UNLESS SPECIFICALLY INDICATED.
36. IN ORDER TO FACILITATE THE REPLACEMENT OF EXISTING OR INSTALLATION OF NEW DUCTWORK AND/OR PIPING, REMOVE EXISTING LIGHTING FIXTURE AND/OR SMOKE /HEAT DETECTORS AS REQUIRED. THIS WORK IS NOT SHOWN ON DRAWINGS. ONCE THE INSTALLATION OF DUCTWORK, PIPING ETC IS COMPLETED, REINSTALL ELECTRICAL EQUIPMENT/DEVICES. PROVIDE ADEQUATE ALLOWANCE IN THE BID FOR THIS WORK.
37. PROVIDE EXPANSION FITTINGS FOR ALL ELECTRICAL RACEWAYS AT EVERY EXPANSION JOINT. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR LOCATION OF EXPANSION JOINTS.
38. COORDINATE THE INSTALLATION OF ELECTRICAL EQUIPMENT SUCH AS PANELS, SWITCHBOARD, MOTOR CONTROL CENTER, TRANSFORMER ETC. WITH OTHER TRADES SUCH THAT NO DUCTWORK, PIPING ETC. IS LOCATED ABOVE THEM.
39. ELECTRICAL CONTRACTOR SHALL VERIFY SIZE OF ALL EXISTING OPENINGS, DOORS, ETC. FOR REMOVING EQUIPMENT AND MATERIAL OUT OF BUILDING. ELECTRICAL CONTRACTOR SHALL PROVIDE ANY NEW OR ENLARGED OPENINGS IN EXISTING BUILDING CONSTRUCTION REQUIRED TO FACILITATE EXITING OF ITS EQUIPMENT/MATERIAL AND RESTORE SUCH OPENINGS TO THEIR ORIGINAL STATE AFTER COMPLETION.
40. VERIFY QUANTITY AND SIZE OF LUGS PROVIDED IN OTHER TRADE'S EQUIPMENT (FOR EXAMPLE, CHILLER, ELEVATOR, FIRE PUMP ETC.) BEFORE STARTING ANY WORK ASSOCIATED WITH SUCH EQUIPMENT. IF THEIR LUGS CANNOT ACCOMMODATE THE CABLES INDICATED IN ELECTRICAL DOCUMENT, PROVIDE LUG FITTINGS TO ACCOMMODATE CHANGE IN THE CABLES. PROVIDE SUCH FITTINGS IN A JUNCTION BOX AS CLOSE AS POSSIBLE TO THEIR EQUIPMENT. IF ALLOWED BY THE EQUIPMENT MANUFACTURER, SUCH FITTINGS MAY BE INSTALLED IN THEIR EQUIPMENT RATHER THAN IN A SEPARATE JUNCTION BOX.
41. MAIN SERVICE ENTRANCE EQUIPMENT SHALL HAVE LABEL FOR SERVICE ENTRANCE TYPE, AND SHALL BE GROUNDED PER ELECTRICAL CODE.
42. AS A MINIMUM, USE #10 FOR ALL EMERGENCY LIGHTING.
43. PROVIDE SEPARATE DEDICATED GROUNDING CONDUCTOR IN EACH FEEDER AND BRANCH CIRCUIT WIRING CIRCUIT.
44. PROVIDE FIRE SEALANTS FOR ALL PENETRATIONS THRU FIRE RATED FLOORS AND WALLS.
45. THE ELECTRICAL DRAWINGS SHOW DIRECT PRINCIPLE WORK WHICH MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INDIRECT AND INCIDENTAL WORK WILL ALSO BE NECESSARY DUE TO CHANGES AFFECTING EXISTING ARCHITECTURAL, MECHANICAL, PLUMBING OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INSPECT THOSE AREA, AND ASCERTAIN WORK NEEDED AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.
46. PROVIDE WIRELESS COMMUNICATOR AT FIRE ALARM CONTROL PANEL FOR DIALING OUT WHETHER SPECIFICALLY INDICATED OR NOT. THE COMMUNICATOR SHALL BE DSC MODEL LE 4010CF WITH ANTENNA MODEL LTE-30ANT OR APPROVED EQUAL. PROVIDE 120 VOLT POWER TO IT FROM NEAREST GENERATOR CIRCUIT IF THERE IS A GENERATOR. IF THERE IS NO GENERATOR PROVIDE POWER FROM NORMAL CIRCUIT. PROVIDE CAT 5 CABLE BETWEEN COMMUNICATOR AND FACP AND CABLE BETWEEN ANTENNA AND COMMUNICATOR. PROVIDE AN ADDITIONAL CAT 6 CABLE TO FACP FROM IT RACK AS A BACK UP TO COMMUNICATOR. IN LIEU OF COMMUNICATOR PROVIDE TWO PHONE LINES IF ACCEPTED BY OWNER AND LOCAL FIRE MARSHALL. COORDINATE APPLICABILITY OF COMMUNICATOR OR PHONE LINES WITH OWNER.
47. PROVIDE SMOKE DETECTOR WITHIN 5 FEET OF FIRE ALARM CONTROL PANEL, WHETHER SPECIFICALLY INDICATED OR NOT.
48. PROVIDE REMOTE TEST AND INDICATING STATION IN A READILY ACCESSIBLE AND VISIBLE SPACE FOR EACH DUCT SMOKE DETECTOR. VERIFY ITS EXACT LOCATION WITH OWNER AND LOCAL FIRE MARSHALL.
49. WHERE "VF" IS INDICATED NEXT TO A DEVICE, CONTRACTOR SHALL VERIFY ITS REQUIREMENT IN FIELD. THIS INCLUDES VERIFICATION OF DEVICE TYPE, LOCATION, WIRING CONDUIT AND CIRCUIT BREAKER ETC. PROVIDE APPROPRIATE DEVICE, WIRING, CONDUIT, CIRCUIT BREAKER ETC. AS REQUIRED.
50. PROVIDE RED PLASTIC SIGN AT MAIN WATER SERVICE METER INDICATING "MAIN GROUND LOCATION."
51. AIC (AVAILABLE INTERRUPTING CAPACITY) RATING OF PANELS, SWITCHBOARDS, BUSWAY, MCC ETC. ARE SHOWN BASED UPON PRELIMINARY CALCULATIONS. THE FINAL RATING OF THE EQUIPMENT SHALL BE BASED UPON THE ARC-FLASH AND SHORT CIRCUIT COORDINATION STUDY. PROVIDE POWER DISTRIBUTION EQUIPMENT TO MEET THE RATING INDICATED IN THE STUDY. THE STUDY SHALL BE BASED UPON THE ULTIMATE CAPABILITY OF THE MAIN SERVICE EQUIPMENT AND NOT THE INITIAL TRANSFORMER PROVIDED BY THE UTILITY COMPANY.
52. PROVIDE ARC-FLASH LABELS ON NEW EQUIPMENT IN ACCORDANCE WITH NEC.
53. WHERE EQUIPMENT DEVICES ARE INDICATED TO BE REMOVED, REMOVE ACCESSIBLE, UNUSABLE CONDUITS & WIRING. IF CONDUITS ARE NOT ACCESSIBLE THEY MAY BE ABANDONED. MAINTAIN CONTINUITY TO THE LOAD WHICH IS TO REMAIN.
54. CONNECT FIRE ALARM SYSTEM DEVICES TO EXISTING SYSTEM. UPGRADE/MODIFY EXISTING HEAD-END EQUIPMENT AS REQUIRED.
55. WHERE EXISTING HVAC EQUIPMENT IS SHOWN TO BE REMOVED, REMOVE ITS ASSOCIATED STARTER, DISCONNECT SWITCH, CONDUIT WIRING ETC. FIELD VERIFY LOCATION OF STARTER, DISCONNECT, ETC.
56. ONLY OCCUPANCY/VACANCY SENSORS & REQUIRED SWITCHES ARE INDICATED. PROVIDE POWER PACKS (CONTROL RELAYS) AS REQUIRED. LOCATE SENSORS TO PROVIDE OPTIMUM COVERAGE OF THE DEVICE.
57. PROVIDE GROUND BUS BAR IN EACH PANEL WHETHER SPECIFICALLY INDICATED OR NOT.
58. ARMORED (BX) CABLES OR MC CABLES ARE NOT ALLOWED.
59. ELECTRICAL DEVICES SUCH AS SMOKE/HEAT DETECTORS, OCCUPANCY SENSORS, DAY LIGHT SENSOR ETC. SHALL BE LOCATED IN AS CENTER AND AS UNIFORMLY IN ROOM AS POSSIBLE. THEY ARE NOT ALWAYS SHOWN IN CENTER OF A ROOM OR UNIFORMLY IN A ROOM TO AVOID CONFLICT WITH ROOM NUMBER TAGS.
60. PROVIDE DUCT SMOKE DETECTORS FOR ANY AIR HANDLING UNIT HAVING 2000 CFM OR MORE. PROVIDE TWO DUCT SMOKE DETECTORS FOR ANY AIR HANDLING UNIT HAVING 15000 CFM OR MORE. THE DUCT SMOKE DETECTOR SHALL BE FURNISHED, INSTALLED AND TESTED UNDER DIVISION 28. ITS ASSOCIATED REMOTE TEST AND INDICATING STATION SHALL ALSO BE FURNISHED, INSTALLED, WIRED AND TESTED UNDER DIVISION 28. "COMPLETE WARRANTY OF THESE PRODUCTS SHALL ALSO BE PROVIDED UNDER DIVISION 28. THE WIRING OF THESE PRODUCTS TO FIRE ALARM CONTROL PANEL SHALL BE PROVIDED UNDER DIVISION 28. WIRING FOR FAN SHUTDOWN SHALL BE PROVIDED UNDER DIVISION 23. REQUIRED RELAY FOR FAN SHUTDOWN SHALL BE PROVIDED UNDER DIVISION 28.
61. SERIES RATING OF PANELS IS ACCEPTABLE FOR THEIR SHORT CIRCUIT RATING.
62. LUGS FOR CIRCUIT BREAKERS AND SWITCHES SHALL BE RATED FOR TERMINATION OF 60 DEGREE C AND 75 DEGREE C RATED CONDUCTORS. THIS SHALL ALLOW USE OF CONDUCTORS BASED UPON AMPACITIES OF ONLY 75 DEGREE C.
63. OUTDOOR RECEPTACLES SHALL BE INSTALLED IN AN "IN USE" TYPE COVER. SUCH RECEPTACLES SHALL BE TYPE "WR" WEATHER-RESISTANT RECEPTACLES.
64. PROVIDE ARC ENERGY REDUCING FEATURES IN CIRCUIT BREAKERS RATED 1200 AMP OR LARGER TO MEET NEC 240.87.
65. IDENTIFY LOCATION OF CIRCUIT DISCONNECTS FOR FIRE ALARM PANEL PER NFPA 72, 10.5.
66. PER NFPA 72, 10.5.5.2; CIRCUIT BREAKERS FEEDING FIRE ALARM PANELS AND ASSOCIATED EQUIPMENT SHALL HAVE RED MARKING AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT" AND SHALL HAVE LOCK-ON DEVICE.
67. ALL LOW VOLTAGE WIRING SHALL BE IN CONDUITS EXCEPT WIRING ABOVE ACCESSIBLE CEILING. WIRING ABOVE ACCESSIBLE CEILING SHALL BE EXPOSED UNLESS REQUIRED BY CODE TO BE IN CONDUITS. COORDINATE WITH LOW VOLTAGE SYSTEM VENDORS ROUTING OF THEIR CABLING AND PROVIDE CONDUITS/RACEWAYS AS REQUIRED. ALL FIRE ALARM SYSTEM WIRING SHALL BE IN CONDUITS.
68. FOR DATA WIRING, PROVIDE CONDUITS PER FOLLOWING, (BASED UPON CAT6 CABLES HAVING 0.3" DIAMETER CABLES)

CONDUIT	NUMBER OF CABLES
3/4"	2
1"	4
1 1/4"	6
1 1/2"	10
2"	17

69. PROVIDE CAT5E OR EQUIVALENT CABLING SYSTEM FOR OCCUPANCY SENSORS, VACANCY SWITCHES/SENSORS, POWER PACKS, DIMMER SWITCHES, DAY LIGHT SENSORS ETC. AS REQUIRED.
70. UNLESS NOTED OTHERWISE, WHEN DETERMINING THE DIAMETER FOR DATA WIRING OF FEEDER CONDUITS FROM THE CABLE ORIGINATION POINT CONDUIT SIZING SHALL ALLOW FOR 50% ADDITIONAL CAPACITY FOR OWNERS FUTURE DATA NEEDS.
71. FOR EACH FLUSH MOUNTED PANEL, PROVIDE THREE 1" SPARE EMPTY CONDUITS AND TERMINATE ABOVE ACCESSIBLE CEILING SPACE FOR FUTURE USE.
72. LIGHTING FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING SYSTEM BY AT LEAST TWO WIRES ON OPPOSITE CORNERS OF THE FIXTURE.
73. ALL WORK SHALL COMPLY WITH ALL LOCAL CODES.
74. UNLESS NOTED OTHERWISE, COLOR OF WIRING DEVICES (OUTLETS, SWITCHES AND COVER PLATES) SHALL BE WHITE. VERIFY FINAL COLOR WITH THE ARCHITECT BY PROVIDING SUBMITTAL.

ELECTRICAL SYMBOLS

- MULTI-OUTLET ASSEMBLY
- CABLE TRAY
- MANHOLE
- HANDHOLE
- PULL BOX
- JUNCTION BOX- EXPOSED OR IN CEILING
- JUNCTION BOX – WALL MOUNTED
- JUNCTION BOX WITH FLEXIBLE CONDUIT AND FINAL CONNECTION TO EQUIPMENT.
- HAND DRYER
- LIGHTING FIXTURE. SIZE AND TYPE AS INDICATED ON SCHEDULE.
- STRIP LIGHTING FIXTURE. SIZE AND TYPE AS INDICATED ON SCHEDULE.
- DOWNLIGHT LIGHTING FIXTURE. SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL MOUNTED LIGHTING FIXTURE. SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL MOUNTED LIGHTING FIXTURE. SIZE AND TYPE AS INDICATED ON SCHEDULE.
- WALL WASH LIGHTING FIXTURE- SIZE AND TYPE AS INDICATED ON SCHEDULE.
- EMERGENCY LIGHTING FIXTURE
- LIGHTING STANDARD – SINGLE FIXTURE, POLE MOUNTED. NUMBER IDENTIFIES FIXTURE
- LIGHTING STANDARD – MULTI FIXTURE, POLE MOUNTED. NUMBER IDENTIFIES FIXTURE
- LIGHTING FIXTURES:
  "A" UPPER CASE LETTER INDICATES LIGHTING FIXTURE TYPE. REFER TO LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION AND MOUNTING.
  "1" NUMBER INDICATES BRANCH CIRCUIT NUMBER(S)
  "a" LOWER CASE LETTER INDICATES SWITCH CONTROL(S)
- TRACK LIGHTING
- BATTERY PACK, EMERGENCY LIGHTING UNIT
- REMOTE HEAD CONNECTED TO BATTERY PACK.
- COMBINATION EXIT SIGN AND EMERGENCY LIGHTING UNIT
- "X1" INDICATES FIXTURE. SHADED QUADRANTS INDICATES DIRECTION OF LIGHTED FACES. ARROWS INDICATE DIRECTION OF ARROWS.
- LIGHT SWITCH, SINGLE POLE UNLESS NOTED OTHERWISE:

"a"	SWITCHLEG	"WP"	WEATHERPROOF
"D"	DIMMER SWITCH	"2P"	TWO POLE
"EP"	EXPLOSION PROOF	"3P"	THREE POLE
"K"	KEY OPERATED	"3W"	THREE-WAY
"P"	PILOT LIGHT	"4W"	FOUR-WAY
"XX"	CIRCUIT NUMBER	"MC"	MOMENTARY CONTACT
"T"	THERMAL OVERLOAD PROTECTION	"VC"	VACANCY SENSOR
"VS"	VACANCY SWITCH	"OC"	OCCUPANCY SENSOR

- DAYLIGHT SENSOR
- OCCUPANCY SENSOR
- VACANCY SENSOR
- TIME CLOCK
- PHOTOCELL

WALL	CEILING MOUNTED	FLUSH FLOOR MOUNTED	ABOVE COUNTER	
				SINGLE RECEPTACLE
				QUADPLEX RECEPTACLE
				DUPLEX RECEPTACLE
				DUPLEX RECEPTACLE – SPLIT WIRED
				DUPLEX RECEPTACLE – CRITICAL BRANCH
				DUPLEX RECEPTACLE – DEDICATED CIRCUIT
				TELE- DATA SYSTEMS OUTLET
				VOICE ONLY

- JUNCTION BOX WITH FLEXIBLE CONDUIT TO FINAL EQUIPMENT OR FURNITURE SYSTEM POWER CONNECTION
- ADJACENT LETTERS IN THE SYMBOLS ABOVE INDICATE THE FOLLOWING:

"EP"	RECEPTACLE IS EXPLOSION PROOF
"GF"	RECEPTACLE HAS GROUND FAULT CIRCUIT INTERRUPTER
"IG"	RECEPTACLE HAS ISOLATED GROUND
"TP"	TAMPER PROOF (SAFETY TYPE)
"TVSS"	RECEPTACLE HAS TRANSIENT VOLTAGE SURGE SUPPRESSION
"WP"	RECEPTACLE HAS WATERPROOF COVER
"XX"	RECEPTACLE CIRCUIT NUMBER
"USB"	RECEPTACLE WITH 2 USB PLUGS.

- SPECIAL PURPOSE OUTLET – SEE SCHEDULE "XX" INDICATES OUTLET TAG
- 4FT. MULTI RECEPTACLE STRIP
- PUSH-BUTTON STATION
- GARAGE DOOR OPENER PUSH-BUTTON STATION
- PUSH PLATE STATION
- ENCLOSED CIRCUIT BREAKER
- TECHNOLOGY GROUND BAR- 1/4" X 4" X 12" COPPER
- REMOTE INDICATOR MODULE
- MOTOR OR EQUIPMENT
- FUSED DISCONNECT SWITCH, "AS" INDICATES AMPERE RATING OF SWITCH AND "AF" INDICATES AMPERE RATING OF FUSE
- NON-FUSED DISCONNECT SWITCH, CIRCUIT BREAKER IN ENCLOSURE.
- CONTACTOR-SEE SCHEDULE
- SWITCHGEAR, SWITCHBOARD OR MOTOR CONTROL CENTER, DASHED LINES INDICATE FUTURE SECTIONS, ARROW INDICATES FRONT
- SURFACE MOUNTED DISTRIBUTION PANELBOARD
- SURFACE MOUNTED NORMAL BRANCH CIRCUIT PANELBOARD
- RECESSED MOUNTED NORMAL BRANCH CIRCUIT PANELBOARD
- TRANSFORMER

TECHNOLOGY SYMBOLS

- INFORMATION DATA OUTLET
- COMCAST EQUIPMENT CABINET
- COMCAST SPLITTER JUNCTION POINT
- TELEVISION OUTLET–WITH LOW VOLTAGE JACK AND RECEPTACLE
- FIRE ALARM CONTROL PANEL
- TECHNOLOGY GROUND BAR, 12" L X 2" H X 0.25" T COPPER BAR WITH HOLES FOR LUGS
- FIRE ALARM MANUAL PULL STATION
- FIRE ALARM HORN WITH VISUAL STROBE
- VISUAL STROBE
- FIRE ALARM SPEAKER
- FIRE ALARM HEAT DETECTOR
- SMOKE DETECTOR
- MULTI STATION TYPE FIRE ALARM SMOKE/CO DETECTOR (STAND ALONE WITH LOCAL ALERT)
- FIRE ALARM SMOKE/CO DETECTOR (PART OF THE FIRE ALARM SYSTEM)
- FIRE ALARM SYSTEM SPRINKLER TAMPER SWITCH
- FIRE ALARM SYSTEM SPRINKLER FLOW SWITCH
- FIRE ALARM ROTATING BEACON
- FIRE ALARM DUCT DETECTOR
- FIRE ALARM RELAY
- SPEAKER – LOCAL SOUND SYSTEM
- EQUIPMENT CABINET
- PROJECTOR MOUNT
- RESCUE ASSISTANCE CALL STATION
- RESCUE ASSISTANCE CONTROL PANEL
- INTERCOM STATION
- DOME CAMERA

ELECTRICAL ABBREVIATIONS

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AIC	AVAILABLE INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BFS	BOILER FEED SYSTEM
C	CONDUIT
CCTV	CLOSED CIRCUIT TV
DW	DISHWASHER
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EL	ELEVATOR
EM	EMERGENCY
EDH	ELECTRIC DUCT HEATER
ESUH	ELECTRIC SUSPENDED UNIT HEATER
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EWH	ELECTRICAL WATER HEATER
E	EXISTING
FBO	FURNISHED BY OTHERS
FLA	FULL LOAD AMPS
FVNR	FULL VOLTAGE NON REVERSING
GF	GROUND FAULT INTERRUPTER
GRD	GROUND
HP	HORSE POWER
JB	JUNCTION BOX
KW	KILOWATTS
KVA	KILO VOLT AMPS
LTG	LIGHTING
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MFG	MANUFACTURER
MIN	MINIMUM
MTD	MOUNTED
MV	MERCURY VAPOR
MW	MICROWAVE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NL	NIGHT LIGHT
NO	NORMALLY OPEN
P	PRESENT TO REMAIN
PX	PRESENT TO BE REMOVED
PH	PHASE (ø)
PNL	PANEL
PRE	POWER ROOF EXHAUST
RF	REFRIGERATOR
RTU	ROOF TOP UNIT
STV	STOVE
SW	SWITCH
TTC	TELEPHONE TERMINAL CABINET
UNO	UNLESS NOTED OTHERWISE
UV	UNIT VENTILATOR
UH	UNIT HEATER
V	VOLTS
VCP	VACUUM CONDENSATE PUMP
VAV	VARIABLE AIR VOLUME
VIF	VERIFY IN FIELD
W	WIRE
WE	WITH EQUIPMENT
WP	WEATHER PROOF
XP	EXISTING TO BE REPLACED
XR	EXISTING TO BE RELOCATED
XN	EXISTING RELOCATED IN NEW LOCATION

ELECTRICAL PROJECT GENERAL NOTES

1. THESE PLANS ARE SCHEMATIC AND DO NOT SHOW THE EXACT LOCATIONS OF EQUIPMENT OR FIXTURES, CONDUIT ROUTING, ETC. THE CONTRACTOR MUST REFER TO ARCHITECTURAL AND MECHANICAL PLANS, DETAILS, AND SPECS TO OBTAIN COMPLETE INFORMATION.
2. PROVIDE LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED FOR COMPLETE AND FUNCTIONING SYSTEMS, FULLY TESTED AND READY FOR USE.
3. ALL WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, STATE, AND WITH REGULATIONS AND REQUIREMENTS OF ALL LOCAL AND NATIONAL CODES AS THEY MAY APPLY TO THE PROJECT AND TO THE PUBLIC SAFETY.
4. THE CONTRACTOR IS RESPONSIBLE FOR SEEING THAT NEC CLEARANCES AROUND AND ABOVE ELECTRICAL EQUIPMENT ARE MAINTAINED. REFER TO NEC 110-26 FOR SPECIFIC INFORMATION.
5. VERIFY ANY AND ALL CONFIGURATIONS, DIMENSIONS AND ELEVATIONS BY FIELD MEASUREMENTS AND COORDINATE WITH ARCHITECTURAL DRAWINGS AND STRUCTURAL CONDITIONS.
6. ALL CONDUCTORS OPERATING AT 50 VOLTS OR GREATER SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. ALL RACEWAY WITHIN THE STRUCTURE ABOVE THE FLOOR SLAB SHALL BE METAL. RACEWAY BELOW THE FLOOR SLAB AND UNDERGROUND RACEWAY OUTSIDE THE STRUCTURE SHALL BE PVC AT A MINIMUM, CONDUIT LEAVING THE SLAB SHALL TRANSITION TO RIGID METAL CONDUIT (RMC) PRIOR TO EXITING THE SLAB.
7. THE CONTRACTOR MAY INSTALL UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. LOADINGS ARE BASED ON THWN INSULATION, 40°C AMBIENT WITH DERATINGS FOR TEMPERATURE AND UP TO THREE (3) CURRENT CARRYING CONDUCTORS IN A CONDUIT. CONTACT THE ENGINEER FOR WIRING IN OTHER CONDITIONS.
8. CONDUCTORS IN WITHIN UNINSULATED CEILING SPACES AND OUTDOORS MUST BE DERATED BASED UPON THE AMBIENT TEMPERATURE. THE CONTRACTOR IS RESPONSIBLE FOR REVISING CONDUCTOR SIZE IF ACTUAL CONDUIT ROUTING DIFFERS FROM THE CONSTRUCTION DOCUMENTS.
9. EXACT TYPE OF MECHANICAL DEVICES AND EQUIPMENT LOCATIONS SHALL BE COORDINATED WITH MECHANICAL CONTRACTOR(S).
10. ALL MATERIALS, EQUIPMENT, AND APPARATUS INSTALLED ON THE PROJECT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS AND THE MANUFACTURER. IN THE CASE OF EXCEPTIONS, THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL CERTIFY IN WRITING TO THE OWNER'S REPRESENTATIVE, THAT THE INSTALLATION HAS BEEN MADE IN ACCORDANCE WITH SUCH PRINTED INSTRUCTIONS AND REQUIREMENTS.
11. MODEL NUMBERS INDICATED ON THE DRAWINGS ARE ONLY FOR REFERENCE AND CONVENIENCE. CONFIRM THE ACCURACY OF ALL MODEL NUMBERS SO AS TO MEET THE SPECIFIC PROJECT REQUIREMENTS AND MINIMUM INDICATED PERFORMANCE DATA. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT EQUIPMENT FITS WITHIN THE SPACE ALLOTTED.
12. COORDINATE AND VERIFY LOCATIONS, ROUGH-IN REQUIREMENTS AND INSTALLATION REQUIREMENTS OF EQUIPMENT FURNISHED BY THE OWNER.

SHEET INDEX

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ED200A	POWER DEMO PLAN – 3829 MAINT. BLDG. – SECTION A
ED200B	POWER DEMO PLAN – 3829 MAINT. BLDG. – SECTION B
ED201A	POWER DEMO PLAN – 3901 STORAGE BLDG. – SECTION A
ED201B	POWER DEMO PLAN – 3901 STORAGE BLDG. – SECTION B
ED201C	POWER DEMO PLAN – 3901 STORAGE BLDG. – SECTION C
ED201D	POWER DEMO PLAN – 3901 STORAGE BLDG. – SECTION D
ED300	EXISTING PANEL SCHEDULES – 3829 MAINT. BLDG.
ED301A	EXISTING PANEL SCHEDULES – 3901 STORAGE BLDG.
ED301B	EXISTING PANEL SCHEDULES – 3901 STORAGE BLDG.
E100A	LIGHTING NEW WORK PLAN – 3829 MAINT. BLDG. – SECTION A
E100B	LIGHTING NEW WORK PLAN – 3829 MAINT. BLDG. – SECTION B
E100C	LIGHTING NEW WORK PLAN – 3829 MAINT. BLDG. – ENLARGED PLANS
E101A	LIGHTING NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION A
E101B	LIGHTING NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION B
E101C	LIGHTING NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION C
E101D	LIGHTING NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION D
E200A	POWER NEW WORK PLAN – 3829 MAINT. BLDG. – SECTION A
E200B	POWER NEW WORK PLAN – 3829 MAINT. BLDG. – SECTION B
E200C	POWER NEW WORK ENLARGED PLANS – MAINT. BLDG.
E200D	POWER NEW WORK ENLARGED PLANS – MAINT. BLDG.
E200E	POWER NEW WORK ENLARGED PLANS – MAINT. BLDG.
E201A	POWER NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION A
E201B	POWER NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION B
E201C	POWER NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION C
E201D	POWER NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION D
E201E	POWER NEW WORK ENLARGED PLAN – 3901 STORAGE BLDG.
E201F	POWER NEW WORK ENLARGED PLAN – 3901 STORAGE BLDG.
E300A	EXISTING REVISED PANEL SCHEDULES – 3829 MAINT. BLDG.
E300B	NEW PANEL SCHEDULES – 3829 STORAGE BLDG.
E301A	EXISTING REVISED PANEL SCHEDULES – 3901 STORAGE BLDG.
E301B	EXISTING REVISED PANEL SCHEDULES – 3901 STORAGE BLDG.
E400	ONE LINE DIAGRAM – 3829 MAINT. BLDG.
E401	ONE LINE DIAGRAM – 3901 STORAGE BLDG.
E600	LIGHTING, MOTOR & EQUIPMENT SCHEDULES – 3829 MAINT. BLDG.
E601	LIGHTING, MOTOR & EQUIPMENT SCHEDULES – 3901 STORAGE BLDG.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG
HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 6/19/2023

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NOTES, SYMBOLS, ABREVIATIONS & SHEET INDEX

E001

LIGHTING DEMOLITION GENERAL NOTES:

1. REFER TO SHEET E0.1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION IN DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT THAT MAY BE REUSED.
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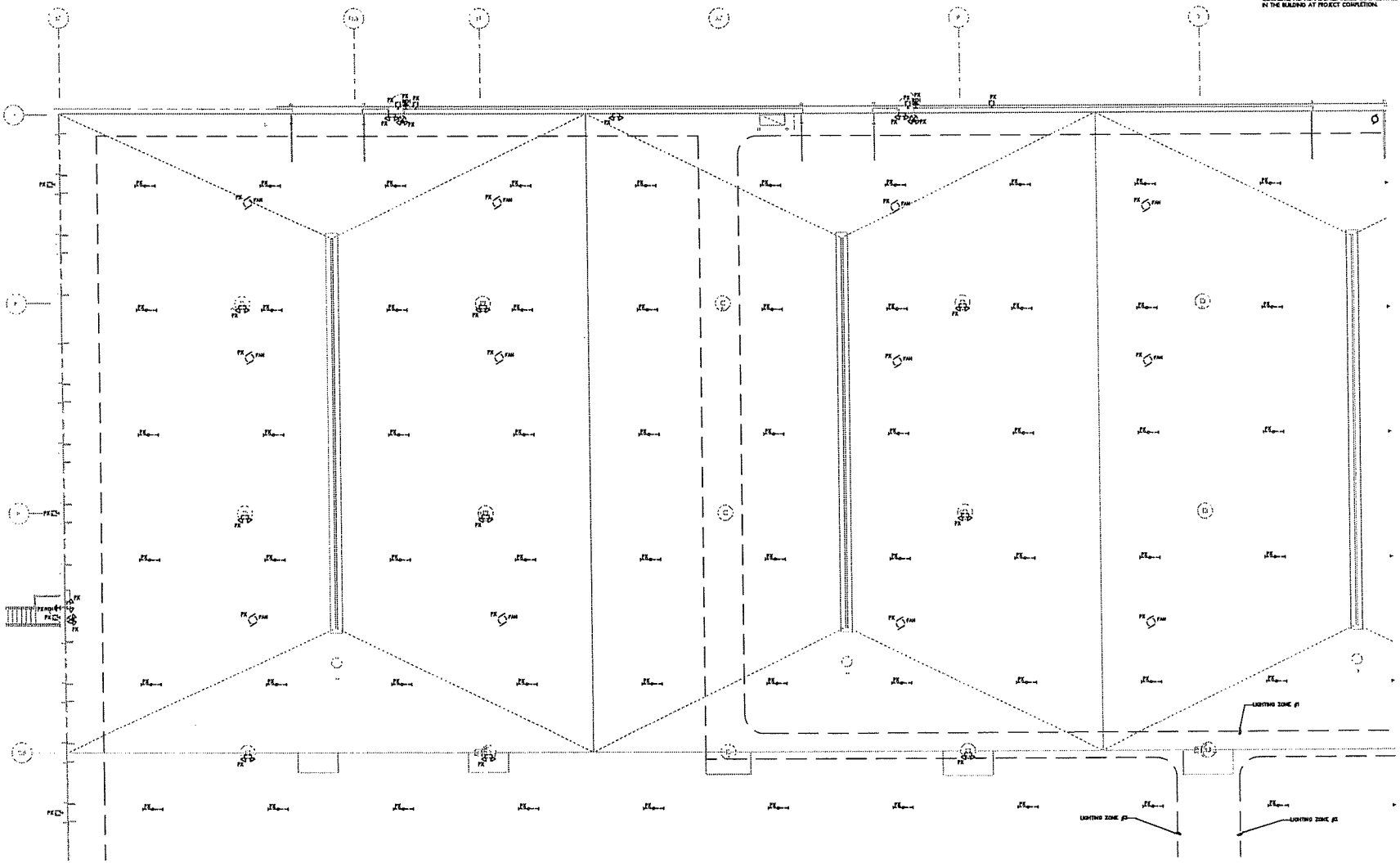

1 LIGHTING DEMO PLAN – 3901 STORAGE BLDG. – SECTION A
SCALE: 1/8" = 1'-0"

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HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

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LIGHTING DEMO PLAN - 3901 STORAGE BDLG - SECTION A

KEYPLAN: A | B | C | D

ED101A

LIGHTING DEMOLITION GENERAL NOTES:

1. REFER TO SHEET E0.1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
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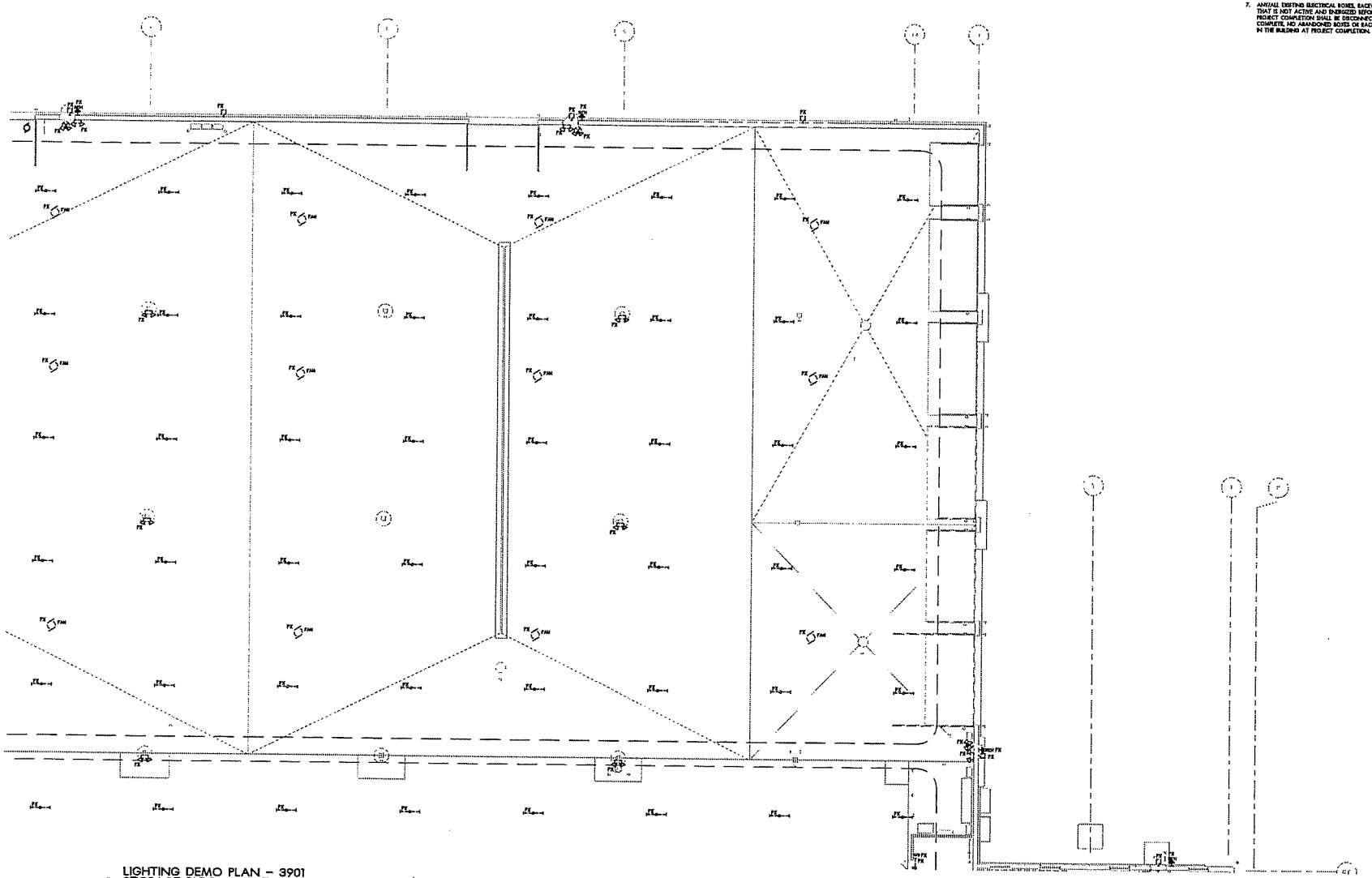

1 LIGHTING DEMO PLAN – 3901 STORAGE BLDG. – SECTION B
SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
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HEG HBN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

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LIGHTING DEMO PLAN - 3901 STORAGE BLDG. - SECTION B

KEYPLAN
A B C D

ED101B

LIGHTING DEMOLITION GENERAL NOTES:

1. REFER TO SHEET E0.1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
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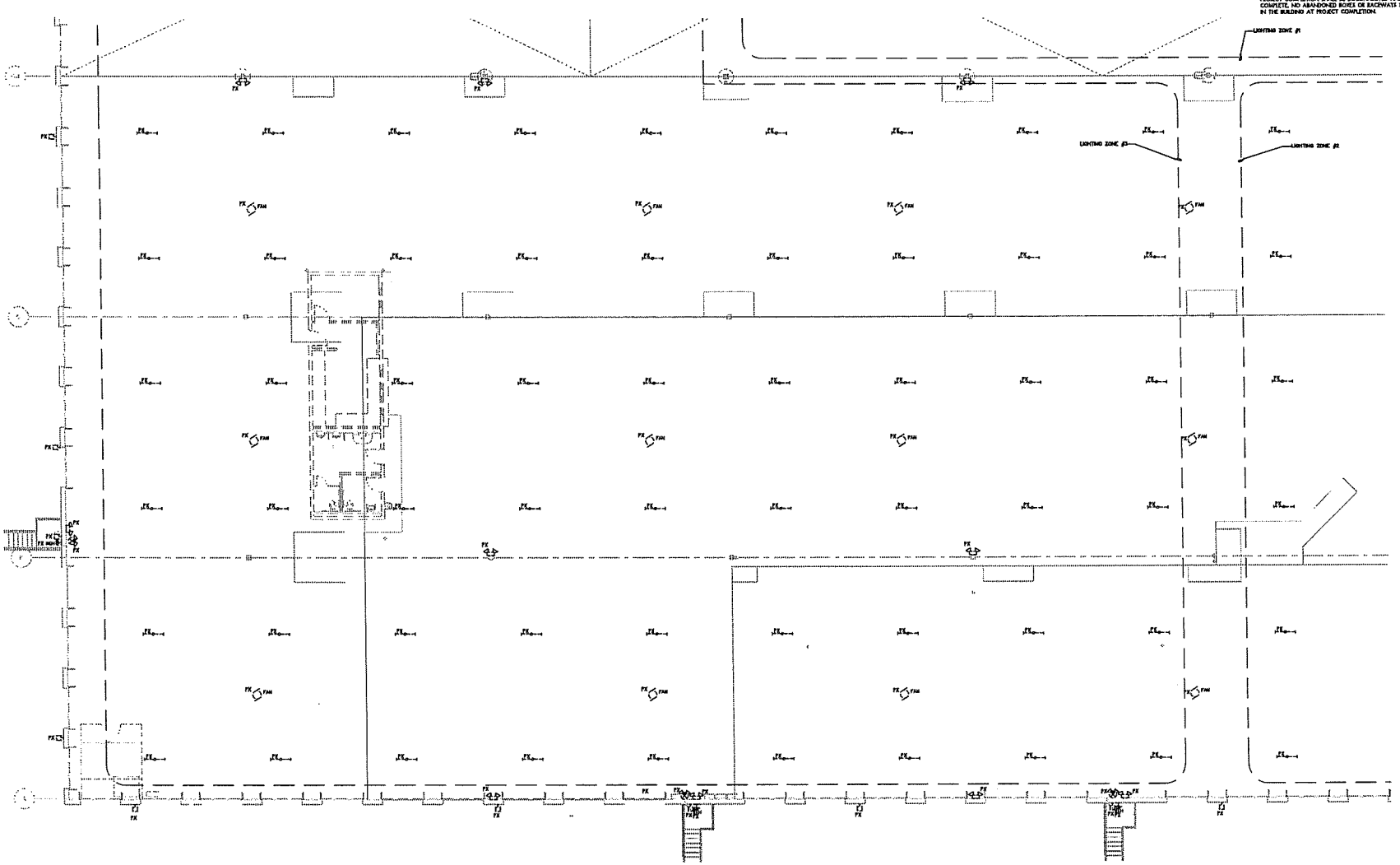

1 LIGHTING DEMO PLAN – 3901 STORAGE BLDG. – SECTION C
SCALE: 1/8" = 1'-0"

N

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HEG HEIN Engineering Group

02/16/24

SATELLITE BUS FACILITY REMODEL

2829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #901
MADISON, WI 53703

PROJECT NUMBER 213419.00

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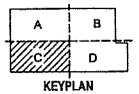
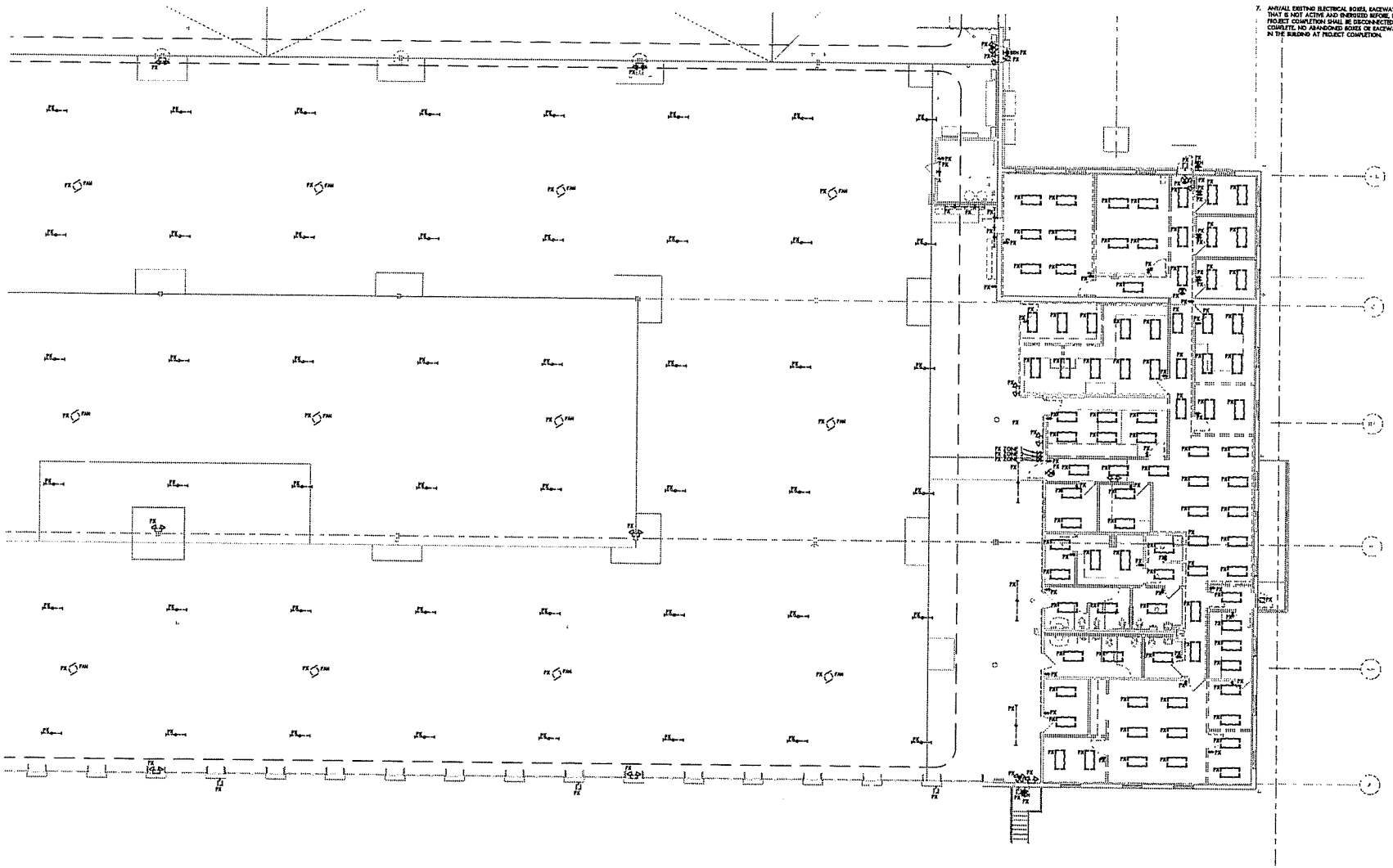
LIGHTING DEMO PLAN - 3901 STORAGE BLDG. - SECTION C



KEYPLAN

ED101C



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1 LIGHTING DEMO PLAN – 3901 STORAGE BLDG. – SECTION D
SCALE: 1/8" = 1'-0"

N

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3629-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 6/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

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LIGHTING DEMO PLAN - 3901 STORAGE BLDG. - SECTION D

KEYPLAN

A B C D

ED101D

POWER DEMOLITION GENERAL NOTES:

1. REFER TO SHEET E0.1 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION 94 DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
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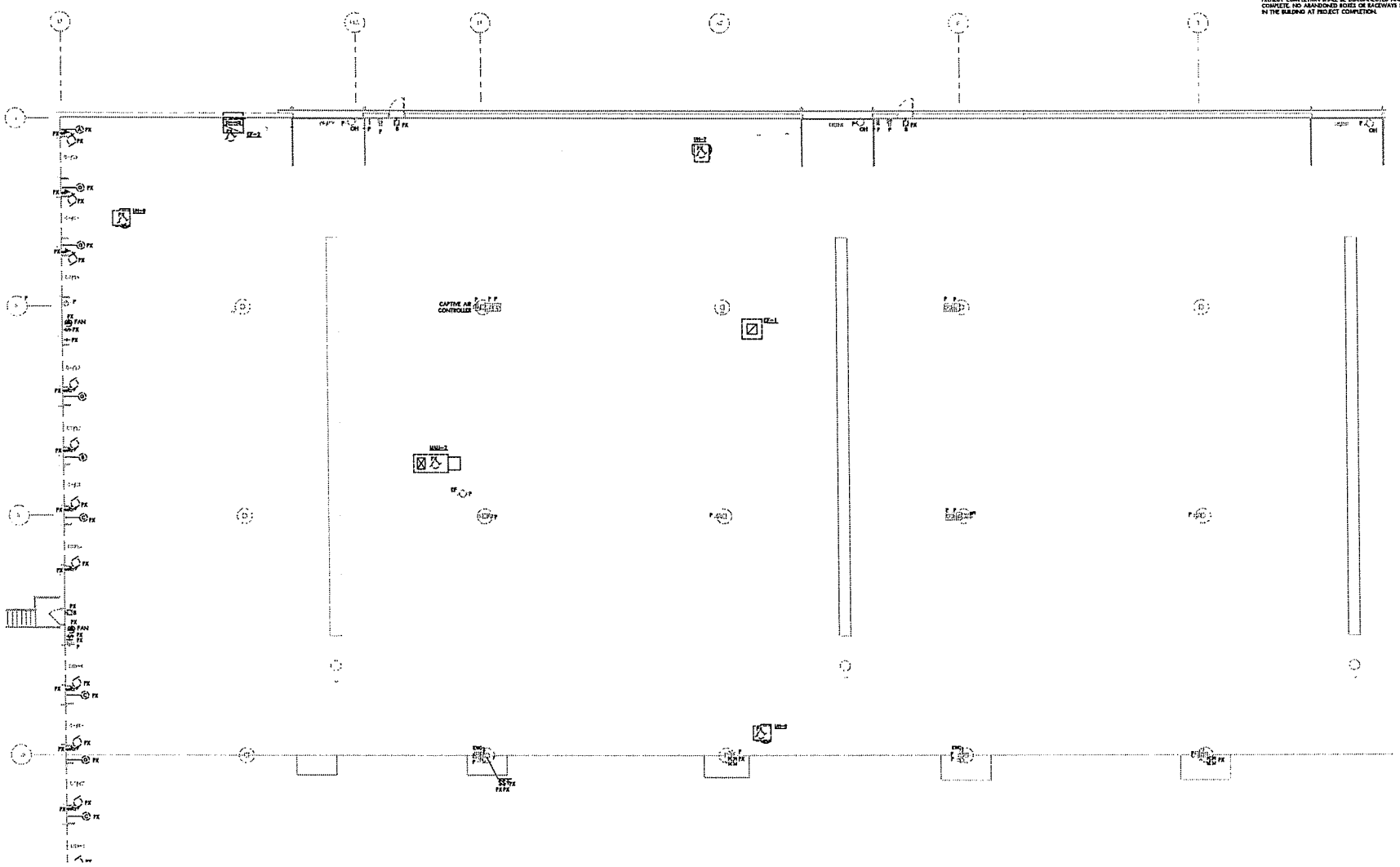

1 POWER DEMO PLAN – 3901 STORAGE BLDG. – SECTION A
SCALE: 1/8" = 1'-0"

N

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/18/2023

REVISION FOR:
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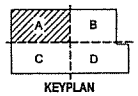
POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION A



KEYPLAN

ED201A

POWER DEMOLITION GENERAL NOTES:

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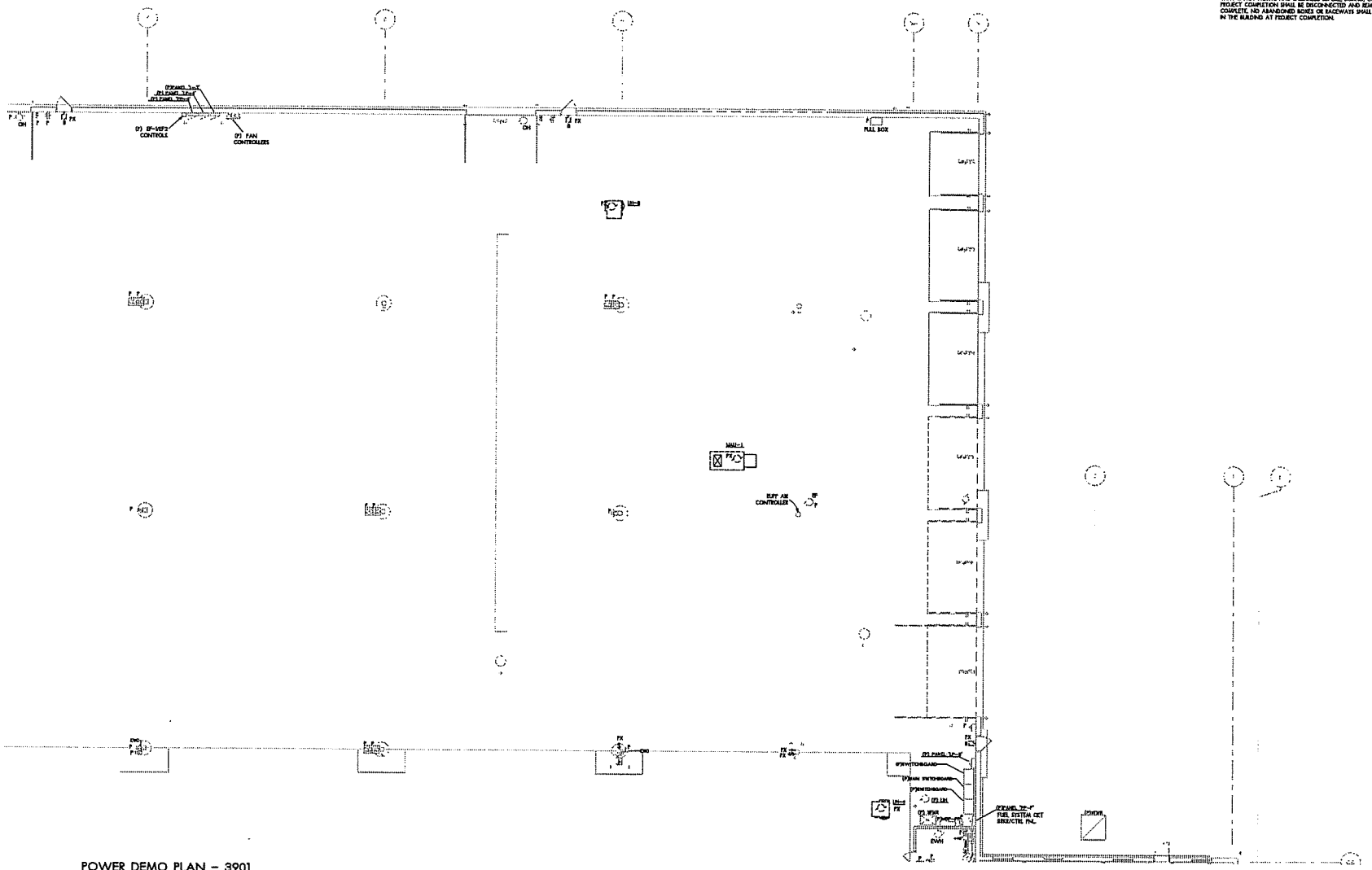

POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION B

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

N

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1348 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341900

ISSUED FOR:

BID SET	9/18/2023

REVISION FOR:

NO.	DESCRIPTION	DATE

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POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION B

KEYPLAN

A B C D

ED201B

POWER DEMOLITION GENERAL NOTES:

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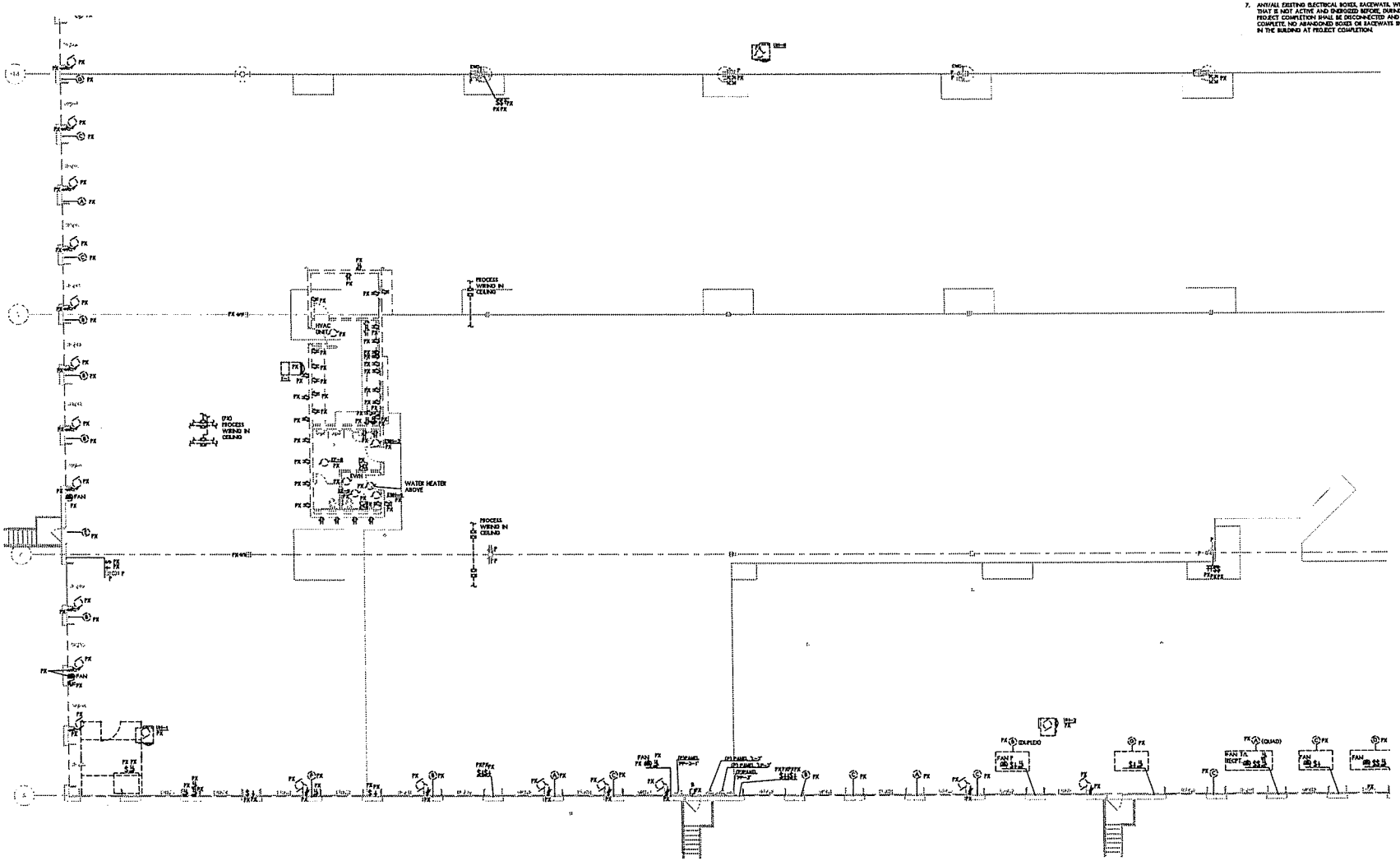

POWER DEMO PLAN – 3901 STORAGE BLDG. – SECTION C
1 SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #301
MADISON, WI 53703

PROJECT NUMBER 21341900

ISSUED FOR:
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NO. DESCRIPTION DATE

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POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION C

KEYPLAN

ED201C

POWER DEMOLITION GENERAL NOTES:

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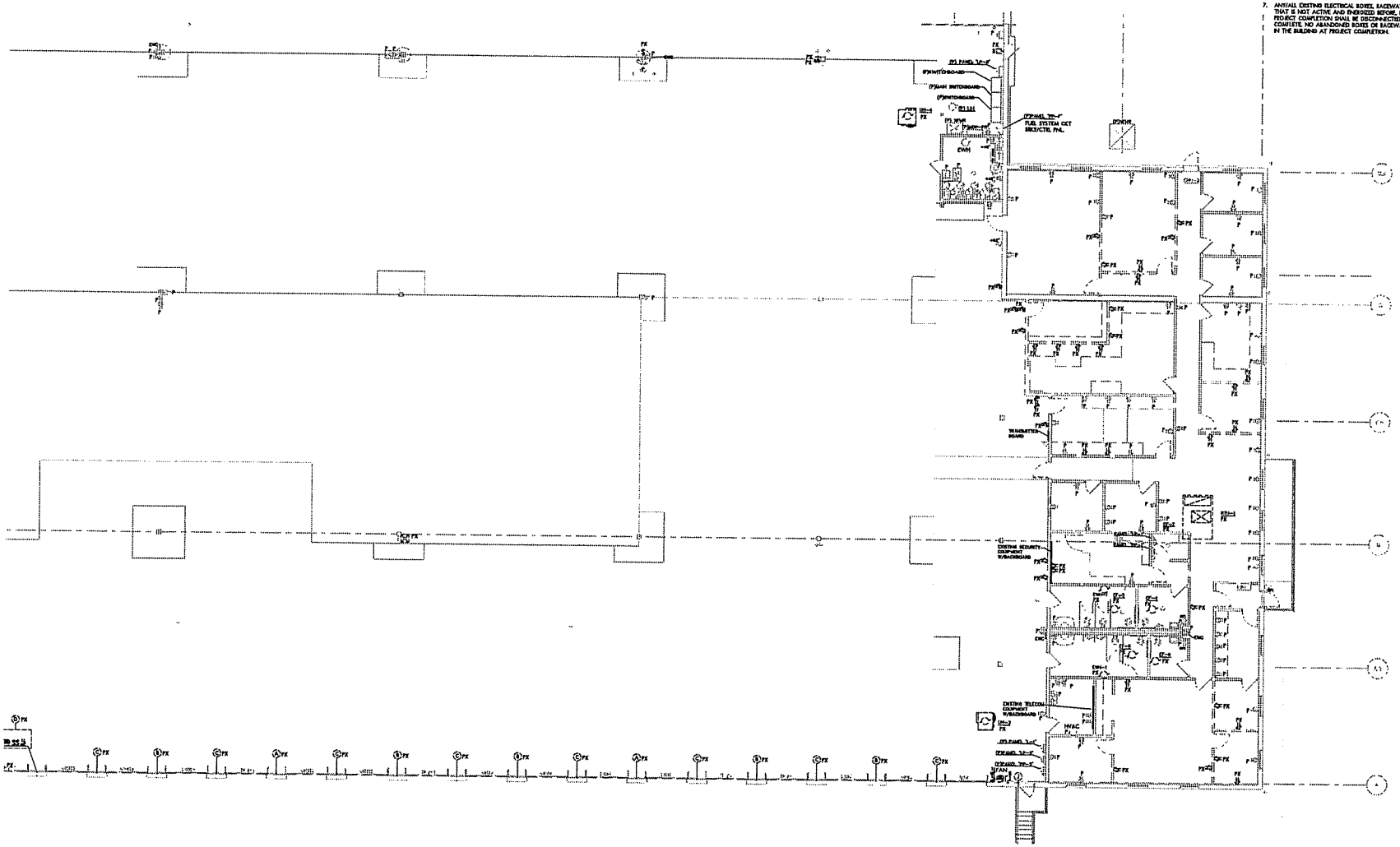
2. REFER TO TEMPORARY ELECTRICAL WORK SECTION IN DIVISION 1 GENERAL REQUIREMENTS OF PROJECT MANUAL FOR ALL TEMPORARY ELECTRICAL REQUIREMENTS.
3. ALL DARK DASHED LINES APPROXIMATELY INDICATE EXISTING DEVICES TO BE DISCONNECTED AND REMOVED, UNLESS INDICATED OTHERWISE. REMOVE ANY/ALL UNUSED BOXES, WIRING AND CONDUIT BACK TO SOURCE. ALL PROPERLY SIZED AND PROPERLY SUPPORTED CONDUIT ONLY MAY BE REUSED.
4. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED, DURING CONSTRUCTION AND SHALL BE REINSTALLED AT APPROXIMATE ORIGINAL LOCATION(S). SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
5. ALL ELECTRICAL CONDUCTORS AND CONDUITS SERVING REMOVED EQUIPMENT AND DEVICES SHALL BE COMPLETELY REMOVED. CONDUIT AND CONDUCTORS SHALL NOT BE ABANDONED IN PLACE. EXISTING CONDUITS AND PATHWAYS MAY BE REUSED. FOR NEW WORK, EXISTING CONDUCTORS MAY NOT BE REUSED, UNLESS SPECIFICALLY NOTED.
6. DISCONNECT AND REMOVE ANY AND ALL ELECTRICAL EQUIPMENT AND DEVICES, ETC. WITHIN DEMOLISHED AREAS AS REQUIRED, UNLESS NOTED OTHERWISE.
7. ANY/ALL EXISTING ELECTRICAL BOXES, RACEWAYS, WIRING, ETC. THAT IS NOT ACTIVE AND ENERGIZED BEFORE, DURING, OR AFTER PROJECT COMPLETION SHALL BE DISCONNECTED AND REMOVED COMPLETE. NO ABANDONED BOXES OR RACEWAYS SHALL REMAIN IN THE BUILDING AT PROJECT COMPLETION.



POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION D
SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

DESIGNAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

POWER DEMO PLAN - 3901 STORAGE BLDG. - SECTION D

KEYPLAN

A | B
C | D

ED201D

PANEL SCHEDULE GENERAL NOTES:

1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE EXISTING CONDITIONS AND ARE INCLUDED FOR REFERENCE ONLY TO ASSIST IN COMMUNICATING AVAILABLE CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE ANY/ALL POTENTIAL USE/REUSE.

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21349.00

ISSUED FOR:

BID SET 8/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE

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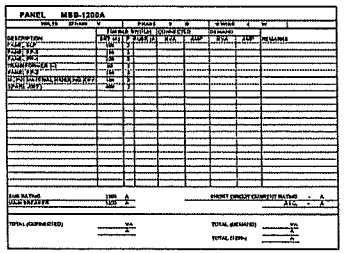
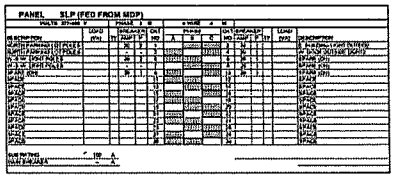
EXISTING PANEL SCHEDULES - 3829 MAINTENANCE BUILDING

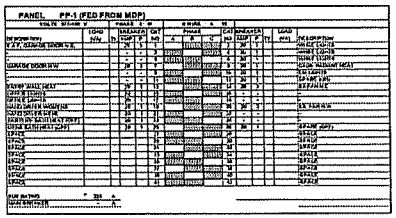
PANEL MSB-1200A



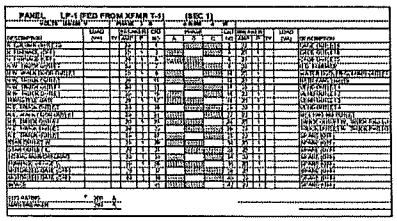
PANEL SLP (FED FROM MDP)



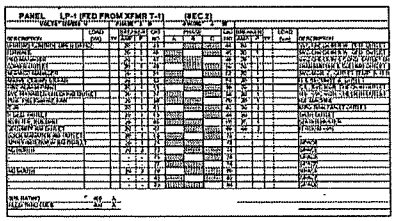
PANEL PP-1 (FED FROM MDP)



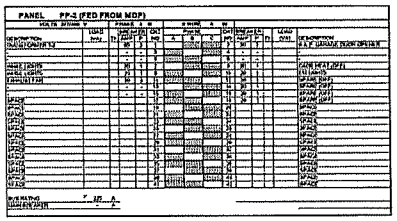
PANEL LP-1 (FED FROM XFMR T-1) (SEC-1)



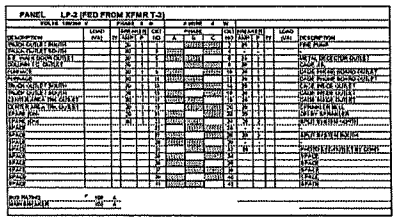
PANEL LP-1 (FED FROM XFMR T-1) (SEC-2)



PANEL PP-2 (FED FROM MDP)



PANEL LP-3 (FED FROM XFMR T-3)



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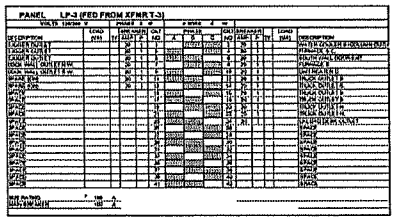
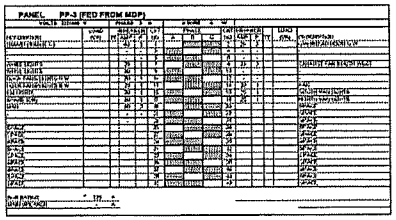


PANEL PP-3 (FED FROM MDP)



ED300

PANEL MSB-2500A

VOLTS 277/480 V — PHASE 3 Ø — 4 WIRE — W

DESCRIPTION	FUSIBLE SWITCH SIZE (AT)	P	FUSE (A	CONNECTED KVA	CONNECTED AMP	DEMAND KVA	DEMAND AMP	REMARKS
PANEL LP-5	250	3						
PANEL L-3	150	3						
PANEL LP-4	250	3						
PANEL LP-3	250	3						
PANEL LP-1	250	3						
PANEL L-2	150	3						
PANEL LP-2	250	3						
TRANSFORMER 1 FOR MDP-P	400	3						
MDC (OFF)	400	3						
PANEL LP-5	200	3						
PANEL L-1	100	3						
MDP-37 (OFF)	250	3						
MDP-2	150	3						
SPACE								
SPACE								
SPACE (OPEN NEEDS ATTN.)								

BUS RATING 2500 A — MAIN BREAKER 2500 A — SHORT CIRCUIT CURRENT RATING - A — A.I.C. - A

TOTAL (CONNECTED) ____ VA ____ A — TOTAL (DEMAND) ____ VA ____ A — TOTAL (125%) ____ A

	KVA	TOTAL (KVA)
DEMAND LIGHTING		@ 100%
DEMAND RECEP		@ 50% (10KVA @ 100%)
DEMAND MOTOR		@ 100%
DEMAND APPLIANCES		@ 100%
OTHER		@ 100%

TOTAL (DEMAND) ____ KVA ____ A

TOTAL (125%) ____ A

PANEL LP-1 (FED FROM MSB-2500A)

VOLTS 277/480 V — PHASE 3 Ø — 4 WIRE — W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
					1				2					
					3				4					
					5				6					
					7				8					
					9				10					
					11				12					
					13				14					
					15				16					
					17				18					
					19				20					
					21				22					
					23				24					
					25				26					
					27				28					
					29				30					
					31				32					
					33				34					
					35				36					
					37				38					
					39				40					
					41				42					

BUS RATING 225 A — MAIN BREAKER - A

PANEL LP-2 (FED FROM MSB-2500A)

VOLTS 277/480 V — PHASE 3 Ø — 4 WIRE — W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
DOCK DOOR 13 FAN LIGHTS			30	1	1				2	30	1			DOCK DOOR 1-3 FANS LIGHTS
DOCK DOOR 15 FAN LIGHTS			30	1	3				4	30	1			DOCK DOOR 1-3 FANS LIGHTS
DOCK DOOR 15 FAN LIGHTS			30	1	5				6	30	1			DOCK DOOR 1-3 FANS LIGHTS
DOCK DOOR 15 FAN LIGHTS			30	1	7				8	30	1			EXTERIOR LIGHTS + NLT CAGE LITES
DOCK DOOR 15 FAN LIGHTS			30	1	9				10	30	1			PRE-RISE WALL PACKS
DOCK DOOR 15 FAN LIGHTS			30	1	11				12	30	1			EAST PARKING POLES
CEILING FANS			30	1	13				14	30	1			EAST PARKING POLES
SPARE (OFF)			30	1	15				16	20	1			SWAK HEATERS
SPARE (OFF)			30	1	17				18	30	1			SWAK 1 HEATERS
SPARE (OFF)			30	1	19				20	30	1			SWAK 1 & 2 LIGHTS
CDE CONVEYOR BELT (OFF)			30	3	21				22					SPACE
-		-	-	-	23				24					SPACE
-		-	-	-	25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A — MAIN BREAKER - A

PANEL LP-3 (FED FROM MSB-2500A)

VOLTS 277/480 V — PHASE 3 Ø — 4 WIRE — W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
SPACE					1				2	30	1			DOCK DOOR 31-36 FAN LIGHTS
DOCK DOOR 33-34 FAN LIGHTS			20	1	3				4	20	1			DOCK DOOR 28-30 FAN LIGHTS
DOCK DOOR 35-36 FAN LIGHTS			20	1	5				6	20	1			DOCK DOOR 31-36 FAN LIGHTS
DOCK DOOR 31-35 FAN LIGHTS			20	1	7				8	20	1			DOCK DOOR 43-45 FAN LIGHTS
DOCK DOOR 33-35 FAN LIGHTS			20	1	9				10	20	1			DOCK DOOR 44-45 FAN LIGHTS
DOCK DOOR 36-37 FAN LIGHTS			20	1	11				12	20	1			DOCK DOOR 46-47 FAN LIGHTS
DOCK DOOR 7 FAN LIGHTS			20	1	13				14	20	1			W. WALL PACKS
NIGHT LIGHTS CAGE LIGHTS EXISTING			20	1	15				16	20	1			DOCK DOOR 38-39 FAN LIGHTS
CEILING FANS			20	1	17				18	20	1			DOCK DOOR 40-41 FAN LIGHTS
E. PARKING POLES CENTER			20	1	19				20	20	3			COMPACTOR
REMOTE BATH ROOM HEAT			20	2	21				22	-	-			-
REMOTE OFFICE AND BATH LIGHTS		-	-	-	23				24	-	-			-
WAITING PACKAGING CAGE SOUTH			20	1	25				26					SPACE
E. PARKING LOT POLES			20	1	27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A — MAIN BREAKER - A

PANEL LP-4 (FED FROM MSB-2500A)

VOLTS 277/480 V — PHASE 3 Ø — 4 WIRE — W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
EMAUEL FAN CENTER			30	3	1				2	20	1			WALL PACKS
-		-	-	-	3				4	20	1			NIGHT LIGHTS
-		-	-	-	5				6	20	1			CEILING FANS (OFF)
VAN LINE SWAK 4 LIGHTS (OFF)			30	1	7				8	20	1			HOME DELIVERY LIGHTS
SWAK 4 VAN LINE FAN (OFF)			30	1	9				10	20	1			FAN
SPARE (OFF)			30	1	11				12	30	1			SPARE (OFF)
VAN LINE SWAK 3 LIGHTS			20	1	13				14	20	1			W. ADDITION ALL EXIT EMERGENCY
SWAK 3 VAN LINE FAN			30	1	15				16	30	1			300 VAN LINE LIGHTS
(UNLABELED)			30	1	17				18	30	1			SWAK 300 FANS VAN LINE (OFF)
EXISTING FAN FOR MDAP			30	3	19				20					SPACE
-		-	-	-	21				22					SPACE
-		-	-	-	23				24					SPACE
DOCK DOOR 30 LIGHTS & FANS			30	1	25				26					SPACE
DOCK DOOR 34, 35 LIGHTS & FANS			30	3	27				28					SPACE
DOCK DOOR 32, 33 LIGHTS & FANS			-	-	29				30					SPACE
DOCK DOOR 30, 31 LIGHTS & FANS			-	-	31				32					SPACE
DOCK DOOR 28, 29 LIGHTS & FANS			30	1	33				34					SPACE
N.W. WALL PACKS (4)			30	1	35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A — MAIN BREAKER - A

PANEL LP-5 (FED FROM MSB-2500A)

VOLTS 277/480 V — PHASE 3 Ø — 4 WIRE — W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
WALL PACK P.E. EXIST THIS DOOR			20	1	1				2	30	3			MAKEUP AIR UNIT
MAKE UP AIR CONTROL			20	1	3				4	-	-			-
N.W. POLES			20	1	5				6	-	-			-
WEST POLES			20	1	7				8	30	1			SPRINKLER AL HEAT
N. POLES			20	1	9				10	15	3			W. OFFICE ADDITION RTU
N. POLES			20	1	11				12	-	-			W. OFFICE ADDITION RTU
SPACE					13				14	-	-			W. OFFICE ADDITION RTU
SPACE					15				16	20	3			W. OFFICE HALL ADDITION HEAT
SPACE					17				18	-	-			W. OFFICE ADDITION ADDITION LTS
SPACE					19				20					SPACE
SPACE					21				22					SPACE
SPACE					23				24					SPACE
SPACE					25				26					SPACE
SPACE					27				28					SPACE
SPACE					29				30					SPACE
SPACE					31				32					SPACE
SPACE					33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A — MAIN BREAKER - A

PANEL L-1 (FED FROM MSB-2500A)

VOLTS 277/480 V — PHASE 3 Ø — 4 WIRE — W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
HIGH BAY LIGHTS ROW 1			20	1	1				2	20	1			HIGH BAY LIGHTS ROW 7
HIGH BAY LIGHTS ROW 2			20	1	3				4	20	1			HIGH BAY LIGHTS ROW 8
HIGH BAY LIGHTS ROW 3			20	1	5				6	20	1			HIGH BAY LIGHTS ROW 9
N. FLOOR LIGHTS			20	1	7				8	20	1			HIGH BAY LIGHTS ROW 4
SPARE (OFF)			30	1	9				10	20	1			HIGH BAY LIGHTS ROW 5
SPARE (ON)			30	1	11				12	20	1			HIGH BAY LIGHTS ROW 6
SPARE (ON)			30	1	13				14					SPACE
SPACE					15				16					SPACE
SPACE					17				18					SPACE
SPACE					19				20					SPACE
SPACE					21				22					SPACE
SPACE					23				24					SPACE

BUS RATING 100 A — MAIN BREAKER - A

PANEL L-2 (FED FROM MSB-2500A)

VOLTS 277/480 V — PHASE 3 Ø — 4 WIRE — W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
HIGH BAY LIGHTS ROW 12			20	1	1				2	20	1			HIGH BAY LIGHTS ROW 17
HIGH BAY LIGHTS ROW 11			20	1	3				4	20	1			HIGH BAY LIGHTS ROW 16
HIGH BAY LIGHTS ROW 10			20	1	5				6	20	1			HIGH BAY LIGHTS ROW 15
GRAY LIGHTS			20	1	7				8	20	1			HIGH BAY LIGHTS ROW 14
SOFT FANS			20	1	9				10	20	1			HIGH BAY LIGHTS ROW 17
SOFT LIGHTS			20	1	11				12	20	1			HIGH BAY LIGHTS ROW 18
SOFT FANS			20	1	13				14	20	1			SOFT LIGHTS LOAD AREA 3 SPLITS
SOFT FANS			20	1	15				16	20	1			SOFT FANS
SOFT & SMALLS LIGHT			20	1	17				18					SPACE
SPACE					19				20					SPACE
SPACE					21				22					SPACE
SPACE					23				24					SPACE

BUS RATING 100 A — MAIN BREAKER - A

PANEL L-3 (FED FROM MSB-2500A)

VOLTS 277/480 V — PHASE 3 Ø — 4 WIRE — W

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	PHASE B	PHASE C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
HIGH BAY LIGHTS ROW 11			20						2	30	1			HIGH BAY LIGHTS ROW 6
HIGH BAY LIGHTS ROW 12			30	1	3				4	20	1			HIGH BAY LIGHTS ROW 5
HIGH BAY LIGHTS ROW 13			20	1	5				6	30	1			HIGH BAY LIGHTS ROW 4
HIGH BAY LIGHTS ROW 8			20	1	7				8	30	1			HIGH BAY LIGHTS ROW 3
HIGH BAY LIGHTS ROW 9			20	1	9				10	30	1			HIGH BAY LIGHTS ROW 2
HIGH BAY LIGHTS ROW 10			30	1	11				12	30	1			HIGH BAY LIGHTS ROW 1
HIGH BAY LIGHTS ROW 14			20	1	13				14	30	3			HIGH BAY LIGHTS ROW 17
HIGH BAY LIGHTS ROW 15			30	3	15				16	-	-			HIGH BAY LIGHTS ROW 16
HIGH BAY LIGHTS ROW 16					17				18					SPACE
UNLABELED			30	1	19				20					SPACE
SPARE					21				22					SPACE
SPACE					23				24					SPACE

BUS RATING 100 A — MAIN BREAKER - A

PANEL SCHEDULE GENERAL NOTES:

1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE EXISTING CONDITIONS AND ARE INCLUDED FOR REFERENCE ONLY TO ASSIST IN COMMUNICATING AVAILABLE CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE ANY/ALL POTENTIAL USE/REUSE.

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ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE

DRAWN BY Author

CHECKED BY Checker

EXISTING PANEL SCHEDULES - 3901 STORAGE BLDG.

ED301A

PANEL MDP-PP (FED FROM MSB-2500A VIA XFMR 1)

VOLTS 120/208 V — PHASE 3 # — 4 WIRE

DESCRIPTION	FUSIBLE SWITCH SIZE (A)	P	FUSE (A	CONNECTED KVA	AMP	DEMAND KVA	AMP	REMARKS
PANEL PP-1	200	3						
PANEL PP-3	200	3						
PANEL PP-4 (GARBAGE)	200	3						
PANEL PP-5	200	3						
PANEL PP-2 1st	125	3						
PANEL PP-2	200	3						
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
SPACE								
MAIN	800	3						

BUS RATING 2000 A — MAIN BREAKER 3500 A — SHORT CIRCUIT CURRENT RATING - A — A.I.C. - A

TOTAL (CONNECTED) VA / A — TOTAL (DEMAND) VA / A — TOTAL (125%) A

	KVA	TOTAL 60(VA)
DEMAND LIGHTING	@ 100%	
DEMAND RECEP	@ 50%	112KVA @ 100%
DEMAND MOTOR	@ 100%	
DEMAND APPLIANCES	@ 100%	
OTHER	@ 100%	

TOTAL (DEMAND) KVA — TOTAL (125%) A

PANEL PP-1 (FED FROM MDP-PP-800A)

VOLTS 120/208 V — PHASE 3 # — 4 WIRE

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	B	C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
					1				2					
					3				4					
					5				6					
					7				8					
					9				10					
					11				12					
					13				14					
					15				16					
					17				18					
					19				20					
					21				22					
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					31				32					
					33				34					
					35				36					
					37				38					
					39				40					
					41				42					

BUS RATING 225 A — MAIN BREAKER - A

PANEL PP-2 (FED FROM MDP-PP-800A)

VOLTS 120/208 V — PHASE 3 # — 4 WIRE

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	B	C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
VENDING EAST OUTLETS			70	3	1				2	20	1			DOCK DOOR 14,16,18 OUTLETS
-			-	-	3				4	20	1			DOCK DOOR 14,16,18 OUTLETS
VENDING WEST OUTLETS			-	-	5				6	20	1			DOCK DOOR 14,16,18 OUTLETS
VENDING WEST OUTLETS			30	1	7				8	20	1			N UNIT HEATERS
OFFICE WALL OUTLETS			30	1	9				10	20	1			N CAGE N WHSE OUTLETS
SPRINKLER RM OUTLETS			20	1	11				12	20	1			SPRINKLER BELL
LIGHTING PANEL CONTROL			30	1	13				14	20	1			TRUCK OUTLET POLE 1 BOTTOM
TMS + CNTRLWS GATE			30	1	15				16	20	1			TRUCK OUTLET POLE 2 BOTTOM
FIRE ALARM PANEL			20	1	17				18	20	1			TRUCK OUTLET POLE 2 BOTTOM
BUILDING BUSH (OFF)		R	20	1	19				20	20	1			TRUCK OUTLET POLE 2 BOTTOM
TRUCK OUTLET POLE 2 TOP			20	2	21				22	20	1			TRUCK OUTLET POLE 3 BOTTOM
-			-	-	23				24	20	1			TRUCK OUTLET POLE 4 BOTTOM
CDS DOOR 7			20	1	25				26	20	1			TRUCK OUTLET POLE 4 BOTTOM
CDS DOOR 9			20	1	27				28	20	1			TRUCK OUTLET POLE 4 BOTTOM
CDS DOOR 13			20	1	29				30	20	2			TRUCK OUTLET POLE 3 TOP
CDS DOOR 13			20	1	31				32	-	-			-
CENTER WOOD WALL WHS OUTLETS			20	1	33				34	20	2			TRUCK OUTLET POLE 4 TOP
CENTER WOOD WALL WHS OUTLETS			20	1	35				36	-	-			-
CENTER WOOD WALL WHS OUTLETS			20	1	37				38	20	2			TRUCK OUTLET POLE 1 TOP
TRIMBLE SPLIT SYSTEM			20	2	24				40	-	-			-
-			-	-	41				42	20	1			TCP-1

BUS RATING 225 A — MAIN BREAKER - A

PANEL PP-3 (FED FROM MDP-PP-800A)

VOLTS 120/208 V — PHASE 3 # — 4 WIRE

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	B	C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
DOCK DOOR 33-35 OUTLETS			20	1	1				2	20	1			DOCK DOOR 28,30,32 OUTLETS
DOCK DOOR 25,31 OUTLETS			20	1	3				4	20	1			DOCK DOOR 34-36 OUTLETS
EAST UNIT HEATER			20	1	5				6	20	1			SOUTH UNIT HEATER
SUB PANEL (PP-3-1) TO RIGHT			100	3	7				8	20	1			DOCK DOOR 34-40 OUTLETS
-			-	-	9				10	20	1			DOCK DOOR 41-43 OUTLETS
-			-	-	11				12	20	1			DOCK DOOR 43-47 OUTLETS
EYE WASH			50	2	13				14	20	1			PARTS CAGE OUTLETS
-			-	-	15				16	20	1			PARTS CAGE OUTLETS
#WAH 1			20	1	17				18	20	1			PARTS CAGE OUTLETS
#WAH 3			20	1	19				20	20	1			PARTS CAGE OUTLETS
#WAH 3			20	1	21				22	20	1			WOMENS HAND DRYER
#WAH 4			20	1	23				24	20	1			PARTS CAGE OUTLETS
SMALL #WAH			20	1	25				26	20	1			PARTS CAGE OUTLETS
SRTG-1			20	1	27				28	20	1			SRTG-2
SRTG-3			20	1	29				30	20	1			SRUP-1
SRTG-3			20	1	31				32	20	1			SRUP-2 (OFF)
BLOCK HEATER PLUG DOOR 33 (OFF)			20	1	33				34	20	1			BLOCK HEATER PLUG DOOR 34 (OF
BLOCK HEATER PLUG DOOR 29 (OFF)			20	1	35				36	20	1			BLOCK HEATER PLUG DOOR 34 (OF
BLOCK HEATER PLUG DOOR 41 (OFF)			20	1	37				38	20	1			BLOCK HEATER PLUG DOOR 36 (OF
BLOCK HEATER PLUG DOOR 41 (OFF)			20	1	39				40	20	1			BLOCK HEATER PLUG DOOR 38 (OF
BLOCK HEATER PLUG DOOR 31 (OFF)			20	1	41				42	20	1			BLOCK HEATER PLUG DOOR 37 (OF

BUS RATING 225 A — MAIN BREAKER - A

PANEL PP-4 (FED FROM MDP-PP-800A)

VOLTS 120/208 V — PHASE 3 # — 4 WIRE

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	B	C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
CENTER DOOR OPENER & OUTLETS			20	1	1				2	50	1			N DOOR OPENER & ROOF OUTLET
E. DOOR OPENER & OUTLETS			20	1	3				4	20	1			W. UNIT HEATER
S. UNIT HEATER & OUTLETS			20	1	5				6	20	2			MAKEUP AIR OUTLET CONTROL
R. COLUMN OUTLETS & EWC			20	1	7				8	-	-			W. FREEZURE WASHER COLUMN C
CENTER COLUMN OUTLETS & EWC			20	1	9				10	20	1			S W. GARAGE DOOR OPENER
D. COLUMN OUTLET & EWC			20	1	11				12	20	1			S. UNIT HEAT
CAGE DED. OUTLET FOR DATA			20	1	13				14	20	2			W. UNIT HEAT FAN SOUTH
S. WALL OUTLETS DOCK 54-56			20	1	15				16	-	-			-
S. WALL OUTLETS DOCK 50-53			20	1	17				18					SPACE
S. WALL OUTLETS DOCK 48-49			20	1	19				20					SPACE
MAKE UP AIR SOUTH			30	3	21				22					SPACE
-			-	-	23				24					SPACE
-			-	-	25				26					SPACE
SPARE7 (OFF)			20	1	27				28					SPACE
SPARE9 (OFF)			20	1	29				30					SPACE
ADT SOUTH			20	1	31				32					SPACE
ADT NORTH			20	1	33				34					SPACE
SPACE					35				36					SPACE
SPACE					37				38					SPACE
SPACE					39				40					SPACE
SPACE					41				42					SPACE

BUS RATING 225 A — MAIN BREAKER - A

PANEL PP-3-1 (FED FROM PP-3-100A)

VOLTS 120/208 V — PHASE 3 # — 4 WIRE

DESCRIPTION	LOAD (VA)	TY	BREAKER AMP	P	CKT NO	PHASE A	B	C	CKT NO	BREAKER AMP	P	TY	LOAD (VA)	DESCRIPTION
VENDING EAST OUTLET			20	3	1				2	20	2			REMOTE OFFICE OUTL FURNACES
-			-	-	3				4	-	-			-
-			-	-	5				6	20	3			ICE MAKER
SPECIAL HANDLING OUTLET			30	2	7				8	-	-			REMOTE BATH OUTLET AND FANS
SPECIAL HANDLING FAN			-	-	9				10	50	2			WATER HEATER
SPACE			-	-	11				12	-	-			-
WAITING PKG DED OUTLET			20	3	13				14	20	2			REMOTE OFFICE CONDENSING UNI
			-	-	15				16	-	-			REMOTE BATHROOM HAND DRYER
			-	-	17				18	20	1			DOOR 37 OUTLET WATER COOLER
SOUTH SERV. MINOR OUTLET			20	3	19				20	20	3			DED. OUTLET NORTH
SOUTH SERV. MINOR OUTLET			-	-	21				22	-	-			DED. OUTLET NORTH REMOTE OFFI
VRF + DATA SOUTH MINOR OUTLETS			-	-	23				24	-	-			PRINTER OUTLET REMOTE OFFICE
MICRO COFFEE QUAD			30	3	25				26	20	3			PRINTER OUTLET REMOTE OFFICE
SENIOR MGR. REMOTE OFFICE OUTLET			-	-	27				28	-	-			CHARGER OUTLET REMOTE OFFICE
SENIOR MGR. REMOTE OFFICE OUTLET			-	-	29				30	-	-			-

BUS RATING 225 A — MAIN BREAKER - A

PANEL SCHEDULE GENERAL NOTES:

1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE EXISTING CONDITIONS AND ARE INCLUDED FOR REFERENCE ONLY TO ASSIST IN COMMUNICATING AVAILABLE CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE ANY/ALL POTENTIAL USE/REUSE.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

ISSUED FOR:
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NO. DESCRIPTION DATE

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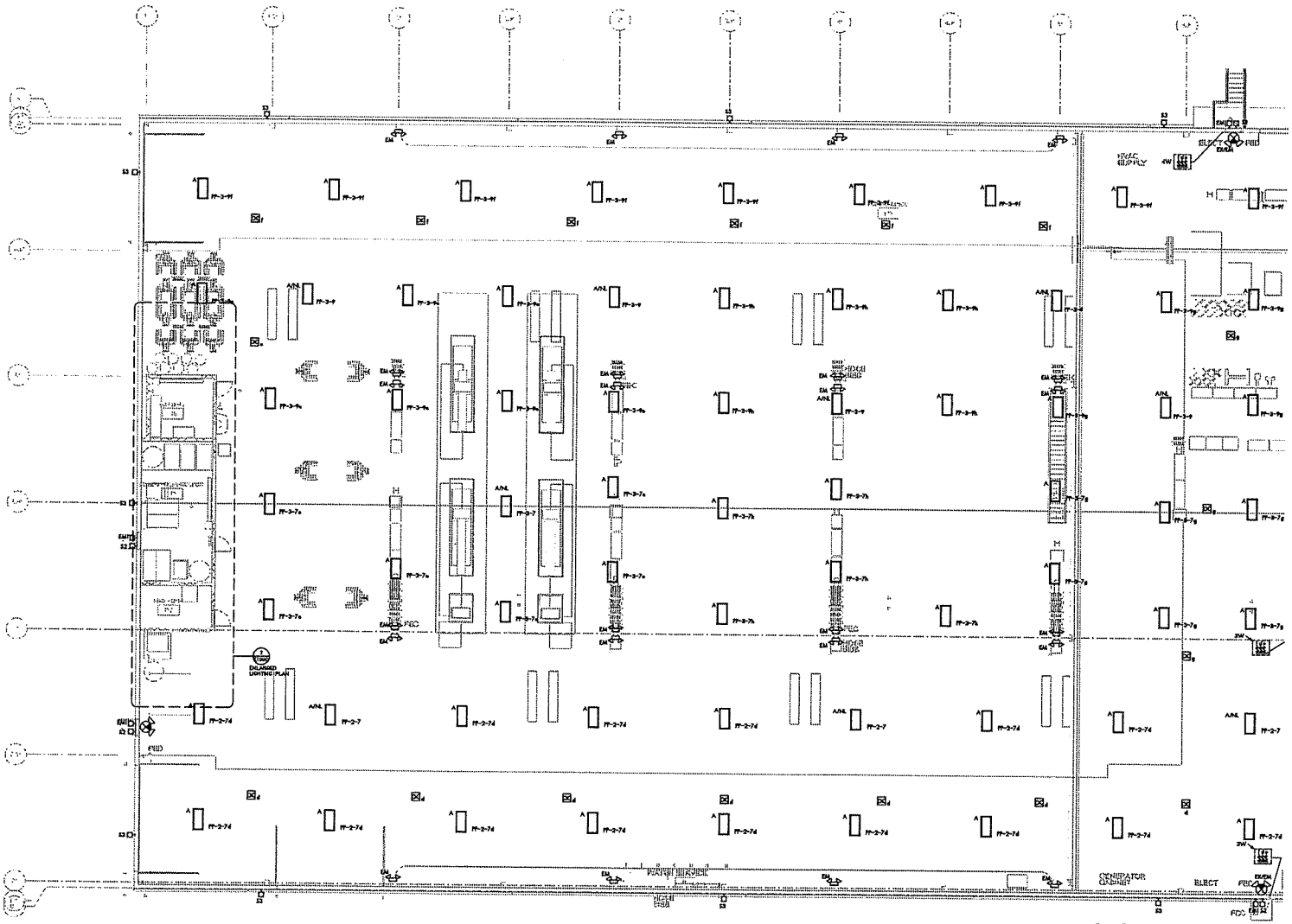
EXISTING PANEL SCHEDULES - 3901 STORAGE BLDG.

ED301B



LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION A

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

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E0.0 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FED) AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/OWNER-REAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE/EGRESS LIGHTING AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'-0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS FEASIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. UNLESS SPECIFIED OTHERWISE REUSE EXISTING CIRCUITS FOR NEW LIGHTING FIXTURES.
11. IN GENERAL, THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED, AND REPLACED. ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 20'-0" A.F.F.
12. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS. LUTRON ENERGI SAVR WIRELESS NODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUBS, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

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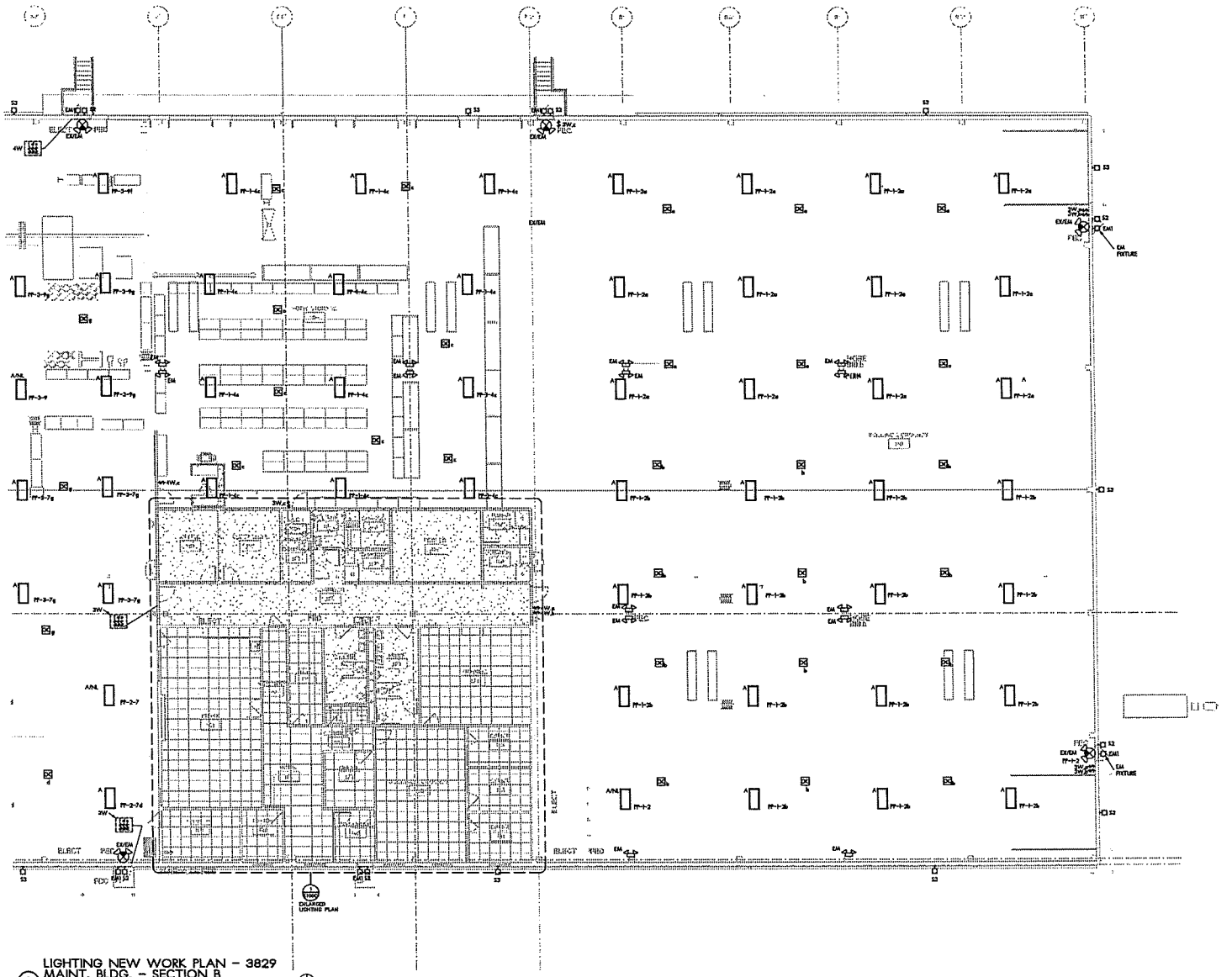
LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. SECTION A

KEYPLAN

E100A



LIGHTING NEW WORK PLAN – 3829 MAINT. BLDG. – SECTION B

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

N

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E0.0 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FIXED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/GENERAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE/EGRESS LIGHTING AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. UNLESS SPECIFIED OTHERWISE REUSE EXISTING CIRCUITS FOR NEW LIGHTING FIXTURES.
11. IN GENERAL, THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED, AND REPLACED. ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 30'-0" A.F.F.
12. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS. LUTRON ENERGI SAVR WIRELESS MODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUBS, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.

Engberg Anderson ARCHITECTS

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ORIGINAL

SATELLITE BUS FACILITY REMODEL

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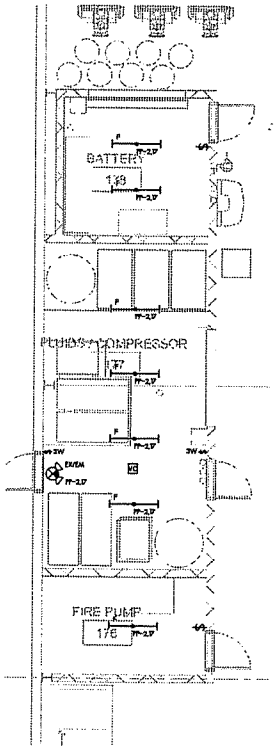
LIGHTING NEW WORK PLAN - 3829 MAINT. BLDG. SECTION B

A B
KEYPLAN

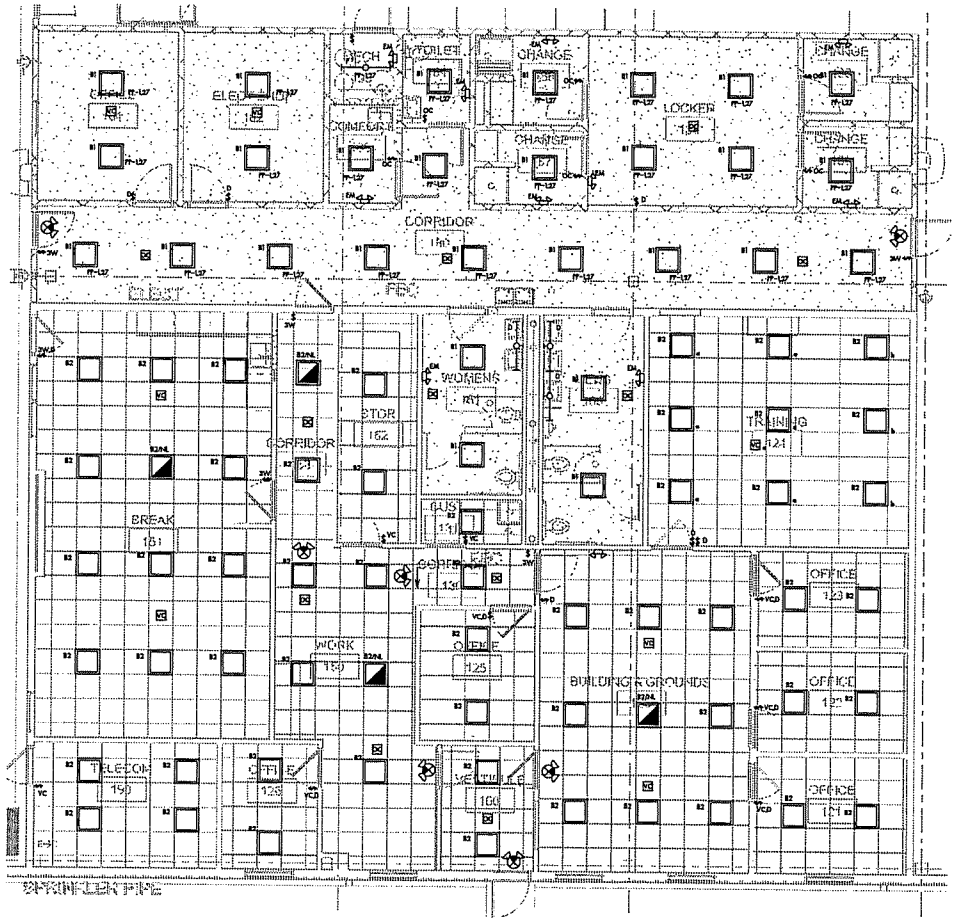
E100B

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E0.0 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATH THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/GENERAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE/EGRESS LIGHTING AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. UNLESS SPECIFIED OTHERWISE REUSE EXISTING CIRCUITS FOR NEW LIGHTING FIXTURES.
11. IN GENERAL, THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED, AND REPLACED. ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 20'-0" A.F.F.
12. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS. LUTECH ENERGI SAVR WIRELESS NODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUBS, PROCESSOR, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.



2 MAINTENANCE BUILDING
BATTERY RM, BULK FLUIDS/ COMPRESSOR, FIRE PUMP RM.
SCALE: 1/4" = 1'-0"



1 MAINTENANCE BUILDING
OFFICE AREA
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
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HEG HEIN Engineering Group

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PROJECT NUMBER 2134119.00

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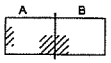
LIGHTING NEW WORK - 3829 MAINT. BLDG. ENLARGED PLANS

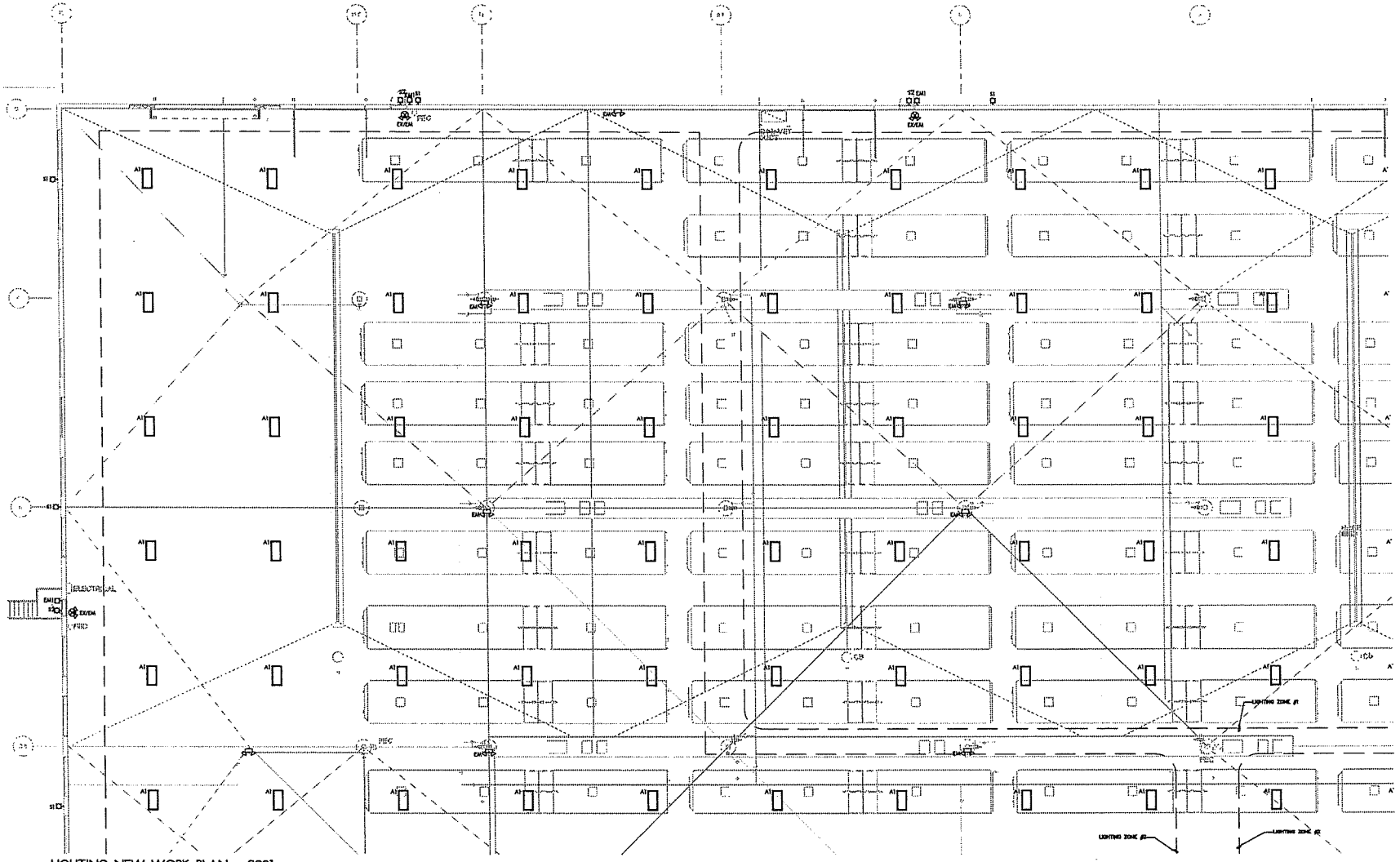


KEYPLAN

E100C

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E0.0 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/DESIGN-BUILD CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'-0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. UNLESS SPECIFIED OTHERWISE REUSE EXISTING CIRCUITS FOR NEW LIGHTING FIXTURES.
11. IN GENERAL, THE EXISTING LIGHTING INFRASTRUCTURE (CIRCUITRY/PLUGS) SHALL REMAIN. THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED AND REPLACED APPROXIMATELY ONE-FOR-ONE AS SHOWN WITH NEW CONTROLLED FIXTURES. ANY/ALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 20'-0" A.F.F.
12. LIGHTING THROUGHOUT THIS BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS, LUTRON ENERGI SAVR WIRELESS NODES W/ FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUBS, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANY/ALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.



LIGHTING NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION A

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

N

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

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CHECKED BY Checker

LIGHTING NEW WORK PLAN - 3901 STORAGE BDLG - SECTION A

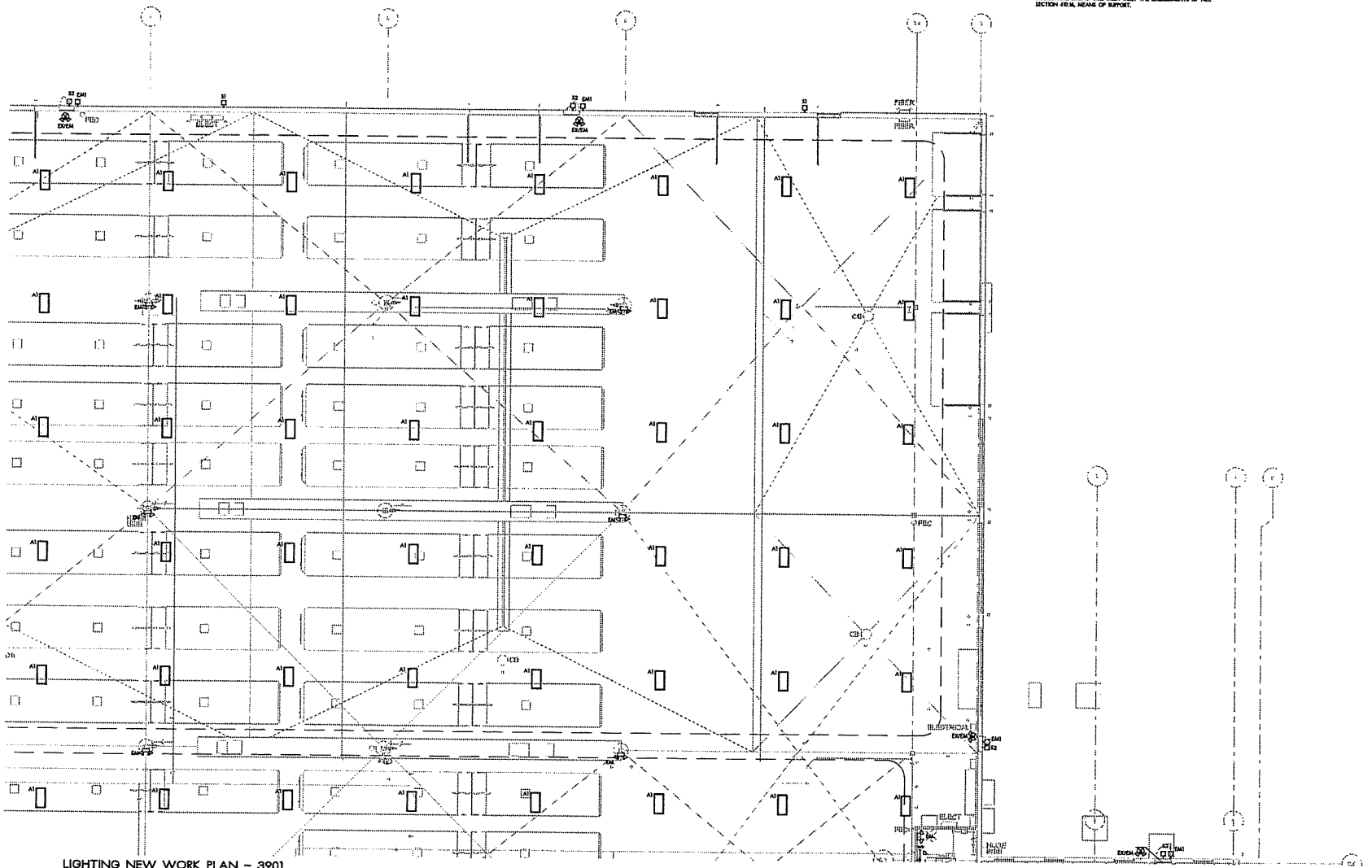
KEYPLAN

A B C D

E101A

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E0.0 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/GENERAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 4'0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
10. UNLESS SPECIFIED OTHERWISE REUSE EXISTING CIRCUITS FOR NEW LIGHTING FIXTURES.
11. IN GENERAL, THE EXISTING LIGHTING INFRASTRUCTURE (CIRCUITRY/PLUMS) SHALL REMAIN. THE EXISTING LIGHTING THROUGHOUT THIS BUILDING WILL BE DISCONNECTED, REMOVED AND REPLACED APPROXIMATELY ONE-FOR-ONE AS SHOWN WITH NEW COSTPLUS FIXTURES. ANYALL NEW LIGHT FIXTURES AND SENSORS THROUGHOUT THE VEHICLE AREA(S) SHALL BE MOUNTED TO THE BOTTOM OF THE STRUCTURE/BAR JOISTS AT APPROXIMATELY 24'-0" A.F.F.
12. LIGHTING THROUGHOUT THE BUILDING SHALL BE CONTROLLED VIA A LUTRON ATHENA NETWORK WIRELESS CONTROL SYSTEM. PROVIDE ATHENA HEAD END SYSTEM, WITH TIMECLOCK FUNCTIONS. LUTRON ENERGI SAVR WIRELESS NODES IN FIXTURES AND LOCAL MANUAL CONTROLS AS SHOWN. PROVIDE LIGHTING MANAGEMENT HUBS, PROCESSORS, SYSTEM SOFTWARE, ETC. AS REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM. REFER TO SPECIFICATION SECTION 26 09 43 FOR ADDITIONAL INFORMATION. ANYALL OTHER MANUFACTURERS MUST MEET OR EXCEED THE LUTRON ATHENA SYSTEM AND MUST BE SUBMITTED/APPROVED BY OWNER AND ENGINEER PRIOR TO BID.



1 LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B
SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3828-3901 MANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341900

ISSUED FOR:
BID SET 8/18/2022

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NO. DESCRIPTION DATE

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CHECKED BY Checker

LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B

KEYPLAN

E101B

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E0.0 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
6. EXIT SIGNAGE IS INDICATED ON THE PLANS BASED ON ANTICIPATED EGRESS PATHS THROUGHOUT THE BUILDING. ELECTRICAL CONTRACTOR SHALL CONFIRM ALL EGRESS PATHS WITH ARCHITECT/OWNER/GENERAL CONTRACTOR DURING CONSTRUCTION AND SHALL ADD/MODIFY EXIT SIGNAGE AS REQUIRED TO COMPLY WITH PATHWAYS.
7. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH QUICK-CONNECT DISCONNECTING MEANS AND A 6'0" (MAXIMUM) FIXTURE WHIP FOR FUTURE MAINTENANCE PURPOSES.
8. LIGHT FIXTURES AND OTHER APPARATUS SUPPORTED BY THE ACOUSTICAL CEILING GRID MUST MEET THE REQUIREMENTS OF NEC SECTION 410.16, MEANS OF SUPPORT.
9. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
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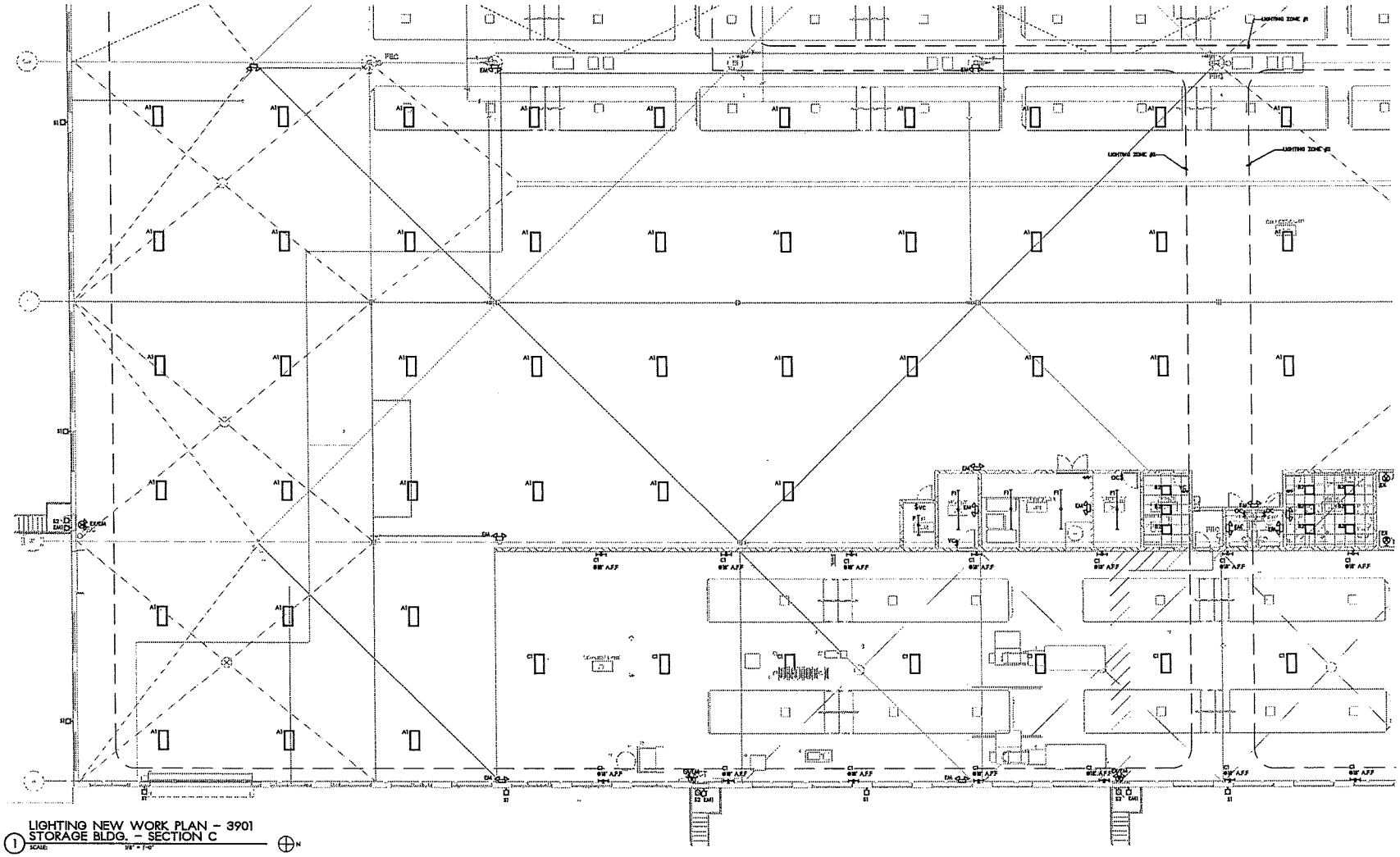

1 LIGHTING NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION C
SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

02/16 INFO

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

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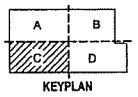
LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION C



KEYPLAN

E101C

LIGHTING GENERAL NOTES:

1. REFER TO SHEET E0.0 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE AND CONTROLLER INSTALLATIONS.
3. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
4. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
5. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTMENT FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
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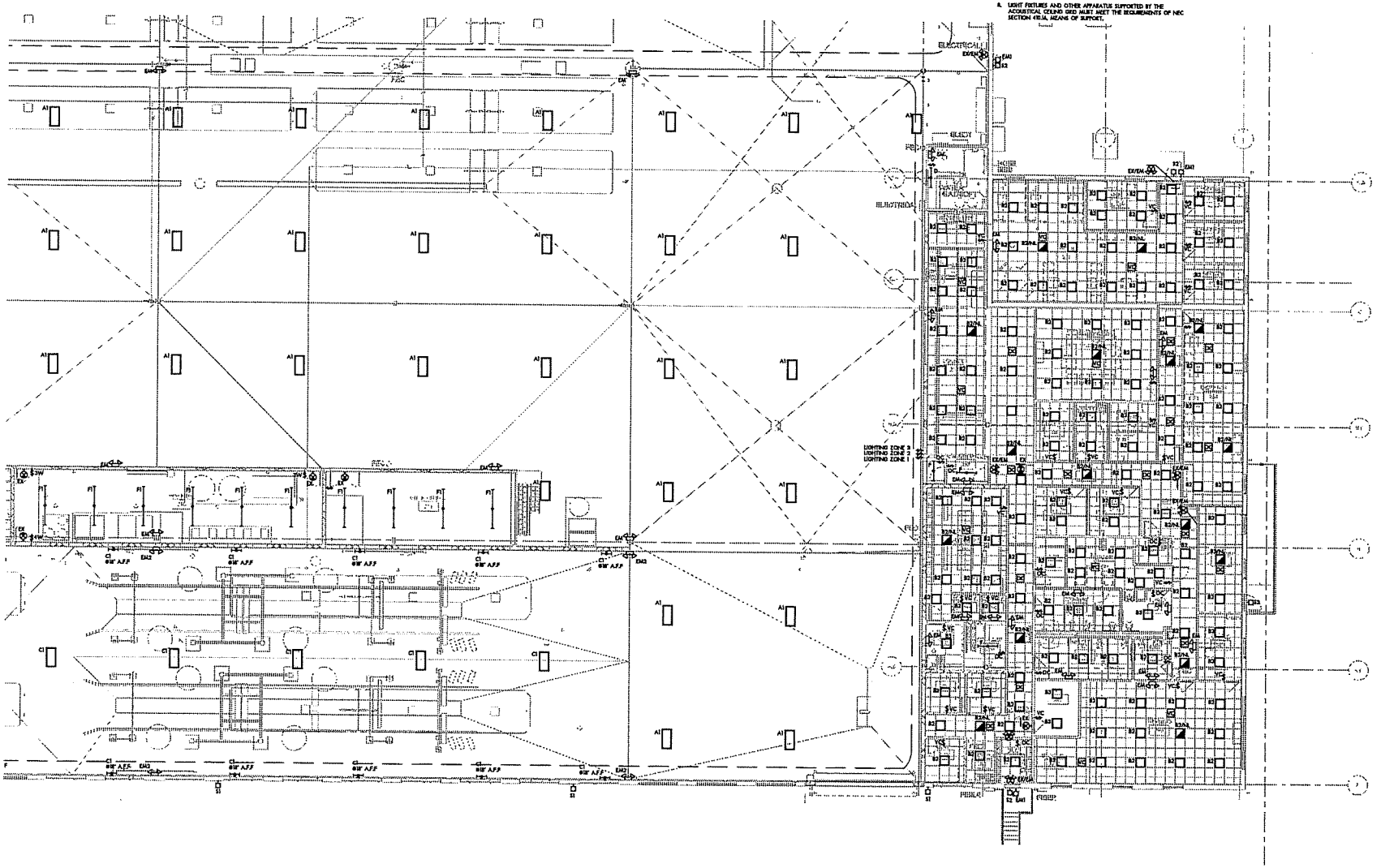

1 LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D
SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO
HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

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LIGHTING NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D

KEYPLAN

E101D

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
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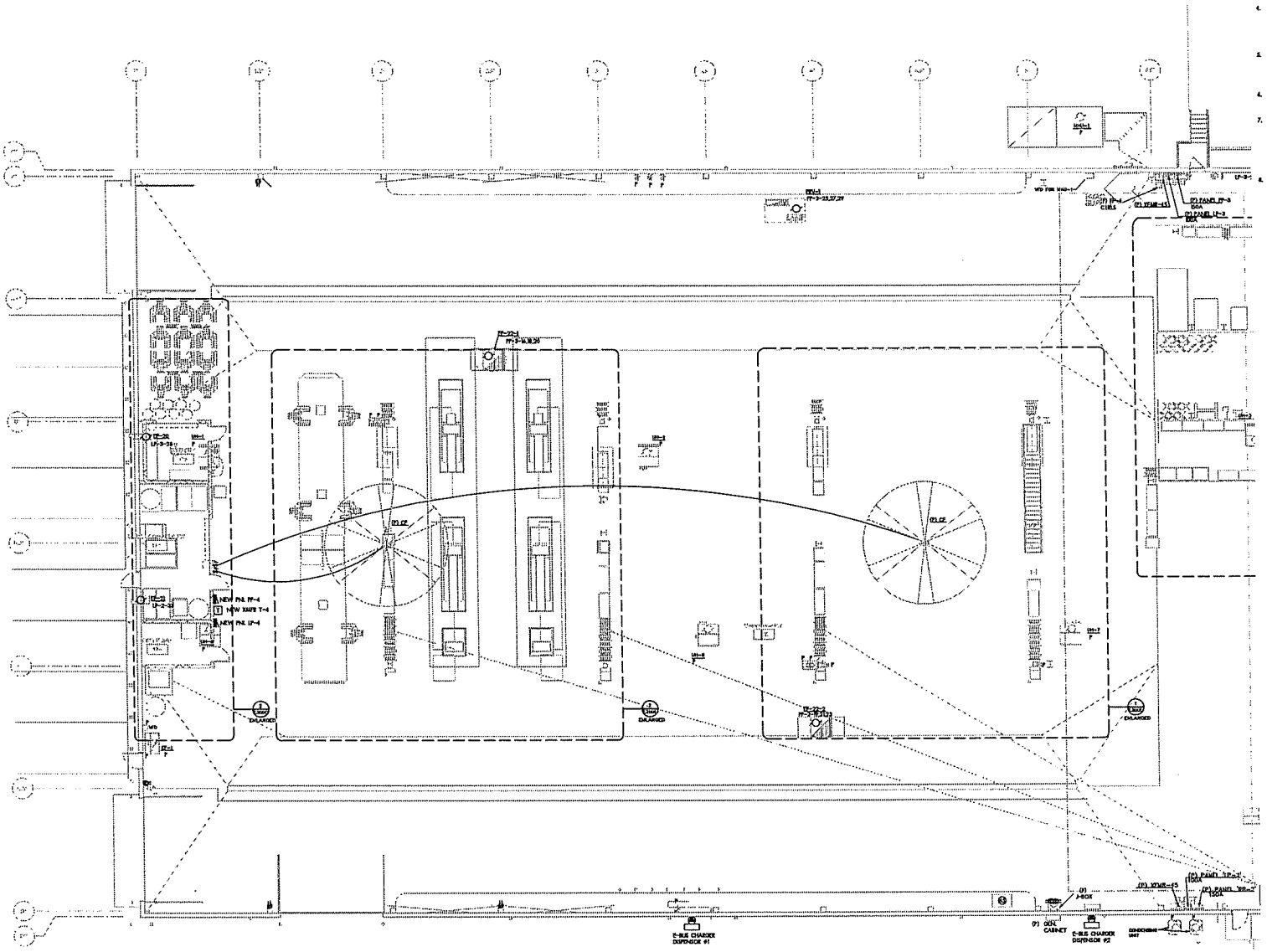
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED). DURING CONSTRUCTION AND SHALL BE REINSTALLED AS APPROXIMATE ORIGINAL LOCATIONS). SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT ENTIRE CONSTRUCTION PERIOD.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.



POWER NEW WORK PLAN – 3829 MAINT. BLDG. SECTION A
1 SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341600

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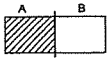
POWER NEW WORK PLAN - 3829 MAINT. BLDG. - SECTION A

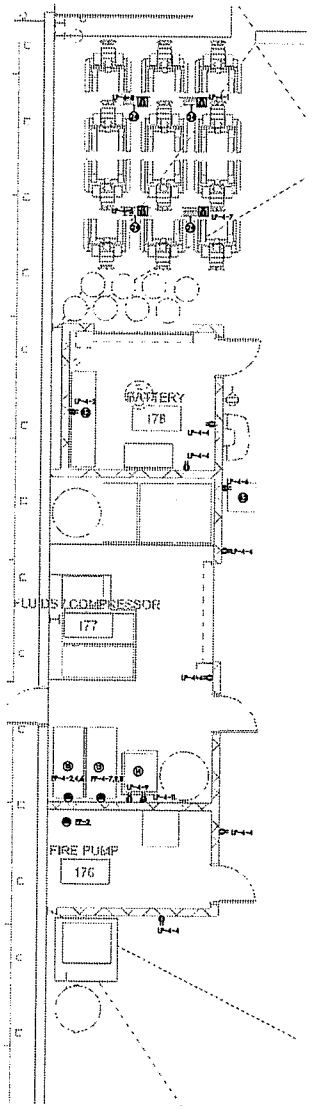


KEYPLAN

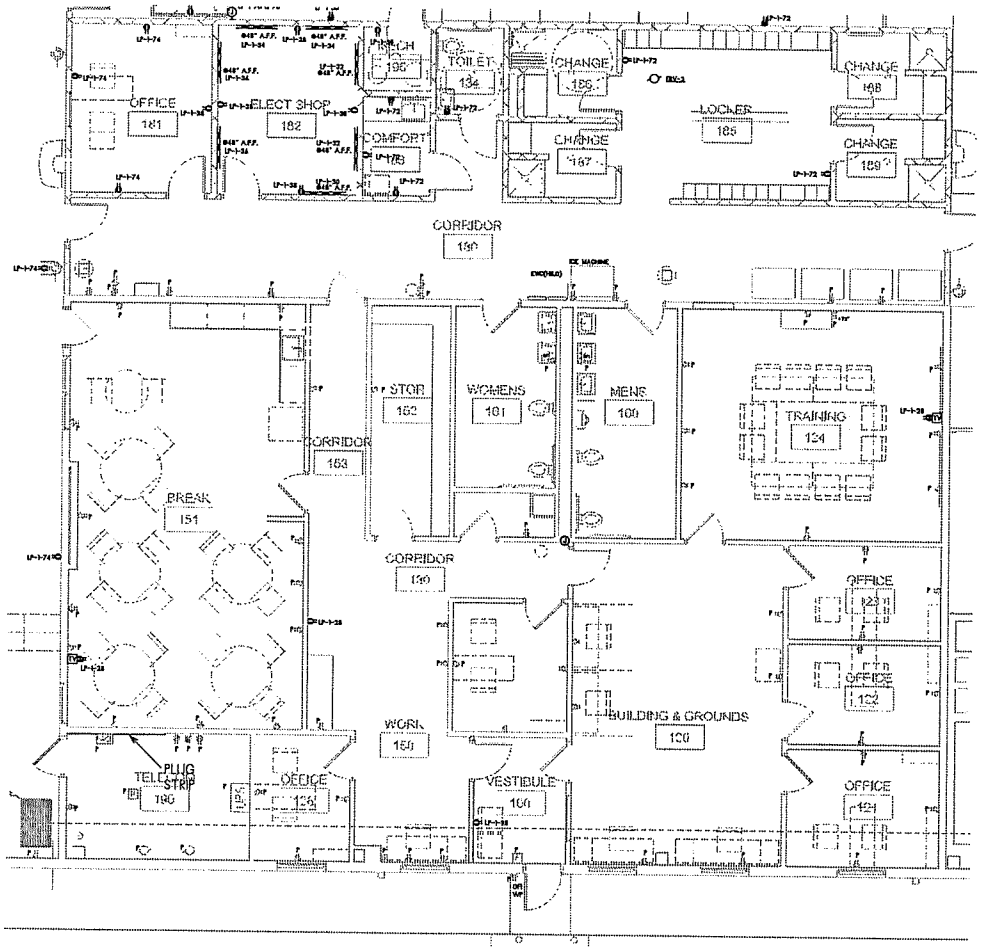
E200A

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE COUNTED AS CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS MUCH AS FEASIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY/ALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED), DURING CONSTRUCTION AND SHALL BE RE-INSTALLED AS APPROPRIATE ORIGINAL LOCATION(S). SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT ENTIRE CONSTRUCTION PERIOD.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.



2 MAINTENANCE BUILDING
BATTERY RM, BULK FLUIDS/ COMPRESSOR, FIRE PUMP RM.
SCALE: 1/4" = 1'-0"



1 MAINTENANCE BUILDING
OFFICE AREA
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG Engineering Group

ORIGINAL

SATELLITE BUS
FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

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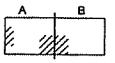
CHECKED BY Checker

POWER NEW WORK
ENLARGED PLANS - 3829
MAINT. BLDG. .



KEYPLAN

E200C

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
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3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
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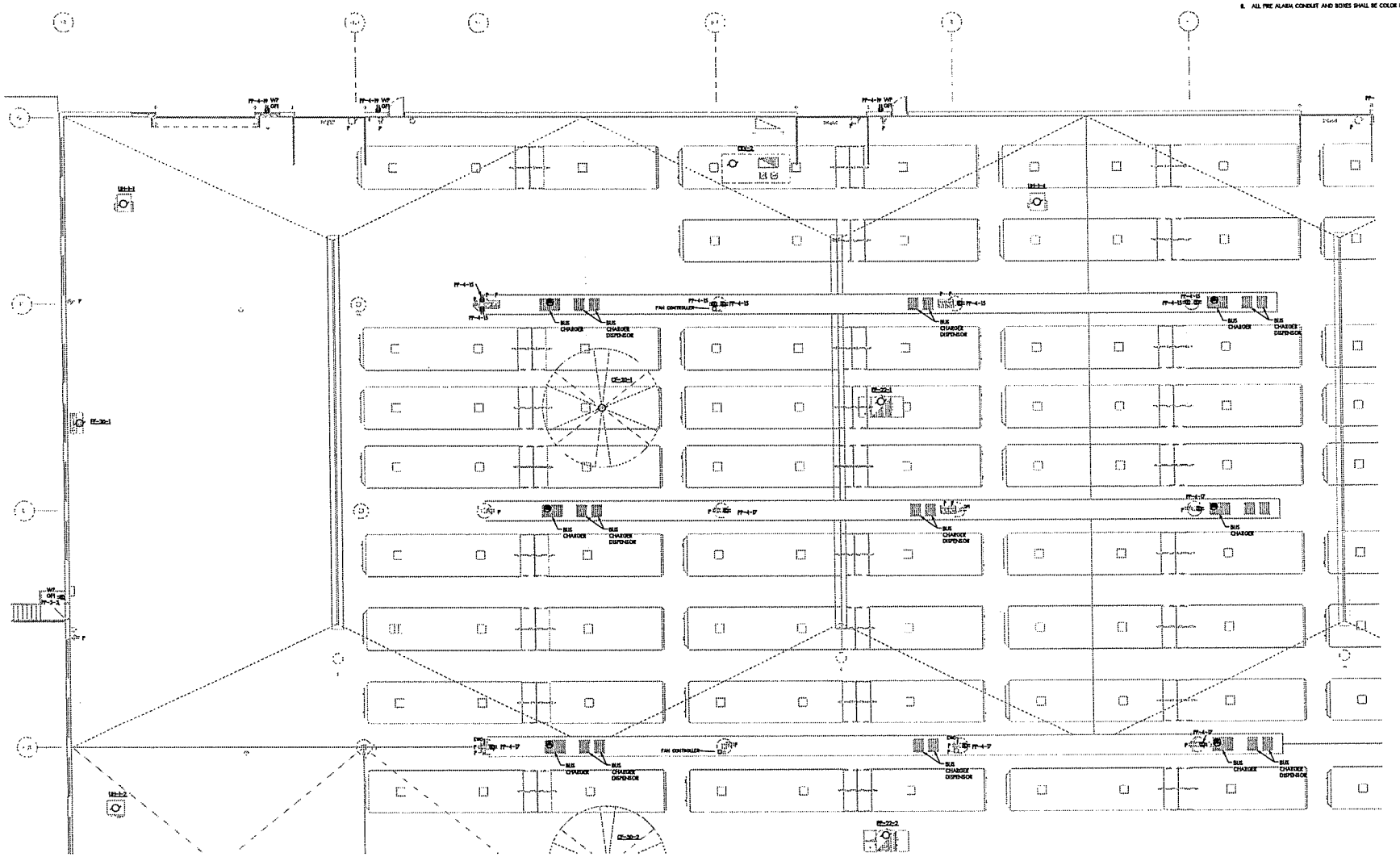


1 POWER NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION A
SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO
HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53714

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21349.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

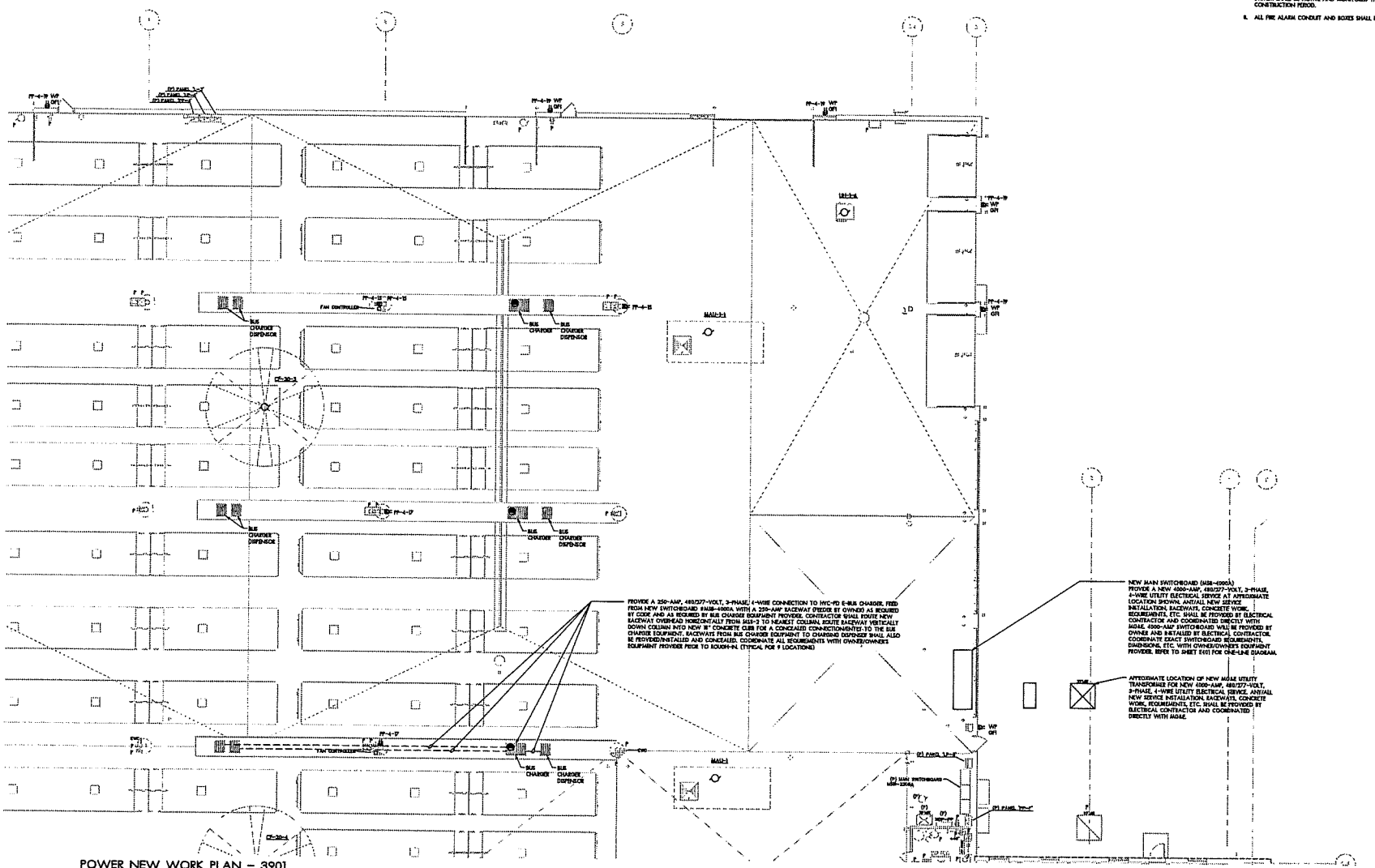
POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION A

KEYPLAN

E201A

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
4. POWER CONDUCTORS SHALL BE SIZED PER THE NEC AMPACITY TABLES (ARTICLE 310), INCLUDING ADJUSTABLE FACTOR AND NEUTRAL CONDUCTOR REQUIREMENTS (FEED AND BRANCH NEUTRAL CONDUCTORS MUST BE CURRENT CARRYING CONDUCTORS). RUN SEPARATE NEUTRAL CONDUCTORS FOR ALL LIGHTING CIRCUITS.
5. ALL CONDUIT AND WIRING SHALL BE CONCEALED WITHIN ALL FINISHED AREAS. IN UNFINISHED AREAS (MECH. ROOMS, ETC.) ALL CONDUIT AND WIRING MUST BE HIDDEN FROM VIEW AS ALIGN AS POSSIBLE AND MOUNTED TIGHT TO BAR JOISTS, ETC. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH PAINTED CEILING COLOR.
6. ALL LOW VOLTAGE CABLES OR CONDUCTORS OPERATING AT LESS THAN 50 VOLTS SHALL BE IN ELECTRICAL METAL TUBING (EMT) AT A MINIMUM. NO FREE AIR CABLING IS ALLOWED.
7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANYFALL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED), DURING CONSTRUCTION AND SHALL BE RE-INSTALLED AS APPROXIMATE ORIGINAL LOCATIONS. SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT ENTIRE CONSTRUCTION PERIOD.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.



1 POWER NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION B
SCALE: 1/8" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-2901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE, #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION B

KEYPLAN

E201B

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
2. VERIFY ALL MOUNTING HEIGHTS OF DEVICES ABOVE MILLWORK WITH ARCHITECTURAL PLANS.
3. WIRING SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (NEC) AND APPLICABLE LOCAL CODES, INCLUDING PROVISION OF EQUIPMENT GROUNDING AS REQUIRED BY THE NEC.
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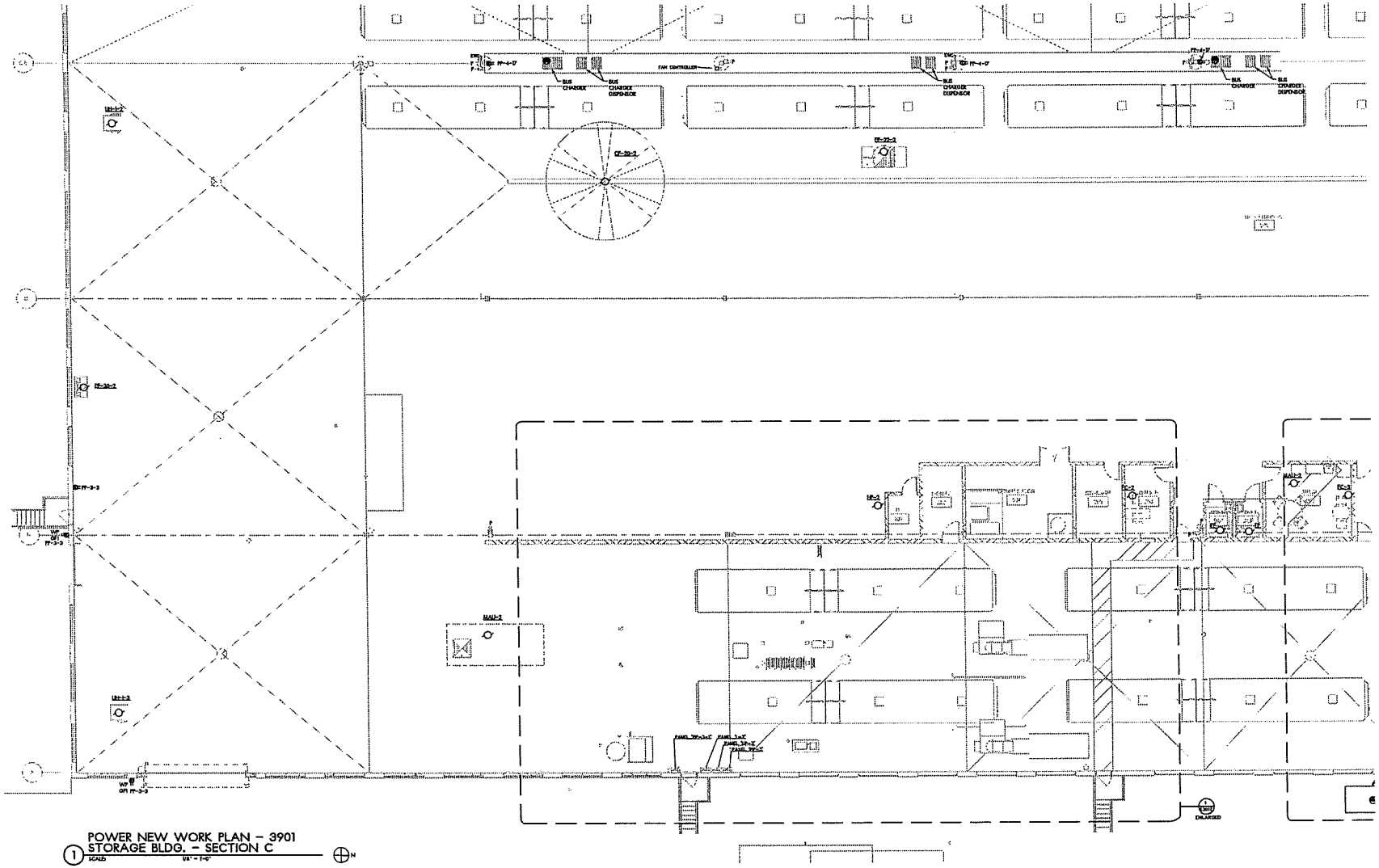
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.



POWER NEW WORK PLAN – 3901 STORAGE BLDG. – SECTION C

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

N

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3628-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

BID SET	9/15/2023

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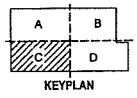
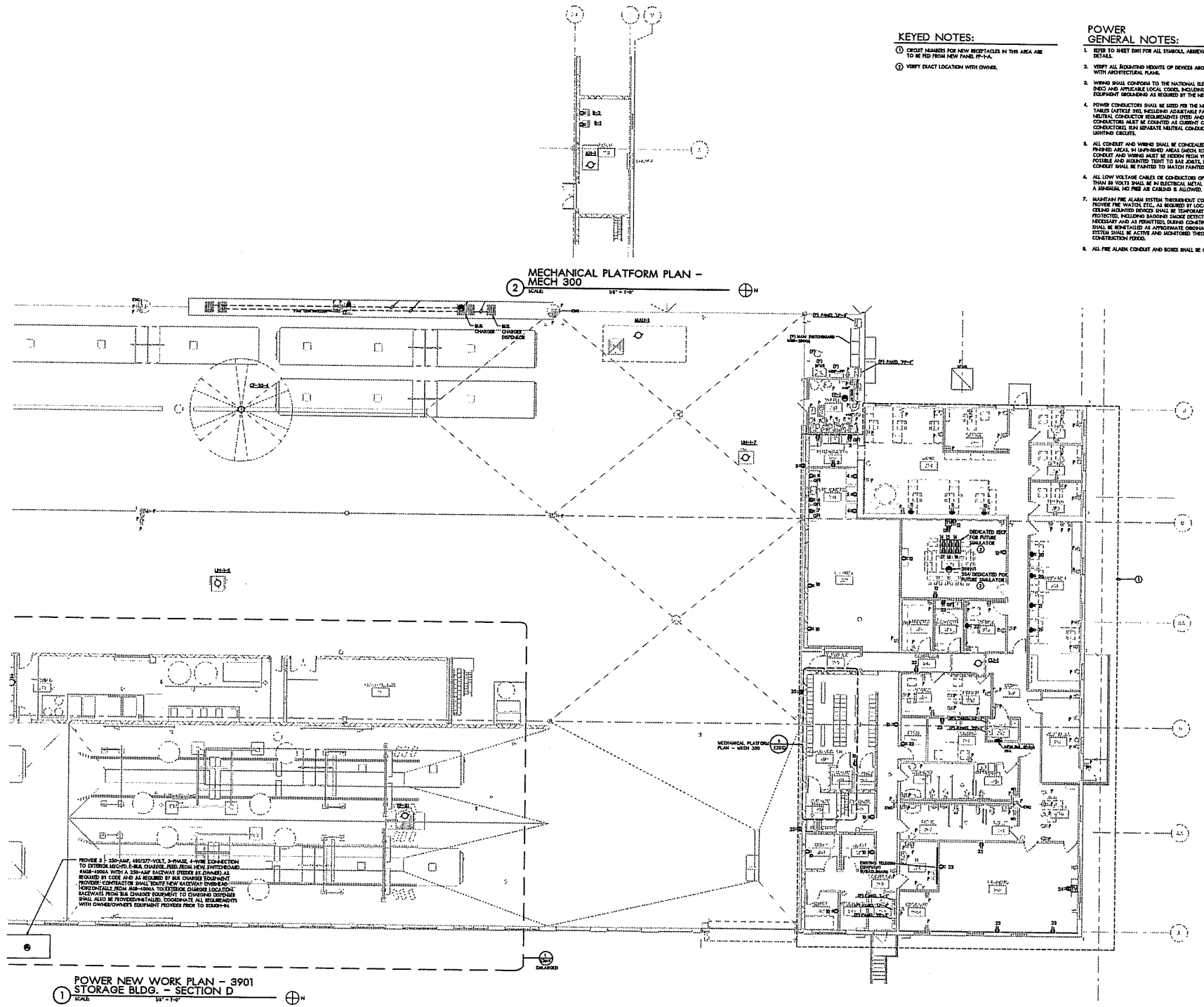
POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION C



KEYPLAN

E201C



KEYED NOTES:

1. CIRCUIT NUMBERS FOR NEW RECEPTACLES IN THIS AREA ARE TO BE FED FROM NEW PANEL PP-1-A.
2. VERIFY EXACT LOCATION WITH OWNER.

POWER GENERAL NOTES:

1. REFER TO SHEET E001 FOR ALL SYMBOLS, ABBREVIATIONS, AND DETAILS.
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7. MAINTAIN FIRE ALARM SYSTEM THROUGHOUT CONSTRUCTION AND PROVIDE FIRE WATCH, ETC., AS REQUIRED BY LOCAL AHJ. ANY FAIL CEILING MOUNTED DEVICES SHALL BE TEMPORARY SUPPORTED AND PROTECTED, INCLUDING BAGGING SMOKE DETECTORS (AS NECESSARY AND AS PERMITTED). DURING CONSTRUCTION AND SHALL BE REINSTALLED AS APPROXIMATE ORIGINAL LOCATION(S). SYSTEM SHALL BE ACTIVE AND MONITORED THROUGHOUT ENTIRE CONSTRUCTION PERIOD.
8. ALL FIRE ALARM CONDUIT AND BOXES SHALL BE COLOR RED.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG
HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3626-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

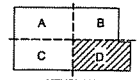
ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

POWER NEW WORK PLAN - 3901 STORAGE BLDG. - SECTION D

KEYPLAN



E201D

POWER GENERAL NOTES:

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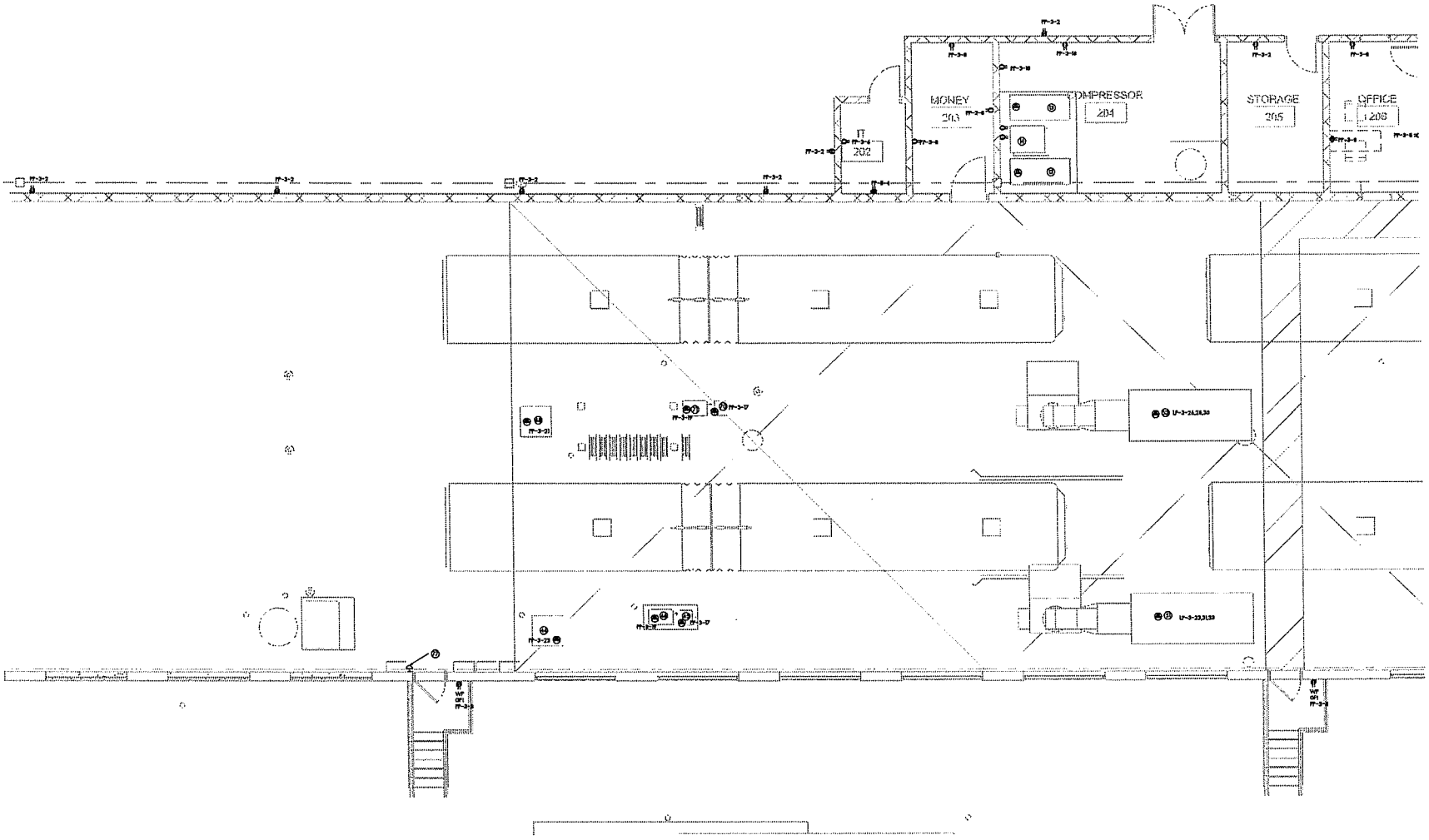

① SERVICE LANE – FARE, FUEL & VACUUM
SCALE 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

2829-2901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 8/10/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

POWER NEW WORK
ENLARGED PLAN - 3901
STORAGE BLDG.

KEYPLAN

E201E

POWER GENERAL NOTES:

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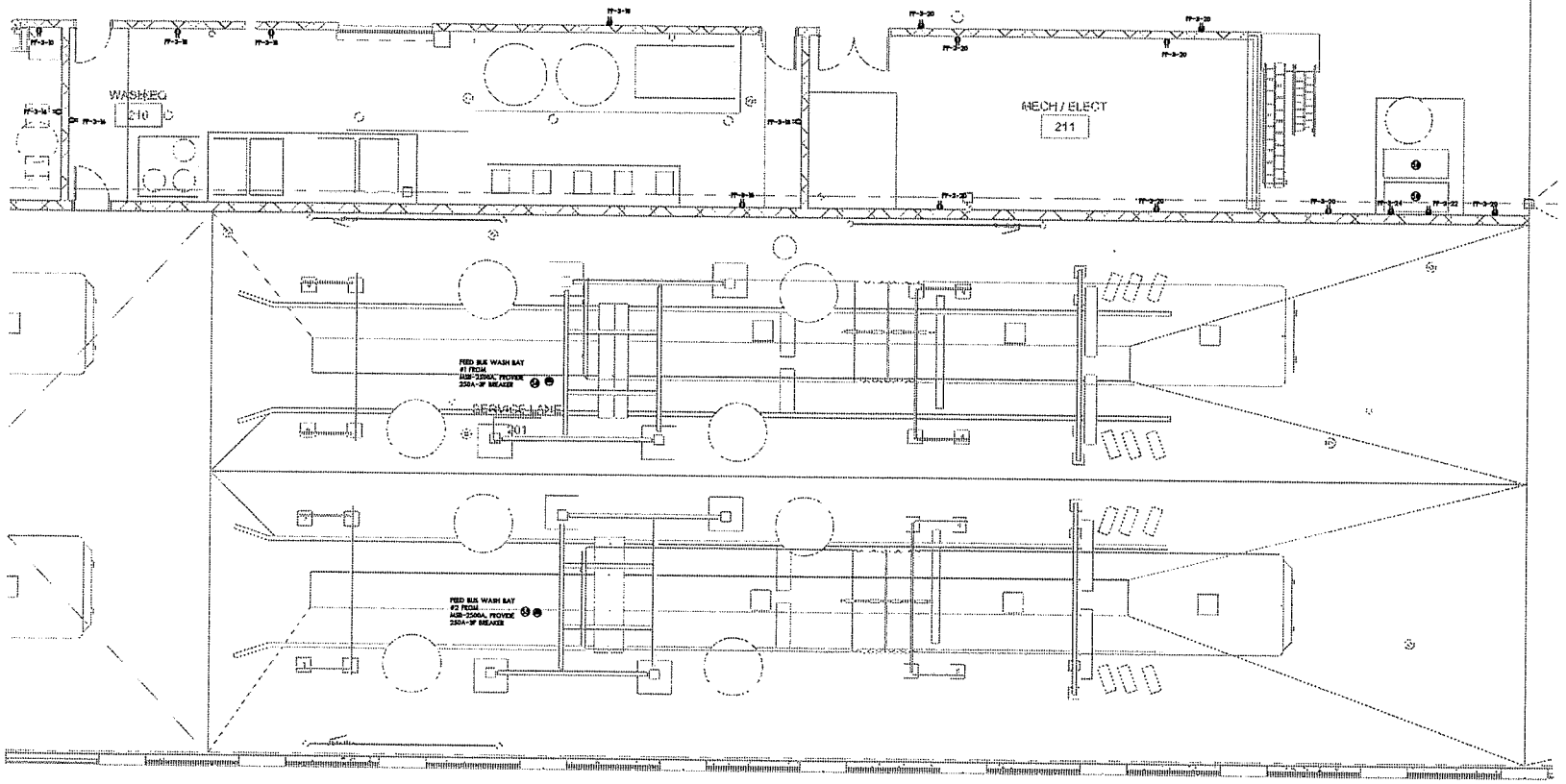


1 SERVICE LANE – BUS VACUUM & WASH
SCALE: 1/4" = 1'-0"

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

SATELLITE BUS FACILITY REMODEL

3628-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21349.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

POWER NEW WORK
ENLARGED PLAN - 3901
STORAGE BLDG.

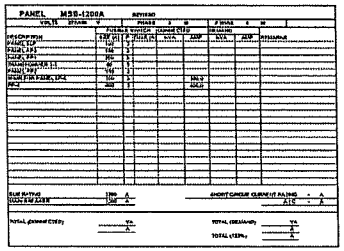
KEYPLAN

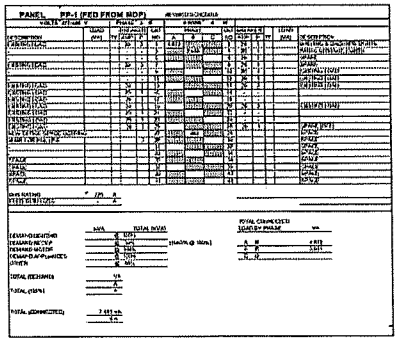
E201F

DRIG INFO

PANEL SCHEDULE GENERAL NOTES:

1. THE PANEL SCHEDULES ON THIS SHEET REFLECT APPROXIMATE NEW WORK CONDITIONS AND ARE INCLUDED TO ASSIST IN COMMUNICATING AVAILABLE AND NEW WORK CIRCUITRY WITHIN THE BUILDING. ANY/ALL CIRCUITRY SHALL BE FIELD VERIFIED DURING CONSTRUCTION TO DETERMINE AVAILABILITY FOR POTENTIAL USE/REUSE. PANEL SCHEDULES FOR ANY/ALL NEW PANELS PROVIDED AS PART OF THIS PROJECT ARE ALSO REFLECTED ON THIS SHEET.


PANEL MSB-1200A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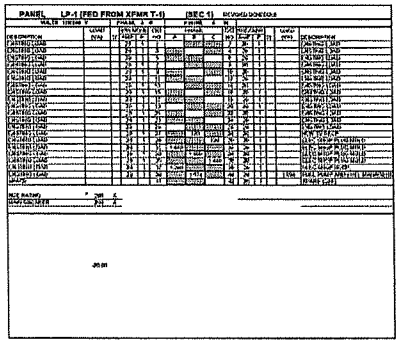
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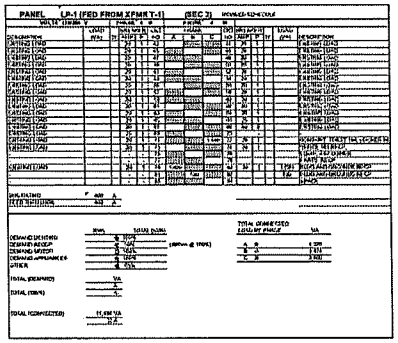
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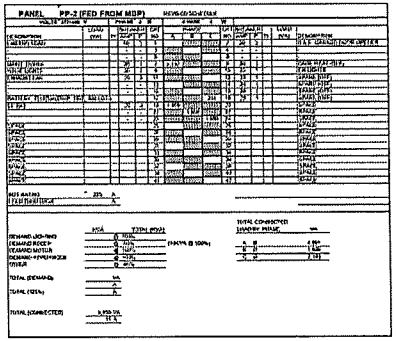
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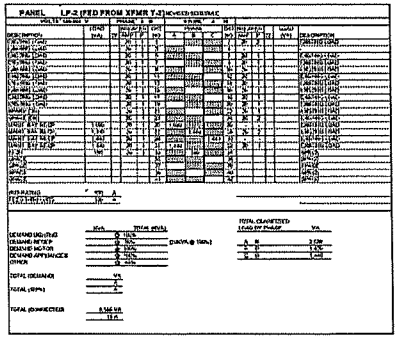
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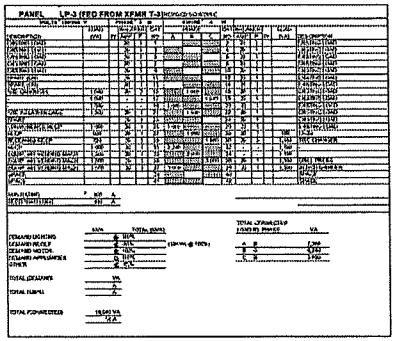
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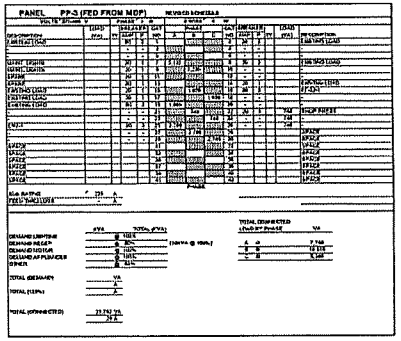
PANEL PP-3 (FED FROM MDP)

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/18/2023

REVISION FOR:
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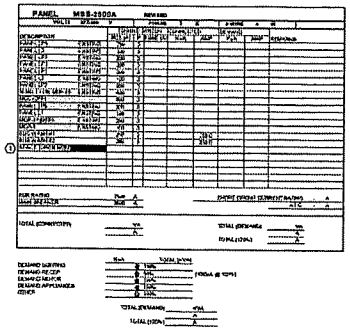
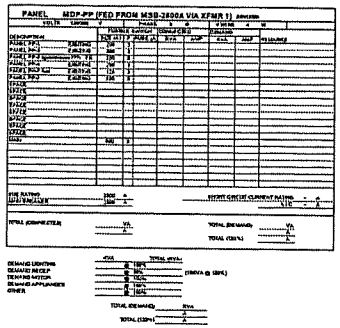
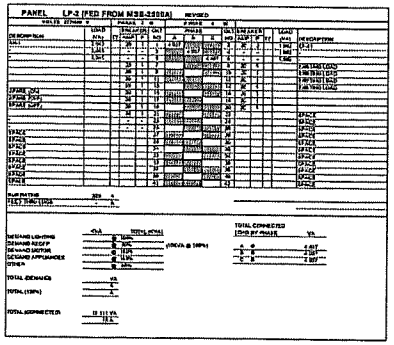
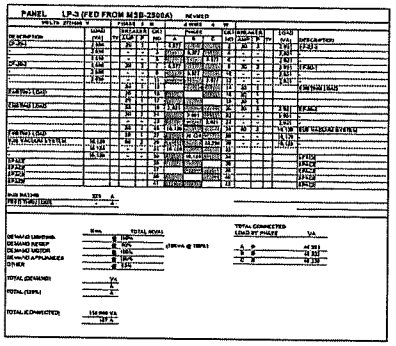
EXISTING REVISED PANEL SCHEDULES - 3829 MAINT. BLDG.

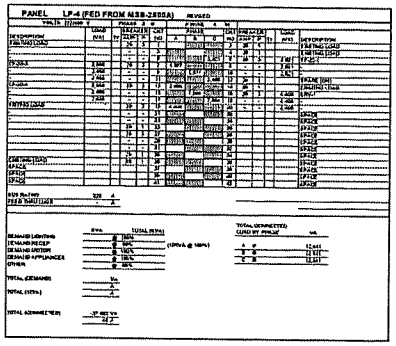
E300A

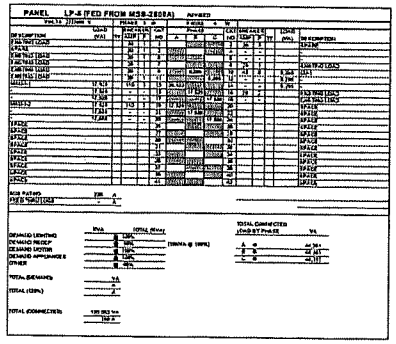


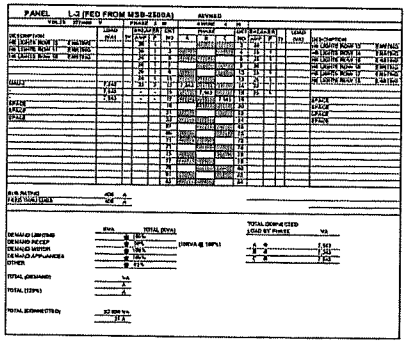












Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG Engineering Group

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 215419.00

0849 MK

ISSUED FOR:

BID SET	9/15/2023

REVISION FOR:

NO.	DESCRIPTION	DATE

DRAWN BY Author

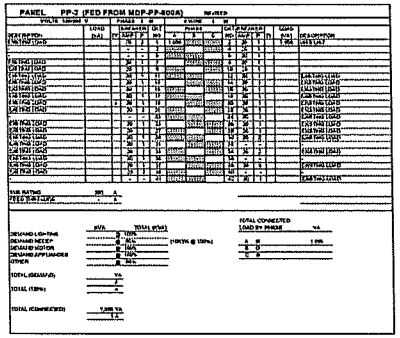
CHECKED BY Checker

EXISTING REVISED PANEL SCHEDULES - 3901 STORAGE BLDG.

KEYED NOTES:

① PROVIDE COVER FOR OPEN SPACE

E301A



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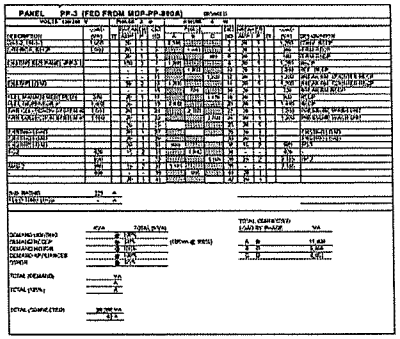

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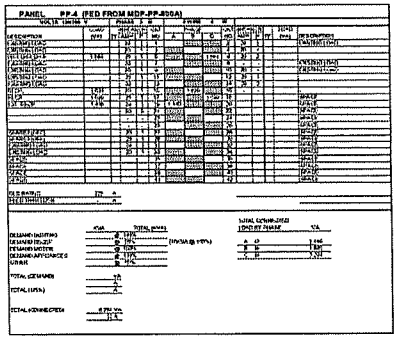

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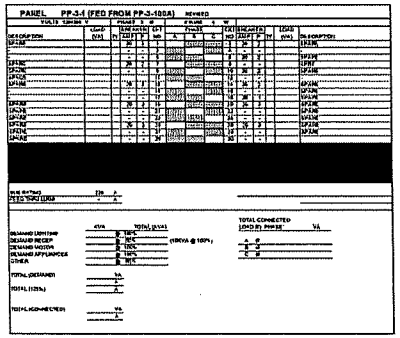

PANEL PP-3-1 (FED FROM PP-3-100A)

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HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:

BID SET 9/19/2023

REVISION FOR:

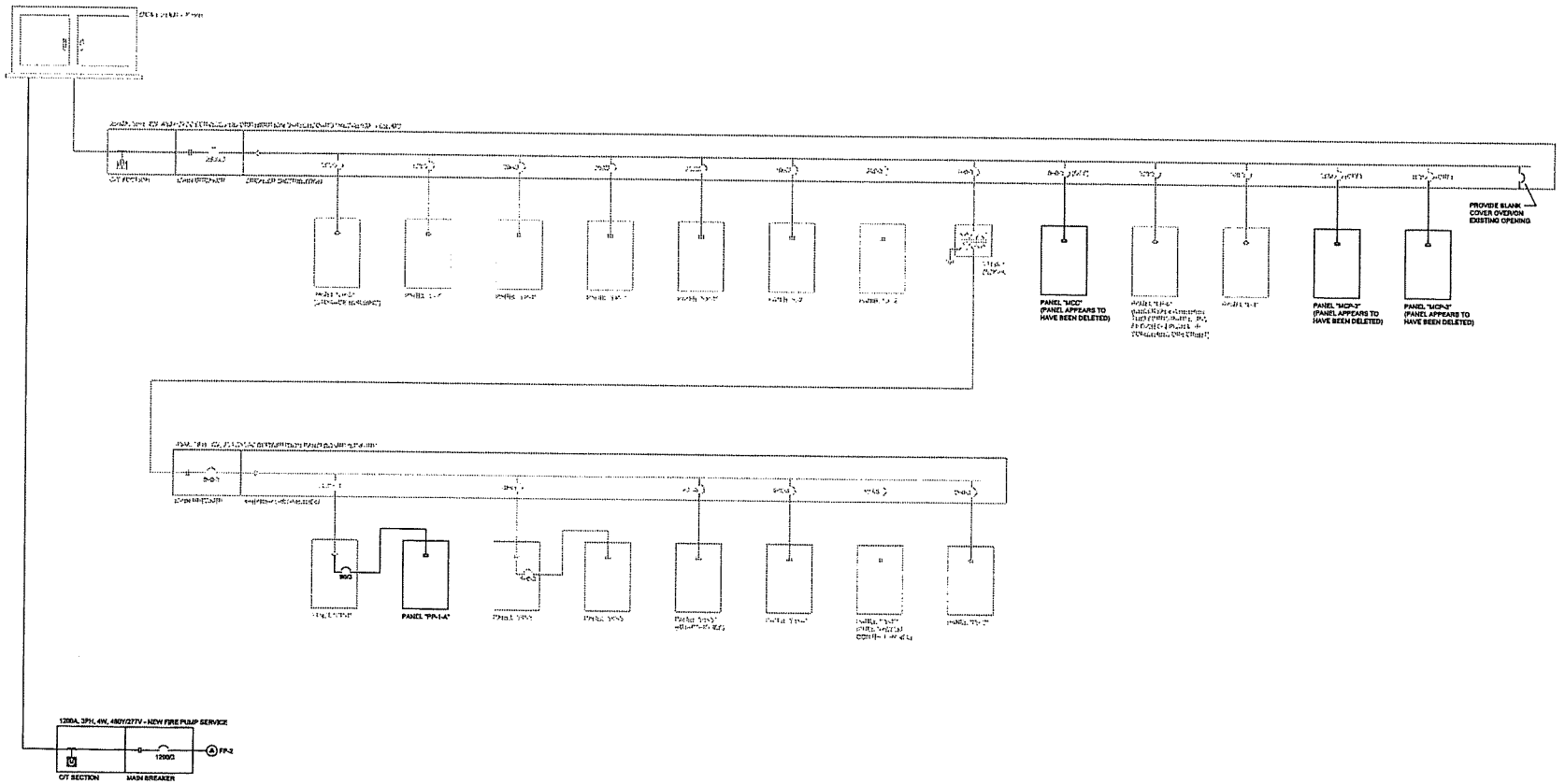
NO. DESCRIPTION DATE

DRAWN BY Author

CHECKED BY Checker

EXISTING REVISED PANEL SCHEDULES - 3901 STORAGE BLDG.

E301B



1 E401 3901 STORAGE BUILDING - ONE LINE DIAGRAM

Engberg Anderson ARCHITECTS

MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3828-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 213419.00

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ONE LINE DIAGRAM - 3901 STORAGE BLDG.

E401

LIGHT FIXTURE SCHEDULE

TAG	DESCRIPTION	MOUNTING	VOLTAGE	INPUT WATTS	LAMP TYPE	MANUFACTURER	CATALOG NUMBER	NOTES
A	HIGH BAY	SUSPENDED	277	-	LED	CURRENT	ABC1430HIDOG41ACW	
A1	HIGH BAY	SUSPENDED	277	-	LED	CURRENT	ABC1430HIDOG41ACWWN	1
B1	2X2 FLAT PANEL, WITH DRYWALL ADAPTOR	RECESSED	277	-	LED	CURRENT	LPL2020L840R50CLTWHITE + GEK9607	2
B2	2X2 FLAT PANEL	DIRECT/AT-IN	277	-	LED	CURRENT	LPL2202030840R00CLTWHITE	
C	WET RATED HIGH BAY	WALL	277	-	LED	CURRENT	PRC032830080LDVSTACB	
C1	WET RATED HIGH BAY	CEILING	277	-	LED	CURRENT	PRC032830080LDVSTACB	
D	4' LINEAR STRIP LIGHT	WALL	277	-	LED	CURRENT	ALV2HTDVT481D8OGOS1ACW	
F	4' LINEAR STRIP LIGHT	SURFACE/ SUSPENDED	277	-	LED	CURRENT	ALV2HTDVT481D8OGOS1ACW	3
F1	8' LINEAR STRIP LIGHT	SURFACE/ SUSPENDED	277	-	LED	CURRENT	ALV8DTDVT481D8OGOS1ACW	3
R1	EXTERIOR	WALL MOUNT	277	-	LED	CURRENT	EAL500UHAPTHSMVIDR8Z	
X2	EXTERIOR WALL PACK	WALL MOUNT	277	-	LED	CURRENT	XWL850030AFTNSHIFMDR8Z	
X3	EXTERIOR WALL PACK	WALL MOUNT	277	-	LED	CURRENT	XWA850IDEAFTNSHIFMDR8Z	
EM	BATTERY OPERATED EMERGENCY LIGHT	SUSPENDED	277	4	LED	EELP	ELM2-E-HD-RD	4
EM1	OUTDOOR EMERGENCY LIGHT	WALL	277	11.8	LED	EELP	DSM-LED-SR-ACEM-PC	4
EM2	WET RATED EMERGENCY LIGHT	WALL	277	1.9	LED	EELP	WLEM-LED	4
EMEM	EXIT SIGN CONFIG EM LIGHT WITH BATTERY	SUSPENDED	277	4	LED	EELP	XE2RW-HD-RD	4

NOTES:
1. WITH ILLUMRA ATHENA HOOK
2. WITH DRYWALL MOUNT KIT
3. KIT CABLE, 6FT CORD AT TWIST LOCK PLUG FOR SUSPENDED MOUNT
4. VERIFY MOUNTING METHOD
5. VERIFY OPERATION

EQUIPMENT SCHEDULE

NO.	DESCRIPTION	QTY	MANUF	OWNER FURNISHED OWNER INSTALLED	OWNER FURNISHED GC INSTALLED	GC FURNISHED GC INSTALLED	AIR	DATA	POWER	NOTES
1	PARTS WASHER	4	SMARTWASHER	X	--	--	--	--	X	MOBILE PARTS WASHER
13	AIR COMPRESSOR	4	SEE SPEC	--	--	X	X	--	X	
14	AIR DRYER	4	SEE SPEC	--	--	X	X	--	X	INSTALL UNITS STACKED VERTICALLY
15	EV BATTERY TENDER	2	SEE SPEC	--	--	X	--	--	X	
16	LIFT CONTROL PEDESTAL	2	SEE SPEC	--	--	X	X	--	X	WIRED REMOTE
17	STEEL WORKBENCH	11	--	X	--	--	--	X	X	
30	INGROUND VEHICLE SCISSOR LIFT	2	SEE SPEC	--	--	--	X	X	--	X	
31	30' HOSE REEL - POWER	10	SEE SPEC	--	--	--	X	--	--	X	
32	MOBILE POST VEHICLE LIFT	9	STERTIL KONI	X	--	--	--	--	--	X	
33	TIRE CAROUSEL	3	SEE SPEC	--	--	--	X	--	--	X	
72	TIRE CHANGER	1	--	X	--	--	--	--	--	X	
23	ENCLOSED TIRE INFLATION CAGE	1	--	X	--	--	--	X	--	X	
24	PEDESTAL BENCH GRINDER	2	--	--	--	--	--	--	--	X	
25	FLOOR STANDING DRILL PRESS	1	--	X	--	--	--	--	--	X	
26	SHOP PRESS	1	--	X	--	--	--	--	X	X	
28	WORKING COUNTER	1	--	X	--	--	--	X	--	X	
41	TOOL AND CONSUMABLE VENDING	1	--	X	--	--	--	--	X	X	
42	BATTERY BENCH	1	--	X	--	--	--	--	--	X	
44	FARE COLLECTION SYSTEM	1	--	--	X	--	--	--	X	X	
45	FUEL MANAGEMENT PEDESTAL	2	SEE SPEC	--	--	X	X	--	X	X	
46	FUEL DISPENSER PUMP W/ 2 HOSES	1	SEE SPEC	--	--	X	--	--	X	X	WITH HIGH FLOW NOZZLE
51	BUS VACUUM SYSTEM	1	SEE SPEC	--	--	X	X	X	--	X	WITH 1 CU YD SELF DUMPING MOBILE HOPPER
52	FUTURE BUS VACUUM SYSTEM	1	SEE SPEC	--	--	--	--	X	--	X	SEE SPEC FOR REQUIREMENTS
53	BUS WASH SYSTEM	1	SEE SPEC	--	--	X	X	--	X	X	
54	FUTURE BUS WASH SYSTEM	1	SEE SPEC	--	--	X	X	--	X	X	SEE SPEC FOR REQUIREMENTS
57	BUS WASH AND WATER RECLAIM EQUIPMENT	1	SEE SPEC	--	--	X	X	--	X	X	
58	PRESSURE WASH UNIT	2	SEE SPEC	--	--	X	--	--	X	X	
61	3 TON BRIDGE CRANE	1	SEE SPEC	--	--	X	--	--	X	X	WITH REMOTE
62	OIL FILTER CRUSHER	1	--	--	-- X	X --	X --	-- X	X X	X	55 GAL DRUM HARD TO WASTE OIL TANK EXTRACTION PUMP
64	EV CHARGING STATION	4	ABB								ABB DEPOT CHARGE BOX - FINAL LOCATION AND NUMBER BY OWNER
65	EV CHARGING CABINET	1	ABB	--	X	--	--	X	X	X	ABB POWER CABINET
67	MULTI-FUNCTION PERMITER	1	--	X	--	--	--	X	X	X	
68	FUTURE FARE COLLECTION SYSTEM	1	--	--	X	--	--	--	X	X	
69	FUTURE FUEL DISPENSER HOSE	1	SEE SPEC	--	--	X	--	X	X	X	SEE SPEC FOR REQUIREMENTS
70	FUTURE FUEL MANAGEMENT PEDESTAL	1	SEE SPEC	--	--	X	--	X	X	X	SEE SPEC FOR REQUIREMENTS
71	FUTURE FUEL DISPENSER PUMP W/ 2 HOSES	1	SEE SPEC	--	--	X	--	X	X	X	SEE SPEC FOR REQUIREMENTS
72	DEODORIZAMADE WASH EQUIPMENT	2	SEE SPEC	--	--	X	--	--	X	X	SEE SPEC FOR REQUIREMENTS
73	FUEL DISPENSER PUMP W/ 2 HOSES	1	SEE SPEC	--	--	X	--	X	X	X	GAS AND DIESEL - STANDARD FLOW NOZZLE
77	EMERGENCY FUEL SHUTOFF	2	SEE SPEC	--	--	X	--	--	X	X	SEE FIRE CODE FOR MINIMUM AND MAXIMUM DISTANCE

MOTOR AND EQUIPMENT SCHEDULE

EQUIP. TAG	EQUIPMENT	LOAD VOLTS	PHASE	H.P.	AMP	KVA	SOURCE OF POWER PANEL	CCT. NO.	PROTECTION (AMPS)	STARTER SIZE	STARTER TYPE	DISCONNECT SIZE	DISCONNECT TYPE	NOTES
EF-20	EXHUAST FAN	115	1	1/15 TH			LP-1	28	20A-1P					
EF-21	EXHUAST FAN	115	1	1/4			LP-2	33	20A-1P					
EF-22-1	EXHUAST FAN	460	3	7.5			PP-2	19,21,23	20A-3P					
EF-22-2	EXHUAST FAN	460	3	7.5			PP-3	16,18,20	20A-3P					
ERV-1	ENERGY RECOVERY UNIT	460	3		10.5		PP-3	25,27,29	20A-3P					
FC-1	FAN COIL UNIT	230	1		60		LP-5	3,5	80A-2P					
HP-1	HEAT PUMP	230	1		30		LP-5	2,4	45A-2P					

FEEDER SCHEDULE

FEEDER AMPACITY	CONDUCTOR SIZE (cu=Cu) # & N	GRD	CONDUIT SIZE (3) & (3G)	(4) & (4G)
50	#6	#10	1"	1"
70	#4	#8	1-1/4"	1-1/4"
80	#3	#8	1-1/4"	1-1/4"
100	#1	#8	1-1/2"	2"
110	#2	#6	1-1/4"	1-1/2"
125	#1	#6	1-1/2"	2"
150	#1/0	#6	1-1/2"	2"
175	#2/0	#6	2"	2"
200	#2/0	#4	2"	2-1/2"
225	#4/0	#4	2"	2-1/2"
250	#250	#4	2-1/2"	3"
300	#350	#4	3"	3"
350	#500	#2	3"	3-1/2"
380	#500	#2	3"	3-1/2"
400	(2) # 3/0	(2) # 3	(2) 2"	(2) 2-1/2"
450	(2) # 4/0	(2) # 2	(2) 2"	(2) 2-1/2"
500	(2) # 250	(2) # 2	(2) 2-1/2"	(2) 3"
600	(2) # 350	(2) # 1	(2) 3"	(2) 3"
700	(2) # 500	(2) # 1/0	(2) 3"	(2) 3-1/2"
800	(3) # 400	(2) # 1/0	(3) 3-1/2"	(3) 4"
1000	(3) # 600	(2) # 2/0	(3) 3"	(3) 3-1/2"
1200	(3) # 600	(2) # 3/0	(3) 3-1/2"	(3) 4"
1600	(4) # 600	(4) # 4/0	(4) 3-1/2"	(4) 4"
2000	(5) # 600	(3) # 250	(5) 3-1/2"	(5) 4"

GENERAL NOTES:
1. THE ABOVE FEEDER SCHEDULE IS A SCHEDULE OF TYPICAL FEEDERS AND SOME SIZES MAY NOT BE UTILIZED.
2. ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 310-16 OF THE NEC FOR COPPER CONDUCTOR TYPE THW/THWN.
3. FEEDER SIZES SHOWN ON THE RISER DIAGRAM INDICATE FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR THE DERATION FACTORS REQUIRED BY CODE AND/OR ARE OVERSIZED FOR VOLTAGE DROP.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3829-3861 HANSEN ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1245 E WASHINGTON AVE #201
MADISON, WI 53703

PROJECT NUMBER 21341B.00

ISSUED FOR:
BID SET 8/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

MOTOR AND EQUIPMENT SCHEDULES - 3829 MAINT. BLDG.

E600

EQUIPMENT SCHEDULE

NO.	DESCRIPTION	QTY	MANUF	OWNER FURNISHED OWNER INSTALLED	OWNER FURNISHED GC INSTALLED	GC FURNISHED GC INSTALLED	AIR	DATA	POWER	NOTES
53	AIR COMPRESSOR	4	SEE SPEC	–	–	X	X	X	X	
54	AIR DRYER	4	SEE SPEC	–	–	X	X	–	X	
43	FARE COLLECTION SYSTEM	1	–	X	–	–	–	X	X	INSTALL UNITS STACKED VERTICALLY
44	FUEL MANAGEMENT PEDESTAL	2	SEE SPEC	–	–	X	–	X	X	
46	FUEL DISPENSER PUMP W/ 2 HOSES	1	SEE SPEC	–	–	X	–	X	X	WITH HIGH FLOW NOZZLE
51	BUS VACUUM SYSTEM	1	SEE SPEC	–	–	X	X	–	X	WITH 1 CU YD SELF DUMPING MOBILE HOPPER
52	FUTURE BUS VACUUM SYSTEM	1	SEE SPEC	–	–	–	X	–	X	SEE SPEC FOR REQUIREMENTS
55	BUS WASH SYSTEM	1	SEE SPEC	–	–	X	X	–	X	
56	FUTURE BUS WASH SYSTEM	1	SEE SPEC	–	–	X	X	–	X	SEE SPEC FOR REQUIREMENTS
57	BUS WASH AND WATER RECLAIM EQUIPMENT	1	SEE SPEC	–	–	X	X	–	X	
58	PRESSURE WASH UNIT	2	SEE SPEC	–	–	X	–	–	X	
48	FUTURE FARE COLLECTION SYSTEM	1	–	–	X	–	–	X	X	
69	FUTURE FUEL DISPENSER HOSE	1	SEE SPEC	–	–	X	–	X	X	SEE SPEC FOR REQUIREMENTS
70	FUTURE FUEL MANAGEMENT PEDESTAL	1	SEE SPEC	–	–	X	–	X	X	SEE SPEC FOR REQUIREMENTS
71	FUTURE FUEL DISPENSER PUMP W/ 2 HOSES	1	SEE SPEC	–	–	X	–	X	X	SEE SPEC FOR REQUIREMENTS
72	WHEELCHARGER WASH EQUIPMENT	2	SEE SPEC	–	–	X	–	–	X	SEE SPEC FOR REQUIREMENTS
73	FUEL DISPENSER PUMP W/ 2 HOSES	1	SEE SPEC	–	–	X	–	X	X	GAS AND DIESEL, STANDARD FLOW NOZZLE
77	EMERGENCY FUEL SHUTOFF	2	SEE SPEC	–	–	X	–	–	X	SEE FIRE CODE FOR MINIMUM AND MAXIMUM DISTANCE

LIGHT FIXTURE SCHEDULE

TAG	DESCRIPTION	MOUNTING	VOLTAGE	INPUT WATTS	LAMP TYPE	MANUFACTURER	CATALOG NUMBER	NOTES
A	HIGH BAY	SUSPENDED	277	-	LED	CURRENT	ARC1-DM-B1DDDH1ACW	
A1	HIGH BAY	SUSPENDED	277	-	LED	CURRENT	ARC1-DM-B1DDDH1ACWAWH	1
B1	2X2 FLAT PANEL WITH DRYWALL ADAPTOR	RECESSED	277	-	LED	CURRENT	LPL22-DM-B4A-840-VDL-TWHTE + DEAWT	2
B2	2X2 FLAT PANEL	GRID/LAY-IN	277	-	LED	CURRENT	LPL22-DM-A4B-840-VDL-TWHTE	
C	WET RATED HIGH BAY	WALL	277	-	LED	CURRENT	PRO-DM-B-840-WL-DVSTAGS	
C1	WET RATED HIGH BAY	CEILING	277	-	LED	CURRENT	PRO-DM-B-840-CL-DVSTAGS	
D	4' LINEAR STRIP LIGHT	WALL	277	-	LED	CURRENT	ALV-DM-T8HT-4-810-DDD-GS-874-DW	
F	4' LINEAR STRIP LIGHT	SURFACE/ SUSPENDED	277	-	LED	CURRENT	ALV-DM-T8HT-4-810-DDD-GS-91-ACW	3
F1	8' LINEAR STRIP LIGHT	SURFACE/ SUSPENDED	277	-	LED	CURRENT	ALV-DM-T8BT-8-810-DDD-GS-91-ACW	3
S1	EXTERIOR	WALL MOUNT	277	-	LED	CURRENT	EAL-DM-B-MAF7-40-AWH-DKBZ	
S2	EXTERIOR WALL PACK	WALL MOUNT	277	-	LED	CURRENT	EWL-SM-B-DM-F7-40-WT-NDKBZ	
S3	EXTERIOR WALL PACK	WALL MOUNT	277	-	LED	CURRENT	EWA-SM-B-12E-WF7-40-WT-NDKBZ	
EM	BATTERY OPERATED EMERGENCY LIGHT	SUSPENDED	277	4	LED	EELP	EMB-E-HO-SD	4
EM1	OUTDOOR EMERGENCY LIGHT	WALL	277	11.8	LED	EELP	DTM-LED-SR-ACEM-PC	5
EM2	WET RATED EMERGENCY LIGHT	WALL	277	1.2	LED	EELP	WLEM-LED	
EXIGH	EXIT SIGN CONFIGURATION LIGHT WITH BATTERY	SUSPENDED	277	4	LED	EELP	XCSERW-HO-SD	4

NOTES:
1. WITH LUTRON ATHOM MODE
2. WITH DRYWALL MOUNT KIT
3. 9FT CABLE, WT CORD AT TWIST LOCK PLUG FOR SUSPENDED MOUNT
4. VARIOUS MOUNTING METHODS
5. VARIOUS CONFIGURATION

MOTOR AND EQUIPMENT SCHEDULE

EQUIP. TAG	EQUIPMENT	LOAD					SOURCE OF POWER		PROTECTION	STARTER		DISCONNECT		NOTES
		VOLTS	PHASE	H.P.	AMP	KVA	PANEL	CCT. NO.	(AMPS)	SIZE	TYPE	SIZE	TYPE	
AH-1	AIR HANDLING UNIT	480	3	5			LP-3	1,3,5	20A-3P					
CF-30-1	CEILING FAN	480	3		10		LP-3	1,3,5	20A-3P					
CF-30-2	CEILING FAN	480	3		10		LP-4	7,9,11	20A-3P					
CF-30-3	CEILING FAN	480	3		10		LP-4	7,9,11	20A-3P					
CF-30-4	CEILING FAN	480	3		10		LP-4	13,15,17	20A-3P					
CU-1	AIR COOLED CONDENSING UNIT	480	3		35		LP-5	10,12,14	45A-3P					
EF	EXHAUST FAN	120	1				SEE PLA	SEE PLAN	20A1P					
EF-22-1	EXHAUST FAN	480	3	7.5			LP-4	6,8,10	20A-3P					
EF-22-2	EXHAUST FAN	480	3	7.5			LP-3	2,4,6	20A-3P					
EF-30-1	EXHAUST FAN	480	3	7.5			LP-3	8,10,12	20A-3P					
EF-30-2	EXHAUST FAN	480	3	7.5			LP-3	20,22,24	20A-3P					
EF-31	EXHAUST FAN	480	3	7.5			LP-2	2,4,6	20A-3P					
ERV-2	ENERGY RECOVERY UNIT	480	3		18.8		LP-4	18,18,20	25A-3P					
FC-2	FAN COIL	230	1		8		PP-3	33,35	15A-2P					
FC-3	FAN COIL	230	1		8		PP-3	33,34	15A-2P					
HP-2	HEAT PUMP	230	1		19		PP-3	36,38	25A2P					
MAU-1-1	MAKE UP AIR UNIT	480	3		65.8		LP-5	13,15,17	110A-3P					
MAU-1-2	MAKE UP AIR UNIT	480	3		65.8		LP-5	19,21,23	110A-3P					
MAU-2	MAKE UP AIR UNIT	240	1		8.3		PP-3	37,39	15A-2P					
MAU-3	MAKE UP AIR UNIT	480	3		29.4		L-2	13,15,17	30A-3P					
UH-1-1	UNIT HEATER	115	1	1/2			PP-4	5	20A-1P					
UH-1-2	UNIT HEATER	115	1	1/2			PP-3	1	20A-1P					
UH-1-3	UNIT HEATER	115	1	1/2			PP-3	1	20A-1P					
UH-1-4	UNIT HEATER	115	1	1/2			PP-4	5	20A-1P					
UH-1-5	UNIT HEATER	115	1	1/2			PP-2	2	20A-1P					
UH-1-6	UNIT HEATER	115	1	1/2			PP-4	5	20A-1P					
UH-1-7	UNIT HEATER	115	1	1/2			PP-2	2	20A-1P					

FEEDER SCHEDULE

FEEDER AMPACITY	CONDUCTOR SIZE (form)		CONDUIT SIZE	
	# & N	GND	(3) & (3G)	(4) & (4G)
50	#6	#10	1"	1"
70	#4	#8	1-1/4"	1-1/4"
80	#3	#8	1-1/4"	1-1/4"
100	#1	#6	1-1/2"	2"
110	#2	#6	1-1/4"	1-1/2"
125	#1	#6	1-1/2"	2"
150	#1/0	#6	1-1/2"	2"
175	#2/0	#6	2"	2"
200	#3/0	#4	2"	2-1/2"
225	#4/0	#4	2"	2-1/2"
250	#250	#4	2-1/2"	3"
300	#250	#4	3"	3"
350	#500	#3	3"	3-1/2"
380	#500	#3	3"	3-1/2"
400	(2) # 3/0	(2) # 3	(2) 2"	(2) 2-1/2"
450	(2) # 4/0	(2) # 3	(2) 2"	(2) 2-1/2"
500	(2) # 250	(2) # 2	(2) 2-1/2"	(2) 3"
600	(2) # 350	(2) # 1	(2) 3"	(2) 3"
700	(2) # 500	(2) # 1/0	(2) 3"	(2) 3-1/2"
800	(2) # 600	(2) # 1/0	(2) 3-1/2"	(2) 4"
1000	(3) # 400	(3) # 2/0	(3) 3"	(3) 3-1/2"
1200	(3) # 600	(3) # 3/0	(3) 3-1/2"	(3) 4"
1400	(4) # 600	(4) # 4/0	(4) 3-1/2"	(4) 4"
2000	(5) # 600	(5) # 250	(5) 3-1/2"	(5) 4"

GENERAL NOTES:
1. THE ABOVE FEEDER SCHEDULE IS A SCHEDULE OF TYPICAL FEEDERS AND SOME SIZES MAY NOT BE UTILIZED.
2. ALL CONDUCTOR AMPACITIES ARE BASED ON TABLE 310-16 OF THE NEC FOR COPPER CONDUCTOR TYPE THW/THWN.
3. FEEDER SIZES SHOWN ON THE RISER DIAGRAM INDICATE FEEDER AMPACITIES AND DO NOT NECESSARILY CORRESPOND TO CIRCUIT BREAKER AMPACITIES. CERTAIN FEEDERS MAY BE SIZED FOR THE DERATION FACTORS REQUIRED BY CODE AND/OR ARE OVERSIZED FOR VOLTAGE DROP.

Engberg Anderson ARCHITECTS
MILWAUKEE | MADISON | CHICAGO

HEG HEIN Engineering Group

ORIGINAL

SATELLITE BUS FACILITY REMODEL

3609-3901 HANSON ROAD
MADISON, WI 53704

CITY OF MADISON
METRO TRANSIT
1244 E WASHINGTON AVE #301
MADISON, WI 53703

PROJECT NUMBER 213418.00

ISSUED FOR:
BID SET 9/15/2023

REVISION FOR:
NO. DESCRIPTION DATE

DRAWN BY Author
CHECKED BY Checker

LIGHTING, MOTOR AND EQUIPMENT SCHEDULES - 3901 STORAGE BLDG.

E601

Department of Public Works
Engineering Division
James M. Wolfe, P.E., City Engineer

City-County Building, Room 115
210 Martin Luther King, Jr. Boulevard
Madison, Wisconsin 53703
Phone: (608) 266-4751
Fax: (608) 264-9275
engineering@cityofmadison.com
www.cityofmadison.com/engineering

Assistant City Engineer
Bryan Cooper, AIA
Gregory T. Fries, P.E.
Chris Petykowski, P.E.

Deputy Division Manager
Kathleen M. Cryan

Principal Engineer 2
John S. Fahrney, P.E.
Janet Schmidt, P.E.

Principal Engineer 1
Mark D. Moder, P.E.
Andrew J. Zwieg, P.E.

Financial Manager
Steven B. Danner-Rivers

October 24, 2023

NOTICE OF ADDENDUM
ADDENDUM NO. 4

CONTRACT NO. 9086
Metro Transit Hanson Rd Bus Facility Remodel

This addendum is issued to modify, explain or correct the original Drawings, Specifications, or Contract Documents marked as ***Metro Transit Hanson Rd Bus Facility Remodel, City of Madison Project 10950, Contract No. 9086, as issued on September 19, 2023 and Addendum #1 as issued on October 19, 2023 and Addendum #2 as issued on October 13, 2023 and Addendum #3 as issued on October 19, 2023 and Addendum #4 as issued on October 24, 2023.*** This addendum is hereby made a part of the contract documents, represents clarifications of the previously released documents, consists of two (2) pages, and the referenced exhibits.

This addendum does not include a change to the bid due date.

Please acknowledge this addendum on page E1 of the contract documents and/or in Section E: Bidder's Acknowledgement on Bid Express.

An electronic version of these documents can be found on the Bid Express website at
https://www.infotechinc.com/bidexpress/

If you are unable to download the plan revisions associated with the addendum please contact the Engineering office at 608-266-4751 to receive the material by another route.

For questions regarding this bid, contact:

Jim Whitney
City of Madison Engineering
Phone: 608-266-4563
Email: jwhitney@cityofmadison.com

Sincerely,

James M. Wolfe, P.E., City Engineer

Cc: Greg Fries
Bryan Cooper

1. **GENERAL CONTRACT CONDITIONS**
   A. The most recent Davis-Bacon Act minimum wage rate publication for building construction projects dated 10/13/2023 is attached for reference.

2. **GENERAL QUESTIONS/AMSWERS AND CLARIFICATIONS**
   A. No change.

3. **ACCEPTABLE EQUIVALENTS**
   A. No change.

4. **SPECIFICATIONS**
   A. No change.

5. **DRAWINGS**
   A. No change

6. **PROPOSAL**
   A. No change.

End of Contract 9086 Addendum No. 4

SECTION D: DISADVANTAGED BUSINESS ENTERPRISE

Instructions to Bidders
City of Madison
DBE Program Information

2. Disadvantaged Business Enterprise (DBE) Program

Any questions about the DBE Program provisions of this project, including filling out the Special Prequalification Report, should be directed to Tracy Lomax, Affirmative Action Division Manager, City Civil Rights Department, at 608-266-6510, e-mail tlomax@cityofmadison.com.

A copy of the complete City of Madison Disadvantaged Business Enterprise (DBE) Program and/or DBE Directory may be obtained by calling the City Civil Rights Department at 608-267-8759 or online at: http://wisconsindot.gov/Pages/doing-bus/civil-rights/dbe/certified-firms.aspx.

2.1 Prequalification Requirements

A. Purpose

It is the policy of the U. S. Department of Transportation/Federal Transit Administration (USDOT/FTA) that disadvantaged business enterprises (DBE) as defined in 49 CFR Part 26 shall have the maximum feasible opportunity to participate in the performance of contracts financed in whole or in part with Federal funds. Consequently, the DBE requirements of 49 CFR Part 26 applies to this contract.

B. DBE Obligation

The Contractor agrees to ensure that DBEs as defined in 49 CFR Part 26 have the maximum feasible opportunity to participate in the performance of contracts and subcontracts financed under this project. In this regard, all bidders shall take all necessary and reasonable steps in accordance with 49 CFR Part 26 to insure that DBEs have the maximum feasible opportunity to compete for and perform contracts. The Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of USDOT/FTA-assigned contracts.

C. DBE Utilization Goal

For this contract Madison Metro has assigned a DBE goal of two percent (2%).

Each bidder shall meet or show adequate good faith efforts to meet the DBE project goal. DBE firms may participate as subcontractors, suppliers or in joint ventures. **The bidder shall meet or exceed or demonstrate that it could not meet the goal despite its best efforts or the bid will be considered non-responsive.**

D. DBE Certification

In order to be considered a DBE firm, the firm must be certified by the Wisconsin Unified Certification Program at the time of bid submittal. The DBE Directory is available at the following link:

http://wisconsindot.gov/Pages/doing-bus/civil-rights/dbe/certified-firms.aspx

E. Definitions And Certification Requirements

For the purposes of this program, a Disadvantaged Business Enterprise (DBE) is a small business concern:

Which is at least fifty-one (51) percent owned by one or more socially and economically disadvantaged individuals, or, in the case of any publicly owned business, at least fifty-one (51) percent of the stock of which is owned by one or more socially and economically disadvantaged individuals; and

Whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

The Contract Compliance Officer has a list of DBE firms who are certified as meeting these definitions.

F. Good Faith Efforts/Waiver Of DBE Goal

If a bidder finds it impossible to fully meet the DBE goal of a contract, the bid shall include a signed petition on the bidder's letterhead, for grant of relief from the DBE goal requirements, **accompanied by documentation demonstrating that all reasonable good faith efforts were made toward fulfilling the goal. See Appendix D.5 which must be completed for all Good Faith Efforts Waiver Requests.**

To demonstrate sufficient reasonable efforts to meet the DBE contract goal, a bidder shall document as stated in Appendix D.5 the steps it has taken to obtain DBE participation, including but not limited to the following:

1. Obtaining information about DBEs in specific subcontracting areas by:
   a. Developing and maintaining the Contractor's own file of certified DBEs;
   b. Consulting the list of certified DBEs from the Wisconsin Unified Certification Program Directory.
   c. If necessary, assisting an uncertified firm to obtain certification by the City of Madison Department of Civil Rights. The Civil Rights Department will provide the necessary forms at the bidder's request.
2. Contacting DBEs sufficiently in advance of the bid deadline so that they can prepare a bid and engage in negotiations:
   a. Advertising in general circulation media, trade association publications, and minority-focus media for at least twenty (20) calendar days before bids are due. If twenty (20) days are not available, publication for a shorter reasonable time is acceptable, and
   b. Written notification to DBEs that their interest in the contract is solicited.
3. Selecting portions of the work, to be performed by DBEs to increase the likelihood of achieving the DBE project goal.
4. Negotiating directly with DBEs, including DBEs who contact the bidder to volunteer a quote for participating as a subcontractor/subconsultant.
5. Outlining efforts to negotiate with DBEs for specific sub-bids including at a minimum the names, addresses, and telephone numbers of DBEs that were contracted; a description of the information provided to DBEs regarding the plans and specifications for portions of the work to be performed; and a statement of why additional agreements with DBEs were not reached:
   a. If the DBE is unavailable, a detailed statement from the bidder of the reasons for that conclusion;
   b. If the bidder considers the DBE to be unqualified, a detailed statement of the reasons for that conclusion;
   c. If the DBE refused to or was unable to offer a price which the bidder could reasonably agree to pay, a detailed statement of the reasons for that decision; and
   d. Any other reasons why agreements with DBEs could not be reached.
6. Efforts made to assist the DBEs contacted with needed assistance in obtaining bonding or insurance required by the bidder or the City.
7. Attendance at the pre-bid conference is not mandatory, but it is recommended.

Bidders that fail to meet DBE goals and fail to demonstrate sufficient reasonable efforts shall not be eligible to be awarded the contract.

A bidder will not be considered to have made a good faith effort to meet the DBE project goal if he or she rejects the bid of an otherwise qualified and competent DBE on the basis of price alone, unless it is shown that no reasonable price can be obtained from a DBE. A DBE's bid for the subcontract will be presumed to be unreasonable if the DBE's price exceeds the average price quoted by more than five (5) percent.

8. If a bidder's Good Faith Efforts Waiver is denied by the Department of Civil Rights, the bidder may exercise its appeal rights and submit a written request to the Department of Civil Rights for a reconsideration hearing as provided in Appendix D.6.

G. Counting DBE Participation

A bidder may count towards his or her attainment of the DBE goal only those expenditures to DBEs that perform a commercially useful function. For purposes of evaluating a bidder's responsiveness to the attainment of the DBE goal, the contract participation by a DBE is based on the percentage of the total base bid proposed by the Contractor. The total base bid price is inclusive of all amendments, modifications and change orders.

Work performed by a DBE firm in a particular transaction can be counted toward the goal only if it involves a commercially useful function. As provided in Section 26.55(c)(1) a DBE performs a commercially useful function if the DBE firm in accordance with industry practices performs a useful role in the transaction. Under Section 26.55(c)(2) a DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project to enable a prime contractor to pass through funds in order to obtain the appearance of DBE participation. If, in Metro's judgment, the firm does not perform a commercially useful function in the transaction, no credit towards goals may be awarded, and the firm's participation cannot be counted towards the attainment of the DBE Goal.

It should be noted that the question of whether a firm is performing a commercially useful function is completely separate from the question of whether the firm is an eligible DBE. A firm is eligible if it meets the definitional criteria and ownership and control requirements, as set forth in the City of Madison's DBE Program.

The City of Madison (Metro Transit) will determine whether or not a firm is performing a commercially useful function on a project. If the commercially useful function is that of a dealer, then the City of Madison (Metro Transit), in accordance with Section 26.55(e)(2)(i) may count 60% of the value of the product supplied towards the DBE goal.

As provided in Section 26.55(e)(2)(ii) a regular dealer must be engaged in selling the product in question to the public and must be in regular trade with a variety of customers. This is an important distinguishing characteristic which defines whether or not a firm is acting as a regular dealer. If a firm performs supplier-like functions on an ad-hoc basis or for only one or two contractors with whom it has a special relationship, the firm will not be performing commercially useful function since it is not considered a regular dealer.

Section 26.55(e)(2)(ii)(A) allows a supplier of bulk goods to qualify as a regular dealer without owning, operating or maintaining a place of business if the supplier both owns and operates distribution equipment for the products. With respect to the distribution equipment; e.g., a fleet of trucks, the term "and operates" is intended to cover a situation in which the supplier leases the equipment on a regular basis for its entire business through a long-term lease agreement and not on an ad-hoc basis by simply providing drivers for trucks owned or leased by another party; e.g., a prime contractor, or leases such a party's trucks on an ad-hoc basis for a specific job.

If the commercially useful function being performed is not that of a regular dealer, but rather that of delivery of products, for example, a business that simply transfers title of a product from manufacturer to ultimate purchaser; e.g., a sales representative who re-invoices a steel product from the steel company to the City of Madison (Metro Transit), or a firm that puts a product into a container for delivery, or a firm that expedites transactions would not be considered a regular dealer under provisions of Section 26.55(e)(2)(ii)(C).

Section 26.55(e)(3) concerns the use of services that help the City of Madison (Metro Transit) obtain needed supplies, personnel, materials or equipment to perform a portion of the contract. If a DBE is acting as a broker or manufacturer's representative in the procurement of supplies, facilities, or materials, etc., only the fee received by the service provider could be counted toward goals. For example, use of a minority sales representative or distributor for a steel company, if performing a commercially useful function at all, would entitle the City of Madison (Metro Transit) receiving the steel to count only the fee paid to the representative or distributor toward the goal.

A similar provision contained in Section 26.55(a)(2) would also govern fees for professional, technical, managerial and other services obtained expressly and solely to perform work relating to a specific contract or program function such as procurement of personnel. The counting rules of 49 CFR Part 26.55(a)(2) would apply and only the commission will be counted towards the DBE goal.

Section 26.55(a)(2) requires the application of the same principle to bonding and insurance matters. Contractors often are required to obtain bonding and insurance concerning their work in USDOT-assisted contracts. When a contractor obtains a bond or an insurance policy from a DBE agent, the amount allowable toward goals is not any portion of the face value of the policy or bond or the total premium, but rather the fee received by the agent for selling the bond or insurance policy.

Section 26.55(d) concerns credit for participation by trucking firms and management of transportation services. If a DBE trucking company picks up a product from a manufacturer or regular dealer and delivers the product to the City of Madison (Metro Transit), the commercially useful function it is performing is not that of a supplier, but simply that of a transporter of goods. Unless the trucking company is itself the manufacturer or a regular dealer in the product, credit cannot be given based on a percentage of the cost of the product. Rather, credit would be allowed for the cost of the transportation service.

The City is aware that the rule's language does not explicitly mention every kind of business that works in USDOT/FTA financially assisted programs. In administering 49 CFR Part 26, the City will, on a case-by-case basis, determine the appropriate regulatory provision to apply in a particular situation.

H. The Special Prequalification Report

The Special Prequalification Report is located in Appendix D and consists of the following:

D.1 Cover page
D.2 DBE Utilization Report (Please prepare one report for each DBE utilized)
D.3 Letter of intent to subcontract with a DBE
D.4 Certification of lower tier participants.
D.5 Good Faith Efforts Waiver Request
D.6 Good Faith Efforts Denial Reconsideration Request

Information to be provided in Appendix D.

D.1 Cover Page the Bidder should affirm whether or not the assigned DBE Goal will be met.
D.2 DBE Utilization Report the bidder should list **for each DBE firm**, the information provided to the DBE, the type of work, and the percentage of the bid that will be performed by the DBE.
D.3. Letter of Intent to Subcontract with a DBE. This form should contain information on the value of the work to be performed by each DBE.
D.4. Certification of lower tier participants. Complete this form if using lower tier Participants.
D.5. Good Faith Efforts Waiver. Complete this form to request a good faith efforts waiver request if (1) you have partially met the goal or (2) if you have not met the goal. At a minimum the bidder should include the following as provided in Appendix D.5.:
1. A description of the information provided to each DBE regarding the plans and specifications for portions of the work to be performed;
2. If the DBE is unavailable, a detailed statement from the bidder for the reasons for that conclusion;

3. If the bidder considers the DBE to be unqualified, a detailed statement of the reasons for that conclusion;
4. If the DBE refused to or was unable to offer a price which the bidder could reasonably agree to pay, a statement of reasons for that decision. Be specific.
5. Any other reasons why agreements with DBEs could not be reached; and
6. Other good faith efforts.

D.6 Appeal Procedure for denial of Good Faith Efforts Waiver.

In accordance with Section 26.53 (f) a Bidder whose request for a Good Faiths Efforts Waiver is denied may appeal the City's decision to the Department of Civil Rights, Affirmative Action Division Manager, Madison City County Building, Room 523, Madison, WI 53701. All appeals shall be filed, in writing, during normal working hours. See Appendix D.6.

I. DBE Award Notification

Whenever a prime Contractor is awarded a contract by the City of Madison (Metro Transit), the DBE subcontractor will be notified in writing by the DBE Liaison Officer that a contract has been awarded in which they were identified as a DBE subcontractor. A copy of the Letter of Notification will also be sent to the prime Contractor and the Transit General Manager.

2.2 Requirements of a Successful Bidder

A. DBE Substitutions

Arbitrary changes by the Contractor of DBEs identified in his or her bid is strictly prohibited. Further, without prior approval by the DBE Liaison Officer, the Contractor may not terminate a subcontract agreement, reduce the scope of work nor decrease the proposed price to the DBE.

In instances where the Contractor finds it necessary to request substitution of a DBE for reasons such as default on the part of the DBE or poor work performance, the Contractor shall submit, in writing, to the DBE Liaison Officer, the reasons justifying release of prior approved DBEs and receive approval from the City of such change prior to subcontracting with another certified DBE.

The Contractor's notification shall, follow prior notice to the DBE proposed for termination (with a copy to the DBE Liaison Officer) including the specific reasons for the proposed substitution and in accordance with 49 CFR § 26.53(f). Stated reasons which would be acceptable include any of the following examples:

1. A previously committed DBE was found not to be able to perform;
2. A committed DBE was found not to be able to produce acceptable work;
3. A committed DBE was later discovered not to be bona fide; and
4. A DBE previously committed to a given price later demands an unreasonable escalation of price.

The Contractor's position in these cases shall be fully explained and supported with adequate documentation. Stated reasons which will not be acceptable include:

1. A replacement firm has been recruited to perform the same work under terms more advantageous to the Contractor;
2. Issues about performance by the committed DBE were disputed (unless every reasonable effort has already been taken to have the issues resolved or mediated satisfactorily); and
3. DBE has requested reasonable price escalation which may be justified due to unforeseen circumstances; i.e., change in scope of DBE's work.

The Contractor's notification should include the name, address, and principal official of any proposed substitute DBE and the dollar value and scope of work of the proposed subcontractor. The same DBE affidavits, documents, and Letter of Intent which are required of bidders should be attached.

The DBE Liaison Officer will evaluate the submitted documentation and respond within fifteen (15) working days to the request for approval of a substitution. The response may be in the form of requesting more

information, or requesting an interview to clarify or mediate the problem. The response may also be in the form of a rejection of the proposed DBE substitution with the reasons therefore included in the City's response. In the case of an expressed emergency need to receive the necessary decision for the sake of job progress, the City will instead respond as soon as practicable.

Actual substitution of a DBE to fulfill contract requirements should not be made prior to City approval. Once notified of City approval, the substitute DBE subcontract shall be executed within five (5) working days, and a copy of the DBE subcontract, with signatures of both parties to the agreement, should be submitted to the DBE Liaison Officer.

The City will not approve extra payment for escalated costs incurred by the Contractor when a substitution of subcontractors becomes necessary in order to comply with DBE contract requirements.

In the case where an enterprise under contract was previously considered to be a DBE but is later found not to be, or whose work is found not to be creditable toward the DBE goals fully as planned, the City will consider the following criteria in evaluating a waiver request:

1. Whether the Contractor was reasonable in believing the enterprise was a DBE or that eligibility or "counting" standards were not being violated, and
2. The adequacy of unsuccessful efforts taken to obtain a substitute DBE.

B. Contract Monitoring

To ensure DBE compliance on all contracts regardless of dollar amount, the DBE Liaison Officer will contact the Contractor and the DBE subcontractor when the project reaches the 50% mark of completion. The Contractor will receive a request for status of DBE subcontractor payment. The request will identify the names of DBEs proposed by the Contractor, the proposed goods or services the DBE subcontractor was to provide and the proposed subcontracted DBE dollar amount. The Contractor will be requested to supply, within ten (10) working days, proof of payment for each of the DBEs listed in order to verify the year-to-day DBE participation.

The DBE subcontractor will be requested to provide an affidavit for DBE subcontractor participation/payment attesting to the work performed and the amount paid to date to the subcontractor.

C. Non-Compliance And Liquidated Damages

The City shall have the discretion to apply suitable sanctions to the Contractor if the Contractor is found to be in non-compliance with the DBE requirements. Failure to comply with the DBE terms of a contract or failure to use DBEs as stated in the Contractor's bid constitutes a material breach of this contract, and may lead to the suspension or termination of this contract in whole or in part; furthermore, continued eligibility to enter into future contracting arrangements with the City of Madison (Metro Transit) may be jeopardized as a result of non-compliance. In some cases, monthly progress payments may be withheld until corrective action is taken.

Therefore, in such cases of non-compliance, the City will deduct as liquidated damages cumulative amounts computed as follows: for each one (1) percent (or fraction thereof) of shortfall toward the DBE goal, one (1) percent of the base bid for this contract shall be surrendered by the Contractor to the City in payment as liquidated damages, if such damages are assessed.

When work is completed, in the event that the City has determined that the Contractor was not in compliance in the fulfillment of the required DBE goals, and a grant of relief of the requirements was not obtained, the City will thereby be damaged in the failure to provide the benefit of participation to DBEs to the degree set forth in the contract.

D. Opportunities For The Use Of Banks Owned & Controlled By DBEs

The City of Madison encourages its prime contractors to use banks owned and controlled by minorities and women in Wisconsin whenever feasible.

SECTION E: BIDDERS ACKNOWLEDGEMENT
METRO TRANSIT HANSON RD. BUS FACILITY REMODEL
CONTRACT NO. 9086

Bidder must state a Unit Price and Total Bid for each item. The Total Bid for each item must be the product of quantity, by Unit Price. The Grand Total must be the sum of the Total Bids for the various items. In case of multiplication errors or addition errors, the Grand Total with corrected multiplication and/or addition shall determine the Grand Total bid for each contract. The Unit Price and Total Bid must be entered numerically in the spaces provided. All words and numbers shall be written in ink.

1. The undersigned having familiarized himself/herself with the Contract documents, including Advertisement for Bids, Instructions to Bidders, Form of Proposal, City of Madison Standard Specifications for Public Works Construction - 2023 Edition thereto, Form of Agreement, Form of Bond, and Addenda issued and attached to the plans and specifications on file in the office of the City Engineer, hereby proposes to provide and furnish all the labor, materials, tools, and expendable equipment necessary to perform and complete in a workmanlike manner the specified construction on this project for the City of Madison; all in accordance with the plans and specifications as prepared by the City Engineer, including Addenda Nos. 1 through _____ to the Contract, at the prices for said work as contained in this proposal. (Electronic bids submittals shall acknowledge addendum under Section E and shall not acknowledge here)
2. If awarded the Contract, we will initiate action within seven (7) days after notification or in accordance with the date specified in the contract to begin work and will proceed with diligence to bring the project to full completion within the number of work days allowed in the Contract or by the calendar date stated in the Contract.
3. The undersigned Bidder or Contractor certifies that he/she is not a party to any contract, combination in form of trust or otherwise, or conspiracy in restraint of trade or commerce or any other violation of the anti-trust laws of the State of Wisconsin or of the United States, with respect to this bid or contract or otherwise.
4. I hereby certify that I have met the Bid Bond Requirements as specified in Section 102.5. *(IF BID BOND IS USED, IT SHALL BE SUBMITTED ON THE FORMS PROVIDED BY THE CITY. FAILURE TO DO SO MAY RESULT IN REJECTION OF THE BID).*
5. I hereby certify that all statements herein are made on behalf of Riley Construction Company, Inc. (name of corporation, partnership, or person submitting bid) a corporation organized and existing under the laws of the State of Wisconsin a partnership consisting of Not Applicable; an individual trading as Not Applicable; of the City of Kenosha State of Wisconsin; that I have examined and carefully prepared this Proposal, from the plans and specifications and have checked the same in detail before submitting this Proposal; that I have fully authority to make such statements and submit this Proposal in (its, their) behalf; and that the said statements are true and correct.

SIGNATURE

John Delavan-Vice President of Preconstruction
TITLE, IF ANY

Sworn and subscribed to before me this
26th day of October, 20 23.

(Notary Public or other officer authorized to administer oaths)
My Commission Expires 6/26/26
Bidders shall not add any conditions or qualifying statements to this Proposal.

ADAM LEWIS
Notary Public
State of Wisconsin

APPENDIX D

THIS INFORMATION MUST BE SUBMITTED ALONG WITH THE FTA CERTIFICATIONS, IN A SEPARATE SEALED ENVELOPE MARKED "ENVELOPE NO. 2--DBE REPORT/FTA CERTIFICATES." (To be completed by prime contractor)

D1. DBE PROGRAM SPECIAL PREQUALIFICATION REPORT/COVER SHEET

Project Name: Metro Transit Hanson RD. Bus Facility Remodel

Bidder's Name: Riley Construction Company, Inc.

Bidder's Contact Person: John Delavan

Contact Person's Telephone Number: (262) 658-4381

BIDDER CERTIFICATION

I, John Delavan, hereby declare and affirm that I am a duly authorized representative of Riley Construction Company, Inc. and that I have personally reviewed the material and facts set forth in and submitted in this DBE Utilization Plan and, to the best of my knowledge and belief, the information in this Plan is true and correct.

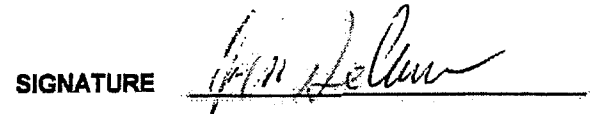
Furthermore, the undersigned shall enter into formal written agreements with all listed DBE firms for work as indicated in this Plan and shall enter into such agreements within five (5) working days after receipt of the contract executed by the City of Madison, Wisconsin.

I, further declare and affirm that:

We have met the 2% assigned DBE Goal (X)

or

We request a Good Faith Efforts Waiver ( )

SIGNATURE 

NAME John Delavan

TITLE Vice President of Preconstruction

FIRM NAME Riley Construction Company, Inc.

DATE October 26, 2023

D2. DBE PROGRAM SPECIAL PREQUALIFICATION DBE UTILIZATION REPORT
(Prime contractor to complete a report for each DBE utilized)

Name of DBE Firm: Beson & Houle, LLC

Address DBE Firm: W10716 KONOW ROAD, Rosedale, WI 54974

DBE Firm Contact Person: Jesse Houle

Contact Person's Telephone Number: (920) 979-2914

THIS DBE WILL BE A: (Check One)

(X) Sub-contractor ( ) Supplier ( ) Joint Venture Partner

Type of work this DBE will perform: Structural Steel

List total value of commitment to this firm: $ 539,270.00

List total percentage of commitment to this DBE: >3.7%

D3. DBE PROGRAM SPECIAL PREQUALIFICATION REPORT/LETTER OF INTENT FROM DBE TO PERFORM AS SUBCONTRACTOR, SUPPLIER AND/OR CONSULTANT (To be completed by each DBE)

To: RIVER and the City of Madison
(Name of Prime Contractor)

From: BESON & HOUSE, LLC
(Name of DBE Firm)

The undersigned is prepared to provide the following described services or supply the following described goods in connection with the following project/contract.

Project Name: C/O MADISON - SATELLITE BUS FACILITY REMODEL

DBE Firm's Contact Person: JESSE HOUSE

Contact Person's Telephone Number: 920-979-2914

THIS DBE FIRM WILL BE A: (Check One) (X) **Sub-contractor** ( ) **Supplier** ( ) **Joint Venture Partner**

This firm will perform the following type of work:

List total value of commitment to this firm: $539,270.00

If more space is needed to fully describe the DBE firm's proposed scope of work and/or payment schedule, attach additional sheets.

The undersigned will enter into a formal written agreement with the Prime Contractor, conditioned upon the Prime Contractor's execution of a contract with the City of Madison, Wisconsin, and will do so within five (5) working days of the Prime Contractor's knowledge of said contract award.

The DBE status of the undersigned has been certified by the City of Madison, Wisconsin, or the Wisconsin Unified Certification Program. A copy of said certification is attached to this Letter of Intent.

Notice: If the DBE firm is not certified by the City or the Wisconsin Unified Certification Program, by the bid submission date the firm's participation in accordance with 49 CFR Part 26 Section 26.55(f) cannot be counted towards the attainment of DBE Goals.

SIGNATURE _____

NAME JESSE HOUSE

TITLE MANAGING MEMBER

FIRM NAME BESON & HOUSE, LLC

DATE 10/26/23

D4. DBE PROGRAM SPECIAL PREQUALIFICATION REPORT CERTIFICATION OF LOWER-TIER PARTICIPANTS (SUBCONTRACTOR/SUBCONSULTANT) REGARDING DEBARMENT, SUSPENSION, AND OTHER INELIGIBILITY AND VOLUNTARY EXCLUSION (To be completed by each DBE)

The lower-tier participant (potential subcontractor), Beson & Houle, LLC, certifies, by submission of this proposal or bid, that neither it nor its principles are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency.

(If the lower-tier participant [potential subcontractor] is unable to certify to any of the statements in this certification, such participant shall attach an explanation to this certification.)

THE LOWER-TIER PARTICIPANT (POTENTIAL SUBCONTRACTOR) CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF THE CONTENTS OF THE STATEMENTS SUBMITTED ON OR WITH THIS CERTIFICATION AND UNDERSTANDS THAT THE PROVISIONS OF 31 U.S.C. SUBSECTION 3801 ET SEQ. ARE APPLICABLE THERETO.

SIGNATURE _____

NAME Jesse Houle

TITLE Managing Member

FIRM NAME Beson & Houle, LLC

DATE 10/26/23

The undersigned official representative for the Beson & Houle (entity) hereby certifies that the Beson & Houle (entity) has authority under State and local law to comply with the subject assurances and that the certification above has been legally made.

SIGNATURE _____

NAME Jesse Houle

TITLE Managing Member

FIRM NAME Beson & Houle, LLC

DATE 10/26/23

AFFIDAVIT

STATE OF Wisconsin)

) ss

COUNTY OF Kenosha)

The undersigned, having been first duly sworn, says that the information given in the above certificate is true and correct to the best of his/her knowledge and belief.

Signed: _____ Authorized Representative John Delavan-Vice President of Preconstruction

Subscribed and sworn to before me:

This 26th day of October, 2023

Signed: _____ Notary Public

My commission expires 6/26, 2026.

ADAM LEWIS
Notary Public
State of Wisconsin

Contract 9086 – Riley Construction Company, Inc.

Section E: Bidder's Acknowledgement
This section is a required document for the bid to be considered complete. There are two methods for completing the Bidder Acknowledgement Report. Method one: The report can be downloaded, completed, and uploaded to this site to be included with your electronic bid. Method two: The report can be downloaded from the site and submitted by hand to the City of Madison. Either method of submission requires that the Bidder Acknowledgement Report be received by the bid due date.

Please select the method of submission below. The form is in the section below to download and upload to the site or download and submit by hand.

Please check the box in the Upload section if submitting the report by hand.

Method of Submittal for Bidder Acknowledgement (click in box below to choose) *
I will download Bidder Acknowledgement Downloadable Document, complete, and upload online.

The bidder acknowledges receipt of the following addenda to the contract for the above designated project. Please check the appropriate box for each addendum reviewed. If no addenda have been issued, then no boxes are required to be checked.

Any addenda issues after 12:00 P.M. on the Wednesday proceeding the bid due date shall include a provision extending the bid due date.

Addendum Acknowledgement

Acknowledge each Addenda reviewed by checking the appropriate checkboxes below.

- [x] Addendum 1*
- [x] Addendum 2*
- [x] Addendum 3*
- [x] Addendum 4*
- [ ] Addendum 5
- [ ] Addendum 6

Section F: Best Value Contracting (BVC)

This section is a required document for the bid to be considered complete. There are two methods for completing the Best Value Contracting (BVC) form. Method one: The form can be filled out online and submitted to this site to be included with your electronic bid. Method two: The form can be downloaded from the site and submitted by hand to the City of Madison.

Please select the method of submission below. The form can be found below for filling out online or download and submit by hand.

Method of Submittal for BVC (click in box below to choose) *
I will submit Bid Express fillable online form (BVC).

Best Value Contracting
1. The Contractor shall indicate the non-apprenticeable trades used on this contract.

2. Madison General Ordinance (M.G.O.), 33.07(7), does provide for some exemptions from the active apprentice requirement. Apprenticeable trades are those trades considered apprenticeable by the State of Wisconsin. Please check applicable box if you are seeking an exemption.

☐ Contractor has a total skilled workforce of four or less individuals in all apprenticeable trades combined.

☐ No available trade training program; The Contractor has been rejected by the only available trade training program, or there is no trade training program within 90 miles.

☐ Contractor is not using an apprentice due to having a journey worker on layoff status, provided the journey worker was employed by the contractor in the past six months.

☑ First time contractor on City of Madison Public Works contract requests a onetime exemption but intends to comply on all future contracts and is taking steps typical of a "good faith" effort.

☐ Contractor has been in business less than one year.

☐ Contractor doesn't have enough journeyman trade workers to qualify for a trade training program in that respective trade.

☐ An exemption is granted in accordance with a time period of a "Documented Depression" as defined by the State of Wisconsin.

3. The Contractor shall indicate on the following section which apprenticeable trades are to be used on this contract. Compliance with active apprenticeship, to the extent required by M.G.O. 33.07(7), shall be satisfied by documentation from an applicable trade training body; an apprenticeship contract with the Wisconsin Department of Workforce Development or a similar agency in another state; or the U.S Department of Labor. This documentation is required prior to the Contractor beginning work on the project site.

☐ The Contractor has reviewed the list and shall not use any apprenticeable trades on this project.

LIST APPRENTICABLE TRADES (check all that apply to your work to be performed on this contract)

☐ BRICKLAYER
☑ CARPENTER
☑ CEMENT MASON / CONCRETE FINISHER
☐ CEMENT MASON (HEAVY HIGHWAY)
☐ CONSTRUCTION CRAFT LABORER
☐ DATA COMMUNICATION INSTALLER
☐ ELECTRICIAN
☐ ENVIRONMENTAL SYSTEMS TECHNICIAN / HVAC SERVICE TECH/HVAC INSTALL / SERVICE
☐ GLAZIER
☐ HEAVY EQUIPMENT OPERATOR / OPERATING ENGINEER
☐ INSULATION WORKER (HEAT and FROST)
☐ IRON WORKER
☐ IRON WORKER (ASSEMBLER, METAL BLDGS)
☐ PAINTER and DECORATOR
☐ PLASTERER
☐ PLUMBER
☐ RESIDENTIAL ELECTRICIAN
☐ ROOFER and WATER PROOFER
☐ SHEET METAL WORKER
☐ SPRINKLER FITTER
☐ STEAMFITTER
☐ STEAMFITTER (REFRIGERATION)
☐ STEAMFITTER (SERVICE)
☐ TAPER and FINISHER
☐ TELECOMMUNICATIONS (VOICE, DATA and VIDEO) INSTALLER-TECHNICIAN
☐ TILE SETTER

METRO TRANSIT HANSON RD. BUS FACILITY REMODEL

CONTRACT NO. 9086
DATE: 10/26/2023

Riley Construction Company, Inc.

Item	Quantity	Price	Extension
Section B: Proposal			
90000 - Base Bid - Lump Sum	1.00	$16,099,708.00	$16,099,708.00
1 Items	Totals		$16,099,708.00

SECTION G: BID BOND

LET ALL KNOW BY THESE DOCUMENTS PRESENTED, THAT Principal and Surety, as identified below, are held and firmly bound unto the City of Madison, (hereinafter referred to as the "Obligee"), in the sum of five percent (5%) of the amount of the total bid or bids of the Principal herein accepted by the Obligee, for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

The conditions of this obligation are such that, whereas the Principal has submitted, to the City of Madison a certain bid, including the related alternate, and substitute bids attached hereto and hereby made a part hereof, to enter into a contract in writing for the construction of:

METRO TRANSIT HANSON RD. BUS FACILITY REMODEL
CONTRACT NO. 9086

1. If said bid is rejected by the Obligee, then this obligation shall be void.

2. If said bid is accepted by the Obligee and the Principal shall execute and deliver a contract in the form specified by the Obligee (properly completed in accordance with said bid) and shall furnish a bond for his/her faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void.

   If said bid is accepted by the Obligee and the Principal shall fail to execute and deliver the contract and the performance and payment bond noted in 2. above executed by this Surety, or other Surety approved by the City of Madison, all within the time specified or any extension thereof, the Principal and Surety agree jointly and severally to forfeit to the Obligee as liquidated damages the sum mentioned above, it being understood that the liability of the Surety for any and all claims hereunder shall in no event exceed the sum of this obligation as stated, and it is further understood that the Principal and Surety reserve the right to recover from the Obligee that portion of the forfeited sum which exceed the actual liquidated damages incurred by the Obligee.

   The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by an extension of the time within which the Obligee may accept such bid, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on the day and year set forth below.

Seal PRINCIPAL

Riley Construction Company, Inc.
Name of Principal

By

John Delavan VP of Precon.
Name and Title

10/26/2023
Date

RILEY CONSTRUCTION COMPANY, INC. CORPORATE SEAL EST. 1965 WISCONSIN

Seal SURETY

Liberty Mutual Insurance Company
Name of Surety

By

10/26/2023
Date

Bradley S. Babcock, Attorney-in-Fact
Name and Title

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under National Provider No. 9070604 for the year 2023, and appointed as attorney in fact with authority to execute this bid bond and the payment and performance bond referred to above, which power of attorney has not been revoked.

10/26/2023
Date

Agent Signature

1533 Wisconsin Avenue
Address

Grafton, WI 53024
City, State and Zip Code

262-204-8448
Telephone Number

NOTE TO SURETY & PRINCIPAL

The bid submitted which this bond guarantees shall be rejected if the following instrument is not attached to this bond:

Power of Attorney showing that the agent of Surety is currently authorized to execute bonds on behalf of the Surety, and in the amounts referenced above.

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: **8209220-984216**

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Bradley S. Babcock, Kimberly L. Babcock

all of the city of Grafton state of WI each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 6th day of January, 2023.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 6th day of January, 2023 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 26th day of October, 2023.

By: _____
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

SECTION H: FEDERAL AND LOCAL CERTIFICATIONS

The following Certifications and forms must be executed and submitted at the time of the bid submission:

1. AFFIDAVIT AND INFORMATION REQUIRED OF BIDDERS - (Include in all bids)

I hereby declare and affirm under the penalty for perjury:

A. That I am the Bidder (if the Bidder is an individual), a partner in the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation (if the Bidder is a corporation or limited liability company);

B. That the attached Bid have been arrived at by the Bidder independently and have been submitted without collusion or sham [fraud] and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment, or services described in the request for proposals, designed to limit independent proposing or competition;

C. That the contents of the Bid have not been communicated, directly or indirectly, by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety or any bond furnished with the Bid, and will not be communicated to any such person prior to the official opening of the proposal(s); and

D. That I have fully informed myself regarding the accuracy of the statements made in the affidavit.

SIGNATURE

NAME John Delavan

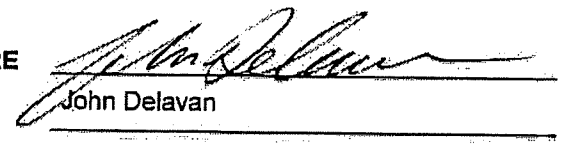
TITLE Vice President of Preconstruction

FIRM NAME Riley Construction Company, Inc.

DATE October 26th, 2023

2. OVERALL FEDERAL REGULATION COMPLIANCE

All contractual provisions required by USDOT/FTA, detailed in 2 CFR § 200 or as amended by 2 CFR § 1201, or the most recent version of FTA Circular 4220.1, and outlined in "USDOT/FTA Terms and Conditions", are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all USDOT/FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in the Contract with the successful Bidder. The successful Bidder shall not perform any act, fail to perform any act, or refuse to comply with any City of Madison requests which would cause the City of Madison to be in violation of USDOT/FTA or Wisconsin Department of Transportation grant terms and conditions. The successful Bidder shall ensure that any proposed subcontractors have been determined to meet the same standards of responsibility applicable to the prime contractor.

SIGNATURE	
NAME	John Delavan
TITLE	Vice President of Preconstruction
FIRM NAME	Riley Construction Company, Inc.
DATE	October 26th, 2023

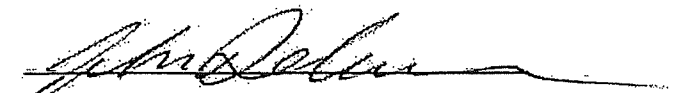
3. COMPLIANCE WITH SPECIFICATIONS/SCOPE OF WORK - (Include in all bids)

The Bidder hereby certifies that it will comply with the specifications/scope of work issued by the City of Madison, WI. **The Bidder warrants and certifies that of the following three paragraphs, paragraph A or B or C is true (check one ONLY):**

A. X The Bidder hereby states that it will comply with the specifications/scope of work in all areas. (This means that there are no exceptions to the City's specifications/scope of work, no matter how minor. If you have any doubts, check paragraph C or call the Procuring Agency, for assistance.)

B.____ The Bidder hereby states that it will comply with the specifications/scope of work in all areas except those where requests for clarification were approved by the City prior to Bid submission.

C.____ The Bidder hereby states that it will comply with the specifications/scope of work in all areas except those noted in its response as not being granted by the City in the requests for clarification process. The Bidder understands that those exceptions to the specifications/scope of work may be considered not responsive and may be rejected by the City.

SIGNATURE 

NAME John Delavan

TITLE Vice President of Preconstruction

FIRM NAME Riley Construction Company, Inc.

DATE October 26th, 2023

4. DEBARMENT AND SUSPENSION CERTIFICATION (LOWER TIER COVERED TRANSACTION) (Only Proposals Exceeding $25,000)

Instructions for Certification:

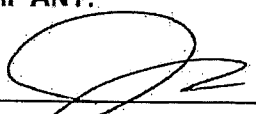
1. By signing and submitting this Offer or proposal, the prospective lower tier participant is providing the signed certification set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by in writing by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant agrees to review the "Excluded Parties Listing System" at http://www.sam.gov, before entering into any third party contract or subagreement.
8. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under Paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies including suspension and/or debarment.

The prospective lower tier participant certifies, by submission of this Proposal that neither it nor its "principals" as defined in 2. C.F.R. § 180.995 is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective lower tier participant shall attach an explanation to this proposal, and indicate that it has done so, by placing an X in the following space: ____

Furthermore, the prospective lower tier participant certifies that it will provide immediate written notice to the Procuring Agency if, at any time during the course of the proposed Offer, it learns that this certification was erroneous when submitted or has been erroneous by reason of changed circumstances.

THE SUBCONTRACTOR OR LOWER-TIER PARTICIPANT, CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF EACH STATEMENT OF ITS CERTIFICATION AND EXPLANATION, IF ANY. IN ADDITION, THE BIDDER OR OFFEROR UNDERSTANDS AND AGREES THAT THE PROVISIONS OF 31 U.S.C. §§ 3801 ET SEQ. APPLY TO THIS CERTIFICATION AND EXPLANATION, IF ANY.

SIGNATURE 

NAME JESSE HOWE

TITLE MANAGING MEMBER

FIRM NAME BESON & HOWE

DATE 10/26/23

5. DEBARMENT AND SUSPENSION CERTIFICATION - PRIMARY (Only Proposals Exceeding $25,000)

Instructions for Certification:

1. By signing and submitting this Offer or proposal, the prospective primary participant is providing the signed certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

4. The prospective primary participant shall provide immediate written notice to the department or agency to which this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.

6. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by in writing by the department or agency entering into this transactions.

7. The prospective primary participant further agrees by submitting this proposal that it will include this clause titled "Certification regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction", provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant agrees to review the "Excluded Parties Listing System" at http://www.sam.gov, before entering into any third party contract or subagreement.

9. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under Paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded

from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

The prospective primary participant certifies, by submission of this Proposal, to the best of its knowledge and belief, that neither it nor its "principals," as defined in 2. C.F.R. Part 180.995:

Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

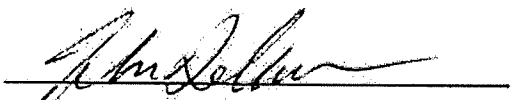
Are not presently indicted for or otherwise criminally or civilly charges by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (2) of this certification.

Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, local) terminated for cause or default.

If the prospective primary participant is unable to certify to any of the statements in this certification, such prospective primary participant shall attach an explanation to this proposal, and indicate that it has done so, by placing an "X" in the following space: ____.

Furthermore, the Offeror certifies that it will provide immediate written notice to the Procuring Agency if, at any time during the course of the proposed contract, it learns that this certification was erroneous when submitted or has been erroneous by reason of changed circumstances.

THE BIDDER OR OFFEROR, CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF EACH STATEMENT OF ITS CERTIFICATION AND EXPLANATION, IF ANY. IN ADDITION, THE BIDDER OR OFFEROR UNDERSTANDS AND AGREES THAT THE PROVISIONS OF 31 U.S.C. §§ 3801 ET SEQ. APPLY TO THIS CERTIFICATION AND EXPLANATION, IF ANY.

SIGNATURE 

NAME John Delavan

TITLE Vice President of Preconstruction

FIRM NAME Riley Construction Company, Inc.

DATE October 26th, 2023

6. LOBBYING CERTIFICATION (Only Proposals Exceeding $100,000)

As required by U.S.DOT regulations, "New Restrictions on Lobbying" at 49 CFR 20.110, the undersigned [Offeror] certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form--LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96).

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31, U.S.C. § 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

THE BIDDER OR OFFEROR, _____, CERTIFIES OR AFFIRMS THE TRUTHFULNESS AND ACCURACY OF EACH STATEMENT OF ITS CERTIFICATION AND DISCLOSURE, IF ANY. IN ADDITION, THE BIDDER OR OFFEROR UNDERSTANDS AND AGREES THAT THE PROVISIONS OF 31 U.S.C. §§ 3801 ET SEQ. APPLY TO THIS CERTIFICATION AND DISCLOSURE, IF ANY.

SIGNATURE _____

NAME John Delavan

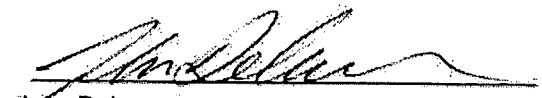
TITLE Vice President of Preconstruction

FIRM NAME Riley Construction Company, Inc.

DATE October 26th, 2023

7. DBE APPROVAL CERTIFICATION

The Bidder hereby certifies that it will not discriminate on the basis of race, color, national origin, religion, sex, age or disability in awarding a subcontract, and that it will take reasonable and necessary steps to ensure that Disadvantaged Business Enterprises as defined in 49 CFR Part 26, Participation by Disadvantaged Business Enterprises in DOT Financial Assistance Programs, including 49 CFR 26.13, will have the opportunity to participate in the performance of this Bid. Furthermore, the Bidder certifies that its goals have not been disapproved by the Federal Transit Administration.

SIGNATURE 

NAME John Delavan

TITLE Vice President of Preconstruction

FIRM NAME Riley Construction Company, Inc.

DATE October 23rd, 2023

8. DBE VENDOR SURVEY (To be completed by prime and all sub-contractors whether DBE or not)

The United States Department of Transportation (USDOT) has issued new rules to restructure the Disadvantaged Business Enterprise Program so it complies with Court orders. These new rules at 49 C.F.R. Part 26.11 require transit properties to obtain the following information from all current, past and potential Proposers. Here "potential Proposer" is defined as one seeking or has sought to do business with us.

A. PROPOSING COMPANY NAME Riley Construction Company, Inc.

Address 5301 99th Avenue

City Kenosha State WI Zip + 4 53144-7870

B. How long has your firm been in business? 58 Years

C. What are the annual gross receipts of your firm? _____

D. Are you a D.B.E.? Yes_____ No x

E. If yes, is your personal net worth greater than $750,000? Yes_____ No_____

F. If you want USDOT and the City of Madison to treat this information as proprietary you must place an "X" in the following space: _____. If done, then USDOT and the City will view this information as proprietary. It will therefore be protected under the Federal Freedom of Information Act, which pre-empts state and local laws, if any, which may allow this information to be otherwise released.

SIGNATURE _____

NAME John Delavan

TITLE Vice President of Preconstruction

FIRM NAME Riley Construction Company, Inc.

DATE October 26th, 2023

9. VENDOR DATA SHEET

A. LIST THE PERSON THE CITY CAN CONTACT IF THERE ARE QUESTIONS ABOUT YOUR PROPOSAL.

Name John Delavan

Address 5301 99th Avenue

City Kenosha State WI Zip + 4 53144-7870

Phone (262) 658-4381 FAX (262) 658-0312 E-mail johnd@rileycon.com

B. LIST THE PERSON RESPONSIBLE FOR REQUIRED AFFIRMATIVE ACTION INFORMATION.

Name Katie Thiele

Address 5301 99th Avenue

City Kenosha State WI Zip + 4 53144-7870

Phone (262) 658-4381 FAX (262) 658-0312 E-mail katiet@rileycon.com

C. LIST THE PERSON RESPONSIBLE FOR INVOICES & PREVAILING WAGE DOCUMENTATION.

Name Vince Montemurro

Address 5301 99th Avenue

City Kenosha State WI Zip + 4 53144-7870

Phone (262) 658-4381 FAX (262) 658-0312 E-mail vincem@rileycon.com

D. LIST THE PERSON RESPONSIBLE FOR THE MONTHLY PROGRESS REPORTS, if required.

Name Katie Thiele

Address 5301 99th Avenue

City Kenosha State WI Zip + 4 53144-7870

Phone (262) 658-4381 FAX (262) 658-0312 E-mail katiet@rileycon.com

10. BUY AMERICA CERTIFICATION (Steel or Manufactured Products, except Rolling Stock)

NOTE: Only fill in one (1) of the following Buy America Certification forms.

Certificate of Compliance

The Bidder or Offeror hereby certifies that it will comply with the requirements of 49 U.S.C. Section 5323(j)(1), and the applicable regulations of 49 C.F.R. 661.

Signature: _____

Name & Title: John Delavan-Vice President of Preconstruction

Company Name: Riley Construction Company, Inc.

Date: October 26th, 2023

Certificate of Non-Compliance

The Bidder or Offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. Section 5323(j), but it may qualify for an exception to the requirements pursuant to 49 U.S.C. Sections 5323(j)(2), as amended, and the applicable regulations in 49 C.F.R. 661.7

Signature: _____

Name & Title: John Delavan-Vice President of Preconstruction

Company Name: Riley Construction Company, Inc.

Date: October 26th, 2023

If Applicable, list the "exemption" qualifications accepted by FTA:

SECTION I: PROCUREMENT PROTEST PROCEDURE

In response to Federal Transit Administration (FTA) Circular 4220.1F, "Third Party Contracting Guidelines," it is Metro Transit's policy to consider all protests or objections regarding the award of a contract, whether submitted before or after award. Furthermore, this procedure shall be included or referenced in all solicitation documents. If referenced, the procedure shall be provided immediately upon request, barring copying restrictions.

PROTESTS

Any protests by an interested party i.e., Offeror or adversely affected sub-contractor; regarding this procurement shall be made in accordance with the procedures listed below. After such administrative remedies have been exhausted, an interested party may file a protest with the Federal Transit Administration (FTA) of the U.S. Department of Transportation pursuant to the procedures provided in FTA C 4220.1F. Allegations of violations of certain federal requirements may require the use of a separate complaint procedure. See, for example, Buy America Requirements, 49 CFR 661 (Section 661.15) and Participation by Disadvantaged Business Enterprise in Department of Transportation Programs, 49 CFR 26 (Section 26.101).

Failure to comply with the procedures listed below, will render a protest untimely and/or inadequate and shall result in its rejection.

Pre-award Protest Procedure

In all cases, the services, equipment, parts, or materials furnished under a contract shall fully comply with the plans, specifications, and scope of services attached to the request for proposals.

All pre-proposal or pre-award protests by interested parties, based upon restrictive or unclear scopes of work, the procurement process, alleged improprieties, or similar situations shall be received by Metro Transit, in writing, at the physical address and/or email address listed in the solicitation document. If the protest is made orally, timely written confirmation of the protest shall be required. Any protest must be fully supported with technical data or other pertinent information as evidence. Metro Transit will not consider a protest, if it is insufficiently supported or if Metro Transit does not receive it within the specified time limits. All Pre-award Protests shall be submitted within fifteen business (15) days prior to the Bid /Proposal Due Date.

With respect to any Pre-award Protest considered by Metro Transit, the Project Administrator will respond in detail to each substantive issue raised. This written response will be postmarked or transmitted at least five (5) business days prior to the bid/proposal due date.

Pre-award Protests Appeals Procedure

An Offeror or an adversely affected subcontractor is eligible to file an appeal from the decision of Metro Transit's Project Administrator. All appeals shall be filed, in writing, not more than five (5) business days from the date of determination, by 4:30 PM local time, with the Transit Finance Manager, at 1245 East Washington Ave., Suite 201, Madison, WI 53703 or FAX 608/267-8778. At minimum, the appeal shall include the name and address of the appellant; the email, telephone, and FAX numbers of the appellant; the action, which is the subject of the appeal; the reason for the protest; and a statement of the remedy sought.

With respect to any protest considered by Metro Transit, the Transit Finance Manager will respond in detail to each substantive issue raised. Metro Transit's final decision on the appeal of a pre-award protest will be postmarked or transmitted within ten (10) business days after the filing of the pre-award protest appeal.

Award Protest Procedure

An Offeror or an adversely affected subcontractor may protest the selected, responsible Offeror designation of any individual or organization by Metro Transit. All protests shall be filed, in writing, within five (5) business days of the bid award, by 4:30 PM local time, with the Transit General Manager, at 1245 East Washington Ave., Suite 201, Madison, WI 53703 or FAX 608/267-8778.

At a minimum, the protest shall include the name and address of the protesting party; the email, telephone, and FAX numbers of the protesting party; the action, which is the subject of the protest; the reason for the protest; and a statement of the remedy sought. The letter should include all information available to the protestor relevant to a determination of whether the protested party is in fact the selected, responsible Offeror. The protest should be specific. Metro Transit will not consider a protest, if it is insufficiently supported or if it is not received within the specified time limits.

The Transit General Manager shall determine, on the basis of information provided by the protestor, whether there is reason to believe that the protested party should not have been awarded the contract.

If the Transit General Manager determines that there is no reason to believe that the protested party should not have been awarded the contract, Metro Transit shall so inform the protestor in writing. In this letter, Metro Transit shall respond, at least generally, to each material issue raised in the protest.

If the Transit General Manager determines that there is reason to believe that the protested party should not have been awarded the contract, Metro Transit shall begin a proceeding to re-evaluate the bid/proposal award.

Metro Transit shall notify all involved or affected Offerors, in writing, that the contract award has been protested. The notice may identify the protesting party and summarize the grounds for protest. The notice shall also require the protested party to provide Metro Transit, within a reasonable period of time, any information necessary to permit Metro Transit to evaluate the protested party's designation as the selected, responsible Offeror.

The Transit General Manager shall evaluate the information available and make a determination. Metro Transit shall notify the parties of this determination in writing, within ten (10) business days of the conclusion of the determination, setting forth the reason for the determination.

In the event the Transit General Manager determines that the protested party should not have been awarded the contract, Metro Transit, at its discretion, may re-evaluate the evaluation process with the remaining Offerors or re-announce the RFP.

Award Protest Appeals Procedure

Any aggrieved person who was a party to the above award protest, or any person who possesses a direct financial interest in the determination, is eligible to file an appeal.

All appeals from the decision of an award protest should be filed, in writing, within five (5) business days of the date of determination, during normal working hours, with the City Finance Director, City of Madison, 210 Martin Luther King Jr. Blvd., Room 406, Madison, WI. 53710 or FAX 608/267/8705.

At minimum, the appeal shall include the name and address of the appellant; the telephone and FAX numbers of the appellant; the action which is the subject of the appeal; the specific reason for the appeal; a statement of the remedy sought; and a copy of Metro Transit's determination. The City Finance Director will not consider a protest, if it is insufficiently supported or if it is not received within the specified time limits.

Upon receipt of an appeal, the Finance Director shall fix a place, date, time, and designated officer to investigate the appeal, which shall be within five (5) business days of the date of receipt of the appeal.

The designated officer shall serve notice in writing, by telephone, or by other satisfactory means, to inform the parties of any information needed from then in order to respond to the appeal.

Within ten (10) business days of the conclusion of the review, the City Finance Director shall prepare a factual summary of the review and a final determination. In the report, all material issues raised in the protest shall be addressed in detail. This report shall be delivered to Metro Transit, with copies to the parties. This determination shall be final.

FTA Oversight

FTA will only review protests that allege failure of the City of Madison (Metro Transit) to have written protest procedures or failure to follow such procedures, or its failure to review a complaint or protest; or violation of Federal Law or regulations. A protest to the USDOT/FTA must be filed in accordance with FTA Circular 4220.1F currently in effect or amended time to time.

Alleged violations on other grounds, to the extent that they are justifiable, are under the jurisdictions of the appropriate federal, state or local administrative or judicial authorities. A concurrent copy of the protest must be sent to Madison Metro Transit.

The USDOT/FTA's remedy for City's failure to have written protest procedures or failure to follow such procedure is limited to requiring the City of Madison (Metro Transit) to develop such procedures, if necessary, and to follow such procedures in reviewing the protest at issue if Metro Transit desires USDOT/FTA financial participation in the contract in question.

Appellants shall file a protest with the USDOT/FTA not later than five (5) business days after the appellant knows or has reason to know of the violation.

In general, the protest filed must include the name and address of the appellant; identify Metro Transit, the project (grant) number, and the number of the contract solicitation; contain a statement of the grounds for the protest and any supporting documentation; and a copy of the local protest filed with the City of Madison and a copy of City's decision, if any.

Post-Award Procedure

The City of Madison shall not award a contract for five (5) business days following its decision on a procurement protest or if a protest has been filed with the FTA, during the pendency of that protest, unless Madison Metro Transit has determined that:

1. The items or services to be contracted for are urgently required;

2. Delivery or performance will be unduly delayed by failure to make the award promptly; or

3. Failure to make prompt award will otherwise cause undue harm to the Madison Metro Transit or the Federal Government.

In the event that City of Madison (Metro Transit) determines that the award is to be made during the five (5) business day period following the local protest decision or the pendency of a protest, the project file shall be documented by Metro Transit, explaining the basis for the award. In addition, Metro Transit shall notify the FTA prior to making such an award. Written notice of the decision to proceed with the award shall also be sent to the protester and all other interested or aggrieved parties, including the selected Offeror.

SECTION J: AGREEMENT

THIS AGREEMENT made this 22nd day of November in the year Two Thousand and Twenty-Three between **RILEY CONSTRUCTION COMPANY, INC.** hereinafter called the Contractor, and the City of Madison, Wisconsin, hereinafter called the City.

WHEREAS, the Common Council of the said City of Madison under the provisions of a resolution adopted **NOVEMBER 21, 2023**, and by virtue of authority vested in the said Council, has awarded to the Contractor the work of performing certain construction.

NOW, THEREFORE, the Contractor and the City, for the consideration hereinafter named, agree as follows:

1. **Scope of Work.** The Contractor shall, perform the construction, execution and completion of the following listed complete work or improvement in full compliance with the Plans, Specifications, Standard Specifications, Supplemental Specifications, Special Provisions, this Agreement, and the Federal Funding Compliance Requirements set forth in Addendum A to this Agreement; perform all items of work covered or stipulated in the proposal; perform all altered or extra work; and shall furnish, unless otherwise provided in the contract, all materials, implements, machinery, equipment, tools, supplies, transportation, and labor necessary to the prosecution and completion of the work or improvements:

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2. **Completion Date/Contract Time.** Construction work must begin within seven (7) calendar days after the date appearing on mailed written notice to do so shall have been sent to the Contractor and shall be carried on at a rate so as to secure full completion SEE SPECIAL PROVISIONS, the rate of progress and the time of completion being essential conditions of this Agreement.

3. **Contract Price.** The City shall pay to the Contractor at the times, in the manner and on the conditions set forth in said specifications, the sum of **SIXTEEN MILLION NINETY-NINE THOUSAND SEVEN HUNDRED EIGHT AND NO/100 ($16,099,708.00)** Dollars being the amount bid by such Contractor and which was awarded to him/her as provided by law.

4. **Affirmative Action.** In the performance of the services under this Agreement the Contractor agrees not to discriminate against any employee or applicant because of race, religion, marital status, age, color, sex, disability, national origin or ancestry, income level or source of income, arrest record or conviction record, less than honorable discharge, physical appearance, sexual orientation, gender identity, political beliefs, or student status. The Contractor further agrees not to discriminate against any subcontractor or person who offers to subcontract on this contract because of race, religion, color, age, disability, sex, sexual orientation, gender identity or national origin.

   The Contractor agrees that within thirty (30) days after the effective date of this agreement, the Contractor will provide to the City Affirmative Action Division certain workforce utilization statistics, using a form to be furnished by the City.

   If the contract is still in effect, or if the City enters into a new agreement with the Contractor, within one year after the date on which the form was required to be provided, the Contractor will provide updated workforce information using a second form, also to be furnished by the City. The second form will be submitted to the City Affirmative Action Division no later than one year after the date on which the first form was required to be provided.

   The Contractor further agrees that, for at least twelve (12) months after the effective date of this contract, it will notify the City Affirmative Action Division of each of its job openings at facilities in Dane County for which applicants not already employees of the Contractor are to be considered. The notice will include a job description, classification, qualifications and application procedures and deadlines. The Contractor agrees to interview and consider candidates referred by the Affirmative Action Division if the candidate meets the minimum qualification standards established

by the Contractor, and if the referral is timely. A referral is timely if it is received by the Contractor on or before the date started in the notice.

Articles of Agreement

Article I

The Contractor shall take affirmative action in accordance with the provisions of this contract to insure that applicants are employed, and that employees are treated during employment without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national original and that the employer shall provide harassment free work environment for the realization of the potential of each employee. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training including apprenticeship insofar as it is within the control of the Contractor. The Contractor agrees to post in conspicuous places available to employees and applicants notices to be provided by the City setting out the provisions of the nondiscrimination clauses in this contract.

Article II

The Contractor shall in all solicitations or advertisements for employees placed by or on behalf of the Contractors state that all qualified or qualifiable applicants will be employed without regard to race, religion, color, age, marital status, disability, sex, sexual orientation, gender identity or national origin.

Article III

The Contractor shall send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice to be provided by the City advising the labor union or worker's representative of the Contractor's equal employment opportunity and affirmative action commitments. Such notices shall be posted in conspicuous places available to employees and applicants for employment.

Article V

The Contractor agrees that it will comply with all provisions of the Affirmative Action Ordinance of the City of Madison, including the contract compliance requirements. The Contractor agrees to submit the model affirmative action plan for public works contractors in a form approved by the Affirmative Action Division Manager.

Article VI

The Contractor will maintain records as required by Section 39.02(9)(f) of the Madison General Ordinances and will provide the City Affirmative Action Division with access to such records and to persons who have relevant and necessary information, as provided in Section 39.02(9)(f). The City agrees to keep all such records confidential, except to the extent that public inspection is required by law.

Article VII

In the event of the Contractor's or subcontractor's failure to comply with the Equal Employment Opportunity and Affirmative Action Provisions of this contract or Section 39.03 and 39.02 of the Madison General Ordinances, it is agreed that the City at its option may do any or all of the following:

1. Cancel, terminate or suspend this Contract in whole or in part.

2. Declare the Contractor ineligible for further City contracts until the Affirmative Action requirements are met.

3. Recover on behalf of the City from the prime Contractor 0.5 percent of the contract award price for each week that such party fails or refuses to comply, in the nature of liquidated damages, but not to exceed a total of five percent (5%) of the contract price, or tenthousand dollars ($10,000), whichever is less. Under public works contracts, if a subcontractor is in noncompliance, the City may recover liquidated damages from the prime Contractor in the manner described above. The preceding sentence shall not be construed to prohibit a prime Contractor from recovering the amount of such damage from the non-complying subcontractor.

Article VIII

The Contractor shall include the above provisions of this contract in every subcontract so that such provisions will be binding upon each subcontractor. The Contractor shall take such action with respect to any subcontractor as necessary to enforce such provisions, including sanctions provided for noncompliance.

Article IX

The Contractor shall allow the maximum feasible opportunity to small business enterprises to compete for any subcontracts entered into pursuant to this contract. (In federally funded contracts the terms "DBE, MBE and WBE" shall be substituted for the term "small business" in this Article.)

5. Substance Abuse Prevention Program Required. Prior to commencing work on the Contract, the Contractor, and any Subcontractor, shall have in place a written program for the prevention of substance abuse among its employees as required under Wis. Stat. Sec. 103.503.

6. **Contractor Hiring Practices.**

Ban the Box - Arrest and Criminal Background Checks. (Sec. 39.08, MGO)

This provision applies to all prime contractors on contracts entered into on or after January 1, 2016, and all subcontractors who are required to meet prequalification requirements under MGO 33.07(7)(I), MGO as of the first time they seek or renew pre-qualification status on or after January 1, 2016. The City will monitor compliance of subcontractors through the pre-qualification process.

a. **Definitions.** For purposes of this section, "Arrest and Conviction Record" includes, but is not limited to, information indicating that a person has been questioned, apprehended, taken into custody or detention, held for investigation, arrested, charged with, indicted or tried for any felony, misdemeanor or other offense pursuant to any law enforcement or military authority.

"Conviction record" includes, but is not limited to, information indicating that a person has been convicted of a felony, misdemeanor or other offense, placed on probation, fined, imprisoned or paroled pursuant to any law enforcement or military authority.

"Background Check" means the process of checking an applicant's arrest and conviction record, through any means.

b. **Requirements.** For the duration of this Contract, the Contractor shall:

1. Remove from all job application forms any questions, check boxes, or other inquiries regarding an applicant's arrest and conviction record, as defined herein.

2. Refrain from asking an applicant in any manner about their arrest or conviction record until after conditional offer of employment is made to the applicant in question.

3. Refrain from conducting a formal or informal background check or making any other inquiry using any privately or publicly available means of obtaining the arrest or conviction record of an applicant until after a conditional offer of employment is made to the applicant in question.

4. Make information about this ordinance available to applicants and existing employees, and post notices in prominent locations at the workplace with information about the ordinance and complaint procedure using language provided by the City.

5. Comply with all other provisions of Sec. 39.08, MGO.

c. Exemptions: This section shall not apply when:

1. Hiring for a position where certain convictions or violations are a bar to employment in that position under applicable law, or

2. Hiring a position for which information about criminal or arrest record, or a background check is required by law to be performed at a time or in a manner that would otherwise be prohibited by this ordinance, including a licensed trade or profession where the licensing authority explicitly authorizes or requires the inquiry in question.

To be exempt, Contractor has the burden of demonstrating that there is an applicable law or regulation that requires the hiring practice in question, if so, the contractor is exempt from all of the requirements of this ordinance for the position(s) in question.

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IN WITNESS WHEREOF, the Contractor has hereunto set their hand and seal and the City has caused this contract to be sealed with its corporate seal and to be executed by its Mayor and City Clerk on the dates written below.

Countersigned:

11/22/23
Witness Date

11/22/23
Witness Date

RILEY CONSTRUCTION COMPANY, INC.
Company Name

11/22/2023
President Ben Kossow Date

11/22/2023
Secretary John Delavan Date

CITY OF MADISON, WISCONSIN

Provisions have been made to pay the liability that will accrue under this contract.

11/30/2023
Finance Director Date

12/1/23
Witness Date

11.27.23
Witness Date

Approved as to form:

11/30/23
City Attorney Date

12/1/23
Acting Mayor Date

Lauren N. Perez for 11/27/23
City Clerk Date

ADDENDUM A TO AGREEMENT: FEDERAL FUNDING COMPLIANCE REQUIREMENTS

The Contract will be funded by several different funding sources, including federal funding as follows: grant funding as a Small Starts project through the Capital Investment Grants program of the Bipartisan Infrastructure Law, enacted as the Infrastructure Investment and Jobs Act under 49 USC §5309; Bus and Bus Facilities Grant Program funding under 49 USC §5339; Urbanized Area Formula Program funding under 49 USC §5307; State of Good Repair Grant Program funding under 49 USC §5337; American Rescue Plan Act of 2021; and federal earmarks. Additional federal funding sources may arise during the term of the Contract. Due to these federal funding sources, Contractor agrees to comply with applicable federal requirements, and follow applicable federal guidance as applicable. In addition, the following federal funding compliance requirements, set forth in this Addendum A, are incorporated into and made a part of this Agreement:

1. Notice to Contractor; Changes in Applicable Federal Law.

   a. Federal requirements that apply to the City, this Contract, and any Amendments thereto may change due to changes in federal law, regulation, other requirements, or guidance, or changes in the City's underlying agreements with the United States, including information incorporated by reference and made part of any such agreements; and

   b. Applicable changes to those federal requirements will apply to this Contract and any subcontracts entered into by Contractor.

2. Incorporation of FTA Terms.

   a. The provisions in this Addendum include, in part, certain standard terms and conditions required by USDOT/FTA, under the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (2 CFR § 200), whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by USDOT/FTA, detailed in 2 CFR § 200 or as amended by 2 CFR § 1201, or the most recent version of FTA Circular 4220.1 are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all USDOT/FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Contract. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any City of Madison requests, which would cause the City of Madison to be in violation of the USDOT/FTA terms and conditions.

   b. The Contractor agrees that it will comply at all times with 49 CFR Part 18; U. S. Department of Transportation regulations relating to applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Agreement Form FTA MA (30) dated November 2022, between the City and U. S. Department of Transportation/Federal Transit Administration (USDOT/FTA), as they may be amended or promulgated from time to time during the term of this contract. The Contractor's failure to so comply shall constitute a material breach of this contract.

   c. These grant agreements and FTA Circular 4220.1F, "Third Party Contracting," are available for examination at the Metro Transit Office, 1245 East Washington Avenue, Suite 201, Madison, WI 53703-3052, 608/266-6538 (voice), 608/267-8778 (fax) or skorth@cityofmadison.com..

3. Changes to Federal Requirements.

   a. Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master

Agreement between the City and the FTA, as they may be amended or promulgated from time to time during the term of this Contract. Contractor's failure to so comply shall constitute a material breach of this Contract.

4. No Federal Government Obligation to Third Parties.

a. Contractor acknowledges and agrees that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the Contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this Contract and shall not be subject to any obligations or liabilities to City, Contractor, or any other party (whether or not a party to the Contract) pertaining to any matter resulting from the Contract. Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by the FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

5. Government-Wide Debarment and Suspension.

a. In accordance with Executive Order 12549 and 12689, as implemented by 49 CFR Part 26, a person (as defined in 49 CFR Part 49.105) who is debarred or suspended shall be excluded from Federal financial and non-financial assistance and benefits under Federal programs and activities. As a participant in a federally assisted primary covered transaction (grant recipient), the City is required to obtain a certification entitled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions" from all lower tier participants on this Contract whose contract or agreement will exceed $25,000. Contractor will submit for itself and obtain and submit from all consultants and subcontractors whose contracts will exceed $25,000 the certification entitled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion—Lower Tier Covered Transactions" Any contract or subcontract executed without such certification will be voidable by the City.

b. In the event that Contractor has certified prior to award that it is not debarred, suspended, or voluntarily excluded from covered transactions by any Federal Department or agency and such certification is found to be false, this Contract may be cancelled, terminated or suspended by the City and Contractor will be liable for any and all damages incurred by the City as a result of such cancellation, termination or suspension because of such false certification.

c. Contractor will ensure that certifications completed by subcontractors, lower tier subcontractors or suppliers are attached to and incorporated into their subcontracts or agreements.

6. Ethics.

a. Prohibited Interest. The Contractor guarantees that no employee, officer, or agent of the City during his or her tenure or one (1) year thereafter has any interest, direct or indirect, in this contract or the proceeds thereof. Such a conflict would also arise when any employee, officer or agent's family member or partner or organization that employs, or is about to employ any of the above, has a financial or other interest in the Contractor selected for award.

b. Interest of Members of or Delegates to Congress. The Contractor guarantees that he or she has not offered or given to any member of, or delegate to the Congress of the United States, any share or part of this contract or to any benefit arising therefrom.

c. Covenant Against Gratuities. The Contractor guarantees that he or she has not offered or given gratuities (in the form of entertainment, gifts, or otherwise) to any employee, officer or agent of the City with a view toward securing favorable treatment in the awarding, amending, or evaluating performance of the proposal or proposed contract.

d. Collusive Agreements. The Contractor guarantees that the Contract submitted is not a product of collusion with any other Contractor and no effort has been made to fix any overhead, profit or cost element of any Contract price.

7. Anti-Lobbying.

a. In accordance with the Byrd Anti-Lobbying Amendment, 31 U.S.C. §1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 [to be codified at 2 U.S.C. §1601, et seq.], contractors who apply or propose for an award of $100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. §1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. §1352. Such disclosures are forwarded from tier to tier up to the recipient.

b. Contractor will submit for itself the form entitled "Certification of Restrictions on Lobbying" and if applicable, the form entitled "Disclosure of Lobbying", and obtain and retain from all consultants and subcontractors whose contracts will exceed $100,000 the certification entitled "Certification of Restrictions on Lobbying", and obtain from all consultants and subcontractors, at any tier, whose agreements will exceed $100,000, and submit to the City, if applicable, the form entitled "Disclosure of Lobbying". An example of such a form is attached to this Addendum as Attachment 1.

c. Contractor and its consultants and subcontractors shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by such Contractor, consultants and subcontractors under this Sec. 7. An event that materially affects the accuracy of the information reported includes:

(1) A cumulative increase of $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(2) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(3) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

d. Contractor will ensure that certifications completed by lower tier consultants and subcontractors are attached to and incorporated into their contracts or agreements.

8. False Statements or Claims.

a. Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §3801 et seq and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to its actions pertaining to this Agreement. Upon

execution of the underlying Agreement, Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying Agreement or the FTA-assisted project for which this Agreement work is being performed. In addition to other penalties that may be applicable, Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on Contractor to the extent the Federal Government deems appropriate.

b. Contractor acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under an agreement connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under authority of 49 U.S.C. §5307, the Government reserves the right to impose the penalties of 18 U.S.C. §1001 and 49 U.S.C. §5307(n)(1) on Contractor, to the extent the Federal Government deems appropriate. Contractor also agrees to include the terms of this Sec. 8 in each consultant contract and subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the consultants and subcontractors who will be subject to the provisions.

9. Government Access to Records and Reports.

a. In accordance with 49 CFR §18.36(i), Contractor agrees to provide the City, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of Contractor which are directly pertinent to this Contract for the purpose of making audits, examinations, excerpts and transcriptions. Contractor also agrees, pursuant to 49 CFR §633.17, to provide the FTA Administrator or his/her authorized representatives, including any Project Management Oversight Contractor ("PMOC"), access to Contractor's records and work sites pertaining to a major capital project, defined at 49 U.S.C. §5302(a)1, which is receiving Federal financial assistance through the programs defined at 49 U.S.C §5307, 5309 or 5311.

b. Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

c. Contractor agrees to maintain all books, records, accounts and reports required under this Contract for a period of not less than three (3) years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case the Contractor agrees to maintain same until the City, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.

d. The Contractor further agrees to include in all their subcontracts hereunder a provision to the effect that the subcontractor agrees to the requirements of this Section 9. The term "subcontractor" as used in this clause excludes subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

10. Civil Rights.

a. The following requirements apply to this Contract:

(1) Nondiscrimination. In accordance with Title VI of the Civil Rights Act, as amended, 42 U. S. C. 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. §6102, section 202 of the Americans With Disabilities Act of 1990, 42

U.S.C. §12132, and the Federal law at 49 U.S.C. §5332, Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

(2) Equal Employment Opportunity. The following equal employment opportunity requirements apply to this Contract:

(1) Race, Color, Creed, National Origin, Sex. In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, Contractor agrees to comply with any implementing requirements FTA may issue.

(2) Age. In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § 623 and Federal transit law at 49 U.S.C. § 5332, Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, Contractor agrees to comply with any implementing requirements FTA may issue.

(3) Disabilities. In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, Contractor agrees to comply with any implementing requirements FTA may issue.

(3) Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations, either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this Contract and the Regulations relative to non-discrimination on the grounds of race, color, creed, age, disability, sex or national origin.

(4) Information and Reports. The Contractor shall provide all information and reports required by the Federal Regulations or directives issued pursuant thereto, and

shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the City or the USDOT/FTA to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the City or to the USDOT/FTA, as appropriate, and shall set forth what efforts it has made to obtain the information.

(5) Incorporation of Provisions. The Contractor shall include the provisions of this section entitled "Civil Rights" (Section 10) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontract or procurement as the City or the USDOT/FTA may direct as a means of enforcing non-compliance. Provided, however, that in the event a Contractor becomes involved in, or is threatened with litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the City to enter into such litigation to protect the interest of the United States.

(6) Penalties. Failure by the Contractor to carry out these requirements is a material breach of the Contract, which may result in the withholding of payments to the Contractor under the contract until the Contractor complies; cancellation, termination or suspension of this Contract; ineligibility for future Contracts; or such other remedy as the City or USDOT/FTA deems appropriate in order to assure compliance with applicable civil rights standards as required by law.

11. Disadvantaged Business Enterprise Participation.

a. DBE Program. This Agreement is subject to the requirements of 49 CFR Part 26, Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs, and the City's USDOT/FTA approved Disadvantaged Business Enterprise (D.B.E.) Program. The requirements of these programs are incorporated in this Contract by reference.

b. Participation Goal. The national goal for participation of Disadvantaged Business Enterprises (DBE) is ten percent (10%). The City's overall goal for DBE participation is two percent (2%). The DBE commitment for this Agreement is as stated on the DBE Commitment Form executed by Contractor and on file with the City's Department of Civil Rights. If the total Agreement price is increased as a result of change orders (modifications), the Contractor shall make a good faith effort to achieve a commensurate increase in DBE participation.

c. DBE Obligation. Contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this Agreement. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT- assisted Agreements. Failure by the Contractor to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as City deems appropriate, which may include, but is not limited to, (1) withholding monthly progress payments, (2) assessing sanctions, (3) liquidated damages, and/or (4) disqualifying the Contractor from future bidding as non-responsible. Each subcontract the Contractor signs with a subcontractor must include the assurance in this paragraph.

d. DBE Modifications or Substitutions. In the event that Contractor wishes to modify its DBE subcontractor commitments, the Contractor must notify the City DBE Liaison Officer in writing and request approval for the modification. Contractor may not, without City's prior written consent, terminate for convenience any DBE subcontractor approved by City under this Agreement and then perform the work of the subcontract with its own forces. This

includes any changes to items of work, material, services or DBE firms which differ from those identified on the DBE Commitment Form on file with the Director of Procurement. When a DBE subcontractor is terminated or fails to complete its work for any reason, Contractor must make good faith efforts to find another DBE subcontractor to substitute for the original DBE firm. These good faith efforts must be directed at finding another DBE firm to perform at least the same amount of work under this Agreement as the DBE firm that was terminated or failed to complete its work. Contractor must provide the City with any and all documents and information as may be requested with respect to the requested substitution. If City determines that Contractor failed to make food faith efforts, City will provide the opportunity for administrative reconsideration pursuant to 49 CFR 26.53. As part of this reconsideration, Contractor will have the opportunity to provide written documentation or argument and to meet with a designated City official concerning the issue of whether it met the goal or made adequate good faith efforts to do so. A written decision will be sent to Contractor explaining the basis for finding that Contractor did or did not meet the goal or make adequate good faith efforts to do so.

e. Reporting and Recordkeeping. Contractor shall submit documentation concerning Contractor's performance in meeting the DBE commitment during the period of the Agreement. Contractor shall enter into written agreements with the DBEs listed in its DBE Commitment Form or with substitutes which have been approved by City. Contractor shall utilize the specific DBEs listed to perform the work and supply the materials for which it is listed unless the Contractor obtains written consent from City as provided in paragraph (c) above. Unless consent is provided, Contractor shall not be entitled to any payment for work or material unless it is performed or supplied by the listed DBE. Copies of all executed DBE agreements shall be provided to City's Director of Procurement by Contractor immediately upon execution with a duplicate copy furnished to the City DBE Liaison Officer. In addition thereto, Contractor shall meet the following requirements:

(1) Submit a work schedule outlining when the DBE subcontractors and material suppliers will commence and complete their services or work under the Agreement within 30 days of Agreement execution.

(2) Submit monthly reports in a format approved by City detailing progress toward meeting the DBE commitment for this project and proofs of payment to the City DBE Liaison Officer. Monthly claims for payment from Contractor will not be processed without submission of these reports and documentation.

(3) Promptly notify City of any situation in which any regularly scheduled progress payment is not made to a DBE.

(4) Not willfully make any false statements or provide incorrect information as part of its reporting and recordkeeping duties and obligations hereunder. The willful making of false statements or providing of incorrect information is considered a material breach of Agreement and shall entitle Owner to all remedies and relief as otherwise provided in the case of a contractual breach in accordance with Article VII of the Agreement.

12. Veterans Employment.

a. To the extent practicable, Contractor agrees that it:

(1) Will give a hiring preference to veterans (as defined in 5 U.S.C. § 2108), who have the skills and abilities required to perform construction work required under a third party contract in connection with a capital project supported with funds made available or appropriated for 49 U.S.C. chapter 53, and

(2) Will not require an employer to give a preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or a former employee, and

b. Contractor also assures that its subrecipients will:

(1) Will give a hiring preference to veterans (as defined in 5 U.S.C. § 2108), who have the skills and abilities required to perform construction work required under a third party contract in connection with a capital project supported with funds made available or appropriated for 49 U.S.C. chapter 53, to the extent practicable, and

(2) Will not require an employer to give a preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or a former employee.

13. Contract Work Hours and Safety Standards Act.

a. To the extent applicable to the Work provided by Contractor under this Contract, Contractor shall comply with the following:

(1) Overtime Requirements. Neither Contractor nor any of its consultants or subcontractors for any part of the Contractor's Work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any work week in which he or she is employed on such work to work in excess of forty (40) hours in such work week unless such laborer or mechanic receives compensation at a rate not less than one and one half times the basic rate of pay for all hours worked in excess of forty (40) hours in such work week.

(2) Violation; Liability for Unpaid Wages; Liquidated Damages. In the event of any violation of the requirements of Paragraph (1), Contractor and any consultant or subcontractor responsible therefore shall be liable for the unpaid wages. In addition, Contractor, consultant or subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of Paragraph (1) in the sum of ten dollars ($10) for each calendar day on which such individual was required or permitted to work in excess of the standard work week of forty (40) hours without payment of the overtime wages required by Paragraph (1).

(3) Withholding for Unpaid Wages and Liquidated Damages. City shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by Contractor, consultant or subcontractor under this Contract or any other Federal contract with Contractor or any other federally assisted agreement subject to the Contract Work Hours and Safety Standards Act, which is held by Contractor, such sums as may be determined to be necessary to satisfy any liabilities of Contractor or consultant or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in Paragraph (1).

(4) Consultant and Subcontract Agreements. Contractor shall insert in any consultant contract and subcontract the clause set forth in this Sec. 13 and also a clause requiring the consultants and subcontractors to include these clauses in any lower tier subcontracts. Contractor shall be responsible for compliance by any consultant or subcontractor or lower tier subcontractors with the requirements of this Sec. 13.

14. Davis-Bacon and Copeland Anti-Kickback Acts.

a. Contractor shall comply with the requirements of the Davis-Bacon Act (as codified at 29 CFR parts 1 et seq.) and the Copeland Anti- Kickback Act (as codified at 29 CFR part 3) ("Acts"), with respect to the payment of wages and fringe benefits to laborers for the Work on the Project, and these Acts are incorporated by reference in this Contract. Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5. Contractor and its subcontractors shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) of the Davis-Bacon Act, as follows, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. For the purposes of this Section 14, the "contracting officer" is the City Engineer, or designee. The Federal Wage Decision applicable to this Project is attached as Attachment 2 to Addendum A to the Agreement. Note—the Wage Decision is subject to change and does not lock in until the bid's due date.

b. Minimum Wages:

(1) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under subdivision (2) of this subsection) and the Davis-Bacon poster (WH- 1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(2) Classification.

(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

i. Except with respect to helpers as defined as 29 CFR 5.2(n)(4), the work to be performed by the classification requested is not performed by a classification in the wage determination; and

ii. The classification is utilized in the area by the construction industry; and

iii. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

iv. With respect to helpers as defined in 29 CFR 5.2(n)(4), such a classification prevails in the area in which the work is performed.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (b) or (c) of this subdivision, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(5)

(1) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefor only when the following criteria have been met:

i. The work to be performed by the classification requested is not performed by a classification in the wage determination; and

ii. The classification is utilized in the area by the construction industry; and

iii. The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (b) or (c) of this subdivision, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Withholding. The City shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or

working on the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, the City may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

d. Payrolls and Basic Records:

(1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(2)

(a) The Contractor shall submit monthly for each week in which any contract work is performed a copy of all payrolls to the City for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The Contractor is responsible for the submission of copies of payrolls by all subcontractors.

(b) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

i. That the payroll for the payroll period contains the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5 and that such information is correct and complete;

ii. That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

iii. That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(c) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (b) of this subdivision.

(d) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(3) The Contractor or subcontractor shall make the records required under subdivision (1) this subsection available for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

e. Apprentices and Trainees:

(1) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every

apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(3) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

f. Compliance with Copeland Act Requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

g. Subcontracts. The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

h. Contract Termination: Debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

i. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

j. Disputes Concerning Labor Standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

k. Certification of Eligibility.

(1) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(2) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(3) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

15. Environmental Requirements.

a. Environmental Protection. The Contractor agrees to comply with and shall assure subcontractors compliance with any applicable standards, orders, and/or requirements of the National Environmental Policy Act of 1969, as amended, 42 U.S.C. §§ 4321 through 4335 (as restricted by 42 U.S.C. § 5159, if applicable); Executive Order No. 11514, as amended, "Protection and Enhancement of Environmental Quality," 42 U.S.C. § 4321 note; FTA statutory requirements at 49 U.S.C. § 5324(b); U.S. Council on Environmental Quality regulations pertaining to compliance with NEPA, 40 C.F.R. Parts 1500 through 1508; and joint FHWA/FTA regulations, "Environmental Impact and Related Procedures," 23 C.F.R. Part 771 and 49 C.F.R. Part 622; the applicable provisions of 23 U.S. §§ 139 and 326; and subsequent Federal environmental protection regulations that may be promulgated.

b. Clean Air Requirements. Contractor and its subcontractors shall be required to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§7401 et seq. To the extent that Contractor discovers or becomes aware of a violation of these requirements during the course of performing this Contract, Contractor agrees to report such violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office. Contractor also agrees to include the requirements of the above clause in each subcontract issued pursuant to this Contract exceeding $100,000 financed in whole or in part with Federal assistance provided by the FTA.

c. Clean Water Requirements. Contractor and its subcontractors shall be required to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U. S. C. 1251 et seq. To the extent that Contractor

discovers or becomes aware of a violation of these requirements during the course of performing this Contract, Contractor agrees to report such violation to the City and understands and agrees that the City will, in turn, report each violation as required to assure notification to the FTA and the appropriate EPA Regional Office. Contractor also agrees to include the requirements of the above clause in each subcontract issued pursuant to this Contract exceeding $100,000 financed in whole or in part with Federal assistance provided by the FTA.

d. Energy Conservation. Contractor has agreed to comply with mandatory standards and policies relating to energy efficiency which are contained in the State of Wisconsin Energy Consesrvation Plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. §§ 6321 et seq.) and 2 CFR Part 200; U. S. Department of Transportation regulations relating to energy conservation. To the extent that Contractor discovers or becomes aware of a violation of these requirements during the course of performing this Contract, Contractor agrees to report immediately such violation to Owner. Contractor also agrees to ensure that its Work performed under the Contract, including all portions of the Work performed by subcontractors, shall be in compliance with the energy efficient standards required in the Contract Documents.

16. Buy America Requirements.

a. All construction contracts for the Project will be subject to the Buy America requirements of the FTA. The Contractor agrees to comply with 49 USC 5323(j) and 49 CFR Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR 661.7 and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 USC 5323(j)(2)(C) and 49 CFR 661.11.

The applicable FTA Buy America requirements appear in 49 CFR Part 661.5 and require the following:

(1) Except as provided in Sec. 661.7 and Sec. 661.11 of this part, no funds may be obligated by FTA for a grantee project unless all iron, steel, and manufactured products used in the project are produced in the United States.

(2) All steel and iron manufacturing processes must take place in the United States, except metallurgical processes involving refinement of steel additives.

(3) The steel and iron requirements apply to all construction materials made primarily of steel or iron and used in infrastructure projects such as transit or maintenance facilities, rail lines, and bridges. These items include, but are not limited to, structural steel or iron, steel or iron beams and columns, running rail and contact rail. These requirements do not apply to steel or iron used as components or subcomponents of other manufactured products or rolling stock.

(4) For a manufactured product to be considered produced in the United States all of the manufacturing processes for the product must take place in the United States; and all of the components of the product must be of U.S. origin. A component is considered of U.S. origin if it is manufactured in the United States, regardless of the origin of its subcomponents.

b. Build America, Buy America. In addition to the Buy American requirements set forth in Subsec. a, the Infrastructure Investment and Jobs Act (the Bipartisan Infrastructure Bill),

Pub. L. No. 117-58, includes the Build America, Buy America Act ("the Act"), Pub. L. No. 117-58, §§ 70901-52. This Act requires that all of the iron, steel, manufactured products, and construction materials used on federally funded infrastructure projects are produced in the United States. As the Project is a federally funded infrastructure project, Contractor, and its subcontractors, shall comply with the requirements of this Act and shall be responsible for securing any waivers that may be necessary thereunder. Contractor, and its subcontractors, shall also comply with any federal regulations promulgated or requirements created under this Act during the term of the Contract. Additional information on the Act may be found at: https://www.transit.dot.gov/buyamerica.

17. Seat Belt Use.

a. In compliance with Federal Executive Order No. 13043, "Increasing Seat Belt Use in the United States," April 16, 1997, 24 U.S.C. Section 402 note, FTA encourages Contractor to adopt and promote on-the-job seat belt use policies and programs for its employees and other personnel that operate company owned, rented, or personally operated vehicles, and to include this provision in any third party subcontracts, involving the projects.

18. Distracted Driving, Including Text Messaging While Driving.

In accordance with Executive Order No. 13513, "Federal Leadership on Reducing Text Messaging While Driving," October 1, 2009, and DOT Order 3902.10, "Text Messaging While Driving," December 30, 2009, the Contractor is encouraged to comply with the terms of the following Special Provision:

a. Definitions. As used in this Section 18:

(1) "Driving" means operating a motor vehicle on a roadway, including while temporarily stationary because of traffic, a traffic light, stop sign, or otherwise. "Driving" does not include being in your vehicle (with or without the motor running) in a location off the roadway where it is safe and legal to remain stationary.

(2) "Text Messaging" means reading from or entering data into any handheld or other electronic device, including for the purpose of short message service texting, e-mailing, instant messaging, obtaining navigational information, or engaging in any other form of electronic data retrieval or electronic data communication. The term does not include the use of a cell phone or other electronic device for the limited purpose of entering a telephone number to make an outgoing call or answer an incoming call, unless the practice is prohibited by State or local law.

b. Safety. The Contractor is encouraged to:

(1) Adopt and enforce workplace safety policies to decrease crashes caused by distracted drivers including policies to ban text messaging while driving Contractor-owned or Contracotr-rented vehicles or Government-owned, leased or rented vehicles;

(2) Privately-owned vehicles when on official Project related business or when performing any work for or on behalf of the Project; or

(3) Any vehicle, on or off duty, and using an employer supplied electronic device.

c. Contractor Size. The Contractor is encouraged to conduct workplace safety initiatives in a manner commensurate with the Contractor's size, such as:

(1) Establishment of new rules and programs or re-evaluation of existing programs to prohibit text messaging while driving; and

(2) Education, awareness, and other outreach to employees about the safety risks associated with texting while driving.

d. Extension of Provision. The Contractor is encouraged to include this Special Provision in its subcontracts or agreements with its subcontractors, its leases, and its third party contracts, and also encourage its subcontractors, lessees, and third party contractors to comply with the terms of this Special Provision, and include this Special Condition in each subagreement, lease, and third party contract at each tier financed with Federal assistance provided by the Federal Government.

19. Fly America.

a. Contractor agrees to comply with 49 U.S.C. §40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and sub-recipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. Contractor agrees to include the requirements of this section in each consultant contract and subcontract that may involve international air transportation.

20. Seismic Safety.

a. Contractor agrees that any new building or addition to an existing building is required to be designed and constructed in accordance with the standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41. Contractor has agreed to certify compliance to the extent required by the regulation. To the extent that Contractor discovers or becomes aware of a violation of these requirements during the course of performing this Contract, Contractor agrees to report immediately such violation to Owner. Contractor also agrees to ensure that its Work performed under the Contract, including all portions of the Work performed by subcontractors, shall be in compliance with the seismic safety standards required in the Contract Documents. The seismic safety standards applicable to this Contract are contained in Section 2312 ICBO Uniform Building Code (UBC).

21. Recovered Materials.

a. Contractor agrees to comply with the all of the requirements of Section 6002 of the Resource Conservation and Recovery Act ("RCRA") as amended (42 U.S.C. 6972), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

22. Contracts Involving Federal Privacy Act Requirements.

a. The following requirements apply to Contractor and its employees that administer any system of records on behalf of the Federal Government under the Contract: (1) Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a.

Among other things, Contractor agrees to obtain the express consent of the Federal Government before Contractor or its employees operate a system of records on behalf of the Federal Government. Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract. (2) Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

23. ADA Access.

a. Contractor agrees to comply, and assures the compliance of each subcontractor at any tier of the Project, with the applicable laws and regulations, set forth below, for nondiscrimination on the basis of disability:

(1) Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of disability in the administration of federally funded programs or activities.

(2) The Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. § 12101 et seq., which requires that accessible facilities and services be made available to individuals with disabilities.

(3) The Architectural Barriers Act of 1968, as amended, 42 U.S.C. § 4151 et seq., which requires that buildings and public accommodations be accessible to individuals with disabilities.

(4) Federal transit law, specifically 49 U.S.C. § 5332, which now includes disability as a prohibited basis for discrimination.

(5) U.S. DOT regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 CFR part 37.

(6) U.S. DOT regulations, "Nondiscrimination on the Basis of Disability in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," 49 C.F.R. part 27.

(7) Joint U.S. Architectural and Transportation Barriers Compliance Board (U.S. ATBCB) and U.S. DOT regulations, "Americans with Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 C.F.R. part 1192 and 49 C.F.R. part 38.

(8) Other applicable laws and amendments pertaining to nondiscrimination and access for seniors or individuals with disabilities.

24. Cargo Preference.

a. Use of United States-Flag Vessels - Contractor agrees: (a) to use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels; (b) to furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of leading for shipments originating outside the United States, a legible copy of a rated, "on-board"

commercial ocean bill-of -lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the contractor in the case of a subcontractor's bill-of-lading.) (c) to include these requirements in all subcontracts issued pursuant to this Contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

25. National Intelligent Transportation Systems Architecture and Standards.

a. To the extent applicable, Contractor agrees to conform, and to assure its subcontractors' conformity, to the National Intelligent Transportation Systems (ITS) Architecture and Standards as required by SAFETEA-LU § 5307(c), 23 U.S.C. § 5307(c), 23 U.S.C. § 512 note, and follow the provisions of FTA Notice, "FTA National ITS Architecture Policy on Transit Projects," 66 Fed. Reg. 1455 et seq., January 8, 2001 and any other implementing directives FTA may issue at a later date, except to the extent FTA determines otherwise in writing.

26. Sensitive Security Information.

a. Contractor must protect, and take measures to ensure that its subcontractors at each tier protect "sensitive security information" made available during the administration of this contract or any subcontract to ensure compliance with 49 U.S.C. Section 40119(b) and implanting DOT regulations, "Protection of Sensitive Security Information," 49 CFR Part 15, and with 49 U.S.C. Section 114(r) and implementing Department of Homeland Security regulations, "Protection of Sensitive Security Information," 49 CFR Part 1520.

27. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment.

a. Contractor is prohibited from obligating or expending loan or grant funds to (1) Procure or obtain; (2) Extend or renew a contract to procure or obtain; or (3) Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is either:

(1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).

(2) For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

(3) Telecommunications or video surveillance services provided by such entities or using such equipment.

(4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

28. Solid Waste Disposal.

a. Contractor and its subcontractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

ATTACHMENT 1 to ADDENDUM A: CERTIFICATION REGARDING LOBBYING

31 CFR Part 21 – New Restrictions on Lobbying

The undersigned certifies, to the best of their knowledge and belief, that:

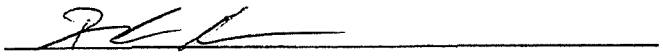
1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all contractors shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The Contractor certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Ch. 38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.



Date: 11/22/2023

Signature of Contractor's authorized official

Ben Kossow

(Print name of person signing above)

President

(Print title of person signing above)

"General Decision Number: WI20230005 10/13/2023

Superseded General Decision Number: WI20220005

State: Wisconsin

Construction Type: Building

County: Dane County in Wisconsin.

BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories)

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2023

1	01/13/2023
2	01/27/2023
3	04/07/2023
4	06/02/2023
5	06/16/2023
6	06/23/2023
7	06/30/2023
8	07/07/2023
9	07/28/2023
10	08/18/2023
11	08/25/2023
12	10/13/2023

ASBE0019-001 06/01/2023

	Rates	Fringes
Asbestos Removal worker/hazardous material handler Includes preparation, wetting, stripping, removal, scrapping, vacuuming, bagging and disposing of all insulation materials from mechanical systems, whether they contain asbestos or not	$ 42.80	36.10

BOIL0107-001 01/01/2021

	Rates	Fringes
BOILERMAKER		
Boilermaker	$ 39.52	31.50
Small Boiler Repair (under 25,000 lbs/hr)	$ 26.91	16.00

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* BRWI0013-001 06/01/2023

	Rates	Fringes
BRICKLAYER		
Bricklayer	$ 41.56	26.19
Terrazzo Finisher	$ 33.52	25.66
Terrazzo Worker	$ 41.90	25.66
Tile Finisher	$ 30.72	25.66
Tile Layer	$ 38.40	25.66

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* CARP0314-004 06/05/2023

	Rates	Fringes
CARPENTER (Excluding Batt Insulation)	$ 38.86	27.06
Piledriverman	$ 39.43	27.02

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* CARP1056-005 06/01/2023

	Rates	Fringes
MILLWRIGHT	$ 40.00	27.77

ELEC0014-005 05/29/2022

	Rates	Fringes
Teledata System Installer		
Installer/Technician	$ 29.63	3%+16.18

Low voltage construction, installation, maintenance and removal of teledata facilities (voice, data, and video) including outside plant, telephone and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area networks), LAN (local area networks), and ISDN (integrated systems digital network).

ELEC0159-002 05/30/2021

	Rates	Fringes
ELECTRICIAN	$ 43.38	23.13

ELEV0132-001 01/01/2023

	Rates	Fringes
ELEVATOR MECHANIC	$ 59.97	37.335+a+b

FOOTNOTE:
a. PAID VACATION: Employer contributes 8% of basic hourly rate as vacation pay for employees with more than 5 years or more of service, and 6% for less than 5 years of service.
b. PAID HOLIDAYS: New Years Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, and Christmas Day.

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* ENGI0139-002 06/05/2023

	Rates	Fringes
OPERATOR: Power Equipment		
Group 1	$ 47.53	25.89
Group 2	$ 46.28	25.89
Group 3	$ 43.23	25.89
Group 4	$ 42.70	25.89
Group 5	$ 40.63	25.89
Group 6	$ 39.10	25.89

HAZARDOUS WASTE PREMIUMS:
EPA Level ""A"" Protection: $3.00 per hour
EPA Level ""B"" Protection: $2.00 per hour
EPA Level ""C"" Protection: $1.00 per hour

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, Tower Cranes and Derricks with or without attachments with a lifting capacity of over 100 tons; Cranes, Tower Cranes, and Derricks with boom, leads and/or jib lengths 176 ft or longer.

GROUP 2: Backhoes (Excavators) weighing 130,000 lbs & over; Cranes, Tower Cranes and Derricks with or without attachments with a lifting capacity of 100 tons or less; Cranes, Tower Cranes, and Derricks with boom, leads, and/or jib lengths 175 ft or less; Caisson Rigs; Pile Driver

GROUP 3: Backhoes (Excavators) weighing under 130,000 lbs; Travelling Crane (bridge type); Milling Machine; Concrete Paver over 27 E; Concrete Spreader and Distributor; Concrete Laser Screed; Concrete Grinder and Planing Machine; Slipform Curb and Gutter Machine; Boring Machine (Directional); Dredge Operator; Skid Rigs; Over 46 meter Concrete Pump.

GROUP 4: Hydraulic Backhoe (tractor or truck mounted); Hydraulic Crane, 10 tons or less; Tractor, Bulldozer, or End Loader (over 40 hp); Motor Patrol; Scraper Operator; Bituminous Plant and Paver Operator; Screed-Milling Machine; Roller over 5 tons; Concrete Pumps 46 meter & under; Grout Pumps; Rotec Type Machine; Hydro Blaster, 10,000 psi and over; Rotary Drill Operator; Percussion Drilling Machine; Air Track Drill with or without integral hammer; Blaster; Boring Machine (vertical or horizontal); Side Boom; Trencher, wheel type or chain type having 8 inch or larger bucket; Rail Leveling Machine (Railroad); Tie Placer; Tie Extractor; Tie Tamper; Stone Leveler; Straddle Carrier; Material Hoists; Stack Hoist; Man Hoists; Mechanic and Welder; Off Road Maaerial Haulers

GROUP 5: Tractor, Bulldozer, or Endloader (under 40 hp); Tampers -Compactors, riding type; Stump Chipper, large; Roller, Rubber Tire; Backfiller; Trencher, chain type (bucket under 8 inch); Concrete Auto Breaker, large; Concrete Finishing Machine (road type); Concrete Batch Hopper; Concrete Conveyor Systems; Concrete Mixers, 14S or over; Pumps, Screw Type and Gypsum); Hydrohammers, small; Brooms and Sweeeprs; Lift Slab Machine; Roller under 5 tons; Industrial Locomotives; Fireman (Pile Drivers and Derricks); Pumps (well points); Hoists, automatic; A-Frames and Winch Trucks; Hoists (tuggers); Boats (Tug, Safety, Work Barges and Launches); Assistant Engineer

GROUP 6: Shouldering Machine Operator; Farm or Industrial Tractor mounted equipment; Post Hole Digger; Auger (vertical and horizontal); Skid Steer Loader with or without attachments; Robotic Tool Carrier with or without attachments; Power Pack Vibratory/Ultra Sound Driver and Extractor; Fireman (Asphalt Plants); Screed Operator; Stone Crushers and Screening Plants; Air, Electric, Hydraulic Jacks (Slip Form); Prestress Machines; Air Compressor, 400 CFM or over; Refrigeration Plant/Freese Machine; Boiler Operators (temporary heat); Forklifts; Welding Machines; Generators; Pumps over 3""; Compressors, under 400 CFM; Heaters, Mechanical; Combination small equipment operator; Winches, small electric; Oiler; Greaser; Rotary Drill Tender; Conveyor; Elevator Operator

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IRON0383-002 06/01/2023

	Rates	Fringes
IRONWORKER	$ 41.00	30.13

LABO0464-001 06/05/2023

	Rates	Fringes
Laborer, General	$ 34.60	19.25
Laborer: Asbestos/hazardous		

material remover
(Preparation, removal, and
encapsulation of hazardous
materials from non-mechanical
systems).....$ 33.55 19.25

PAIN0802-001 06/01/2023

	Rates	Fringes
PAINTER (Brush and Roller Only).....	$ 35.00	20.62

PREMIUM RATES [Add to Basic Hourly Rate]
Sandblaster $1.00 per hour
Drywall Taper & Applicator $1.30 per hour

PAIN0941-001 06/01/2023

	Rates	Fringes
GLAZIER.....	$ 44.50	22.74

PLAS0599-001 06/05/2023

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	$ 40.42	25.59
PLASTERER.....	$ 39.33	28.45

PLUM0075-007 06/01/2021

	Rates	Fringes
PLUMBER (Including HVAC work)....	$ 48.50	25.29

PLUM0601-007 06/01/2022

	Rates	Fringes
PIPEFITTER (Including HVAC work).....	$ 50.00	28.93

SFWI0669-002 04/01/2023

	Rates	Fringes
SPRINKLER FITTER.....	$ 46.00	28.56

SHEE0018-009 06/01/2023

	Rates	Fringes
Sheet Metal Worker (Including HVAC Duct work and Technicians).....	$ 46.12	33.10

TEAM0662-003 06/01/2023

	Rates	Fringes
TRUCK DRIVER		
1 & 2 Axles.....	$ 35.57	26.09
3 or more Axles.....	$ 35.72	26.09

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* SUWI2002-011 01/23/2002

	Rates	Fringes
Asbestos Worker/Heat and Frost Insulator	$ 25.36	8.37
Laborers:		
Concrete Worker	$ 16.34	3.59
Landscape	$ 8.73 **	4.90
ROOFER	$ 18.01	3.28
Tile & Marble Finisher	$ 13.89 **	7.58

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($16.20) or 13658 ($12.15). Please see the Note at the top of the wage determination for more information.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION
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SECTION K: PAYMENT AND PERFORMANCE BOND

LET ALL KNOW BY THESE DOCUMENTS PRESENTED, that we **RILEY CONSTRUCTION COMPANY, INC.** as principal, and Liberty Mutual Insurance Company, 175 Berkeley Street, Boston, MA 02116 Company of MA as surety, are held and firmly bound unto the City of Madison, Wisconsin, in the sum of **SIXTEEN MILLION NINETY-NINE THOUSAND SEVEN HUNDRED EIGHT AND NO/100** ($**16,099,708.00**) dollars, lawful money of the United States, for the payment of which sum to the City of Madison, we hereby bind ourselves and our respective executors and administrators firmly by these presents.

The condition of this Bond is such that if the above bounden shall on his/her part fully and faithfully perform all of the terms of the Contract entered into between him/herself and the City of Madison for the construction of:

METRO TRANSIT HANSON RD. BUS FACILITY REMODEL
CONTRACT NO. 9086

in Madison, Wisconsin, and shall pay all claims for labor performed and material furnished in the prosecution of said work, and save the City harmless from all claims for damages because of negligence in the prosecution of said work, and shall save harmless the said City from all claims for compensation (under Chapter 102, Wisconsin Statutes) of employees and employees of subcontractor, then this Bond is to be void, otherwise of full force, virtue and effect.

Signed and sealed this 22nd day of November, 2023

Countersigned:

RILEY CONSTRUCTION COMPANY, INC.
Company Name (Principal)

Witness

President Seal

Secretary

Approved as to form:

Liberty Mutual Insurance Company
Surety Seal

☐ Salary Employee ☒ Commission

City Attorney

By
Attorney-in-Fact Bradley S. Babcock

This certifies that I have been duly licensed as an agent for the above company in Wisconsin under National Producer Number 9070604 for the year 2023, and appointed as attorney-in-fact with authority to execute this payment and performance bond which power of attorney has not been revoked.

11/22/2023
Date

Agent Signature

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: **8209220-984216**

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Bradley S. Babcock, Kimberly L. Babcock

all of the city of Grafton state of WI each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 6th day of January, 2023.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 6th day of January, 2023 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 22nd day of November, 2023.

By: _____
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.