

Conformance Review Report

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142 pass · 72 partial · 1 fail · 289 not evidenced · 0 indeterminate · 13 n/a

Site Level Info

Site Capacity

Utility service capacity: 3000 A (Doc1672144163_Project_Drawings.pdf p43: "EXISTING SWITCHBOARD 'MSB' 480/277V, 3Ø, 4W, 3000A BUS 65K AIC")

Service feed configuration: single (Doc1672144163_Project_Drawings.pdf p43: "UTILITY FEED 480/277V SECONDARY")

IT load: 330 kW (Doc1672144163_Project_Drawings.pdf p43: "TOTAL 330KW")

Project-level: figures cover the NE Hall Data Center upgrade. IT load summary lists '97.5KW NE HALL 80.2KW WSEC 55KW 20% SPARE 100KW WSEC NON-UPS 278KW TOTAL TOTAL 330KW'; utility capacity from existing MSB bus rating, not a stated service entrance size.

Site cooling capacity: This information cannot be inferred from these drawings.

Site airflow: This information cannot be inferred from these drawings.

Site heat load: This information cannot be inferred from these drawings.

Cooling unit quantity: This information cannot be inferred from these drawings.

No cooling tonnage, CFM, or BTU/h stated. Cooling units drawn/tagged include CRAH-1/2/3, CRAC 1E/2N/3W, CRAC-1A/1B, CD-1A/1B, and numerous IRC in-row units (Vertiv CR040/CR032 models per M5.1 detail), but no ratings or stated counts.

Equipment Capacity

Standby generator capacity: 600 kW (Doc1672144163_Project_Drawings.pdf p43: "EXISTING GENERATOR 480/277V, 3Ø, 4W, 600 kW")

Generator quantity: This information cannot be inferred from these drawings.

UPS capacity: This information cannot be inferred from these drawings.

UPS quantity: This information cannot be inferred from these drawings.

EXISTING GENERATOR: 600 kW (Doc1672144163_Project_Drawings.pdf p43: "EXISTING GENERATOR 480/277V, 3Ø, 4W, 600 kW")

GEN-B: 175 kW (Doc1672144163_Project_Drawings.pdf p43: "NEW GENERATOR "GEN-B" 480/277V, 3Ø, 4W, 175KW")

One-line shows existing 600KW generator plus new GEN-B 175KW natural gas generator; no stated combined total or count. New UPS-A and UPS-B shown with 800A inputs ('800AF/800AT "UPS-A" INPUT', '800/3 "UPS-B" INPUT') and existing 'UPS-DP1'/'UPS-DP2' 800A distribution panels, but no kVA/kW UPS rating stated, so ups_capacity remains null.

Documented generator capacity is 600 kW against a 3000 A utility service.

Engineering Analysis — Single Points of Failure

Derived by tracing the drawn infrastructure; quoted inputs are verified against the documents, the conclusions are analysis, not document-stated facts.

SINGLE POINT OF FAILURE Utility feed

Derived analysis: Tracing the one-line on sheet E5.1, the building is served by a single utility service — one 'UTILITY FEED 480/277V SECONDARY' terminating in the single existing switchboard 'MSB'. No second utility service, second transformer, or alternate service entrance is shown anywhere in the package; all downstream redundancy (UPS-A/B, generators) sits behind this one service entrance. Loss of the single utility feed forces all critical load onto generator/UPS ride-through, so the utility entrance itself is a single point of failure.

"UTILITY FEED 480/277V SECONDARY" — Doc1672144163_Project_Drawings.pdf p43

"EXISTING SWITCHBOARD 'MSB' 480/277V, 3Ø, 4W, 3000A BUS 65K AIC" — Doc1672144163_Project_Drawings.pdf p43

Recommendation: Evaluate a second utility service entrance (or alternate feeder from a separate utility source/transformer) with automatic transfer ahead of the switchboard, or confirm with the utility that the single campus feed meets the facility's availability target.

SINGLE POINT OF FAILURE Switchboard distribution

Derived analysis: The one-line shows exactly one main switchboard, existing 'MSB' (3000A bus), through which the utility feed passes to all downstream normal and UPS distribution. Addendum 4 adds two 800A breakers inside this same MSB to feed the new ATSS rather than providing a second switchboard, and no tie breaker or second switchboard section fed from an independent source is shown. A failure of the MSB bus or its main would interrupt both the utility path and the normal feeds to the UPS systems, so the MSB is a single point of failure despite the A/B distribution downstream of it.

"EXISTING SWITCHBOARD 'MSB' 480/277V, 3Ø, 4W, 3000A BUS 65K AIC" — Doc1672144163_Project_Drawings.pdf p43

"c. Add new circuit breakers to existing main switchboard per attached sheet." — Addendum_004_UNL_Data_Center.pdf p1

"MAIN SWBD MSB' (E)" — Addendum_004_UNL_Data_Center.pdf p2

Recommendation: Provide a second switchboard (or a split-bus MSB with tie breaker) fed from an independent source so the critical A/B paths do not converge on a single switchboard bus.

SINGLE POINT OF FAILURE Utility-to-load path

Derived analysis: Tracing end-to-end: utility feed -> MSB (single) -> 800A breakers -> ATS-A/ATS-B (with generator side via GDP-A/GDP-B) -> UPS-A/UPS-B -> MBP/STS -> PDU-A/B -> RX-A/RX-B panel pairs -> dual-corded rack PDUs. Downstream of the MSB everything is duplicated and racks are dual-corded (A and B circuits to each rack), so no single device below the MSB kills the critical load. However, the single utility feed and the single existing switchboard 'MSB' are common to both paths, so an MSB failure brings down the normal source to both UPS systems simultaneously; only generator/UPS carry-

"EXISTING SWITCHBOARD 'MSB' 480/277V, 3Ø, 4W, 3000A BUS 65K AIC" — Doc1672144163_Project_Drawings.pdf p43

"UTILITY FEED 480/277V SECONDARY" — Doc1672144163_Project_Drawings.pdf p43

"278KW TOTAL TOTAL 330KW" — Doc1672144163_Project_Drawings.pdf p43

Recommendation: Eliminate the common-mode dependence on the single MSB by adding a second switchboard/tie arrangement or routing one of the two UPS paths from an electrically independent source, and verify generator capacity against the full critical load.

RFI Exposure — Ambiguity a Bidder Would Exploit

Open-ended hunt for unstated size, material, rating, capacity, or method. Quotes are document-verified; the readings are analysis.

RFI RISK Five new clean agent (NOVEC 1230) systems are required but layouts are 'for reference only' with no engineered pipe sizes, nozzle counts, tank sizes, or agent quantities — the entire suppression design is delegated to the contractor.

Bidder assumption: Bidder prices the smallest tank, minimum pipe sizes, and fewest nozzles that a fire-protection sub will sketch per zone, and files RFIs/change orders when the AHJ or engineer requires more.

"M224 PROVIDE NEW CLEAN AGENT SYSTEM TO PROTECT THE RAISED FLOOR PLENUM FOR THE PHASE 1 AREA. INDICATED LAYOUT" — Addendum_003_UNL_Data_Center.pdf p22

"M223 NEW PLACEMENT OF CLEAN AGENT TO BE USED TO PROTECT THE EXPANDED MMR ROOM. REUSE EXISTING CLEAN AGENT TANK" — Addendum_003_UNL_Data_Center.pdf p22

Recommendation: Provide engineered clean agent design per zone: room volumes, design concentration, tank size/quantity, pipe sizes and routing, nozzle schedule, and acceptance criteria (enclosure integrity test).

RFI RISK Perimeter leak detection cable (M226) is required with no cable type, total footage, controller interface spec, or quantity — unlike other keynotes that name products (RLE LD1500, Vertiv LT-460), M226 names nothing.

Bidder assumption: Bidder prices the cheapest generic sensing cable in the minimum length that visually covers the perimeter, and claims extra when the engineer requires compatibility with the named controllers.

"M226 PROVIDE LEAK DETECTION CABLE ON FLOOR AROUND THE PERIMETER OF ROOM. TIE LEAK DETECTION TO THE CRAC UNIT M" — Addendum_003_UNL_Data_Center.pdf p22

"M242 PROVIDE NEW LEAK DETECTION CONTROLLERS. CONTROLLER SHALL BE RLE LD1500 OR APPROVED EQUAL." — Addendum_003_UNL_Data_Center.pdf p22

Recommendation: Specify cable manufacturer/model, total footage per room, controller model and interface for every M226 location.

RFI RISK A 400kW portable loadbank and temporary cabling from exterior to a second-floor breaker is required, but cable size, quantity, length, routing, and connection means are unstated — temporary enabling works with no engineering.

Bidder assumption: Bidder prices a short run of the cheapest rental cable set and claims extra for the actual routing distance, cam-lock tails, and any switchgear modifications at 'MBP-X'.

"E221 PROVIDE 400KW MINIMUM PORTABLE LOADBANK FOR UPS STARTUP AND COMMISSIONING. ROUTE TEMPORARY LOADBANK CABLE" — Addendum_004_UNL_Data_Center.pdf p2

Recommendation: Specify loadbank cable size/quantity, estimated run length, routing path, connection provisions at MBP-X, and rental duration/fuel responsibilities.

RFI RISK Generator branch circuits for accessories are required but the accessories themselves are undefined — 'verify final generator accessories furnished with generator with supplier' leaves circuit count, load, and breaker quantity unknowable at bid.

Bidder assumption: Bidder carries two 20A circuits and claims extra for each additional accessory circuit and breaker the supplier's submittal reveals.

"E232 BRANCH CIRCUITS FOR GENERATOR ACCESSORY CONNECTIONS. VERIFY FINAL GENERATOR ACCESSORIES FURNISHED WITH GE" — Addendum_004_UNL_Data_Center.pdf p2

Recommendation: List the furnished generator accessories with their electrical loads and required circuits, or state a fixed allowance of circuits to be carried.

RFI RISK Drip pans over electrical equipment below mechanical piping are required 'as required' with no locations, sizes, material, or drain provisions — quantity and extent are unpriceable.

Bidder assumption: Bidder includes two small galvanized pans and claims a change order per additional pan plus any piping of pan drains the engineer later demands.

"E231 INSTALL DRIP PANS OVER ELECTRICAL EQUIPMENT LOCATED BELOW MECHANICAL PIPING IN THIS AREA AS REQUIRED. INS" — Addendum_004_UNL_Data_Center.pdf p2

Recommendation: Show drip pan locations and extents on plan, and specify material, minimum dimensions, lip height, and drain connection requirements.

RFI RISK Fan assist tiles (5 in Phase 1, 6 in Phase 2) have final placement determined only 'during testing' and power taken 'from cabinet power strip' — locations, support, and circuit capacity are undefined at bid.

Bidder assumption: Bidder prices loose tiles set on the floor grid with cord-and-plug connection and claims extra for relocation labor, dedicated circuits, or mounting demanded after balancing.

"M105 CONTRACTOR TO PROVIDE A TOTAL OF 5 FAN ASSIST TILES FOR PHASE 1. FANS SHALL BE TATE AIRFLOW POWERAIRE QUA" — Doc1672144163_Project_Drawings.pdf p28

Recommendation: Fix tile locations on plan or state a relocation allowance, and specify whether power strips have capacity identified or a dedicated receptacle circuit per tile.

RFI RISK New lighting circuits are to connect to existing 277V circuits 'with adequate capacity' — the adequacy determination, circuit identification, and remedy if capacity is lacking are undefined.

Bidder assumption: Bidder ties into the nearest 277V circuit without load verification and files an RFI/change when a circuit trips or the engineer requires a new homerun.

"E106 CONNECT TO EXISTING 277V CIRCUIT WITH ADEQUATE CAPACITY SERVING NORMAL LIGHTING IN THIS AREA." — Doc1672144163_Project_Drawings.pdf p32

"E107 CONNECT TO EXISTING 277V CIRCUIT WITH ADEQUATE CAPACITY SERVING LIFE SAFETY LIGHTING IN THIS AREA." — Doc1672144163_Project_Drawings.pdf p32

Recommendation: Identify the specific panel and circuit for each connection and state who verifies capacity and the fix (new breaker/homerun) if inadequate.

RFI RISK The mechanical equipment connection schedule assigns two different feeder circuits (MP-B-1,3,5 and MP-B-14,16,18) to the same unit IRC-2-1D, and two (MP-A-19,21,23 and MP-B-19,21,23) to IRC-2-1E — internal double-specification of the same items.

Bidder assumption: Bidder prices one circuit per unit at the cheaper panel location and submits an RFI (or short-circuits a feed) when the duplicate breakers are questioned during rough-in.

"IRC-2-1D 480 V 3 INTEGRAL MP-B-1,3,5 4#12,#12G-3/4"C. IRC-2-1D 480 V 3 INTEGRAL MP-B-14,16,18 4#12,#12G-3/4"C." — Doc1672144163_Project_Drawings.pdf p49

"IRC-2-1E 480 V 3 INTEGRAL MP-A-19,21,23 4#12,#12G-3/4"C. IRC-2-1E 480 V 3 INTEGRAL MP-B-19,21,23 4#12,#12G-3/4"C." — Doc1672144163_Project_Drawings.pdf p49

Recommendation: Correct the schedule so each IRC unit has exactly one feeder circuit assignment and reconcile against panel schedules MP-A/MP-B.

RFI RISK Refrigerant piping for relocated CRAC units is to be sized entirely 'per manufacturer's recommendations' with demolition notes allowing reuse of existing sections 'if possible' — pipe size, length, and whether new or salvaged material is required is unresolved.

Bidder assumption: Bidder reuses salvaged piping at the smallest acceptable size and claims extra when the manufacturer disqualifies reused sections or requires upsizing for the longer runs.

"M216 SIZE AND INSTALL REFRIGERANT PIPING PER CRAC UNIT MANUFACTURER'S RECOMMENDATIONS. INSTALL PIPING AS HIGH " — Doc1672144163_Project_Drawings.pdf p21

"M008 REMOVE EXISTING REFRIGERANT PIPING, CONDENSATE, POWER, CONTROLS, AND WATER LINE SERVING EXISTING CRAC UNI" — Doc1672144163_Project_Drawings.pdf p16

Recommendation: State required refrigerant pipe sizes per unit, whether reused piping is acceptable, and a defined piping length budget per relocated unit.

RFI RISK Underfloor power distribution to IT cabinets requires staggered sheet-metal junction boxes, unistrut supports, and FMC whips along the hot aisle, but box quantity, sizes, and conduit routing lengths are left to the installer.

Bidder assumption: Bidder minimizes box count and conduit footage to the few rack positions shown and claims extra per additional box/whip once final rack circuit addresses are confirmed.

"PROVIDE SHEET METAL JUNCTION BOX BELOW FLOOR WITH KNOCKOUTS FOR BRANCH CIRCUITS TO IT CABINETS. PROVIDE 4-11/1" — Doc1672144163_Project_Drawings.pdf p46

Recommendation: Show each underfloor J-box location, box size, and conduit schedule on plan, or provide a per-rack unit price schedule.

Unresolved Requirements

These obligations exist but their governing values are not stated in the specification — they cannot be evaluated as objective pass/fail checks until the values are supplied.

R-002: The design shall increase available IT capacity from approximately [100 kW] to [165 kW]. (missing: Existing and target IT capacity values (kW) — "[100 kW] to [165 kW]")

R-011: The design shall support future expansion of IT capacity to approximately [200 kW]. (missing: Future expansion IT capacity target (kW) — "[200 kW]")

R-089: Battery systems shall have a design life per the manufacturer warranty and lifecycle plan. (missing: battery system design life — "per manufacturer warranty and lifecycle plan")

R-109: The design shall achieve the target PUE, with the target value to be inserted. (missing: target PUE value — "[insert target]")

R-197: UPS systems shall meet the minimum efficiency target. (missing: UPS minimum efficiency target — "[insert target]")

R-198: UPS systems shall provide the minimum battery autonomy. (missing: UPS minimum battery autonomy in minutes — "[insert minutes]")

R-199: UPS step-load performance shall meet manufacturer requirements. (missing: UPS step-load performance criteria — "per manufacturer requirements")

R-216: Generator systems shall meet the minimum fuel autonomy. (missing: generator minimum fuel autonomy in hours —

"[insert hours]")

R-217: Generator start time shall meet the applicable standard and Owner requirement. (missing: generator start time criterion — "per applicable standard and Owner requirement")

R-218: Generator step-load acceptance shall meet manufacturer and design criteria. (missing: generator step-load acceptance criteria — "per manufacturer and design criteria")

R-256: The data hall temperature shall be maintained per the current Owner standard and equipment requirements unless otherwise directed. (missing: data hall temperature setpoint/range — "per current Owner standard")

R-257: Relative humidity shall be maintained within the approved operating envelope unless otherwise directed. (missing: approved relative humidity operating envelope limits — "within approved operating envelope")

R-258: The maximum allowable temperature excursion shall be as defined by the Owner standard unless otherwise directed. (missing: maximum allowable temperature excursion value — "defined by Owner standard")

R-259: The cooling system shall provide the required redundancy. (missing: required cooling redundancy strategy (e.g., N+1, 2N, distributed) — "the required redundancy, such as")

R-271: Cooling units shall provide the required capacity. (missing: required cooling unit capacity value — "Required capacity")

Design Review

2. PROJECT OVERVIEW › 2.1 Background

PASS R-001 The renovation shall be designed and executed to maintain continuity of operations and minimize risk to live IT services.

The package implements continuity of operations through explicit phasing and sequencing directives. The work is split into Phase 1 and Phase 2 power plans, and the one-line flag notes mandate that the existing UPS remain online until the new UPS-A/UPS-B systems are installed, commissioned, and loads transferred, with RDC demolition phased behind branch-circuit transfers. These are contract directi

2. PROJECT OVERVIEW › 2.2 Project Objectives

PARTIAL R-002 The design shall increase available IT capacity from approximately [100 kW] to [165 kW].

The one-line includes an IT LOAD SUMMARY (current loads 97.5KW NE Hall, 80.2KW WSEC, 100KW WSEC non-UPS, 55KW 20% spare, 330KW total) and tags each new UPS with 'MAX IT LOAD (20% SPARE CAPACITY): 165KW' and 'ANTICIPATED IT LOAD: 140KVA', which is consistent with the bracketed ~100kW-to-165kW target. However, the spec defers the numeric values and no electrical load study demonstrating existing vs.

PASS R-003 The design shall install a new generator such that 2N redundancy is maintained at the rack level.

The one-line shows new generator GEN-B (175KW) feeding new generator distribution panels GDP-A and GDP-B, which feed the A and B paths (ATS-A/ATS-B, UPS-A/UPS-B) extending to rack-level RX-A and RX-B panelboards, maintaining 2N at the rack. The generator is tagged and scheduled in the one-line equipment data (480/277V, 175KW).

FAIL R-004 Each generator shall be individually capable of supporting the entire IT load if the other generator fails.

The one-line shows two generators of unequal capacity: an existing 600KW generator and a new 175KW natural gas generator ('GEN-B'). The sheet's own IT LOAD SUMMARY lists current IT load at 278KW total (330KW total with 20% spare). The new 175KW generator cannot individually support the entire IT load under any reading of those figures, directly contradicting the requirement that each generator be

⚠ **Generator capacity vs IT load:** one-line (E5.1) shows 'NEW GENERATOR "GEN-B" ... 175KW' and 'EXISTING GENERATOR ... 600 KW' while the same sheet's IT LOAD SUMMARY totals 278KW current / 330KW with 20% spare; the 175KW unit is undersized to carry the entire IT load alone. Also note an internal tension

PASS R-005 The design shall install two new UPS systems in a 2N configuration supporting the IT load.

The one-line and equipment legend show two new independent 400KVA UPS systems, UPS-A and UPS-B, each with anticipated IT load of 140KVA (i.e., each capable of carrying the IT load), feeding separate A and B distribution chains (UPS-DP1/UPS-DP2, RX-Axx/RX-Bxx panels, PDU-A/PDU-B) in a 2N arrangement. The IT LOAD SUMMARY (278KW total) is within the capacity of a single 400KVA unit, supporting the 2N

NOT_EVIDENCED R-006 The UPS systems shall be sized for the projected IT load with additional capacity for future growth.

UPS modules are depicted in the UPS grounding detail and control wiring diagram on E6.2, but no UPS schedule with kVA ratings and no sizing calculation based on projected IT load with a stated growth margin appears in this package.

PASS R-007 The design shall maintain uninterrupted operation of all live IT loads not directly affected by the renovation work.

Both architectural demolition phases carry directives that the computer room remains live and equipment protected (D 010 Phase 1, D 008 Phase 2), and the electrical demolition keynotes implement load continuity by sequencing: the existing UPS must stay online until new UPS-A/UPS-B are installed, commissioned, and loads transferred (E015); the existing RDC distribution panelboard and feeder are rem

PARTIAL R-008 The design shall preserve or improve the existing reliability classification of the facility.

The one-line shows a highly redundant arrangement (dual UPS-A/UPS-B each 400kVA, dual STS, dual maintenance bypass buses, existing 600kW generator plus new GEN-B, A/B PDU and ATS paths), but no Basis of Design or narrative on these pages documents the existing reliability classification or states how the design preserves/improves it, so consistency with a stated classification cannot be verified.

PARTIAL R-009 The design shall eliminate identified single points of failure where practical.

The one-line implements a fully redundant A/B architecture (UPS-A/UPS-B, ATS-A/ATS-B, PDU-A1/A2 and B1/B2, dual maintenance bypasses, A/B RX panels) replacing the existing single UPS1/UPS2 system, which eliminates single points of failure in the new work. However, no Basis of Design identifying the existing single points of failure and the measures eliminating them is in the package, so the intent

PASS R-010 The design shall improve the maintainability of the electrical and mechanical infrastructure.

The one-line explicitly implements maintainability improvements: two dedicated 1200A maintenance bypass buses with MBP-A/MBP-B distribution panels, maintenance bypass (MBB/MIB/BIB) breaker arrangements at each UPS, and a flag note requiring the existing UPS to remain online until the new UPS-A/UPS-B systems are commissioned and loads transferred — all allowing equipment service without load interruption

PARTIAL R-011 The design shall support future expansion of IT capacity to approximately [200 kW].

Expansion provisions are shown: each UPS is a 400kVA frame against a stated 140kVA anticipated IT load, 'MAX IT LOAD (20% SPARE CAPACITY): 165KW' is tagged, the IT LOAD SUMMARY carries a 20% spare line, and numerous SPARE breakers appear on the one-line. However, the future expansion target value is TBD/deferred in the specification, so whether these provisions satisfy the ~200 kW target cannot be

PASS R-012 The design and construction approach shall reduce operational risk during maintenance and construction activities.

The one-line diagram carries an explicit outage/phasing narrative: the existing UPS must remain online until new UPS-A/UPS-B are commissioned, ATS outages must be coordinated in advance with the Owner, work is split into Phase 1/Phase 2 demolition and refeed steps, maintenance bypass panels (MBP-A/MBP-B) and a temporary loadbank for UPS startup/commissioning are provided — all measures that reduce

PASS R-013 The design shall improve energy efficiency and monitoring capabilities of the facility.

The design demonstrably improves monitoring and efficiency: the E5.1 one-line adds panelboard metering modules and meters on mechanical panels for power monitoring; M5.1 sequences add BMS monitoring of chilled water supply/return temperatures and differential pressure, VFD-controlled lead/lag pumps, and an economizer-style sequence that attempts to satisfy cooling flow from campus chilled water with

PARTIAL R-014 The consulting team shall deliver accurate, complete, and usable as-built documentation for the project.

A record drawing deliverable exists, but it is limited in scope: E6.3 General Note D requires the electrical contractor to provide a record drawing set only for lighting control device locations. No project-wide requirement for contractor red-lines or final as-built documentation appears in the provided pages, and the commissioning spec uses 'as-built' only as a definition, not as a documentation

2. PROJECT OVERVIEW › 2.3 Success Criteria

PASS R-015 The design and construction approach shall ensure that no unplanned outage to production IT loads occurs during the project.

The design enforces no unplanned outage to production IT loads: the one-line flag notes require the existing UPS to stay online for the entire installation of the new UPS systems, require demolition only after loads are transferred, and require ATS outages to be coordinated in advance with the Owner. Phased cutover of IT branch circuits from RDCs to new RX panelboards is shown on the Phase 1/Phase

PARTIAL R-016 All commissioning and integrated systems testing shall be completed successfully as a condition of project success.

The specification requires a commissioning plan, contractor completion of commissioning test procedures, and CxA witnessing of startup. However, it does not identify integrated systems testing, require successful completion of commissioning and IST as a condition of project success, or state that the plan covers all renovated systems.

PARTIAL R-017 Final as-built drawings, BIM models, asset data, O&M manuals, and training shall be delivered at project completion.

Some closeout deliverables are evidenced: a record drawing set for lighting controls (E6.3 note D), a systems manual and commissioning process report compiled by the CxA, and verification of operating and maintenance data and training. However, BIM models and asset data are not mentioned anywhere, and as-built drawings are required only for the lighting control scope, so the full deliverable list

3. PROJECT SCOPE › 3.1 In Scope

NOT_EVIDENCED R-018 The design shall include an existing conditions assessment where that scope item applies to the project.

No existing conditions assessment/study document in package.

PASS R-019 The design shall include architectural renovation where that scope item applies to the project.

Architectural renovation is clearly part of the scope: demolition plans (AD2.1/AD2.2) direct removal of walls, doors, ramps, and raised flooring, and the floor plans and room finish schedule (A4.0) show new walls, wall infills, new raised access flooring, and patched finishes in the existing building.

NOT_EVIDENCED R-020 The design shall include structural modifications where that scope item applies to the project.

No structural drawings or details in package (no S-series sheets).

PASS R-021 The design shall include civil/site modifications where that scope item applies to the project.

Civil/site scope applies (underground gas service extension and generator conduit routing across the site) and the drawings include site modification directives: saw cutting, excavation, backfill, and pavement patching for the new gas main (M236 on M3.1) and sawcut/patch of the existing generator pad plus bollard modification on the electrical plan (E227, E222 on E2.5).

PASS R-022 The design shall include electrical distribution upgrades where that scope item applies to the project.

Electrical distribution upgrades are clearly in scope and implemented: the one-line shows new distribution panels (GDP-A, GDP-B, DP-LS, DP-OS, MP-A, MP-B), new ATs, new UPS systems, and new RX rack panelboards, with matching panel schedules on E7.1/E7.2 for the RX panels.

PASS R-023 The design shall include UPS replacement or expansion where that scope item applies to the project.

UPS replacement scope applies and is implemented: the one-line shows the existing UPS1 (200KVA) and UPS2 (160KVA) being replaced by new UPS-A/UPS-B, with an explicit demolition note directing removal of the existing UPS system only after the new systems are installed, commissioned, and operational, and the new UPS units shown in the distribution topology.

PASS R-024 The design shall include battery system replacement or expansion where that scope item applies to the project.

The project scope includes new UPS modules UPS-A and UPS-B (shown on the E3.1 overhead pathways plan), and the UPS Control Wiring Diagram on E6.2 implements the associated battery plant expansion: each UPS module is shown with a Battery Interface Box (BIB) and multiple Vertiv battery cabinets, with a cabling schedule (LV#2 cable groups #25/#26) defining the battery connections. This demonstrates b

△ Panel schedule internal inconsistency (not affecting this rule): on sheet E7.2 (page 47), panel RX-B21 shows '69 3' for breaker H30 circuits 43-46 while the identical H30 row in panel RX-A21 on the same sheet shows '60 3' — '69 3' appears to be a typo and should be corrected.

PASS R-025 The design shall include generator and fuel system modifications where that scope item applies to the project.

Generator and fuel system modifications are in scope and are documented: E2.5 shows the new 175kW natural gas generator with installation, conduit routing, and connection keynotes (E217, E223, E232), and M3.1 shows the fuel system modification — new 2 PSI gas service/meter by the utility and new 1-1/4" gas piping extended from the existing 12" high-pressure main to the generator (M202/M203/M205/M2

△ No generator equipment schedule entry was found on the provided pages (E7.1/E7.2 contain only RXV panel schedules); generator modifications are evidenced by plan graphics and keynotes on M3.1 and E2.5 rather than a schedule.

PASS R-026 The design shall include mechanical cooling upgrades where that scope item applies to the project.

Mechanical cooling upgrades clearly apply to this data center upgrade scope and are implemented on the plans: Phase 1 (M1.5) and Phase 2 (M1.6) show new in-row cooling units (IRC-1/2 series), CRAH units, a new overhead chilled water CRAC unit, relocated CRAC units, and new roof condenser units with refrigerant and chilled water piping connections. The layout constitutes the cooling equipment upgra

PASS R-027 The design shall include chilled water or DX system modifications where that scope item applies to the project.

Both chilled water and DX modifications are in scope and are shown. The M4.1 riser diagrams show the new chilled water system modifications (new 4" CWS/R hot-tapped to the existing main, new distribution to CRAH and IRC units with GPM flows), and M1.5 shows DX work (refrigerant piping to new roof condenser units and relocated CRAC units).

PASS R-028 The design shall include fire protection and fire alarm modifications where that scope item applies to the project.

Fire protection and alarm modifications are clearly in scope and documented: M231 modifies existing clean agent piping to reroute overhead across the new UPS room, M223 reuses/replaces clean agent tanks for the expanded MMR with controls interfaced to the smoke detection system, M229/M230 add new clean agent zones for Phase 2, and existing manual release/abort stations are reused where possible. M

PASS R-029 The design shall include building management system upgrades where that scope item applies to the project.

BMS upgrades are within scope and implemented in the documents: full points lists are provided for the new chilled water pumps, CRAC units, in-row units, and generator; the generator is integrated into the existing BMS via a Modbus-to-BACnet interface with new graphics; and existing/relocated CRAC iComm controllers are directed to be updated to the latest software/firmware.

NOT_EVIDENCED R-030 The design shall include DCIM integration where that scope item applies to the project.

No diagram or points list showing integration of monitored systems into a DCIM platform appears in the provided pages; DCIM is not mentioned anywhere in the package provided, so whether the condition applies cannot be confirmed and no implementation is demonstrated.

PASS R-031 The design shall include telecommunications infrastructure where that scope item applies to the project.

Telecommunications scope is implemented: T1.1/T1.2 show partial second floor telecom plans with overhead cable tray routing and Cat6A/fiber keynotes, and T2.1 provides a telecommunications connectivity diagram with a cabling legend of fiber and copper trunk types between racks.

PASS R-032 The design shall include security system upgrades where that scope item applies to the project.

Security-system upgrade work is implemented on the special-systems plans: the Phase 2 keynote provides a ceiling junction box and conduit for security-camera cabling, while both telecom phases provide a Category 6A connection for an owner-provided surveillance camera. The plans also place access-control devices at secure doors, satisfying the applicable upgrade scope shown in this package.

PASS R-033 The design shall include construction phasing where that scope item applies to the project.

Construction phasing applies and is implemented: the set includes separate Phase 1 and Phase 2 demolition, lighting, and power plans (ED2.1/ED2.2, E1.1/E1.2, E2.1/E2.2), a phased mechanical curtain layout, and a general note confirming the project is phased with circuits kept active until areas are turned over.

PARTIAL R-034 The design shall include temporary power and cooling provisions where that scope item applies to the project.

Temporary power provisions are implemented: flag note 6 specifies a Trystar 300A temporary generator connection box with loadbank connection, and the E5.1 one-line graphically shows the temp generator camlocks, load bank camlocks, and the new LS load bank/temp gen connection cabinet (LSCC) tied into the distribution. However, no temporary cooling provisions appear anywhere in these pages - no note

PASS R-035 The design scope shall include commissioning support where that scope item applies to the project.

Section 01 19 13 establishes commissioning support as part of the project scope and assigns responsibilities to the Contractor, Owner, and CxA. The Contractor must participate in and perform commissioning activities, while the CxA must provide the commissioning plan, checklists, and test procedures.

PARTIAL R-036 The design scope shall include handover documentation where that scope item applies to the project.

Some closeout/handover deliverables are defined: typed as-built directories for electrical panels and fire alarm, and code-required commissioning/TAB documents to the Owner within 90 days of certificate of occupancy. However, the 013300 submittals section covers only construction-phase product submittals and no general handover documentation requirement (O&M manuals, training, warranties, closeout

3. PROJECT SCOPE › 3.3 Future Expansion

PARTIAL R-037 The design shall preserve space for future electrical equipment.

The one-line shows spare breakers in multiple panels and an IT load summary with '20% SPARE' capacity, and the Phase 2 plans show future PDU-A2/PDU-B2 locations. However, no plan explicitly reserves or labels empty floor space for future electrical equipment; spare breaker capacity does not by itself demonstrate preserved physical space, leaving the evidence ambiguous.

PARTIAL R-038 The design shall provide spare switchgear sections for future expansion.

The one-line tags numerous 'SPARE' breakers in distribution panels (e.g., 100/3, 200/3, 400/3 spares in the MSB/2XPH sections), but these are spare branch/feeder breakers, not spare switchgear sections designated for future expansion, and no switchgear schedule identifying spare sections is provided. Flag note 21 actually removes existing spare breakers in the switchboard, further clouding whether

PASS R-039 The design shall provide spare breaker capacity for future expansion.

Spare breaker capacity is shown at multiple levels. The E5.1 one-line identifies numerous spare breaker positions on distribution panels (e.g., '100/3 SPARE', '200/3 SPARE', '400/3 SPARE' on '2XPH/'GDP' sections), and the RXV panel schedules on E7.1/ E7.2 list tagged 'SPARE' breakers (e.g., 30A/3P and 60A/3P spares) plus many 'SPACE' positions in every RX panel. One-line also shows 'MAX IT LOAD (2

NOT_EVIDENCED R-040 The design shall provide generator expansion provisions for future expansion.

The one-line shows a new 175KW generator 'GEN-B' added now and temporary generator camlock/load-bank connection cabinets (LBCC/LSCC), but nothing designates a spare breaker, bus capacity, or connection point for a FUTURE generator; the temp-gen connections are explicitly for temporary generator/load bank use, not expansion provisions.

PARTIAL R-041 The design shall provide cooling plant expansion provisions for future expansion.

The drawings show valved and capped chilled water connections, but these are explicitly for 'PHASE 2 CONNECTION' — a defined phase of this same bid package — not for future expansion beyond the project. The chilled water riser diagram (M4.1) likewise shows Phase 1 and Phase 2 as project scope. Whether any provision exists for expansion beyond the designed phases is not demonstrated.

△ The only capped/valved CHW provisions shown are for the project's own Phase 2 work; no cooling plant expansion capacity beyond the designed phases is indicated.

PARTIAL R-042 The design shall preserve pipe and cable tray capacity for future expansion.

Piping capacity for expansion is partially evidenced: M1.2 shows 'VALVE AND CAP 4" CWS/R FOR PHASE 2 CONNECTION' and 'CAP 1" CD FOR PHASE 2 CONNECTION', providing stubbed capacity for the next phase. However, no spare-capacity provision is shown for cable tray: keynote E303 sizes the tray at 18" x 4" with no statement of reserved/future capacity, and no plan note addresses spare tray capacity. The

NOT_EVIDENCED R-043 The design shall include structural provisions for future equipment.

No structural drawings or structural narrative for future equipment provisions.

PARTIAL R-044 The design shall preserve controls scalability for future expansion.

The controls documentation includes both Phase 1 and Phase 2 points (e.g., separate differential pressure AIs for each phase) and new i-Com/BACnet interfaces, indicating the BMS was configured to accept the project's own Phase 2 expansion. However, no BMS architecture diagram, spare point capacity, or explicit scalability provision for future systems beyond the project phases is shown on these pages

NOT_EVIDENCED R-045 The design shall identify all future expansion assumptions and any infrastructure that must be installed during the current project to avoid future disruption.

No Basis of Design or narrative documenting future expansion assumptions/enabling infrastructure.

4. EXISTING CONDITIONS REQUIREMENTS

NOT_EVIDENCED R-046 The consulting team shall not rely solely on existing drawings for existing conditions information.

No field-verified existing conditions documentation; only design drawings and addenda.

NOT_EVIDENCED R-047 Existing conditions shall be verified in the field.

No field verification report or notes in package.

4. EXISTING CONDITIONS REQUIREMENTS › 4.1 Required Existing Conditions Activities

NOT_EVIDENCED R-048 The consulting team shall review available as-built drawings as part of existing conditions activities.

No existing conditions documentation referencing as-built review.

NOT_EVIDENCED R-049 The consulting team shall conduct site walks with Operations.

No record of site walks with Operations.

NOT_EVIDENCED R-050 The consulting team shall verify equipment nameplates.

No verified equipment nameplate data listing.

NOT_EVIDENCED R-051 The consulting team shall verify electrical ratings and topology of the existing installation.

No existing-conditions verified one-line or verification report; E5.1 is a design one-line.

NOT_EVIDENCED R-052 The consulting team shall verify mechanical capacities of the existing installation.

No field-verified mechanical capacities report.

PARTIAL R-053 The consulting team shall verify room dimensions and access routes.

The Phase 1 architectural plan (A2.1) carries numerous room and construction dimensions (e.g., 4'-10", 11'-9" +/-, 3'-6" MIN.), satisfying the dimensioned-plan portion. However, the general note directs the CONTRACTOR to field-verify dimensions prior to construction (i.e., dimensions are not yet field-verified by the consulting team), and no sheet demonstrates equipment access routes (paths/cleara

NOT_EVIDENCED R-054 The consulting team shall verify structural loading constraints.

No structural loading verification documentation.

NOT_EVIDENCED R-055 The consulting team shall verify utility service information.

No verified utility service report.

NOT_EVIDENCED R-056 The consulting team shall identify abandoned or undocumented infrastructure.

No documentation identifying abandoned/undocumented infrastructure.

NOT_EVIDENCED R-057 The consulting team shall identify code deficiencies in the existing installation.

No code deficiency report.

NOT_EVIDENCED R-058 The consulting team shall identify equipment nearing end-of-life.

No end-of-life equipment assessment.

NOT_EVIDENCED R-059 The consulting team shall identify operational constraints affecting the project.

No operational constraints documentation.

4. EXISTING CONDITIONS REQUIREMENTS › 4.2 Existing Conditions Deliverables

NOT_EVIDENCED R-060 The consultant shall provide an existing conditions report.

No existing conditions report in package.

NOT_EVIDENCED R-061 The consultant shall provide an equipment inventory.

No tabulated existing equipment inventory deliverable.

NOT_EVIDENCED R-062 The consultant shall provide verification of the electrical one-line diagram.

No field-verified existing one-line deliverable; design one-line only.

NOT_EVIDENCED R-063 The consultant shall provide verification of the mechanical flow diagram.

No verified mechanical flow diagram deliverable; M4.1 riser is a design diagram.

NOT_EVIDENCED R-064 The consultant shall provide room data verification.

No verified room data schedule deliverable.

NOT_EVIDENCED R-065 The consultant shall provide a capacity assessment.

No capacity assessment study.

NOT_EVIDENCED R-066 The consultant shall provide a deficiency list.

No deficiency list document.

NOT_EVIDENCED R-067 The consultant shall provide a photo log.

No photo log in package.

NOT_EVIDENCED R-068 The consultant shall provide marked-up drawings showing discrepancies.

No marked-up discrepancy drawings.

NOT_EVIDENCED R-069 The consultant shall provide recommendations for further investigation.

No recommendations-for-further-investigation document.

4. EXISTING CONDITIONS REQUIREMENTS › 4.3 Existing Conditions Accuracy

NOT_EVIDENCED R-070 Utility capacity shall be verified before design freeze.

No documented utility capacity verification prior to design freeze.

PARTIAL R-071 Transformer ratings shall be verified before design freeze.

Transformer ratings are recorded on the one-line (e.g., existing XFMR 'T-2PLF' 30KVA 480-208Y/120V, 'BTX' 75KVA, '2TX' 45KVA, and 300KVA units at the PDU feeds), satisfying the ratings-on-one-line evidence. Nothing in the package, however, demonstrates that the ratings were verified prior to design freeze.

PARTIAL R-072 Switchgear ratings shall be verified before design freeze.

Switchgear ratings are shown on the one-line (e.g., MSB 3000A bus 65K AIC, 2GPH 1200A bus 65K AIC, GDP-A/GDP-B 800A bus 65K AIC), but there is no documentation that these ratings were verified prior to design freeze — no study, verification note, or sign-off appears on these pages.

NOT_EVIDENCED R-073 Available fault current shall be verified before design freeze.

No available fault current values, short-circuit study, or verification documentation appear on these pages. Equipment AIC ratings (65K AIC) are withstand ratings of the gear, not verified available fault current values, and no study is referenced.

NOT_EVIDENCED R-074 UPS capacity shall be verified before design freeze.

No verified UPS capacity record, design-freeze milestone note, or capacity verification statement appears on any provided page.

NOT_EVIDENCED R-075 Battery runtime shall be verified before design freeze.

No battery runtime verification documentation; no battery schedule with runtime data.

NOT_EVIDENCED R-076 Generator capacity shall be verified before design freeze.

No verified generator capacity record or design-freeze verification documentation appears on any provided page; the generator appears only in the grounding detail.

NOT_EVIDENCED R-077 Fuel storage shall be verified before design freeze.

No fuel storage verification; generator is gas-piped (M3.1), no fuel storage documentation.

NOT_EVIDENCED R-078 Cooling capacity shall be verified before design freeze.

Neither page contains a cooling capacity verification study nor a cooling equipment schedule with capacities — the only schedules on M5.2 are for the CHW pumps, VFDs, and piping insulation, none of which record CRAC/in-row cooling capacities, and no pre-design-freeze verification documentation appears.

PARTIAL R-079 Pump capacities shall be verified before design freeze.

The pump schedule on M5.2 records full capacities for CHWP-1 & 2 (B&G e-80 3x3x9.5C, 262.5 GPM, 90 ft total head, 97.8 ft shut-off head, 73% minimum efficiency), demonstrating the capacities are documented in the bid set. There is no evidence that these values were verified prior to design freeze — the schedule shows recorded values, not a verification activity.

PASS R-080 Pipe sizes shall be verified before design freeze.

The M4.1 riser (flow) diagrams, issued as Bid Documents, carry fully tagged pipe sizes on every segment (4", 3", 2-1/2", 2", 1-1/2", 1-1/4", 1" CWS/R) together with flow rates (12, 18.5, 122, 140.5, 262.5 GPM), demonstrating the design pipe sizes were established on the flow diagram for the issued design. Field-verify notes on plans apply only to existing piping at tie-in points, not to the design.

NOT_EVIDENCED R-081 Raised floor loading shall be verified before design freeze.

No raised floor loading verification documentation.

NOT_EVIDENCED R-082 Structural slab capacity shall be verified before design freeze.

No structural slab capacity verification documentation.

NOT_EVIDENCED R-083 Fire protection coverage shall be verified before design freeze.

No evidence of a documented fire protection coverage verification prior to design freeze exists in these pages. To the contrary, the clean agent keynotes state the 'INDICATED LAYOUT AND NOZZLE ARRANGEMENT IS SHOWN FOR REFERENCE ONLY', deferring final coverage design to the contractor's complete-system design, so pre-freeze verification of coverage is not demonstrated.

PARTIAL R-084 BMS points and controls architecture shall be verified before design freeze.

M5.1 documents BMS points lists (BI/BO/AO/AI) for the chilled water pumps, CRAC units, and a generator BMS interface with an extensive Modbus-to-BACnet points map, so a points list and controls architecture exist in the bid documents. However, there is no evidence that the points list was verified prior to design freeze — the drawings demonstrate documentation, not the verification activity.

5. GENERAL DESIGN CRITERIA › 5.1 Design Life

NOT_EVIDENCED R-085 Building and structural work shall have a minimum design life of 25 years.

No basis of design statement or specification in the provided pages states a 25-year (or any) minimum design life for building or

structural work. Product performance criteria (e.g., access floor loads, gypsum board type) do not address design life.

NOT_EVIDENCED R-086 Electrical distribution equipment shall have a minimum design life of 20 years.

No BOD or specification stating 20-year design life for electrical distribution equipment.

NOT_EVIDENCED R-087 Mechanical plant shall have a minimum design life of 20 years.

No BOD stating 20-year design life for mechanical plant.

NOT_EVIDENCED R-088 Controls systems shall have a minimum design life of 10 years with upgrade capability.

No basis-of-design or narrative on any provided page states a 10-year minimum controls design life or upgrade capability. The controls content is limited to sequences of operation, points lists, and interface cards; none address design life.

NOT_EVIDENCED R-089 Battery systems shall have a design life per the manufacturer warranty and lifecycle plan.

No BOD or battery specification referencing manufacturer warranty/lifecycle plan.

5. GENERAL DESIGN CRITERIA › 5.2 Reliability Philosophy

NOT_EVIDENCED R-090 The renovated facility shall be designed to maintain at least the existing reliability level and, where feasible, improve it.

No Basis of Design demonstrating reliability level maintenance/improvement.

PASS R-091 The design shall support no single point of failure affecting critical IT loads, unless otherwise approved.

The one-line implements a 2N architecture for critical IT loads: independent UPS-A and UPS-B (400KVA each), dedicated static switches STS-A/STS-B, independent 800A ATS-A and ATS-B fed from separate generator distribution panels GDP-A/GDP-B, A- and B-side PDUs and RX panelboards, and independent 1200A maintenance bypass paths. A failure of any single UPS, ATS, PDU, or bypass leaves the opposite side.

PARTIAL R-092 The design shall support concurrent maintainability of critical infrastructure, unless otherwise approved.

The one-line topology supports concurrent maintainability: fully parallel A/B paths (UPS-A/UPS-B, STS-A/STS-B, ATS-A/ATS-B, PDU-A/PDU-B pairs, dual 1200A maintenance bypass buses) and phasing notes keeping the existing UPS online during cutover. However, no Basis of Design narrative on these pages demonstrates that any critical component can be maintained without shutting down critical load, so that

PASS R-093 The design shall support isolation of individual equipment without interruption to adjacent systems, unless otherwise approved.

Individual-equipment isolation is shown on both disciplines. The chilled water riser (M4.1) tags an isolation valve at every IRC/CRAH branch ('ISOLATION VALVE (TYP)') so any unit can be valved off without disturbing the common CWS/R mains, and the electrical one-line (E5.1) gives each IRC/CRAH unit its own 15/3 branch breaker from panels MP-A/MP-B, so electrical isolation of one unit does not inte

PARTIAL R-094 The design shall support clear operational procedures for normal, maintenance, and failure conditions, unless otherwise approved.

Sequences of operation address normal operation (modulation to temperature/humidity/differential-pressure setpoints) and failure conditions (DX backup on chilled water loss, emergency backup CRAC units, lag-pump activation, chilled-water-down alarm notifying the data hall management group). No sequence or narrative addresses maintenance-mode procedures, so the three required operational conditions

5. GENERAL DESIGN CRITERIA › 5.3 Maintainability

PASS R-095 The design shall allow safe equipment isolation.

Safe isolation means are shown for both electrical and mechanical equipment. E5.1 provides dedicated branch breakers (15/3) for each IRC unit, fusible disconnects ahead of the CHWP VFDs ('400A, 480V FUSIBLE DISCONNECT. FUSE AT 300A. (TYP 2)'), and an integral disconnect note for in-row units; M4.1 shows isolation valves, check valves, strainers and unions at each cooling unit, and hot-tap isolation

△ E5.1 (page 42) one-line tags an in-row unit 'IRC-1-B' (listed twice among the MP-A/MP-B branch breakers), while M4.1 (page 25) riser tags the Phase-1 size-1 unit 'IRC-1-1B'; 'IRC-1-B' matches no tag on the mechanical riser and appears to be a typo for IRC-1-1B within the drawing set. Recommend recon

PASS R-096 The design shall allow maintenance bypass where required.

Maintenance bypass is implemented in both disciplines. E5.1 shows wrap-around maintenance bypass arrangements for both new UPS systems ('MAINT. BYPASS', 'MAINTENANCE BYPASS 480V, 3Ø, 3W, 1200A BUS') with UOB/MIB/MBB breaker scheme, and M4.1 shows a 4-inch bypass around the chilled water pump pair so the campus loop can serve the data center with pumps off.

NOT_EVIDENCED R-097 The design shall allow adequate working clearances.

The floor plans (E2.1-E2.5) lay out UPS, PDU, ATS, generator and rack equipment and label cold/hot aisles, but none of the provided pages dimension working clearances around electrical equipment; adequacy of clearances cannot be demonstrated from these sheets.

PARTIAL R-098 The design shall allow safe lifting and replacement routes.

No plan depicts equipment lifting or replacement routes. Keynote E222 requires maintaining service access to the new generator (including bollard modification), which implies an access path for that one item, but 'service access' is not an identified lifting/replacement route and no other major equipment is addressed.

PASS R-099 The design shall allow access to valves, breakers, filters, batteries, and controls.

Multiple contract-directive notes across the set protect maintenance access: M201 prohibits piping over electrical panels and requires all code clearances, M210 requires piping to be dropped tight to the wall to maximize working clearances, M235 requires walkway clearance around racks, and the M5.1 detail requires maintaining all required servicing clearances at the ceiling CRAC unit.

PARTIAL R-100 The design shall allow replacement of major components without major demolition.

Component replacement is addressed for the new generator only: keynote E222 requires maintaining service access to the new generator including bollard removal/relocation, and the one-line narrative sequences removal of the existing UPS/RDCs only after new systems are operational. No plan or narrative addresses replacement access/strategy for the other major components (UPS modules, PDUs, STS, ATSS)

5. GENERAL DESIGN CRITERIA › 5.4 Expandability

PASS R-101 The design shall allow future growth without requiring replacement of recently installed infrastructure.

Future growth is built into the design: the IT load summary carries 55kW (20%) spare capacity, each UPS is a 400kVA frame against 140kVA anticipated load with max IT load stated at 20% spare capacity (165kW), numerous SPARE breakers are shown on the one-line, and Phase 2 expansion (PDU-A2/B2, RX panels) is pre-planned.

5. GENERAL DESIGN CRITERIA › 5.5 Energy Efficiency

NOT_EVIDENCED R-102 The design shall consider high-efficiency UPS systems.

New 400kVA UPS-A and UPS-B are shown on the one-line, but no basis of design or equipment schedule with UPS efficiency data appears in the provided pages; consideration of high-efficiency UPS systems is not documented.

PASS R-103 The design shall consider variable-speed drives.

Variable-speed drives are adopted and scheduled: M5.2 includes a Variable Frequency Drive Schedule for VFD-CHWP-1 & 2 serving pumps CHWP-1 & 2, the pump schedule requires VFD-compatible motors with DDC control, and M5.1 shows VFDs with pump speed AO points and lead-pump speed modulation.

PASS R-104 The design shall consider economization where practical.

Economization is both considered and implemented as a waterside economizer strategy: the pump control sequence directs that campus chilled water differential pressure be used to satisfy data center flow rates with the local pumps off (the 4" bypass on M4.1 enables this), requires the balancing contractor to verify peak flows can be maintained with no pump operation, and only stages the lead/lag pu

PASS R-105 The design shall consider airflow containment.

Airflow containment is explicitly designed and documented: M5.2 carries a data room curtain layout plan labeling COLD AISLE and HOT AISLE zones with proposed hot-aisle containment perimeters, keynote M104 specifies the hot aisle containment curtain system and its construction, and the M5.1 sequence of operation places control sensors down the cold aisle and addresses underfloor air distribution wi

NOT_EVIDENCED R-106 The design shall consider optimized chilled water temperatures.

The M5.1 sequence of operation addresses differential pressure control, lead/lag pump optimization (using campus CHW differential without pumps where possible), and BMS monitoring of supply/return water temperatures, but nothing documents consideration of optimized chilled water supply temperature setpoints or adopts optimized CHW temperature values. Monitoring points (CWS TEMP AI / CWR TEMP AI) a

NOT_EVIDENCED R-107 The design shall consider efficient lighting.

Expected evidence is solely a basis-of-design consideration of efficient lighting; no BOD or design narrative document exists in the package.

PASS R-108 The design shall consider energy monitoring.

Energy monitoring is implemented on the one-line: METER devices at the UPS-A and UPS-B inputs, a 'METERING' section on distribution panel '2XPH2', and a dedicated panelboard metering module are all shown.

NOT_EVIDENCED R-109 The design shall achieve the target PUE, with the target value to be inserted.

Requires BOD stating target PUE and/or energy modeling results; neither a basis of design nor any energy modeling study is in the package (and target value is TBD).

6. ARCHITECTURAL REQUIREMENTS › 6.2 Data Halls

PASS R-110 The data hall design shall provide clear hot aisle/cold aisle organization of rack rows.

The data hall plans explicitly label alternating COLD AISLE and HOT AISLE between rack rows on both the mechanical plans (M1.5/M1.6) and the enlarged power plans (E2.3/E2.4), and the graphics show rack rows organized in rows separated by these labeled aisles. Phase 1 and Phase 2 plans are consistent in this organization.

PASS R-111 The data hall design shall provide an aisle containment strategy.

The data hall implements a hot-aisle containment strategy: sheet M5.2 shows a curtain layout plan for both phases with labeled hot and cold aisles and containment perimeters around the hot aisles between rack rows, and keynote M104 specifies the containment system by basis-of-design product (Sub-Zero "Rack Hat") including construction (modular aluminum rail with vinyl vertical strips), support fro

NOT_EVIDENCED R-112 The data hall design shall provide adequate rack spacing.

The enlarged computer room power plans (E2.3, E2.4) show rack rows with labeled HOT AISLE and COLD AISLE zones, but

neither these sheets nor the architectural plans (A2.1/A2.2) contain any dimension strings for rack-to-rack spacing or aisle clearances. The full text layers of the enlarged plans contain only circuit amperage tags and equipment identifiers, no dimensional callouts for rack spacing.

PASS R-113 The data hall design shall provide raised floor or slab-on-grade construction as applicable.

The data halls (DATA 230, 230A, 234) are designed with raised access flooring: keynote 096900.A tags RAF throughout the data rooms on A2.1/A2.2, the room finish schedule lists RAF-1 for all three data rooms, and the A4.0 section detail depicts the raised platform over the slab floor.

NOT_EVIDENCED R-114 The data hall floor shall be designed for floor loading suitable for the planned rack density.

Requires structural plan stating data hall floor load capacity and/or load calculation; no structural drawings or calculations are in the package.

PASS R-115 The data hall design shall provide access control.

The special-systems plans use CR for card readers at the data-area entry doors and pair them with ES electric-strike symbols, PT egress devices, and door contacts. These devices are shown on both phases, providing access control at the data hall entrances.

PASS R-116 The data hall design shall provide fire protection coordination.

Sheets M2.1/M2.2 are dedicated fire protection plans for the data hall showing clean agent zones (room and raised-floor plenum) overlaid on the rack/in-row-cooling layout, with keynotes directing complete NOVEC 1230 systems for the data room and plenum, manual release/abort at exits, tank placement coordinated with rack walkways, and interface to the smoke detection system. Fire protection is coordinated.

PASS R-117 The data hall design shall provide leak detection.

Leak detection is implemented in the data hall: M2.1/M2.2 show leak detection cable graphically around the room, keynote M226 directs perimeter cable tied to CRAC monitoring and alarmed through the BAS, M242 specifies RLE LD1500 controllers with SNMP interface to the monitoring system, and E2.1/E2.2 provide UPS power to the leak detection control panels. Both the plan graphics and the monitoring/c

PASS R-118 The data hall design shall provide emergency lighting.

The data hall lighting plans (E1.1/E1.2) show emergency-type luminaires (1AE, tagged with 'E' per the fixture schedule and symbol legend for luminaires on emergency circuit/battery) throughout the data room, plus 'em,D[b]' battery/emergency units and keynote E107 connecting to existing life safety lighting circuits. Exit sign relocation/reconnection keynotes E109/E110 also appear in Phase 1.

PARTIAL R-119 The data hall design shall provide equipment labelling.

The only labelling directives in the package are on the electrical cover sheet (mechanically label ground bars and termination blocks/cables; typed as-built panel directories). No mechanical general note, keynote, schedule, or legend defines identification/labelling requirements for the data hall mechanical equipment (CRAH, IRC, CRAC units, pumps). Equipment tags are used on plans, but no physical

6. ARCHITECTURAL REQUIREMENTS › 6.3 Electrical Rooms

PARTIAL R-120 Electrical rooms shall provide required code clearances around equipment.

The requirement for code clearances is restated in mechanical keynote M201 ('MAINTAIN ALL CODE REQUIRED CLEARANCES'), but no electrical room plan in the provided pages dimensions working clearances around the switchboard, panels, UPS, or PDUs, so compliance is only acknowledged, not demonstrated.

PARTIAL R-121 Electrical rooms shall provide safe egress.

The life safety plan demonstrates compliant egress for the work area (travel distance < 168'-0" vs 400' allowed, common path < 100', dead end < 20', occupant load table). However, it does not specifically identify or dimension egress paths/doors from the electrical rooms (e.g., the 2nd floor electrical room housing switchboard/ATS equipment referenced elsewhere), so electrical-room-specific egress

NOT_EVIDENCED R-122 Electrical rooms shall provide equipment replacement access.

None of the provided pages show an equipment removal/replacement path from the electrical rooms to the building exterior — no plan annotation, route, or note addressing replacement access for electrical room equipment. Keynote E222 addresses bollard modification for service access to the outdoor generator, which is not electrical-room equipment replacement access.

NOT_EVIDENCED R-123 Electrical rooms shall provide dedicated cooling.

None of the provided pages identify an electrical room or show/tag a dedicated cooling unit serving one. The MNR/MMR room has a ceiling CRAC unit (CRAC-3) with a ductless split backup, but that room is a network/meet-me room (per keynote M223 'EXPANDED MMR ROOM'), not an electrical room, and no schedule entry dedicates cooling to an electrical room.

PASS R-124 Electrical rooms shall provide fire-rated separations where required.

The first floor plan (A1.1) encloses the ELECTRICAL room with tagged wall types (1G1/1*3) and carries an explicit directive note requiring 1-HR rated walls from floor to slab above plus a 1-hour rated ceiling assembly below existing piping. The door schedule on A4.0 corroborates with a 60 MIN rated door (?\$.1) at that room. The separation is shown graphically and its rating is contractually direct

PASS R-125 Electrical rooms shall have no unrelated piping above critical electrical equipment unless the piping is specifically protected and approved.

Mechanical keynote M201 prohibits routing piping over electrical panels and requires code clearances, and electrical keynote E231 directs drip pans over electrical equipment located below mechanical piping, providing the specific protection the rule requires where foreign piping exists above equipment.

6. ARCHITECTURAL REQUIREMENTS › 6.4 UPS and Battery Rooms

PASS R-126 UPS and battery rooms shall provide dedicated cooling.

Dedicated cooling for the UPS room is implemented graphically: sheet M5.1 includes a dedicated 'UPS CRAC UNITS' connection detail (1-1/4" CWS/R, isolation and balance valves, unions, floor stands for the new CRAC units) plus a 'UPS CRAC UNITS CONTROLS DIAGRAM' with its own sequence of operation. Plan keynotes corroborate that CRAC units serve the UPS room (M213 references refrigerant piping used f

NOT_EVIDENCED R-127 UPS and battery rooms shall provide ventilation as required by the battery chemistry.

The electrical pathway plans show a UPS room (UPS 208) with UPS-A/UPS-B equipment, but none of the provided mechanical sheets show any exhaust or ventilation system serving a UPS/battery room, no ventilation sizing for battery chemistry, and no ventilation rate calculation. The mechanical scope shown is limited to the data hall cooling, condensate, and gas piping.

PASS R-128 UPS and battery rooms shall provide fire protection appropriate to the battery technology.

Keynote M227 on M2.1 directs a complete NOVEC 1230 clean agent suppression system (tank, piping, nozzles, controls, appliances) for the new UPS room, and clean agent zones are shown at the UPS room on the plan. Clean agent suppression is an appropriate protection for UPS/battery spaces; the drawings do not separately identify battery chemistry, but suppression for the UPS/battery room is clearly i

NOT_EVIDENCED R-129 UPS and battery rooms shall provide spill containment where applicable.

No page in the package identifies the UPS battery technology (no statement of VRLA vs. flooded/liquid electrolyte), so the spill-hazard condition cannot be confirmed, and no spill-containment detail (curbs, sumps, trays) is shown in or around UPS room 208. The only containment shown is the generator belly-tank containment on M5.1, which addresses fuel oil, not battery electrolyte.

NOT_EVIDENCED R-130 UPS and battery rooms shall provide access for battery replacement.

UPS room 208 and the adjoining electrical rooms are shown with equipment tags (UPS-A, UPS-B, STS-A/B, MBP-A/B, PDU-A1/B1) on the special systems plan E4.1, but no sheet provides an access route, door/path clearances, or removal clearances for battery module replacement. No dimensions or notes address battery replacement access anywhere in the provided pages.

NOT_EVIDENCED R-131 UPS and battery rooms shall provide floor loading verification.

Requires floor load verification calculation or structural plan noting verified capacity for UPS/battery rooms; no structural documents or calculations in package.

NOT_EVIDENCED R-132 UPS and battery rooms shall provide monitoring and alarm interfaces.

No BMS/monitoring points list or monitoring/alarm interface connections for UPS and battery systems appear in these pages. The E6.2 UPS control wiring diagram shows only internal UPS control cabling (battery interface boxes, load bus sync CAT6, maintenance bypass interlocks), not monitoring/alarm interfaces to a BMS, and the only BMS reference is for the lighting control system.

6. ARCHITECTURAL REQUIREMENTS › 6.5 Mechanical Rooms

PASS R-133 Mechanical rooms shall provide service access.

General Mechanical Note 6 on the mechanical cover sheet is a binding directive requiring the contractor to maintain manufacturer's required clearances around all mechanical equipment for operation, maintenance, and filter access. Keynote M201 similarly directs maintaining code-required clearances around electrical panels where piping is routed. Service access is addressed by contract directive on

NOT_EVIDENCED R-134 Mechanical rooms shall provide equipment replacement paths.

No plan or note shows equipment replacement/removal paths from mechanical rooms. The only related content is Demolition Note 3 directing that holes cut for removal of equipment be kept to the smallest practical size and patched, which addresses demolition patching, not a designed equipment replacement path.

NOT_EVIDENCED R-135 Mechanical rooms shall provide drainage.

The basement mechanical room housing the new chilled water pumps (CHWP-1/2, VFD-CHWP-1/2) shows no floor drain, drain, or drainage note on sheet M1.1, and no other provided page shows mechanical room drainage. Drainage shown elsewhere is condensate piping in the data hall, not mechanical room drainage.

PASS R-136 Mechanical rooms shall provide lighting.

The lighting plans show luminaires (tags 1PD, 1P[a]) placed in MECHANICAL 202 and MECHANICAL 224, with PP power packs for control, so lighting is provided in the mechanical rooms.

NOT_EVIDENCED R-137 Mechanical rooms shall provide housekeeping pads.

No housekeeping pad detail or plan notation appears on these pages; the M5.1 details show floor stands for CRAC units and support from structure for the ceiling unit, but no concrete housekeeping pads under mechanical equipment are detailed or noted.

NOT_EVIDENCED R-138 Mechanical rooms shall provide acoustic treatment where required.

The wall-type system provides for optional sound attenuation blankets and an STC-rated wall caulking note, but nothing in these pages establishes that acoustic treatment is required for the mechanical rooms (202, 224), and the room finish schedule shows no acoustic treatment in those rooms. Neither the trigger condition nor an implementation is demonstrated.

6. ARCHITECTURAL REQUIREMENTS › 6.6 Doors and Access

NOT_EVIDENCED R-139 Doors shall be sized for the largest planned equipment movement.

The door schedule on A4.0 lists door sizes (largest single leaf 4'-0" at 230.1; pairs of 3'-0" at 2CR10.3 and 202.1), but no schedule column, plan annotation, or note ties door sizing to the largest planned equipment movement, and no equipment movement paths are annotated. The package does not demonstrate this requirement.

PASS R-140 Doors shall include appropriate fire rating.

The A4.0 door schedule includes a dedicated F.R. (fire rating) column completed for every opening: data-room doors 230.1 through 234.2 are rated 45 MIN., door ?.1 is rated 60 MIN., and non-rated doors are explicitly dashed. Fire-rated glazing is keyed (088000.A), and Schedule Note 5 clarifies the ratings are provided for certification rather than life-safety. The fire-rating requirement is document

△ Door schedule (A4.0, p.12) contains an unresolved placeholder door number "?1" (3'-0" x 7'-0", 60 MIN., Hardware Set 3), and Hardware Set #3.0 lists "Doors: 230.1, ?.1". The rated opening's identity cannot be confirmed against any plan door tag on A2.1/ A2.2 - this should be resolved before construction

△ Hardware Set #5.0 note states "Card Reader / Keypad existing to remain for door 236.1" (A4.0, p.12), but door 236.1 does not appear in the Phase 1 door schedule or on the plans provided; likely a typo, but unverifiable from this package.

PASS R-141 Doors shall include security access control.

Access control is implemented in both required forms. The A4.0 door schedule notes call for card readers and keypads (Notes 1-3), and every hardware set (#1.0 through #6.0) includes electrified hardware - integrated electric locks, electric rim exit devices, power transfer hinges, and card readers/keypads. The special systems plans E4.1/E4.2 graphically place CR (card reader) and ES (electric strike)

PASS R-142 Doors shall include hardware compatible with Operations requirements.

A door schedule assigns hardware sets to every door, and hardware sets #1-#6 specify operations-aligned components: cylinders keyed to the facility (Primus) key system, card readers/key pads by the Security System Integrator, electrified locks/exit devices, and installation per UNL access control details, backed by specification section 087100. Note the spec text references Sheet A2.1 while the hardware

△ Spec section 087100 (AG0.0) states the Door Hardware Schedule is on 'Sheet A2.1', but the door schedule and hardware sets are actually on sheet A4.0; the cross-reference should be corrected.

△ Door schedule on A4.0 includes a door numbered '?1' (60 MIN., Set #3.0) with no resolved door number; hardware set notes also reference door '236.1' which is not among the doors assigned to Set #5.0 (2CR10.3, 202.1).

6. ARCHITECTURAL REQUIREMENTS › 6.7 Finishes

PASS R-143 Finishes shall be durable, low-maintenance, and suitable for data center environments.

The room finish schedule assigns durable, data-center-appropriate finishes (raised access flooring RAF-1, VCT-1, rubber wall base RWB-1, painted GWB/sealed concrete with vapor-barrier primer), and the specifications back these with commercial-grade basis-of-design products (Tate ConCore 1500 access floor, Armstrong Safety Zone VCT, Tarkett Duracove base, institutional low-odor/zero-VOC latex paint)

7. STRUCTURAL REQUIREMENTS › 7.1 Equipment Loads

NOT_EVIDENCED R-144 The structural engineer shall verify the equipment loads of UPS modules.

Requires structural load verification calculation (or schedule of UPS module weights used in structural design); no structural calculations/drawings in package.

NOT_EVIDENCED R-145 The structural engineer shall verify the equipment loads of batteries.

Requires structural load verification calculation including battery weights; no structural calculations in package.

NOT_EVIDENCED R-146 The structural engineer shall verify the equipment loads of transformers.

Requires structural load verification calculation including transformer weights; no structural calculations in package.

NOT_EVIDENCED R-147 The structural engineer shall verify the equipment loads of switchgear.

Requires structural load verification calculation including switchgear weights; no structural calculations in package.

NOT_EVIDENCED R-148 The structural engineer shall verify the equipment loads of generators.

Requires structural load verification calculation including generator weights; no structural calculations in package.

NOT_EVIDENCED R-149 The structural engineer shall verify the equipment loads of cooling units.

Requires structural load verification calculation including cooling unit weights; no structural calculations in package.

NOT_EVIDENCED R-150 The structural engineer shall verify the equipment loads of pumps.

Requires structural load verification calculation including pump weights; no structural calculations in package.

NOT_EVIDENCED R-151 The structural engineer shall verify the equipment loads of cooling towers.

Requires structural load verification calculation including cooling tower operating weights; no structural calculations (and no cooling tower shown) in package.

NOT_EVIDENCED R-152 The structural engineer shall verify the equipment loads of cable trays.

Cable tray support is addressed only by keynote E301 directing ceiling-mounted trapeze supports per manufacturer's instructions attached to structure above, plus a 'SECTION VIEW - CABLE TRAY' detail on E6.3. No structural load verification calculation for cable tray loads and no structural engineer verification or load-rated support detail appears anywhere in the provided pages; the keynote defers

NOT_EVIDENCED R-153 The structural engineer shall verify the equipment loads of pipe supports.

No structural load verification calculation for pipe supports and no pipe support detail referencing verified loads is present on these pages; pipe support content is limited to vibration isolation hangers and equipment support notes.

7. STRUCTURAL REQUIREMENTS › 7.2 Housekeeping Pads

NOT_EVIDENCED R-154 Concrete housekeeping pads shall be designed for equipment weight.

No housekeeping pad detail appears on the provided pages. M5.1 addresses equipment support only via floor stands for new CRAC units ('PROVIDE FLOOR STANDS FOR NEW CRAC UNITS') and structure-supported ceiling units; there is no concrete pad detail with size or reinforcement matched to equipment weight.

NOT_EVIDENCED R-155 Concrete housekeeping pads shall be designed for vibration isolation.

No housekeeping pad detail with vibration isolation (inertia base, isolators under a pad) is shown. The only vibration isolation provision is hangers for the ceiling-suspended MNR CRAC unit ('PROVIDE VIBRATION ISOLATION HANGERS.'), which is not a pad detail; no pad-mounted equipment vibration isolation design is demonstrated.

NOT_EVIDENCED R-156 Concrete housekeeping pads shall be designed for equipment anchorage.

No pad anchorage design (anchor bolt layout, embedment) is shown on these pages. The only attachment directive is 'SUPPORT UNIT FROM EXISTING BUILDING STRUCTURE' for the ceiling CRAC unit; there is no housekeeping pad detail with anchor bolt/ embedment design for floor-mounted equipment.

NOT_EVIDENCED R-157 Concrete housekeeping pads shall be designed to allow maintenance access.

No concrete housekeeping pads are shown or noted on these pages. The only equipment support reference is for roof condenser units on pre-manufactured equipment blocks, which is not a housekeeping pad and carries no maintenance-access sizing or location criteria.

7. STRUCTURAL REQUIREMENTS › 7.3 Roof Loading

NOT_EVIDENCED R-158 Where rooftop equipment is proposed, the design shall verify existing roof capacity.

Requires roof capacity verification calculation or roof plan noting verified capacity; no roof plan, structural drawings, or calculations in package.

NOT_EVIDENCED R-159 Where rooftop equipment is proposed, the design shall verify snow loads.

Requires snow load verification including drift against rooftop equipment; no structural calculations in package.

NOT_EVIDENCED R-160 Where rooftop equipment is proposed, the design shall verify wind loads.

Requires wind load calculation for rooftop equipment; no structural calculations in package.

NOT_EVIDENCED R-161 Where rooftop equipment is proposed, the design shall verify equipment support framing.

Requires structural detail/roof framing plan of rooftop equipment support framing/dunnage; no structural drawings or roof framing plan in package.

NOT_EVIDENCED R-162 Where rooftop equipment is proposed, the design shall verify maintenance access.

Requires roof plan showing maintenance access around rooftop equipment; no roof plan exists in the package.

7. STRUCTURAL REQUIREMENTS › 7.4 Seismic and Vibration

NOT_EVIDENCED R-163 The design shall include seismic equipment anchorage and restraint in compliance with applicable seismic requirements.

No seismic anchorage or restraint details, notes, or specification references appear on the provided pages. The mechanical details show vibration isolation hangers, floor stands, and structural support for CRAC units, but vibration isolation and equipment support are not seismic restraint, and no seismic bracing detail or specification is cited.

8. ELECTRICAL DESIGN REQUIREMENTS › 8.1 General

PARTIAL R-164 The electrical design shall provide selective coordination of overcurrent protective devices.

The one-line shows deliberate protective device selections (3000A LSIG main, 800AF/800AT vs 800AF/650AT trip frames, solid-state 3VA breakers, current-limiting fuses marked S.T.) consistent with coordination intent, but no selective coordination study is included in the package to verify the selections.

8. ELECTRICAL DESIGN REQUIREMENTS › 8.2 Utility Service

NOT_EVIDENCED R-165 The consultant shall verify the existing utility capacity for the project.

No utility capacity verification study or narrative stating confirmed existing available utility capacity was found. The one-line identifies the utility feed and existing switchboard ratings, and lighting keynotes merely presume 'adequate capacity' on existing circuits without documenting any verification.

PASS R-166 The consultant shall verify the service voltage for the project.

The one-line identifies the incoming service as a 480/277V secondary utility feed, and all downstream equipment ratings (switchboard, panels, ATS, generators) are consistently 480/277V, confirming the service voltage used for the design.

NOT_EVIDENCED R-167 The consultant shall verify the utility transformer capacity serving the project.

The one-line shows the utility feed only as '480/277V SECONDARY' with no utility transformer kVA rating, and no utility capacity verification note or study is present; the transformers shown (300KVA, 75KVA, 45KVA, 30KVA) are downstream distribution transformers, not the utility service transformer.

NOT_EVIDENCED R-168 The consultant shall verify available fault current at the service.

Looked for a short-circuit study, utility letter, or a one-line note stating the available fault current used for equipment ratings. The one-line only shows equipment interrupting ratings (e.g., '65K AIC' on MSB and distribution panels) and service voltage; no

available-fault-current value, study reference, or utility correspondence is included in the provided package. Equipment AIC ratings alone

NOT_EVIDENCED R-169 The consultant shall verify utility protection requirements.

Looked for a utility protection requirements summary, coordination input, or service protective device/relay notes tied to utility requirements. The one-line shows the existing service main ('3000A LSIG') and new feeder breakers, but nothing identifying or verifying utility protection requirements; no study or utility input is in the package.

NOT_EVIDENCED R-170 The consultant shall verify utility metering requirements.

Looked for utility (revenue) metering provisions on the service one-line and any note identifying utility metering requirements. The meters shown are downstream load-monitoring devices ('METER' at UPS-A/UPS-B inputs, 'METERING' at panel 2XPH3, 'PANELBOARD METERING MODULE'), not utility service metering, and no narrative identifies utility metering requirements.

NOT_EVIDENCED R-171 The consultant shall verify future utility upgrade needs.

Requires an assessment/study of future utility upgrade needs; no utility study or narrative document addressing future upgrades is in the package.

8. ELECTRICAL DESIGN REQUIREMENTS › 8.3 Medium Voltage Distribution

NOT_APPLICABLE R-172 Where medium voltage distribution applies, the design shall include switchgear.

The condition (medium voltage distribution) does not apply: the service and all distribution on the one-line are 480/277V and 208Y/120V low voltage ('UTILITY FEED 480/277V SECONDARY'); no medium-voltage switchgear is required or shown.

NOT_APPLICABLE R-173 Where medium voltage distribution applies, the design shall include protective relays.

No medium-voltage distribution exists in this design (service is 480/277V secondary), so the requirement for MV protective relays does not apply.

NOT_APPLICABLE R-174 Where medium voltage distribution applies, the design shall include metering.

No medium-voltage distribution exists in this design (service is 480/277V secondary), so the requirement for MV metering (CT/PT and meters) does not apply.

NOT_APPLICABLE R-175 Where medium voltage distribution applies, the design shall include grounding.

All distribution shown is 480/277V and 208Y/120V low voltage; there is no medium voltage distribution in this design, so the MV grounding condition does not apply. (Low-voltage grounding is separately detailed on E6.2.)

NOT_APPLICABLE R-176 Where medium voltage distribution applies, the design shall include arc flash mitigation.

The rule is conditioned on medium-voltage distribution, which is not present (all distribution is 480/277V and 208Y/120V). MV arc-flash mitigation is therefore not applicable, though no arc-flash study of any kind is included in the package either.

NOT_APPLICABLE R-177 Where medium voltage distribution applies, the design shall include maintenance access.

The distribution shown throughout the package is low voltage only: 480/277V and 120/208V systems (switchboard 'MSB' 480/277V, RX panels 120/208V, generators 480/277V). No medium-voltage distribution exists in this design, so the MV maintenance-access condition does not apply.

NOT_APPLICABLE R-178 Where medium voltage distribution applies, the design shall include future feeder provisions.

The one-line shows all service and distribution at 480/277V and 208Y/120V (utility feed is 480/277V secondary; switchboard 'MSB' is 480/277V, 3000A). No medium voltage distribution exists in this design, so the MV future-feeder condition does not apply.

8. ELECTRICAL DESIGN REQUIREMENTS › 8.4 Transformers

PARTIAL R-179 Transformers shall be selected for required capacity.

New transformers are tagged with capacities (four '300KVA' units serving PDU-A1/A2 and PDU-B1/B2) and an IT LOAD SUMMARY (278KW total, 330KW with spare; anticipated IT load 140KVA per UPS) is provided, but there is no transformer schedule or load calculation that explicitly ties the selected 300KVA transformer capacity to the served load. The capacity basis is implied, not demonstrated.

PASS R-180 Transformers shall be selected for redundancy.

The one-line implements a 2N redundant configuration: two independent UPS systems (UPS-A and UPS-B, each 400KVA) each feeding paired PDU transformer lineups (PDU-A1/A2 and PDU-B1/B2, each with its own 300KVA transformer) and separate RX panel strings, with A and B maintenance bypass paths. The zoomed crop confirms each PDU lineup has its own dedicated 300KVA transformer, demonstrating transformer

NOT_EVIDENCED R-181 Transformers shall be selected for efficiency.

No transformer efficiency requirement appears anywhere on the provided sheet — the transformer tags state kVA and voltage only (e.g., 'EXISTING XFMR 'BTX' 75KVA 480-208Y/120V', new '300KVA' units), and no efficiency listing or specification section is included in this package.

NOT_EVIDENCED R-182 Transformers shall be selected for harmonic loading.

No K-factor or harmonic rating is shown for any transformer on the one-line, and no harmonic/load study is included in the package. Given the data-center (nonlinear) load this is a notable omission, but the package simply does not demonstrate harmonic-loading selection.

NOT_EVIDENCED R-183 Transformers shall be selected for temperature rise.

No temperature-rise class (e.g., 80°C/115°C/150°C rise) is listed for any transformer on the one-line, and no specification section stating allowable temperature rise is included in the provided package.

NOT_EVIDENCED R-184 Transformers shall be selected for future growth.

The one-line lists only existing transformers (30/45/75 KVA units) with no transformer schedule, load/growth study, or note indicating spare capacity or future-growth allowance for transformers. The 20% spare and growth notes on E5.1 pertain to UPS/IT load, not transformer selection.

8. ELECTRICAL DESIGN REQUIREMENTS › 8.5 Switchgear and Switchboards

PARTIAL R-185 The design shall provide switchgear and switchboards with appropriate fault ratings.

The one-line states 65K AIC bus ratings for the new generator distribution panels (GDP-A/GDP-B), the new life-safety and optional-standby distribution panels (DP-LS/DP-OS), and the existing MSB, so fault ratings are stated for the major distribution equipment. However, the RXV panel schedules on E7.1/E7.2 leave the 'A.I.C. Rating:' field blank, and no short-circuit study or available-fault-current

△ RXV panel schedules on E7.1/E7.2 (Addendum_003 pages 25-26) show the 'A.I.C. Rating:' header with no value filled in for any RX panel, and no short-circuit/available-fault-current data appears in the package to verify the 65K AIC ratings stated on the one-line.

NOT_EVIDENCED R-186 The design shall provide selective coordination for switchgear and switchboards.

No selective coordination study, time-current curves, or breaker settings basis appears on the provided pages. The one-line tags breaker frames/trips (e.g., 800AF/800AT, 800AF/650AT) but provides no coordinated settings or study reference demonstrating selective coordination between upstream and downstream devices.

PARTIAL R-187 The design shall provide main-tie-main or another approved switchgear/switchboard topology.

The one-line shows a dual A/B path UPS distribution topology (GDP-A/GDP-B feeding ATS-A/ATS-B, UPS-A/UPS-B, MBP-A/MBP-B), but the main switchboard 'MSB' is shown with a single 3000A bus and East bus riser with no tie breaker, and no narrative note identifies the topology as main-tie-main or documents approval of an alternative topology.

PASS R-188 The design shall provide maintenance isolation for switchgear and switchboards.

The one-line shows dedicated maintenance bypass distribution panels MBP-A/MBP-B (1200A bus) with interlocked MBB/MIB/BIB/UOB breakers (Kirk-key 'K' shown) and 'MAINT. BYPASS' switches, allowing the UPS systems to be fully isolated for maintenance while the critical load remains energized through the bypass path.

PASS R-189 The design shall provide spare sections and breakers in switchgear and switchboards.

Spare capacity is implemented at both the schedule and one-line level. Every RXV panel schedule on E7.1 and E7.2 lists multiple 'SPACE' rows plus tagged 'SPARE' breakers (e.g., 30/3 and 60/3 spares), and the one-line shows spare breakers in the distribution sections along with a flag note governing removal/relabeling of spare breakers in the switchboard sections.

△ RX-B21 schedule on E7.2 (Addendum_003 page 26) shows breaker 'H31' at '69 3' where the corresponding breaker in the otherwise identical RX-A21 schedule reads '60 3'; 69A is not a standard trip rating and appears to be a typo that should be corrected or confirmed by RFI.

PARTIAL R-190 The design shall provide clear labelling for switchgear and switchboards.

Switchgear and distribution equipment carry clear, consistent tags/names in the one-line and schedules (e.g., "EXISTING SWITCHBOARD 'MSB' 480/277V, 3Ø, 4W, 3000A BUS 65K AIC", "NEW GENERATOR DISTRIBUTION PANEL 'GDP-A'", "DP-LS", "DP-OS"). However, the provided pages contain no labeling/nameplate detail or note directing physical equipment nameplates for the switchgear/switchboards, so the labell

8. ELECTRICAL DESIGN REQUIREMENTS › 8.6 UPS Systems

PASS R-191 UPS systems shall support the full critical load.

Each new UPS is a 400kVA frame/400kVA output unit against an anticipated IT load of 140kVA per side, and the one-line notes MAX IT LOAD (20% SPARE CAPACITY): 165KW. The IT LOAD SUMMARY totals 278KW current / 330KW with 20% spare across both paths, so either 400kVA UPS alone carries the full critical load.

PASS R-192 UPS systems shall provide required redundancy.

The one-line implements a 2N arrangement: two independent UPS systems (UPS-A, UPS-B) each with integral battery cabinets, static switches STS-A/STS-B, dedicated maintenance bypass panels MBP-A/MBP-B, and dual ATS-A/ATS-B feeds from separate generator distribution panels GDP-A/GDP-B, serving separate A-side and B-side RX panelboards.

PASS R-193 UPS systems shall include maintenance bypass where required.

Maintenance bypass is required for this data-center UPS application, and the one-line shows external maintenance bypass implemented: dedicated maintenance bypass panels MBP-A/MBP-B (480V, 1200A bus) with MBB/MIB/BIB breakers and 'MAINT. BYPASS' switches, and MBP-A/MBP-B are listed in the owner-furnished equipment list.

NOT_EVIDENCED R-194 UPS systems shall include battery monitoring.

No BMS/DCIM points list, monitoring schedule, or specification requiring UPS battery monitoring is present in the provided pages. Battery cabinets are shown graphically but no battery monitoring functionality is identified.

NOT_EVIDENCED R-195 UPS systems shall provide alarm integration to BMS/DCIM.

No controls/BMS/DCIM points list showing UPS alarms and no specification requiring a BMS/DCIM alarm interface for the UPS systems are present in the provided pages.

PASS R-196 UPS systems shall support future expansion.

The one-line shows UPS-A/UPS-B as 400kVA frame/400kVA output units against only 140kVA anticipated IT load each, with MAX IT LOAD noted at 20% spare capacity (165KW), and Phase 2 expansion is built in via PDU-A2/PDU-B2 and Phase 2 RX panelboards — demonstrating spare capacity and expansion provisions for future UPS growth.

NOT_EVIDENCED R-197 UPS systems shall meet the minimum efficiency target.

No UPS efficiency values at defined load points appear in the equipment list, one-line, or notes on the provided pages; the efficiency target itself is TBD per the specification, so there is no schedule or submittal criterion demonstrating compliance.

PARTIAL R-198 UPS systems shall provide the minimum battery autonomy.

The one-line shows an integral battery cabinet with each new UPS, so battery backup is implemented, but no autonomy/runtime (minutes), battery sizing calculation, or schedule value is given anywhere on the provided pages, and the required autonomy target is TBD per the specification.

NOT_EVIDENCED R-199 UPS step-load performance shall meet manufacturer requirements.

No UPS specification text invoking manufacturer step-load performance and no manufacturer data or schedule showing step-load compliance appears on the provided pages; the step-load criteria are TBD per the specification.

NOT_APPLICABLE R-200 UPS parallel operation shall be provided where required.

The design uses a 2N architecture with independent UPS-A and UPS-B systems (each 400KVA sized for the full 140KVA anticipated load on its own path) rather than paralleled UPS modules sharing a common output bus; parallel UPS operation is not required by this design, so the condition does not apply.

PASS R-201 UPS static bypass capacity shall be 100% of critical load.

Each new UPS is a 400KVA frame/400KVA output unit (~481A at 480V), and its static switch is rated 600A, 480V, 3-phase (~499kVA), i.e., at least 100% of the UPS full-output critical load. Static bypass paths ('SSB BYPASS INPUT') are shown on both A and B systems.

8. ELECTRICAL DESIGN REQUIREMENTS › 8.7 Battery Systems

NOT_EVIDENCED R-202 The design shall identify the battery chemistry.

Battery chemistry (e.g., VRLA, lithium-ion, Ni-Cd) is not stated anywhere in these pages. The one-line tags only 'INTEGRAL BATTERY CABINET' and the E6.2 UPS control wiring diagram shows 'VERTIV BATTERY CABINET' with no chemistry identified; no battery schedule or specification excerpt is present in the provided package.

△ Battery configuration inconsistency: E5.1 one-line tags the new UPS-A/UPS-B batteries as 'INTEGRAL BATTERY CABINET' while E6.2 detail E9 (UPS CONTROL WIRING DIAGRAM) shows external 'VERTIV BATTERY CABINET' (three per module) with Battery Interface Boxes — battery chemistry is not identified on either

NOT_EVIDENCED R-203 The design shall identify battery runtime requirements.

The one-line shows integral battery cabinets at the new UPS units, but no battery runtime/autonomy requirement (minutes at load), runtime calculation, or UPS/battery schedule listing required runtime appears anywhere on these pages.

NOT_EVIDENCED R-204 The design shall identify battery monitoring requirements.

No monitoring point list for battery systems and no specification identifying required battery monitoring parameters are present in the provided pages; battery monitoring requirements are not identified.

NOT_EVIDENCED R-205 The design shall identify battery ventilation requirements.

No note, keynote, or plan element on the provided pages identifies battery ventilation requirements. The mechanical keynotes (M103-M240) address chilled water, condensate, refrigerant, and underfloor air sleeves only; nothing mentions battery or UPS room ventilation.

PASS R-206 The design shall identify battery fire protection requirements.

Battery/UPS area fire protection requirements are identified on M2.1: keynote M227 directs a complete NOVEC 1230 clean agent system for the new UPS room, M228 requires manual release and abort buttons at the room exit, and the plan shows the clean agent zones and piping serving that room. The requirement for both a plan element and an identifying note is met.

NOT_EVIDENCED R-207 The design shall identify a battery replacement strategy.

The one-line and E6.2 details show UPS integral battery cabinets and Vertiv battery cabinets, but no narrative, note, or plan addresses how batteries will be replaced (access path, space, or strategy); equipment existence alone does not demonstrate a battery replacement strategy.

NOT_EVIDENCED R-208 The design shall identify battery end-of-life disposal requirements.

No specification section or BOD covering end-of-life battery disposal/recycling exists in the package (only architectural specs AG0.0 and commissioning Section 01 19 13).

8. ELECTRICAL DESIGN REQUIREMENTS › 8.8 Generators

PARTIAL R-209 Generator systems shall provide required redundancy.

A second generator is provided — existing 600KW plus new 175KW 'GEN-B' — each with its own generator distribution panel (2GPH, GDP-A, GDP-B), giving two generating sources. However, no narrative states the required redundancy level (N+1/2N) and the 175KW unit is far smaller than the 600KW existing unit, so whether the arrangement meets a defined redundancy requirement cannot be determined from the

PASS R-210 Generator systems shall provide automatic start.

The one-line shows an automatic transfer scheme between utility/generator sources: multiple new and existing automatic transfer switches (ATS-A, ATS-B, ATS-OS1, ATS-ELEV, 4-pole ATS) interconnect the generators, generator distribution panels, and loads, including a note directing refeed of an existing ATS 'FROM NEW EMERGENCY SOURCE INDICATED'. This satisfies the expected one-line evidence of an au

NOT_EVIDENCED R-211 Generator systems shall provide load acceptance.

No generator sizing study or step-load/load-acceptance data is included; the one-line lists generator kW ratings (600KW existing, 175KW new) but contains nothing addressing load acceptance capability.

NOT_EVIDENCED R-212 Generator systems shall provide fuel autonomy.

No fuel system schedule, tank capacity, autonomy duration, or fuel consumption calculation appears on any provided page. M3.1 shows a natural gas generator served by utility gas (2,100-2,500 CFH connected load), while the M5.1 BMS interface lists fuel oil level and a belly tank, but no autonomy basis is stated anywhere. Additionally, the natural-gas generator on M3.1 versus the fuel-oil/belly-tank

△ Generator fuel system is inconsistent across sheets: M3.1 (p.24) shows a 'NEW NATURAL GAS GENERATOR' served by '2 PSI NATURAL GAS SERVICE... CONNECTED LOAD = 2,100-2,500 CFH', while the M5.1 Generator BMS Interface (p.26) lists 'FUEL OIL LEVEL %', 'WATER IN FUEL INDICATOR', and 'BELLY TANK CONTAINME

PARTIAL R-213 Generator systems shall provide remote monitoring.

Keynote E318 on the special systems plans directs monitoring wiring drops to mechanical/electrical equipment, and the one-line adds NEW GENERATOR "GEN-B" with new generator distribution panels GDP-A/GDP-B, but nothing explicitly identifies a generator remote monitoring interface, BMS/DCIM point list, or generator monitoring points. The generic monitoring-wiring note could cover the generator but d

PARTIAL R-214 Generator systems shall provide maintenance isolation.

Generator output breakers (e.g., 1500/3 on the existing generator feeder) and temporary generator/load bank connection cabinets (LBCC and new LSCC with camlocks) are shown, which would allow a generator to be taken out of service while a temporary unit is connected. However, no breaker/switch is explicitly designated for generator maintenance isolation and no LOTO/maintenance-isolation note is pro

PASS R-215 Generator systems shall provide a load bank connection.

The one-line shows dedicated load bank connection provisions: an existing load bank connection cabinet (LBCC) with camlocks and integral 100/3 breaker, a new LS load bank/temp gen connection cabinet (LSCC), and LOAD BANK 700/3 breakers at the maintenance bypass panels. The floor plan tags both cabinets and keynote E221 directs a 400kW minimum portable loadbank connection for UPS startup/commission

△ Keynote E221 references the loadbank breaker connection at 'MBP-X' while the one-line tags the maintenance bypass panels 'MBP-A' and 'MBP-B' (each with a LOAD BANK 700/3 breaker); 'MBP-X' reads as a generic placeholder for either panel, not a contradiction.

NOT_EVIDENCED R-216 Generator systems shall meet the minimum fuel autonomy.

No fuel storage calculation or fuel tank schedule; generator is natural-gas fired (M3.1), so autonomy-in-hours evidence cannot exist.

NOT_EVIDENCED R-217 Generator start time shall meet the applicable standard and Owner requirement.

The only generator-related content in this package is the generator grounding detail on E6.2; no generator specification, start-time value, or ATS/control sequence demonstrating start time is present. Per the rule, the start-time criterion is TBD and cannot PASS on the numeric criterion regardless.

NOT_EVIDENCED R-218 Generator step-load acceptance shall meet manufacturer and design criteria.

No generator step-load analysis study or manufacturer data sheets in package.

NOT_EVIDENCED R-219 The design shall address generator exhaust and acoustic requirements.

Sheet M3.1 shows the new natural gas generator and its gas service, but every keynote on the sheet (M202, M203, M205, M209, M236) addresses gas piping only. No exhaust routing, termination detail, or acoustic/sound requirement for the generator installation appears on any provided page.

△ Generator exhaust/acoustic scope may reside on sheets not included in this package; only M3.1 (gas piping) was provided for the generator.

NOT_EVIDENCED R-220 Fuel polishing provisions shall be provided where required.

No fuel system P&ID and no diesel fuel storage (gas-fired generator); fuel polishing evidence cannot exist.

8. ELECTRICAL DESIGN REQUIREMENTS › 8.9 Fuel Systems

NOT_EVIDENCED R-221 Fuel systems shall include bulk storage.

No fuel P&ID or bulk fuel tank schedule; no bulk fuel storage in this gas-fired design package.

NOT_EVIDENCED R-222 Fuel systems shall include day tanks where applicable.

No fuel P&ID or day tank schedule in package.

NOT_EVIDENCED R-223 Fuel systems shall include transfer pumps.

No fuel P&ID or fuel transfer pump schedule in package.

PASS R-224 Fuel systems shall include leak detection.

Fuel leak detection is implemented on the M5.1 Generator BMS Interface detail: the generator belly tank containment includes a furnished leak detector, and the contractor is directed to pick up the leak detector dry contacts and interface them into the building management system, providing the alarm path; a water-in-fuel indicator point is also listed.

NOT_EVIDENCED R-225 Fuel systems shall include spill containment.

No fuel tanks and no spill containment/curbing details for fuel systems in package.

NOT_EVIDENCED R-226 Fuel systems shall include fuel level monitoring.

No fuel level monitoring points or tank instrumentation; no fuel storage tanks in design.

NOT_EVIDENCED R-227 Fuel systems shall include emergency shutoff.

The only shutoff provision in the fuel/gas system is keynote M205's 'GAS COCK, PRV, AND DIRT LEG' ahead of the generator connection — a manual service cock, not an emergency shutoff. No P&ID emergency shutoff valve, E-stop note, or control sequence for fuel emergency shutoff appears on the provided pages.

PASS R-228 Fuel systems shall include maintenance isolation.

The gas piping plan (M3.1) shows the 1-1/4" gas run to the new natural gas generator, and keynote M205 directs a gas cock (shutoff/isolation device), PRV, and dirt leg ahead of the final equipment connection, providing the means to isolate the generator fuel supply for maintenance. The note is directive and the piping itself is drawn, so this is implementation evidence, not acknowledgment only.

8. ELECTRICAL DESIGN REQUIREMENTS › 8.10 Grounding and Bonding

PASS R-229 The design shall provide equipment grounding.

Equipment grounding is implemented throughout: the feeder schedule lists an equipment ground conductor in every feeder (e.g. '4-#2, #8 G - 1-1/2"C.'), sheet E6.2 provides PDU, UPS, and generator grounding details plus a signal reference grid with bonding of pedestals, conduits, CRAC and PDU frames to the underfloor ground system.

△ Panel tag conflict within drawing set: one-line E5.1 shows 'EXISTING DISTRIBUTION PANEL '2XPH3" while floor plans (pages 33-34) tag the same existing panel '2DPHX3' (E) and the E7.3 schedule circuits CRAC 2N/3W to '2DPHX3-1"/'2DPHX3-2' — same panel carries two different tags.

△ E7.3 Mechanical Equipment Connection Schedule lists 'IRC-2-1D' twice (circuits MP-B-25,27,29 and MP-B-14,16,18) and 'IRC-2-1E' twice (MP-B-26,28,30 and MP-B-19,21,23) — duplicate rows with conflicting circuit assignments.

△ E5.1 flag note for the elevator ATS says 'SEE SHEET E2.1 FOR MORE INFORMATION' but the elevator shaft keynote E219 appears on sheet E2.2; another flag note says 'SEE SHEET E2.3 FOR PANEL 'LS' AND '2XW' LOCATIONS' while panel 'LS' is shown on the E2.5 basement plan.

△ E5.1 flag notes contain two notes numbered '15' and two numbered '20'.

PASS R-230 The design shall provide bonding.

Bonding is specified in detail: E6.2 signal reference grounding grid notes direct bonding of underfloor metallic conduits, air conditioner frames, and PDU frames to the grounding system, and the generator grounding detail shows a bonding jumper per NEC 250.66 with bond-to-frame/bond-to-cabinet requirements.

PASS R-231 The design shall provide a grounding electrode system.

Sheet E6.2 includes a Grounding Riser detail and a Generator Grounding with 4-Pole A.T.S. detail showing service grounding electrode and bonding jumper sized per NEC Table 250-66, plus connections to the existing building ground bar and a #500MCM conductor to the existing ground bar in the 2nd floor electrical room — a documented grounding electrode system (tie to existing service/building electro

PASS R-232 The design shall provide surge protection.

Surge protective devices are tagged 'SPD' at multiple points on the one-line, including at the main switchboard section, generator distribution panels, and the optional standby panel, and keynote 7 designates 'NEW SURGE PROTECTIVE DEVICE.' Although the keynote defers details to the specifications, the SPDs are graphically placed at the service and distribution equipment.

PARTIAL R-233 The design shall provide telecommunications bonding.

E6.2's grounding riser and signal reference grid show bonding of racks (#8 to each rack) and PDUs to ground bar RFGB and a #2/0 perimeter signal reference grid, which bonds the telecom/IT cabinets. However, no dedicated telecommunications bonding busbar (TGB/TMGB) or telecommunications bonding backbone per TIA-607 is identified, so it is ambiguous whether this electrical/signal-reference grounding

8. ELECTRICAL DESIGN REQUIREMENTS › 8.11 Lighting

PASS R-234 The design shall provide normal lighting.

E7.3 contains a luminaire schedule with normal (non-emergency) lighting fixture types 1A, 1AE, and 1B linear LED strip lights with full photometric/electrical data, alongside emergency (EM) and exit sign types. This satisfies the requirement for a normal lighting fixture schedule.

△ E7.3 Mechanical Equipment Connection Schedule lists plan tag IRC-2-1D twice with different circuits (MP-B-1,3,5 and MP-B-14,16,18) and IRC-2-1E twice (MP-A-19,21,23 and MP-B-19,21,23) - duplicate tags with conflicting circuits within the same schedule; does not affect the luminaire schedule but req

PASS R-235 The design shall provide emergency lighting.

Emergency/life-safety lighting is implemented across the package: the one-line sheet (E5.1) includes flag note 15 directing reconnection of two existing emergency lighting circuits to panel '2X2' with new breakers, the lighting plans (E1.1/E1.2) tag emergency fixtures 'em,D[b]' and keynote E107 connects to existing life safety lighting circuits, and the E7.3 luminaire schedule includes an 'EM' LED

PASS R-236 Emergency lighting shall be battery-backed or generator-backed.

The luminaire schedule on E7.3 includes fixture type EM, an 'LED BATTERY LIGHT' (Lithonia ELM2L), providing battery-backed emergency lighting; in addition, keynotes connect life-safety lighting to existing life safety circuits and the one-line shows existing emergency lighting circuits reconnected to panel '2X2' with the life safety system backed by generators (existing 600KW and new 175KW), so bo

PASS R-237 The design shall provide lighting controls suitable for operational spaces.

A networked lighting control system suitable for occupied operational spaces is documented: E0.0 lighting control notes direct provision of backbone, bridges, power packs, entry stations and sensors; E6.3 provides the typical lighting control diagram with occupancy sensors, entry stations, and 0-10V dimming; and the lighting plans show PP power packs and control-zone subscripts ([a]/[b], n,D / em,

8. ELECTRICAL DESIGN REQUIREMENTS › 8.12 Power Monitoring

PARTIAL R-238 The design shall provide metering for the utility service.

Metering is clearly provided in the design — 'METER' tags at the UPS-A and UPS-B inputs, a 'METERING' designation at distribution panel 2XPH2, and a panelboard metering module — but the 'METER' callouts are tied to the UPS input breakers, not to the utility service entrance at the MSB; metering AT the utility service itself is not explicitly identified.

PARTIAL R-239 The design shall provide metering for generators.

The one-line shows the existing 600KW generator, new GEN-B 175KW, and generator distribution panels 2GPH/GDP-A/GDP-B, and a 'METER' tag appears on the sheet (near BATS-1 / 2XPH2 areas and at UPS inputs), but no meter is shown at the generator outputs or generator distribution gear, and no power-monitoring point list was provided. Metering for generators is not demonstrated.

PARTIAL R-240 The design shall provide metering for UPS input and output.

The one-line tags 'METER' at the UPS-A and UPS-B input breakers (800AF/800AT "UPS-A" INPUT / "UPS-B" INPUT), providing UPS input metering. However no meter is shown on the UPS outputs or at the MBP-A/MBP-B output distribution, and no monitoring point list is provided, so output metering is not evidenced.

PASS R-241 The design shall provide metering for PDU or busway.

Metering at the PDU/busway distribution level is shown on the one-line: a 'PANELBOARD METERING MODULE' is tagged at the typical RX panel arrangement fed from the PDU/busway taps, and dedicated 'METER' devices are shown at the UPS-A and UPS-B inputs feeding that distribution.

PASS R-242 The design shall provide metering for major mechanical loads.

The one-line shows dedicated METER devices on the branches serving the in-row cooler mechanical units (IRC-1/2-x circuits), providing metering of major mechanical loads; mechanical panels MP-A/MP-B serving CRAH units and pumps are also shown as discrete distribution, and 'METERING' is tagged at existing distribution panel 2XPH2.

PARTIAL R-243 The design shall provide metering for tenant loads where applicable.

The IT LOAD SUMMARY separately identifies 'WSEC' and 'WSEC NON-UPS' load areas distinct from NE HALL, indicating separately-served (tenant-type) loads exist in this facility. However, no dedicated tenant metering is identified on the one-line for those loads, so tenant metering applicability is suggested but its implementation is not demonstrated.

8. ELECTRICAL DESIGN REQUIREMENTS › 8.13 Electrical Studies

NOT_EVIDENCED R-244 The consultant shall provide a load flow study for the electrical system.

No load flow study report in package.

NOT_EVIDENCED R-245 The consultant shall provide a short circuit study for the electrical system.

No short circuit study report in package.

NOT_EVIDENCED R-246 The consultant shall provide a protective device coordination study.

No protective device coordination study in package.

NOT_EVIDENCED R-247 The consultant shall provide an arc flash study.

No arc flash study in package.

NOT_EVIDENCED R-248 The consultant shall provide a harmonic analysis where required.

No harmonic analysis report in package.

NOT_EVIDENCED R-249 The consultant shall provide voltage drop calculations.

No voltage drop calculations in package.

9. MECHANICAL DESIGN REQUIREMENTS › 9.1 Cooling Philosophy

PASS R-250 The mechanical design shall maintain required environmental conditions under normal operation.

Normal-operation environmental control is demonstrated by the control sequences on M5.1: in-row units modulate fans/cooling and their 2-way valves to maintain temperature setpoints using rack sensors, CRAC units modulate cooling and humidification to setpoints, and the chilled water pump sequence maintains differential pressure for design flow rates. The plans show the cooling equipment arranged a

PASS R-251 The mechanical design shall maintain required environmental conditions during equipment maintenance.

Maintainability without loss of environmental conditions is implemented in the M5.1 connection details: every CRAC and in-row unit connection includes isolation valves, balance valves, and unions so an individual unit can be isolated and removed while the remaining multiple IRC/CRAH/CRAC units continue cooling; the chilled water pumps operate in lead/lag mode with automatic lag activation.

PASS R-252 The mechanical design shall maintain required environmental conditions under single equipment failure.

The sequences of operation on M5.1 demonstrate single-failure tolerance: dual-cool CRAC units fall back to DX cooling on chilled water failure, existing CRAC units serve as emergency backup cooling, the MNR room ductless split provides backup cooling, and the two CHW pumps run lead/lag with automatic lag activation on flow failure.

PASS R-253 The mechanical design shall maintain required environmental conditions under utility failure.

Cooling continuity on utility failure is evidenced on both mechanical and electrical sheets: the M5.1 pump control diagram notes the chilled water pumps are on emergency power, the E5.1 one-line shows a new 175KW generator GEN-B and generator distribution feeding mechanical panels MP-A/MP-B and the CHWP-1/CHWP-2 VFD loads, and the in-row cooling units (IRC tags) are shown as metered breakers on di

PASS R-254 The mechanical design shall maintain required environmental conditions under generator operation.

The E5.1 one-line shows new generator 'GEN-B' (175KW) feeding new generator distribution panels GDP-A/GDP-B, and mechanical panels MP-A/MP-B carrying the data center cooling loads (CRAH-1/2/3, CD-1A/1B, CHWP-1/2) are shown on the same generator-backed distribution topology (via the UPS/maintenance-bypass chain backed by ATS-A/ATS-B). Mechanical cooling loads are therefore connected to generator-ba

PARTIAL R-255 The mechanical design shall maintain required environmental conditions under future load growth.

The mechanical design is explicitly phased (Phase 1 & Phase 2 curtain layout with added in-row coolers IRC-2-x and fan-assist tiles in Phase 2), which implements capacity growth in the data hall. However, no BOD, note, or schedule documents cooling capacity with a stated allowance for future loads; the only quantified growth allowance found (20% spare, 165KW max IT load) is on the electrical one-l

9. MECHANICAL DESIGN REQUIREMENTS › 9.2 Environmental Criteria

PARTIAL R-256 The data hall temperature shall be maintained per the current Owner standard and equipment requirements unless otherwise directed.

Temperature control sequences and setpoint points are provided (CRAC modulation to maintain temperature setpoints, rack sensors modulating IRC units, ROOM TEMPERATURE SETPOINT AO), but no numeric data-hall temperature setpoint or range per the Owner standard is stated anywhere on these pages. Because the governing value is deferred, the rule cannot pass on its numeric criterion.

PARTIAL R-257 Relative humidity shall be maintained within the approved operating envelope unless otherwise directed.

Humidity control is sequenced (CRAC humidification modulates to maintain humidity setpoints; IRC-1 units include humidifiers with space humidity sensors; ROOM HUMIDITY SETPOINT AO point listed), but the approved RH operating envelope limits and alarm values are not stated numerically on these pages. With the envelope limits deferred, the rule cannot pass on its numeric criterion.

NOT_EVIDENCED R-258 The maximum allowable temperature excursion shall be as defined by the Owner standard unless otherwise directed.

No BOD or narrative citing an Owner-defined maximum temperature excursion exists in package.

9. MECHANICAL DESIGN REQUIREMENTS › 9.3 Cooling Redundancy

PARTIAL R-259 The cooling system shall provide the required redundancy.

The design implements several redundancy measures — lead/lag chilled water pumps with automatic cycling and failure failover, CRAC dual-cool (chilled water primary with air-cooled DX backup), existing CRAC units retained as emergency backup cooling, and a ductless split backing up the MNR room CRAC. However, no BOD or note states the selected redundancy level (N+1, 2N, distributed), and the requir

NOT_EVIDENCED R-260 The selected cooling redundancy strategy shall be documented in the Basis of Design.

No Basis of Design document exists in the package to document the cooling redundancy strategy.

9. MECHANICAL DESIGN REQUIREMENTS › 9.4 Chilled Water Systems

PARTIAL R-261 Where applicable, the chilled water system design shall provide chillers.

The design includes a chilled water system (new CHW pumps CHWP-1/2, CWS/R piping to CRAC and in-row units), but cooling is sourced from existing campus chilled water mains — no chiller schedule or chillers on a P&ID appear in this package. Whether the rule's chiller requirement is met by the campus plant or requires new chillers in this design is not demonstrated on these pages.

PASS R-262 Where applicable, the chilled water system design shall provide pumps.

Chilled water pumps are provided: the M5.2 pump schedule lists CHWP-1 & 2 (B&G e-80 3x3x9.5C) with 262.5 GPM flow and 90 ft total head, and the M4.1 building distribution riser shows CHWP-1 and CHWP-2 with VFDs, check valves, strainers, and a 4" bypass. The scheduled 262.5 GPM flow is consistent with the 262.5 GPM tags on the riser diagram.

NOT_APPLICABLE R-263 Where applicable, the chilled water system design shall provide cooling towers or dry coolers.

The chilled water system is served by hot-tapping the existing Nebraska Hall chilled water mains; heat rejection is provided by the existing campus plant, not by new equipment in this design. The roof condenser units serve DX/refrigerant CRAC backup cooling, not the chilled water system, so no cooling tower or dry cooler is applicable to this design.

NOT_EVIDENCED R-264 Where applicable, the chilled water system design shall provide expansion tanks.

A chilled water system applies to this design, but neither chilled water riser diagram on M4.1 (data room layout nor building distribution) shows an expansion tank. The system is a hot-tap connection to the existing campus/building chilled water mains, so an expansion tank may exist upstream in the campus plant, but the package does not demonstrate one.

NOT_EVIDENCED R-265 Where applicable, the chilled water system design shall provide air separators.

A chilled water system applies, but no air separator is shown or tagged anywhere on the M4.1 chilled water riser diagrams or the

M5.1 details. Air separation may be handled in the upstream campus plant, but the drawing package does not demonstrate it.

NOT_EVIDENCED R-266 Where applicable, the chilled water system design shall provide water treatment.

A chilled water system applies, but no water treatment equipment (shot feeder, chemical treatment, side-stream filtration) is shown on the M4.1 riser diagrams or M5.1 details, and no water treatment specification or note appears on the provided pages. Treatment may be part of the campus system, but it is not demonstrated here.

PASS R-267 Where applicable, the chilled water system design shall provide isolation valves.

The M4.1 chilled water riser diagrams tag isolation valves (typ) at unit branches and at the hot-tap connection to the existing main, and the M5.1 cooling room connection details repeat isolation valves at the in-row and CRAC unit connections. Isolation at equipment and branches is consistently shown.

PASS R-268 Where applicable, the chilled water system design shall provide flow meters.

A flow meter is tagged on the chilled water building distribution riser diagram on M4.1, in the 4" CWS/R main run near the 262.5 GPM / 140.5 GPM flow callouts. This demonstrates flow metering on the chilled water system.

PASS R-269 Where applicable, the chilled water system design shall provide temperature sensors.

Temperature sensors are shown on the M4.1 chilled water riser ("TEMPERATURE SENSOR (TYP)" at unit connections and TS tags at the pump/control diagram on M5.1), and the controls documentation includes CWS TEMP AI and CWR TEMP AI points with a sequence directing the BMS to monitor supply and return water temperatures.

PASS R-270 Where applicable, the chilled water system design shall provide leak detection.

The design includes a chilled water system (CWS/R piping on M1.3/M1.4 feeding IRC and CRAH units), and leak detection devices are shown on the mechanical fire protection/leak detection plans: cable around every in-row cooling unit (M243, TYP 7), Vertiv LT-460 cable interfaced to the CRAH units (M244, TYP 2), and perimeter cable tied to CRAC monitoring (M226). Leak detection is provided at the chil

9. MECHANICAL DESIGN REQUIREMENTS › 9.5 CRAH/CRAC Units

NOT_EVIDENCED R-271 Cooling units shall provide the required capacity.

No CRAH/CRAC/in-row cooling schedule with capacities appears on the provided pages — only model identifiers (VERTIV CR040 / CR032 in the IRC-X-YZ tag key) with no capacity values. Additionally, the electrical one-line serves equipment tagged "CRAH-1/2/3" and "CD-1A/1B" plus "CRAC 1B"/"COND. UNIT 1B", tags that do not appear in the mechanical tag nomenclature (CRAC/IRC), so cooling unit identity ac

△ Cooling unit tag nomenclature differs within the drawing set: mechanical sheets use CRAC/IRC tags (CRAC-3, IRC-X-YZ) while the E5.1 one-line serves "CRAH-1", "CRAH-2", "CRAH-3", "CD-1A", "CD-1B", "COND. UNIT 1B", and "CRAC 1B"; identity of these loads to the mechanical units cannot be established fr

PASS R-272 Cooling units shall provide redundancy.

Cooling redundancy is demonstrated by unit count and arrangement: five Phase-1 in-row units (IRC-2-1A through 1E plus IRC-1-1A/1B), three CRAH units, and five additional Phase-2 in-row units on M1.6, with the existing/relocated CRAC units explicitly sequenced as emergency backup cooling and the two chilled water pumps in lead/lag with equal-run cycling.

NOT_EVIDENCED R-273 Cooling units shall provide EC fans where practical.

No CRAH/CRAC or in-row unit schedule noting fan type is present on the provided pages, and no note or tag identifies EC fans for the cooling units. Fan type cannot be confirmed.

PASS R-274 Cooling units shall provide controls integration.

Cooling-unit controls integration with the BMS is documented in detail: new CRAC and in-row units are furnished with I-COM controls; existing/relocated CRAC units are to be integrated via BACnet interface cards with a BMS-provided temperature/humidity sensor; points lists are given (CRAC STATUS BI, CRAC ENABLE BO, ROOM TEMPERATURE/HUMIDITY AI, setpoint AOs, general alarm); and the chilled water pu

PARTIAL R-275 Cooling units shall provide filter access.

The only access-related directive is the M5.1 MNR ceiling CRAC note to 'MAINTAIN ALL REQUIRED CLEARANCE FOR SERVICING,' which could encompass filter access but never mentions filters, and no plan clearance zones or filter-access detail are shown for the IRC/CRAH/CRAC units. Whether filter access is actually maintained is left to interpretation.

PASS R-276 Cooling units shall provide maintenance isolation.

Cooling unit maintenance isolation is shown: the M5.1 cooling room connection details tag isolation valves (typ) at both the in-row cooling (IRC) units and the CRAC units, and the M4.1 data room riser tags isolation valves (typ) at each unit branch. Each cooling unit can therefore be isolated for service.

9. MECHANICAL DESIGN REQUIREMENTS › 9.6 Air Distribution

PASS R-277 The design shall include a hot aisle/cold aisle arrangement.

A hot aisle/cold aisle arrangement is explicitly shown: M1.5/M1.6 plans label COLD AISLE and HOT AISLE between rack rows with in-row cooling units embedded in the rows, and M5.2 adds a curtain layout plan with 'PROPOSED HOT AISLE CONTAINMENT PERIMETER (TYP.)' plus keynote M104 specifying Sub-Zero 'Rack Hat' hot aisle containment curtains forming a fully enclosed barrier.

NOT_EVIDENCED R-278 The design shall include containment.

The mechanical plans label COLD AISLE and HOT AISLE and show underfloor supply with an overhead return plenum, but no aisle containment system (containment panels, doors, roof, or curtains) is shown or keyed on any provided sheet, and no containment detail is referenced. Aisle labeling alone is not containment.

PASS R-279 The design shall include raised floor airflow management where applicable.

A raised floor is used (M1.3 underfloor plans, 'PARTIAL WALL UNDER RAISED FLOOR'), and airflow management is implemented: perforated floor tiles deliver supply air and keynote M103 provides dampered supply-air sleeves in the underfloor plenum with balance dampers accessible through floor tiles. This is clear raised-floor airflow management.

PASS R-280 The design shall include return air pathways.

Return air pathways are shown on M1.5: a 102x24 return air plenum extended tight to structure with two 96x26 manual dampers connects the data hall to the existing duct riser for the overhead CRAH unit, providing an explicit return air path for the underfloor supply scheme.

PASS R-281 The design shall include pressure balancing.

Pressure balancing is implemented through the chilled water differential pressure control sequence: DP setpoint is established from balanced water flows to the CRAC and IRC units, DP sensors are provided at both Phase 1 and Phase 2 piping locations, and the lead pump modulates to maintain the DP setpoint with defined lag/alarm logic. Balance valves at each cooling unit support the hydronic balance.

PARTIAL R-282 The design shall include blank panels and a sealing strategy.

The sealing strategy for floor openings is implemented: keynote E204 (tagged at rack locations on E2.3/E2.4) directs cutting floor tiles and providing Cool Boot raised-floor air-sealing grommets (Panduit #RFG6X8Y) at each IT rack. However, no requirement for blanking/blank panels in racks appears anywhere in the provided pages — the Addendum rack-elevation legend lists cable management, fiber/copp

9. MECHANICAL DESIGN REQUIREMENTS › 9.7 Leak Detection

PARTIAL R-283 Leak detection shall be installed at chilled water piping.

Leak detection cabling is directed around the perimeter of each in-row cooling unit (M243, TYP 7) and CRAH units (M244), and those units are chilled-water fed, but no leak detection cable or sensing point is shown along the chilled water piping runs themselves — the underfloor chilled water piping plans (M1.3/M1.4) show CWS/R piping with no leak detection indicated. Whether the perimeter/unit cable

NOT_EVIDENCED R-284 Leak detection shall be installed at mechanical rooms.

Mechanical rooms 202 and 224 appear on the electrical power plans, but no leak detection devices, cable, or keynotes are shown or directed for any mechanical room on M2.1/M2.2 or elsewhere in the provided pages. Leak detection scope is limited to the data hall, MMR, and UPS room perimeters and cooling units.

PARTIAL R-285 Leak detection shall be installed under raised floors where applicable.

The data hall has a raised floor (raised floor plenum referenced in keynotes M224/M229 and clean agent plenum zones), and leak detection cable is shown and directed 'ON FLOOR AROUND THE PERIMETER OF ROOM' in these rooms. However, the documents never state whether the cable is installed on the structural floor beneath the raised floor or on top of the raised floor, so underfloor placement is ambiguous.

PASS R-286 Leak detection shall be installed near critical equipment.

Leak detection is located directly adjacent to critical equipment: M243 (TYP 7 on Phase 1, M248 TYP 9 on Phase 2) installs leak detection cabling around the perimeter of each in-row cooling unit interfaced to the CRAC unit, M244 provides Vertiv LT-460 cable interfaced to each CRAH unit, and M241/M247 route perimeter cable tied to new/relocated controllers. Critical cooling equipment is surrounded.

9. MECHANICAL DESIGN REQUIREMENTS › 9.8 Temporary Cooling

NOT_EVIDENCED R-287 The design shall identify temporary cooling requirements during construction and outage periods.

I searched all mechanical notes and keynotes for any identification of temporary cooling during construction or outage periods. The notes address minimizing and coordinating shut-downs (General Mechanical Note 4) and hot-tapping during off hours (keynote M220), but no note, narrative, or plan identifies temporary cooling requirements for construction or outage periods. The relocated CRAC serving a

10. PLUMBING REQUIREMENTS

PASS R-288 The design shall provide for domestic water.

Domestic cold water is implemented: new 1/2" CW connections to in-row cooling units and CRAC humidifiers are drawn and tagged on the floor plans, a new 3/4" water header with valved connections is directed by keynote M214, and domestic cold water is included in the piping insulation schedule on M5.2.

NOT_EVIDENCED R-289 The design shall provide for sanitary drainage.

No sanitary drainage (soil, waste, or vent piping, or new plumbing fixtures) is shown or specified on the provided pages. The only discharges are condensate indirectly spilled into an existing mop sink, which relies on existing sanitary but does not demonstrate sanitary drainage provision by this design.

NOT_EVIDENCED R-290 The design shall provide for storm drainage.

The provided sheets show condensate drain (CD) piping to mop sinks and generator gas piping, but no storm drainage elements (roof drains, storm leaders, site storm piping) appear on any of the provided pages. The drainage shown is equipment condensate, not stormwater.

NOT_EVIDENCED R-291 The design shall provide for floor drains.

No floor drains (FD) are tagged, scheduled, or noted on any provided page. Drainage shown consists of condensate lines

discharged indirectly to an existing mop sink and equipment drain headers; no floor drain appears in the mechanical room, data hall, or elsewhere in this package.

PASS R-292 The design shall provide for condensate drainage.

Condensate drainage is extensively implemented: 3/4" CD lines are drawn and tagged to each IRC unit with keynote M208 directing the connections, routing across the corridor to a mop sink is directed by M232 and M210, pumped condensate tie-in is directed by M217, and discharge to the existing mop sink is noted on plan.

PARTIAL R-293 The design shall provide for backflow prevention.

An existing backflow preventer is tagged on the second-floor plans adjacent to the existing 1" CW line that serves the new humidifier/back-up cooling connections, so backflow protection exists in the system. However, the drawings do not state that the existing device protects the new connections (upstream/downstream relationship is not shown), and no new backflow preventer is specified for the new

PASS R-294 The design shall provide for equipment drains.

Equipment drainage is provided via drain headers: keynote M214 directs new 3/4" water and drain headers with three valved hose-thread connections, the plan notes the existing emergency cooling water and drain headers they supplement, and keynote M219 (Phase 2) directs relocation of the existing water and drain valve header with adjustment of drain piping.

NOT_APPLICABLE R-295 The design shall provide for fuel-related drainage where applicable.

The only fuel system in the design is a natural gas service to the new generator (2 PSI service by Black Hills Energy). There is no liquid fuel (fuel oil) storage or transfer system that would generate fuel-related drainage, so fuel-drainage provisions are not applicable.

PASS R-296 All drainage systems near critical electrical rooms shall be carefully coordinated to avoid risk to critical equipment.

Keynote M201 on the data-hall mechanical plan directly addresses the risk of piping (including drainage/condensate lines routed through the hall) over critical electrical equipment by prohibiting routing over electrical panels and requiring code clearances.

11. FIRE PROTECTION AND FIRE ALARM › 11.1 Fire Protection

NOT_EVIDENCED R-297 The design shall provide code-compliant sprinkler systems.

No sprinkler system layout, sprinkler piping, heads, or sprinkler-related notes appear on any of the provided pages. Fire protection is implemented entirely via clean agent (NOVEC 1230) systems on M2.1/M2.2; whether a code-compliant sprinkler system exists or is required elsewhere is not demonstrated in this package.

NOT_APPLICABLE R-298 The design shall provide preaction systems where required.

No preaction system is required by this design: the data hall, MMR, UPS room, and plenum areas are protected by clean agent (Novec 1230) suppression per keynotes M223-M231 on M2.1/M2.2, and no preaction system or preaction requirement appears anywhere in the provided pages. The condition triggering this rule is therefore not present.

PASS R-299 The design shall provide clean agent systems where required.

Clean agent suppression is fully implemented: M2.1/M2.2 delineate clean agent zones (1A plenum, 1B room, 2, 3, 4A/4B), show overhead and below-floor clean agent piping, locate tanks and manual release/abort buttons, and keynotes M223-M231 direct complete Novec 1230 systems (tank, piping, nozzles, controls, visual appliances) for the plenum, data room, UPS room, and MMR in both phases.

NOT_APPLICABLE R-300 The design shall provide fire pump modifications where required.

The design contains no fire pump scope: the fire protection work shown is clean agent (Novec 1230) systems and leak detection for the data hall, and the existing fire sprinkler main is noted only as an existing condition to route around. Since no fire pump modifications are required by the design, the rule's condition does not apply.

NOT_EVIDENCED R-301 The design shall provide water supply verification.

Missing: water supply verification study (flow test data/hydraulic calculations); no fire suppression hydraulic calc or flow-test document exists in the package

11. FIRE PROTECTION AND FIRE ALARM › 11.2 Fire Detection

PASS R-302 The design shall provide smoke detection.

The special-systems plans identify ceiling smoke detectors in Phase 1 and ceiling plus underfloor smoke detectors in Phase 2. The corresponding detector symbols are distributed throughout the data-room areas, and the keynotes explicitly direct their reinstallation at the indicated locations.

NOT_EVIDENCED R-303 The design shall provide VESDA where required.

The provided pages show conventional ceiling and underfloor smoke detectors, but I found no VESDA unit, air-sampling pipe network, sampling points, or keynote calling for aspirating smoke detection. Absence on these pages does not establish that VESDA is not required elsewhere.

NOT_EVIDENCED R-304 The design shall provide heat detection where appropriate.

No heat-detector symbol, tag, schedule entry, or keynote appears on the provided fire/special-systems sheets. The keynotes address ceiling and underfloor smoke detectors and clean-agent controls, but not heat detection.

PARTIAL R-305 The design shall provide detection zoning coordinated with suppression systems.

Suppression zoning is clearly delineated (Clean Agent Zones 1A/1B, 2, 3, 4A/4B) and smoke detection devices (ceiling and underfloor detectors reinstalled per E316/E317, manual release/abort stations per M228) are shown on E4.1/E4.2 within the clean agent protected areas. However, no explicit detection-zone identification keyed to the suppression zones and no fire alarm riser or

11. FIRE PROTECTION AND FIRE ALARM › 11.3 Interfaces

NOT_EVIDENCED R-306 Fire alarm systems shall interface with the BMS.

Missing: fire alarm riser/cause-and-effect matrix and BMS points list; no fire alarm riser sheet or controls points documentation in package

NOT_EVIDENCED R-307 Fire alarm systems shall interface with security systems.

Missing: fire alarm riser or matrix showing security/door-release interface; no fire alarm riser sheet in package

NOT_EVIDENCED R-308 Fire alarm systems shall interface with generator systems.

Missing: fire alarm riser showing generator monitoring interface; no fire alarm riser sheet in package

NOT_EVIDENCED R-309 Fire alarm systems shall interface with HVAC shutdown.

No fire alarm content, cause-and-effect matrix, or HVAC shutdown sequence tied to fire alarm appears on any provided page. The mechanical controls sequences address cooling and pump operation only; the electrical sheets show power distribution with no fire alarm interface shown.

PASS R-310 Fire alarm systems shall interface with clean agent systems.

Fire alarm / clean agent interface is evidenced both graphically and by directive notes: E4.1 shows the CACP (clean agent control panel) on plan with keyed conduit to manual release and abort pushbuttons (E233), keynote E320 relocates the combined existing fire alarm and clean agent release control panel with its control wiring, and M223 requires new clean agent controls interfaced to the smoke de

NOT_EVIDENCED R-311 Fire alarm systems shall interface with emergency notification.

Missing: fire alarm riser showing emergency/mass notification interface; no fire alarm riser sheet in package

12. BMS, DCIM, AND CONTROLS REQUIREMENTS › 12.1 General

PASS R-312 All critical infrastructure shall be monitored through the BMS and/or DCIM system.

Critical infrastructure is mapped to BMS monitoring: chilled water pumps have status/enable/speed points plus differential pressure and CWS/CWR temperature AIs with a chilled-water-down alarm to the data hall management group; CRAC units have status, alarm, and room temperature/humidity points; the generator has a full BMS interface (fuel level, run time, temperatures, alarm status, breaker trip d

12. BMS, DCIM, AND CONTROLS REQUIREMENTS › 12.2 Required Monitoring

NOT_EVIDENCED R-313 The monitoring system shall monitor UPS status.

No monitoring points (alarm, run status, bypass, load) are listed for UPS-A or UPS-B anywhere in the provided pages; no monitoring system points list is included in this package.

NOT_EVIDENCED R-314 The monitoring system shall monitor battery status.

E6.2 shows a UPS control wiring diagram with battery interface boxes and Vertiv battery cabinets connected by control cabling, but nowhere on these pages is a monitoring points list identifying battery status points (string alarms, battery voltage, discharge status). Equipment existing with control wiring is not evidence of monitored points.

NOT_EVIDENCED R-315 The monitoring system shall monitor generator status.

No monitoring/controls points list appears on any provided page; generator status points (run, fail, alarm, auto/manual) are not listed for any generator. The ATS and generator grounding detail on E6.2 is power grounding only, not status monitoring.

PASS R-316 The monitoring system shall monitor fuel levels.

The Generator BMS Interface on M5.1 lists 'FUEL OIL LEVEL %' as an analog input monitoring point for the new outdoor generator with its belly tank, satisfying fuel level monitoring.

NOT_EVIDENCED R-317 The monitoring system shall monitor switchgear alarms.

No switchgear alarm monitoring points (breaker status, trip, protective relay alarms) are listed anywhere in these pages. The schedules sheets (E7.1-E7.3) contain only panel, luminaire, and mechanical equipment connection schedules.

PASS R-318 The monitoring system shall monitor cooling unit status.

M5.1 CRAC controls diagrams list cooling-unit status points 'CRAC STATUS BI' and 'CRAC GENERAL ALARM BI', plus alarm requirements in the pump sequence, demonstrating cooling unit run/alarm/status monitoring.

PASS R-319 The monitoring system shall monitor temperatures.

M5.1 lists temperature monitoring points for the critical spaces and the chilled water system: room temperature AI, rack-level sensors (high/mid/low), and CWS/CWR temperatures, with the sequence directing BMS monitoring of supply and return water temperatures.

PASS R-320 The monitoring system shall monitor humidity.

M5.1 lists humidity monitoring points ('ROOM HUMIDITY AI', 'ROOM HUMIDITY SETPOINT AO') and sequences humidity sensors to control CRAC and in-row humidification for the data center spaces.

PASS R-321 The monitoring system shall monitor leak detection.

Leak detection monitoring is implemented on multiple levels: keynote M226 ties perimeter leak detection to the CRAC monitoring system with alarming through the BAS; Addendum #3 keynote M242 specifies RLE LD1500 controllers with SNMP interface and a control connection to the data center monitoring system; M241/M247 connect room leak detection to controllers; and M5.1 directs

pickup of generator lea

NOT_EVIDENCED R-322 The monitoring system shall monitor fire alarm status.

Missing: BMS/controls points list showing fire alarm panel status/supervisory monitoring points; no points list document in package

NOT_EVIDENCED R-323 The monitoring system shall monitor security alarms where security systems are integrated.

Missing: BMS/controls points list with security alarm monitoring points; no points list document in package

12. BMS, DCIM, AND CONTROLS REQUIREMENTS › 12.3 Alarm Priorities

NOT_EVIDENCED R-324 Alarms shall be categorized as Critical, requiring immediate operational response.

Missing: alarm schedule or BMS alarm configuration assigning Critical priority; no alarm priority schedule in package

NOT_EVIDENCED R-325 Alarms shall be categorized as Major, requiring prompt response.

Missing: alarm schedule assigning Major priority; no alarm priority schedule in package

NOT_EVIDENCED R-326 Alarms shall be categorized as Minor, requiring maintenance response.

Missing: alarm schedule assigning Minor priority; no alarm priority schedule in package

NOT_EVIDENCED R-327 Alarms shall be categorized as Informational, requiring no immediate action.

Missing: alarm schedule assigning Informational priority; no alarm priority schedule in package

12. BMS, DCIM, AND CONTROLS REQUIREMENTS › 12.4 Trending

NOT_EVIDENCED R-328 Critical parameters shall be trended at appropriate intervals for operational analysis and commissioning verification.

Missing: trend log requirements with sampling intervals; no BMS trending documentation in package

12. BMS, DCIM, AND CONTROLS REQUIREMENTS › 12.5 Cybersecurity

NOT_EVIDENCED R-329 Controls systems shall comply with Owner cybersecurity requirements, including user authentication.

Missing: controls/BMS specification requiring user authentication; only commissioning spec (01 19 13) and architectural spec text are in the package — no Division 25 controls spec

NOT_EVIDENCED R-330 Controls systems shall comply with Owner cybersecurity requirements, including role-based access.

Missing: controls/BMS specification requiring role-based access control; no Division 25 controls spec in package

NOT_EVIDENCED R-331 Controls systems shall comply with Owner cybersecurity requirements, including network segmentation.

The E6.3 lighting control diagram shows the ECLYPSE system controller connected to the building local area network with Ethernet/BMS connections, but no network segmentation, VLAN isolation, or cybersecurity architecture for controls systems is shown anywhere in this package.

NOT_EVIDENCED R-332 Controls systems shall comply with Owner cybersecurity requirements, including secure remote access.

Missing: controls/BMS specification requiring secure remote access (VPN/MFA); no Division 25 controls spec in package

NOT_EVIDENCED R-333 Controls systems shall comply with Owner cybersecurity requirements, including patch management requirements.

Missing: controls/BMS specification defining patch management; no Division 25 controls spec in package

13. ICT AND TELECOMMUNICATIONS REQUIREMENTS

PASS R-334 The design shall provide structured cabling pathways.

The overhead pathway plans for both phases graphically route the cable-tray system through the data rooms, and the keynotes define a complete 18-inch by 4-inch basket-tray assembly with supports and a network-cabling conduit. The telecommunications sheets additionally route fiber and copper by way of the overhead tray, demonstrating an implemented structured-cabling pathway system.

PASS R-335 The design shall provide a fiber backbone.

Sheet T2.1 is a telecommunications connectivity (riser-style) diagram showing fiber backbone cabling between equipment racks/telecom rooms. The cabling legend defines fiber backbone cable types with strand counts (12/24/96 strand singlemode and multimode), the diagram graphically shows these cable types routed between racks (letter-keyed lines), and the general notes and keynotes direct installation

PASS R-336 The design shall provide copper cabling.

The same connectivity diagram provides copper cabling: the cabling legend lists horizontal copper cable types with counts (12 and 24 Category 6A cables), letter-keyed copper runs are shown to the racks on the diagram, and the notes direct copper installation (contractor take-offs for copper cables via overhead tray; termination of individual Cat 6A cables for cameras, PDUs, and monitoring to the n

PASS R-337 The design shall define telecom room requirements.

Telecom spaces and their requirements are defined: T1.1/T1.2 show the telecom/data hall with full rack layouts and carry general

telecommunication notes (pre-terminated Corning EDGE MTP fiber trunks, 6'-0 service loops, Cat 6A termination requirements) and keynotes T109-T113; Addendum 001 provides detailed Nebraska Hall and Carrier rack elevations; supporting power is defined per rack feed on E2.3

PARTIAL R-338 The design shall provide redundant cabling pathways where required.

The pathway plans show a tray network with multiple parallel or looped segments, which may permit alternate routing. However, neither the tray keynotes nor the telecommunications notes identify two independent A/B or diverse/redundant paths, nor do the drawings label which critical cable runs use each route. The graphics therefore do not clearly establish intentional pathway redundancy.

PARTIAL R-339 The design shall provide separation of diverse routes.

The overhead pathway plans depict separate tray alignments in portions of the data rooms, but no keynote, schedule, or note identifies diverse routes or assigns particular systems/cables to physically separated paths. The graphics alone do not establish the required separation between diverse routes.

NOT_EVIDENCED R-340 The design shall include cabling labelling standards.

The T2.1 cabling legend defines cable types (fiber strand counts, Cat6A quantities) but no cable or port labelling convention, label format, or labelling standard appears on any provided page.

NOT_EVIDENCED R-341 The design shall include cabling testing and certification requirements.

Missing: cabling testing/certification specification; Addendum 01 references Spec 27 11 19 but the spec section is not attached to the package

14. PHYSICAL SECURITY REQUIREMENTS

PASS R-342 The design shall provide access control.

Both phases graphically place access-control devices at the secure data-area doors: card readers (CR), electric strikes (ES), push-to-exit/request-to-exit devices (PT), and door contacts. The repeated placement across the door locations provides clear implementation evidence.

PARTIAL R-343 The design shall provide CCTV coverage.

The drawings implement cabling infrastructure and a camera feed for video surveillance, including a 3/4-inch conduit and Category 6A camera cable. However, the sheets do not identify actual camera device locations or demonstrate coverage of entrances and critical areas; they only indicate cable provisions and coordination for camera placement.

PARTIAL R-344 The design shall provide intrusion detection where required.

Door contacts are shown with the access-control devices at secure doors and can provide intrusion monitoring for those openings. No motion sensors or broader intrusion-detection coverage is shown or keyed on the provided special-systems plans, so only part of the expected intrusion-detection scope is demonstrated.

NOT_APPLICABLE R-345 The design shall provide mantraps where required.

No mantrap is required or shown at any entry point in this design. Entry control is provided by card-reader doors and a wire-mesh cage with a single secured cage door (234.3); nothing in the package establishes a mantrap condition, so the rule's trigger does not apply.

NOT_EVIDENCED R-346 The design shall provide visitor management support.

The drawings show a lobby (2LB1) with card-reader controlled doors (2LB1.1/2LB1.2) and an adjacent office (210), but no check-in point, reception/visitor station, or escorted-access narrative is identified. Hardware notes address after-hours card reader activation only, not visitor management. The package does not demonstrate visitor management support.

PASS R-347 The design shall provide secure equipment areas.

Secure equipment areas are implemented: data rooms 230/230A/234 have card-reader/keypad controlled doors with integrated electric locks (hardware sets #1, #3, #4), and a wire mesh cage partition (Conatech caging) with a secured cage door (234.3, hardware set #6) protects data equipment within DATA 234, located per A2.1 NOTE 3.

NOT_EVIDENCED R-348 The design shall provide coordination with existing security systems.

The provided sheets show security devices and camera-cabling provisions, but I found no note or narrative describing how the new card readers, door contacts, cameras, or other devices integrate with or interface to the existing security system. The camera note requires coordination with UNL Police but does not state system integration.

15. CONSTRUCTION PHASING AND OPERATIONAL › 15.1 General

PASS R-349 Construction shall be planned around an operational data center environment.

The package is explicitly phased (separate Phase 1 and Phase 2 demolition plans and phase-specific finish schedules) and the drawings repeatedly direct that the computer room/data equipment remain live and operational throughout construction, with work sequenced around it. Electrical notes further require circuits serving areas not under construction to remain active until turnover. This demonstra

15. CONSTRUCTION PHASING AND OPERATIONAL › 15.2 Prohibited Activities Without Approval

NOT_EVIDENCED R-350 De-energization of live electrical systems shall not occur without an approved outage plan.

Missing: phasing/outage plan or directive note covering de-energization of live electrical systems; no outage-plan document in package

NOT_EVIDENCED R-351 Shutdown of cooling systems serving live loads shall not occur without an approved outage

plan.

Missing: phasing/outage plan covering cooling system shutdowns affecting live loads; no outage-plan document in package

NOT_EVIDENCED R-352 Closure of critical access routes shall not occur without an approved outage plan.

Missing: phasing plan identifying access route closures and approvals; no such narrative document in package

NOT_EVIDENCED R-353 Disabling fire protection shall not occur without an approved outage plan.

Missing: phasing plan or fire protection impairment procedure for disabling fire protection; no such document in package

NOT_EVIDENCED R-354 Disabling security systems shall not occur without an approved outage plan.

Missing: phasing plan covering disabling of security systems with approvals; no such document in package

NOT_EVIDENCED R-355 Work affecting production network pathways shall not occur without an approved outage plan.

Missing: phasing plan covering work affecting production network pathways; no such document in package

15. CONSTRUCTION PHASING AND OPERATIONAL › 15.3 Phasing Requirements

PASS R-356 The consultant shall develop a phasing strategy that identifies existing systems remaining in service.

The package is explicitly phased (Phase 1 / Phase 2 demolition and floor plans AD2.1, AD2.2, A1.1, A2.1, A2.2) and the sheet-specific notes identify existing systems remaining in service: computer room/equipment live during construction with protection requirements, raised access floor panels retained around existing data equipment scheduled to remain operational, and phase-2 notes identifying Pha

PASS R-357 The consultant shall develop a phasing strategy that identifies systems to be removed.

The package contains a full phase-based demolition strategy across all disciplines: architectural demolition plans for Phase 1 & 2 (AD1.12, AD2.1, AD2.2), mechanical demolition plans per phase (MD2.1, MD2.2), and electrical demolition plans per phase (ED2.1, ED2.2). Keynotes on each sheet explicitly identify the systems to be removed in each phase — walls/doors/raised flooring (architectural), cle

△ Tag inconsistency within the drawing set: ED2.2 keynote E023 states 'REMOVE EXISTING BRANCH CIRCUIT BACK TO PANEL '2PXH2' while the same sheet's plan tags the existing panel as '2XPH2' (E); likely a transposition typo but should be reconciled.

NOT_EVIDENCED R-358 The consultant shall develop a phasing strategy that identifies temporary systems.

Missing: phasing strategy narrative identifying temporary systems; package has phased drawings but no phasing strategy document

NOT_EVIDENCED R-359 The consultant shall develop a phasing strategy that identifies cutover points.

Missing: phasing strategy identifying cutover points; no phasing narrative document in package

NOT_EVIDENCED R-360 The consultant shall develop a phasing strategy that identifies outage windows.

Missing: phasing strategy identifying planned outage windows; no phasing narrative document in package

NOT_EVIDENCED R-361 The consultant shall develop a phasing strategy that identifies testing requirements.

Missing: phasing strategy identifying testing requirements per phase/cutover; no phasing narrative document in package

NOT_EVIDENCED R-362 The consultant shall develop a phasing strategy that identifies rollback plans.

Missing: phasing strategy with rollback plans for failed cutovers; no phasing narrative document in package

15. CONSTRUCTION PHASING AND OPERATIONAL › 15.4 Temporary Power

PARTIAL R-363 Where required, temporary power systems shall be designed to support critical loads.

Temporary power provisions exist: a Trystar 300A temporary generator connection box, 'TEMP GENERATOR CAMLOCKS', and a new 'LS' load bank/temp gen connection cabinet (LSCC) are shown on the one-line. However no load analysis demonstrates the temporary source capacity covers critical loads, and the temporary system is a connection provision rather than a designed temporary distribution sized for cri

PASS R-364 Where required, temporary power systems shall be designed to include appropriate protection.

The one-line shows protective devices at the temporary power connection points: the existing load bank connection cabinet has an integral 100/3 breaker, a 100A fusible disconnect and lockable CB serve the temp gen/load bank connections, and the new LSCC is shown with a 1200/3 breaker. Temporary power taps are thus protectively coordinated in the design.

NOT_EVIDENCED R-365 Where required, temporary power systems shall be designed to be monitored.

Missing: controls documentation showing monitoring of temporary power systems; no temporary-power monitoring provisions identifiable in package

NOT_EVIDENCED R-366 Where required, temporary power systems shall be designed to be removed safely after cutover.

Missing: phasing strategy or note addressing safe removal of temporary power after cutover; no such narrative in package

15. CONSTRUCTION PHASING AND OPERATIONAL › 15.5 Temporary Cooling

NOT_EVIDENCED R-367 Temporary cooling shall be provided where existing cooling capacity is affected.

Missing: plan or phasing document showing temporary cooling provision; no temporary cooling documentation in package

15. CONSTRUCTION PHASING AND OPERATIONAL › 15.6 Dust and Cleanliness

PASS R-368 Construction shall include dust containment.

Demolition notes on both architectural demolition phases, the mechanical cover sheet, and the electrical cover sheet direct the contractor to employ physical isolation, filtration, or vacuum means to maintain a clean environment when working in and adjacent to the live computer room — these are dust containment directives applicable during construction.

NOT_EVIDENCED R-369 Construction shall include negative air where required.

The cleanliness notes require physical isolation, filtration, or vacuum means but do not require negative air machines or negative-pressure containment. Whether negative air containment is 'required for the work area' is not established, and no negative air implementation appears in these pages.

NOT_EVIDENCED R-370 Construction shall include HEPA filtration where required.

No reference to HEPA filtration appears anywhere in the provided pages; the notes call only for unspecified 'filtration or vacuum means.' Whether HEPA filtration is required is not established and no HEPA implementation is shown.

NOT_EVIDENCED R-371 Construction shall include daily cleaning.

No note or specification requires daily cleaning of work areas. The only daily requirement found is limited to removing rags and waste from paint storage areas, which is a fire-safety/housekeeping provision for painting materials, not daily cleaning of construction work areas.

PASS R-372 Construction shall include protection of live equipment.

Both demolition phases and the M/E cover sheets carry directive notes requiring the contractor to protect existing live computer equipment, maintain cleanliness, and use physical isolation/filtration/vacuum means; the Phase 1 plan additionally directs retention of raised floor panels around data equipment that remains in place and operational. These are binding contract directives implementing protection of live equipment.

15. CONSTRUCTION PHASING AND OPERATIONAL › 15.7 Noise and Vibration

PASS R-373 Construction activities shall be planned so as to minimize impact on ongoing operations and on sensitive equipment.

Multiple directive notes require planning work to minimize shutdowns and impacts on the live environment: mechanical notes require minimizing and coordinating shutdowns with the Owner, and electrical notes require maintaining power to existing areas with outages coordinated to the Owner's schedule, plus protection of sensitive live computer equipment.

16. OUTAGE PLANNING REQUIREMENTS

NOT_EVIDENCED R-374 For every planned outage, the design team shall support development of a Method of Procedure (MOP).

Missing: Method of Procedure (MOP) documents for planned outages; no outage support documentation in package

NOT_EVIDENCED R-375 For every planned outage, the design team shall support development of a Sequence of Operations (SOO).

Missing: Sequence of Operations (SOO) documents for planned outages; no outage support documentation in package

NOT_EVIDENCED R-376 For every planned outage, the design team shall support development of a risk assessment.

Missing: risk assessments for planned outages; no outage support documentation in package

NOT_EVIDENCED R-377 For every planned outage, the design team shall support development of an affected equipment list.

Missing: affected equipment lists per planned outage; no outage support documentation in package

NOT_EVIDENCED R-378 For every planned outage, the design team shall support development of an affected loads list.

Missing: affected loads lists per planned outage; no outage support documentation in package

NOT_EVIDENCED R-379 For every planned outage, the design team shall support development of temporary measures.

Missing: documented temporary measures per planned outage; no outage support documentation in package

NOT_EVIDENCED R-380 For every planned outage, the design team shall support development of a rollback plan.

Missing: rollback plans per planned outage; no outage support documentation in package

NOT_EVIDENCED R-381 For every planned outage, the design team shall support development of a communications plan.

Missing: communications plans per planned outage; no outage support documentation in package

NOT_EVIDENCED R-382 For every planned outage, the design team shall support development of a testing plan.

Missing: testing plans per planned outage; no outage support documentation in package

NOT_EVIDENCED R-383 No design shall rely on an outage unless that outage has been explicitly approved by the Owner.

Missing: design basis statement or documented Owner approvals of relied-upon outages; no such documentation in package

17. COMMISSIONING REQUIREMENTS › 17.1 General

PASS R-384 Commissioning shall be incorporated into the design from the beginning of the project.

Commissioning is incorporated into the contract documents through a dedicated specification section, defined commissioning-plan requirements, and use of the OPR and BoD to develop that plan. The Contractor must also coordinate commissioning activities with the construction schedule, demonstrating integration into project planning and execution.

17. COMMISSIONING REQUIREMENTS › 17.2 Required Testing

NOT_EVIDENCED R-385 The project shall include Factory Acceptance Testing (FAT) where applicable.

The provided commissioning section contains only general commissioning requirements and does not mention Factory Acceptance Testing, FAT, factory witness testing, or factory test procedures. No FAT requirement is demonstrated on these pages.

NOT_EVIDENCED R-386 The project shall include Site Acceptance Testing (SAT) where applicable.

The section requires startup witnessing and generic commissioning test procedures, but it does not establish Site Acceptance Testing, SAT, site acceptance criteria, or SAT procedures. The generic commissioning language is not sufficient to demonstrate the specific SAT requirement.

PASS R-387 The project shall include pre-functional checklists where applicable.

The specification uses the term construction checklists, which serve as the commissioning pre-functional checklists in this section. It requires the CxA to provide project-specific checklists, the Contractor to review and complete them as work is completed, and the CxA to maintain the completed checklist log.

PARTIAL R-388 The project shall include Functional Performance Testing where applicable.

The Contractor must review and complete commissioning process test procedures, and the CxA must provide those procedures. However, the section does not identify them as Functional Performance Testing or define the systems, acceptance criteria, or test scope, so the generic test language does not clearly establish FPT.

NOT_EVIDENCED R-389 The project shall include Integrated Systems Testing (IST) where applicable.

The provided section requires commissioning generally but does not mention Integrated Systems Testing, IST, or testing interactions between multiple systems. Generic commissioning test procedures do not demonstrate an IST requirement.

NOT_EVIDENCED R-390 The project shall include load bank testing where applicable.

The commissioning section does not mention load banks, load bank testing, test duration, load levels, or acceptance criteria. No load-bank testing requirement is demonstrated in the provided pages.

NOT_EVIDENCED R-391 The project shall include generator testing where applicable.

The provided pages do not identify a generator or establish generator testing requirements, test procedures, load levels, or acceptance criteria. The available evidence therefore does not demonstrate either applicability of the condition or implementation of generator testing.

NOT_EVIDENCED R-392 The project shall include UPS testing where applicable.

The provided pages do not identify a UPS system or establish UPS testing requirements, test procedures, operating modes, or acceptance criteria. The available evidence does not demonstrate either applicability of the condition or implementation of UPS testing.

NOT_EVIDENCED R-393 The project shall include battery testing where applicable.

The provided pages do not identify a battery system or establish battery testing requirements, discharge testing, capacity criteria, or acceptance procedures. The available evidence does not demonstrate either applicability of the condition or implementation of battery testing.

NOT_EVIDENCED R-394 The project shall include cooling failure testing where applicable.

The two provided pages (Section 01 19 13 General Commissioning Requirements) define commissioning roles, responsibilities, and deliverables but contain no requirement for cooling failure testing. Test procedures are referenced generically ('commissioning process test procedures') with no cooling-specific failure scenario content.

PARTIAL R-395 The project shall include BMS alarm testing where applicable.

A BMS is included, so the condition applies, and BMS alarm functions are implemented in the M5.1 sequences (pump failure alarm, chilled-water-down alarm to the data hall management group, CRAC general alarm point). Section 01 19 13 requires commissioning test procedures generally, but no provided page explicitly requires testing of BMS alarms, so alarm testing specifically is not fully evidenced.

NOT_EVIDENCED R-396 The project shall include fire alarm testing where applicable.

The provided pages contain no mention of fire alarm systems or fire alarm testing requirements. The commissioning section is generic and includes no system-specific testing content for fire alarm.

NOT_EVIDENCED R-397 The project shall include security testing where applicable.

No security system testing requirements appear anywhere in the provided commissioning section pages; the section addresses only general commissioning process organization and documentation.

17. COMMISSIONING REQUIREMENTS › 17.3 Integrated Systems Testing

NOT_EVIDENCED R-398 Integrated Systems Testing shall demonstrate response to utility failure.

Missing: IST script/procedure with utility failure scenario; commissioning spec may require IST but no test scripts are in the package

NOT_EVIDENCED R-399 Integrated Systems Testing shall demonstrate generator start and loading.

Missing: IST script/procedure with generator start/loading scenario; no test scripts in package

NOT_EVIDENCED R-400 Integrated Systems Testing shall demonstrate UPS transfer.

Missing: IST script/procedure with UPS transfer scenario; no test scripts in package

NOT_EVIDENCED R-401 Integrated Systems Testing shall demonstrate cooling response.

Integrated Systems Testing is not mentioned on either provided page; there is no IST script or procedure, and therefore no cooling-response scenario is demonstrated. Whether IST is even included in the project cannot be confirmed from these pages.

NOT_EVIDENCED R-402 Integrated Systems Testing shall demonstrate failure of one major component.

No Integrated Systems Testing script or major-component-failure scenario appears in the provided pages; the commissioning section is limited to team roles, checklists, and test-procedure logistics.

NOT_EVIDENCED R-403 Integrated Systems Testing shall demonstrate maintenance isolation.

No IST procedure including a maintenance isolation scenario is present on the provided pages; maintenance isolation is not mentioned anywhere in the commissioning section text.

NOT_EVIDENCED R-404 Integrated Systems Testing shall demonstrate alarm propagation.

The provided pages contain no IST script and no requirement to demonstrate alarm propagation between systems; alarm propagation is not addressed in the commissioning section.

NOT_EVIDENCED R-405 Integrated Systems Testing shall demonstrate recovery to normal operation.

No Integrated Systems Testing procedure demonstrating recovery to normal operation is evidenced on the provided pages; recovery scenarios are not mentioned.

17. COMMISSIONING REQUIREMENTS › 17.4 Black Building Test

NOT_EVIDENCED R-406 A full black building test shall be planned and executed after all systems are commissioned, where required by the Owner.

No black building test plan or scheduling requirement appears in the provided commissioning pages, and no Owner requirement for such a test is referenced.

17. COMMISSIONING REQUIREMENTS › 17.5 Training

PARTIAL R-407 The consultant and contractors shall provide training for Operations personnel covering normal operation.

Training is acknowledged: the BoD is to be used 'in developing the commissioning plan, systems manual, and operation and maintenance training plan,' and CxA verification includes 'training.' However, no training plan, specification section, or content requirement for normal-operation training of Operations personnel is provided — the actual training scope is deferred to a plan to be developed late

NOT_EVIDENCED R-408 The consultant and contractors shall provide training for Operations personnel covering emergency operation.

The provided pages mention an 'operation and maintenance training plan' only in passing; emergency operation training is not mentioned anywhere, and no training specification content exists on these pages.

PARTIAL R-409 The consultant and contractors shall provide training for Operations personnel covering maintenance procedures.

An 'operation and maintenance training plan' is referenced as something to be developed from the BoD, acknowledging maintenance training in principle. But no training plan content, schedule, or specification requirement for maintenance-procedures training of Operations personnel is included in these pages.

NOT_EVIDENCED R-410 The consultant and contractors shall provide training for Operations personnel covering alarm response.

The provided pages contain no training requirement addressing alarm response for Operations personnel. The commissioning specification references an 'operation and maintenance training plan' generically, and sheet E6.3 requires Owner training only for the lighting control system; neither addresses alarm response.

PARTIAL R-411 The consultant and contractors shall provide training for Operations personnel covering BMS/DCIM operation.

Training is acknowledged in the commissioning specification (an operation and maintenance training plan is to be developed, and the CxA verifies training), and the project includes a BMS with extensive sequences on M5.1. However, no provided page requires training specifically covering BMS/DCIM operation; the only explicit training directive is for the lighting control system on E6.3.

NOT_EVIDENCED R-412 The consultant and contractors shall provide training for Operations personnel covering warranty requirements.

No mention of warranty requirements training appears in any provided page. The training references found (generic O&M training plan in Section 01 19 13 and lighting control training on E6.3) do not address warranty requirements.

18. DELIVERABLES REQUIRED FROM THE CONSULTING › 18.1 Design Deliverables

NOT_EVIDENCED R-413 The consulting team shall provide an existing conditions report.

No existing conditions report document in the package (bid drawings and addenda only).

NOT_EVIDENCED R-414 The consulting team shall provide a Basis of Design report.

No Basis of Design report in the package.

NOT_EVIDENCED R-415 The consulting team shall provide a schematic design package.

No schematic design package in the package (only bid/construction-phase drawings).

NOT_EVIDENCED R-416 The consulting team shall provide a design development package.

No design development package in the package.

PASS R-417 The consulting team shall provide construction documents.

The deliverable includes a full construction (bid) document set: a sealed cover sheet with Index of Drawings spanning life safety, architectural, mechanical, electrical, and telecom disciplines, issued as Bid Documents August 8, 2025, plus Addendum #4 revisions.

PASS R-418 The consulting team shall provide specifications.

Project specifications are included in the design deliverables: drawing sheet AG0.0 is a full Architectural Specifications sheet (013300 Submittals, 079200 Joint Sealants, 078413 Penetration Firestopping, 096900 Access Flooring, etc.), and the addendum includes specification Section 01 19 13 General Commissioning Requirements.

NOT_EVIDENCED R-419 The consulting team shall provide a cost estimate at each design stage.

No cost estimate document in the package.

PASS R-420 The consulting team shall provide a construction phasing plan.

The drawing set is organized around a two-phase construction sequence: the index lists separate Phase 1 and Phase 2 demolition and new-work plans across disciplines, and the one-line carries explicit phasing directives (e.g., Phase 1 RDC1 removal, Phase 2 RDC2/RDC3 removal, PDU-A2/B2 installed in Phase 2, UPS cutover sequencing note), constituting the construction phasing plan.

NOT_EVIDENCED R-421 The consulting team shall provide outage support documentation.

No outage support documentation in the package.

NOT_EVIDENCED R-422 The consulting team shall provide commissioning support documentation.

No commissioning support documentation in the package (only the commissioning requirements spec section, which is a requirement, not support documentation).

18. DELIVERABLES REQUIRED FROM THE CONSULTING › 18.2 Drawings

PASS R-423 The drawing package shall include site plans.

The package includes a site plan sheet (M3.1, Partial Site Plan - Generator Gas Piping - Phase 1) showing the gas service routing, generator location, and site utilities.

PASS R-424 The drawing package shall include floor plans.

The drawing package includes multiple floor plan sheets: partial first floor plan (A1.1), second floor plans for Phase 1 and Phase 2 (A2.1, A2.2), plus demolition plans (AD2.1, AD2.2).

NOT_EVIDENCED R-425 The drawing package shall include reflected ceiling plans where applicable.

No reflected ceiling plan sheet exists anywhere in the drawing set or addenda.

PASS R-426 The drawing package shall include equipment layouts.

The package contains multiple equipment layout drawings: architectural floor plans (A2.1/A2.2), mechanical plans laying out CRAH/CRAC/IRC units (M1.5/M1.6), enlarged computer room power plans laying out racks and RXV panelboards (E2.3/E2.4), and telecommunications plans laying out rack rows (T1.1/T1.2), plus rack elevations in Addendum 001.

PASS R-427 The drawing package shall include electrical one-lines.

The package includes a dedicated electrical one-line diagram sheet (E5.1, Electrical One-Line Diagram), present both in the bid set and as revised in Addendum #4, and listed in the Index of Drawings.

PASS R-428 The drawing package shall include riser diagrams.

Sheet M4.1 is dedicated to riser diagrams and contains two: a chilled water riser for the data room layout (Phase 1 and Phase 2) and a chilled water riser for building distribution, satisfying the riser-diagram deliverable.

PASS R-429 The drawing package shall include panel schedules.

The package includes dedicated panel schedule sheets: E7.1 'ELECTRICAL SCHEDULES - PHASE 1' and E7.2 'ELECTRICAL SCHEDULES - PHASE 2', each containing multiple RXV PANEL SCHEDULE tables (RX-A11 through RX-B24) with circuit descriptions, breaker ratings, and poles. The deliverable requirement is satisfied.

PASS R-430 The drawing package shall include mechanical plans.

The package contains multiple dedicated mechanical plan sheets: M1.1 partial basement mechanical plan, M1.2 first floor mechanical plans, M1.3/M1.4 second floor underfloor mechanical piping plans, and M1.5/M1.6 second floor mechanical plans for Phases 1 and 2, plus M2.1/M2.2 fire protection and leak detection plans. Mechanical plans are clearly present in the drawing set.

PASS R-431 The drawing package shall include piping diagrams.

Sheet M4.1 'MECHANICAL RISER DIAGRAMS' is present in the package and contains two piping diagrams: 'CHILLED WATER RISER DIAGRAM - DATA ROOM LAYOUT' and 'CHILLED WATER RISER DIAGRAM - BUILDING DISTRIBUTION', with pipe sizes, GPM flows, valves, pumps, and accessories shown.

PASS R-432 The drawing package shall include controls diagrams.

Sheet M5.1 contains multiple controls diagrams: chilled water pump control diagram, UPS CRAC unit controls diagram, in-row cooling unit controls diagram, existing/relocated CRAC units controls diagram, MNR room CRAC unit controls diagram, and a generator BMS interface diagram, each with sequences of operation and points lists.

PASS R-433 The drawing package shall include fire protection plans.

The package includes dedicated fire protection plan sheets: M2.1 and M2.2 are titled 'SECOND FLOOR PLAN - FIRE PROT. & LEAK DETECTION' for Phase 1 and Phase 2, present in both the base drawing set and Addendum #3, and E4.1/E4.2 special systems plans show the associated detection and releasing devices.

PARTIAL R-434 The drawing package shall include security plans.

The package includes E4.1/E4.2 'SPECIAL SYSTEMS' floor plans, which carry the security scope only as keynote E321 providing conduit/J-box infrastructure for future security camera cabling, with camera locations deferred to coordination with UNL Police. No dedicated security plan sheet and no actual camera/device layout are shown, so security planning is acknowledged and roughed-in but not fully do

PASS R-435 The drawing package shall include details.

The package contains multiple dedicated detail sheets across disciplines: architectural section details (A4.0), mechanical details (M5.1) and mechanical schedules & details (M5.2), and three electrical details sheets (E6.1, E6.2, E6.3). Detail content (connection details, control diagrams, grounding details, rough-in details) is present throughout.

PASS R-436 The drawing package shall include sections.

Sheet A4.0 includes a drawn SECTION DETAIL (A4, 1/4" = 1'-0") showing the raised access floor ramp, handrails, solid-surface cap and cage-door assembly, satisfying the deliverable requirement that the package include sections. Sheet M5.1 additionally provides section-type connection details for cooling equipment.

PASS R-437 The drawing package shall include schedules.

The drawing package contains multiple dedicated schedule sheets across disciplines: electrical panel schedules (E7.1 Phase 1, E7.2 Phase 2), luminaire and mechanical equipment connection schedules (E7.3), door and room finish schedules (A4.0), and mechanical pump/VFD/piping insulation schedules (M5.2), plus a feeder schedule on the one-line sheet (E5.1). The deliverable requirement for schedules i

18. DELIVERABLES REQUIRED FROM THE CONSULTING › 18.3 BIM Requirements

NOT_EVIDENCED R-438 The consultant shall provide BIM models suitable for use in interdisciplinary coordination.

No BIM model files or exports in the package (PDF drawings/addenda only).

NOT_EVIDENCED R-439 The consultant shall provide BIM models suitable for clash detection.

No BIM model or clash detection report/export in the package.

NOT_EVIDENCED R-440 The consultant shall provide BIM models suitable for construction support.

No BIM model in the package.

NOT_EVIDENCED R-441 The consultant shall provide BIM models suitable for asset handover.

No BIM model or COBie/asset data export in the package.

NOT_EVIDENCED R-442 The BIM model shall include accurate equipment tags.

No BIM model in the package; equipment tag parameters cannot be verified from PDF drawings alone.

NOT_EVIDENCED R-443 The BIM model shall include key asset information.

No BIM model in the package; asset information fields cannot be verified.

18. DELIVERABLES REQUIRED FROM THE CONSULTING › 18.4 As-Built Deliverables

NOT_EVIDENCED R-444 Record drawings shall be provided at project completion.

No record/as-built drawing set in the package (bid documents only).

NOT_EVIDENCED R-445 An updated BIM model shall be provided at project completion.

No final/updated BIM model in the package.

NOT_EVIDENCED R-446 An asset register shall be provided at project completion.

No asset register document in the package.

NOT_EVIDENCED R-447 O&M manuals shall be provided at project completion.

No O&M manuals in the package.

NOT_EVIDENCED R-448 Test reports shall be provided at project completion.

No test reports in the package.

NOT_EVIDENCED R-449 Commissioning reports shall be provided at project completion.

No commissioning reports in the package.

NOT_EVIDENCED R-450 Training records shall be provided at project completion.

No training records in the package.

NOT_EVIDENCED R-451 Warranty information shall be provided at project completion.

No compiled warranty documentation in the package.

19. ACCEPTANCE CRITERIA

NOT_EVIDENCED R-452 The project shall not be accepted until all systems are installed in accordance with the approved documents.

No record drawings demonstrating installed conditions in the package.

NOT_EVIDENCED R-453 The project shall not be accepted until all required tests are completed successfully.

No test reports in the package.

NOT_EVIDENCED R-454 The project shall not be accepted until all critical alarms are verified.

No test/commissioning records verifying alarms in the package.

NOT_EVIDENCED R-455 The project shall not be accepted until all redundancy and maintainability requirements are demonstrated.

No commissioning/test records demonstrating redundancy or maintainability in the package.

NOT_EVIDENCED R-456 The project shall not be accepted until all deficiencies are resolved or formally accepted.

No deficiency/punch list document in the package.

NOT_EVIDENCED R-457 The project shall not be accepted until all documentation is delivered and approved.

No documentation transmittal/approval records in the package.

NOT_EVIDENCED R-458 The project shall not be accepted until operations personnel have completed training.

No training completion records in the package.

20. REQUIRED DESIGN REVIEW GATES

NOT_EVIDENCED R-459 The consultant shall participate in a formal design review at 30% design.

No design review minutes/attendance records in the package.

NOT_EVIDENCED R-460 The consultant shall participate in a formal design review at 60% design.

No design review minutes/attendance records in the package.

NOT_EVIDENCED R-461 The consultant shall participate in a formal design review at 90% design.

No design review minutes/attendance records in the package.

NOT_EVIDENCED R-462 The consultant shall participate in a formal design review at 100% / Issued for Construction.

No design review minutes/attendance records in the package.

NOT_EVIDENCED R-463 Each formal design review shall address compliance with this DID.

No design review minutes/reports in the package.

NOT_EVIDENCED R-464 Each formal design review shall address existing conditions verification.

No design review minutes/reports in the package.

NOT_EVIDENCED R-465 Each formal design review shall address reliability.

No design review minutes/reports in the package.

NOT_EVIDENCED R-466 Each formal design review shall address maintainability.

No design review minutes/reports in the package.

NOT_EVIDENCED R-467 Each formal design review shall address constructability.

No design review minutes/reports in the package.

NOT_EVIDENCED R-468 Each formal design review shall address phasing.

No design review minutes/reports in the package.

NOT_EVIDENCED R-469 Each formal design review shall address cost.

No design review minutes/reports in the package.

NOT_EVIDENCED R-470 Each formal design review shall address schedule.

No design review minutes/reports in the package.

NOT_EVIDENCED R-471 Each formal design review shall address commissioning.

No design review minutes/reports in the package.

NOT_EVIDENCED R-472 Each formal design review shall address documentation.

No design review minutes/reports in the package.

NOT_EVIDENCED R-473 The room data sheet for each critical room shall state the room name.

No room data sheets in the package (only a room finish schedule on A4.0, which does not carry room data sheet content).

NOT_EVIDENCED R-474 The room data sheet for each critical room shall state the room number.

No room data sheets in the package.

NOT_EVIDENCED R-475 The room data sheet for each critical room shall state the room's function.

No room data sheets in the package.

NOT_EVIDENCED R-476 The room data sheet for each critical room shall state the equipment served by the room.

No room data sheets in the package.

NOT_EVIDENCED R-477 The room data sheet for each critical room shall state the environmental requirements for the room.

No room data sheets in the package.

NOT_EVIDENCED R-478 The room data sheet for each critical room shall state the power requirements for the room.

No room data sheets in the package.

NOT_EVIDENCED R-479 The room data sheet for each critical room shall state the cooling requirements for the room.

No room data sheets in the package.

NOT_EVIDENCED R-480 The room data sheet for each critical room shall state the fire protection provisions for the room.

No room data sheets in the package.

NOT_EVIDENCED R-481 The room data sheet for each critical room shall state the security level of the room.

No room data sheets in the package.

NOT_EVIDENCED R-482 The room data sheet for each critical room shall state the access requirements for the room.

No room data sheets in the package.

NOT_EVIDENCED R-483 The room data sheet for each critical room shall state the floor loading for the room.

No room data sheets in the package.

NOT_EVIDENCED R-484 The room data sheet for each critical room shall state the maintenance clearances for the room.

No room data sheets in the package.

APPENDIX B – SAMPLE EQUIPMENT DATA REQUIREMENTS

PARTIAL R-485 The equipment data for each major asset shall include the asset tag.

The pump and VFD schedules on M5.2 include plan tags (CHWP-1 & 2, VFD-CHWP-1 & 2), and the E5.1 one-line includes an equipment legend and plan tags for electrical assets (UPS-A, UPS-B, GEN-B, etc.). However, no equipment data schedules exist on these pages for the other major assets (in-row cooling units, CRAC units, UPS modules, generators), so asset tags within equipment data are only demonstrated.

△ Equipment tag inconsistency within the drawing set: the E5.1 one-line (page 42) lists an in-row unit as "IRC-1-B", while the mechanical sheets use the defined nomenclature "IRC-X-YZ" (e.g., "IRC-1-1B" on M5.2 page 27). Contractor cannot confirm whether IRC-1-B is the same asset as IRC-1-1B without a

PARTIAL R-486 The equipment data for each major asset shall include the manufacturer.

Manufacturer data is present only for the chilled water pumps (B&G) in the M5.2 pump schedule. The VFD schedule has no manufacturer field populated, and there are no equipment schedules providing manufacturer for CRAC units, in-row cooling units, UPS systems, or generators (the VERTIV and Tristar names appear only in installation notes/details, not as equipment data).

PARTIAL R-487 The equipment data for each major asset shall include the model.

A model number is provided only for the pumps (B&G e-80 3x3x9.5C). No model data is scheduled for the VFDs, CRAC units, in-row cooling units, UPS modules, or generators; the only other model reference is a note for a temporary generator connection box, which is not a major asset schedule entry.

PARTIAL R-488 The equipment data for each major asset shall include the capacity.

Capacity data is scheduled for the pumps (flow 262.5 GPM, total head 90 ft, 10 HP). Capacities for the UPS (400KVA) and generator (175KW) appear as one-line annotations rather than schedule data, and no capacity data is provided anywhere for the CRAC or in-row cooling units, so capacity in equipment data is demonstrated only for pumps.

PARTIAL R-489 The equipment data for each major asset shall include the voltage.

Voltage is included in the pump schedule (460V, 3-phase) and VFD schedule (460V). No equipment schedule provides voltage for the other major assets (CRAC, in-row units, UPS, generators); voltages for those appear only as one-line diagram annotations, not equipment data.

PARTIAL R-490 The equipment data for each major asset shall include the redundancy role.

Redundancy roles are described in the sequences of operation — lead/lag operation for the chilled water pumps and emergency backup role for the existing/relocated CRAC units — but no equipment schedule or data sheet identifies a redundancy role field for each major asset, and roles for the UPS systems, generators, and in-row units are not documented as equipment data.

PARTIAL R-491 The equipment data for each major asset shall include the location.

The only location entry in the equipment schedules is the VFD schedule's LOCATION field, which reads "SEE PLANS" — a deferral rather than location data. The pump schedule has no location field (only SERVES = chilled water), and no other major asset has scheduled location data.

NOT_EVIDENCED R-492 The equipment data for each major asset shall include the weight.

The pump and VFD schedules on M5.2 include no weight column or weight values for any equipment, and no other equipment data sheet with weights appears on these pages.

NOT_EVIDENCED R-493 The equipment data for each major asset shall include the heat rejection.

No heat rejection data is included for any major asset; the schedules on M5.2 (pump, VFD, piping insulation) contain no heat rejection fields and no cooling equipment schedule with heat rejection values is present on these pages.

PARTIAL R-494 The equipment data for each major asset shall include the controls interface.

Controls interfaces are identified for some assets: the pump schedule states the pumps are DDC-controlled, new CRAC/in-row units are noted as furnished with I-COM controls, and the generator has a Modbus RTU to BACnet interface card. However, there is no equipment data schedule identifying the controls interface for each major asset, and the interface for existing/relocated CRAC units is explicitl

△ M5.1 defers confirmation of the existing CRAC unit controls interface: "WE BELIEVE THESE HAVE BACNET INTERFACE CARDS - CONFIRM" — the interface protocol for existing units is unverified, an RFI-prone gap for BMS integration.

NOT_EVIDENCED R-495 The equipment data for each major asset shall include the warranty.

No warranty information appears in any schedule, note, or keynote on the provided pages (M5.1, M5.2, E5.1, E6.1-E6.3, E7.1, E7.2). The pump and VFD schedules contain no warranty field and nothing else references warranty terms.

NOT_EVIDENCED R-496 The equipment data for each major asset shall include the maintenance requirements.

Maintenance requirements data for assets not present on any schedule in the package (equipment schedules are limited to M5.1/ M5.2 and E5.1 equipment list, with no maintenance fields evidenced).

APPENDIX C – SAMPLE DESIGN COMPLIANCE CHECKLIST

NOT_EVIDENCED R-497 The consultant shall confirm design compliance with the project objectives.

No design compliance checklist in the package.

NOT_EVIDENCED R-498 The consultant shall confirm design compliance with the capacity requirements.

No design compliance checklist in the package.

NOT_EVIDENCED R-499 The consultant shall confirm design compliance with future expansion provisions.

No design compliance checklist in the package.

NOT_EVIDENCED R-500 The consultant shall confirm design compliance with the reliability requirements.

No design compliance checklist in the package.

NOT_EVIDENCED R-501 The consultant shall confirm design compliance with the maintainability requirements.

No design compliance checklist (or any consultant compliance-confirmation deliverable) exists in the package — only bid drawings, addenda, and one commissioning spec section.

NOT_EVIDENCED R-502 The consultant shall confirm design compliance with the electrical requirements.

Design compliance checklist with electrical confirmation entry is absent; no such deliverable document in package.

NOT_EVIDENCED R-503 The consultant shall confirm design compliance with the mechanical requirements.

Design compliance checklist with mechanical confirmation entry is absent; no such deliverable document in package.

NOT_EVIDENCED R-504 The consultant shall confirm design compliance with the fire protection requirements.

Design compliance checklist with fire protection confirmation entry is absent; no such deliverable document in package.

NOT_EVIDENCED R-505 The consultant shall confirm design compliance with the security requirements.

Design compliance checklist with security confirmation entry is absent; no such deliverable document in package.

NOT_EVIDENCED R-506 The consultant shall confirm design compliance with the controls requirements.

Design compliance checklist with controls confirmation entry is absent; no such deliverable document in package.

NOT_EVIDENCED R-507 The consultant shall confirm design compliance with the phasing requirements.

Design compliance checklist with phasing confirmation entry is absent; no such deliverable document in package.

NOT_EVIDENCED R-508 The consultant shall confirm design compliance with the commissioning requirements.

Design compliance checklist with commissioning confirmation entry is absent; no such deliverable document in package.

NOT_EVIDENCED R-509 The consultant shall confirm design compliance with the documentation requirements.

Design compliance checklist with documentation confirmation entry is absent; no such deliverable document in package.

APPENDIX D – SAMPLE OWNER “SHALL” REQUIREMENTS

PASS R-510 The design shall maintain uninterrupted operation of all live IT loads that have not been specifically approved for outage.

The E5.1 one-line flag notes establish a continuity-of-power sequence: the existing UPS must remain online and operational for the entire installation of new UPS-A/UPS-B, demolition of the existing UPS, RDCs, and cross-hatched feeders is permitted only after loads are transferred to the new system, and Phase 1/Phase 2 sequencing requires existing IT cabinet branch circuits to be transferred to new

PASS R-511 The design shall not introduce any new single point of failure affecting critical loads.

The one-line implements fully dual A/B distribution for critical IT loads: new generators/distribution panels GDP-A and GDP-B, ATS-A/ATS-B, UPS-A/UPS-B each at 400KVA with 140KVA anticipated load, static switches STS-A/STS-B, dual maintenance bypasses, PDUs PDU-A1/A2 and PDU-B1/B2, and paired RX-Axx/RX-Bxx rack panels. Loss of either the A or B path leaves the critical load served, so no new singl

PASS R-512 The design shall allow major equipment to be isolated for maintenance without interrupting adjacent critical systems.

Major equipment can be isolated without interrupting adjacent critical systems: electrically, the Kirk-key interlocked MBB/MIB/BIB maintenance-bypass arrangement lets either UPS be fully isolated while the load stays on bypass; mechanically, the chilled-water riser shows isolation valves at each CRAH/IRC branch, a 4-inch bypass, check valves, and lead/lag pumps CHWP-1/CHWP-2 so one pump can be ser

PASS R-513 The design shall provide monitoring and alarming adequate to cover all critical infrastructure.

M5.1 provides point lists and sequences covering critical cooling infrastructure (chilled water pump status/enable/speed, differential pressure, supply/return temps with alarm to the data hall management group; CRAC and in-row unit status, alarm, temperature and humidity points) and critical power (generator BMS interface with fuel level, coolant temp, oil pressure, battery voltage, alarm status,

PASS R-514 The design shall include construction phasing where required.

The design is explicitly phased: demolition and new-work sheets are split into Phase 1 and Phase 2 across both architectural (AD1.12, AD2.1, AD2.2) and electrical (ED2.1, ED2.2, E2.1, E2.2) disciplines, with plans graphically delineating each phase's extents. Sequencing is narrated in keynotes that coordinate phasing with maintenance of critical operations: ED2.2 keynote E015 requires the existing

NOT_EVIDENCED R-515 The design shall include temporary systems where required.

No temporary systems evidence anywhere in the package: no temporary power/cooling distribution shown on the one-line or phased plans, and no temporary equipment plans or notes. Addendum 02 only designates a staging area (inactive library space), not temporary systems design.

PARTIAL R-516 The design shall support comprehensive commissioning and integrated systems testing.

The design supports commissioning through a dedicated General Commissioning Requirements specification (commissioning plan, construction checklists, test procedures, issues log) and through detailed, testable sequences of operation with setpoints, alarms, and points lists on M5.1. However, integrated systems testing of critical infrastructure is not mentioned anywhere, and the commissioning plan i

△ Section 01 19 13 states 'Owner will engage Tune Facilities under a separate contract' for the CxA and assigns the commissioning plan to the CxA, so the design package itself contains no commissioning plan and no integrated systems testing procedure; integrated systems testing of critical infrastru

PARTIAL R-517 The design shall provide complete and accurate record documentation at project completion.

The only record documentation requirement in the provided pages is E6.3 General Note D, requiring a record drawing set limited to lighting control device locations and controlled luminaires. No contract requirement for turnover of a complete and accurate record documentation package at completion is present in these pages.

addendum

addendum no.	01
date:	09/04/2025
bid date:	09/16/2025, 2:00pm
project name:	UNL NE Hall Data Center Upgrade
NU Project Number:	14285
MEI project no:	24518
Bid Invitation Number:	Doc1672144163

This addendum is hereby made a part of the contract documents to the same extent as if it were originally included therein. Contract documents shall be considered modified or revised as hereinafter described.

general

1. Refer to attached pre-bid conference attendance roster.
2. The Final Addendum will be moved to 9/9 at 2:00 PM and the Bid Date will be moved to 9/16 at 2:00 PM.

electrical items

1. Add attached specification section 01 19 13 – General Commissioning Requirements.
2. Specification 27 11 19 – Blocks and Patch Panels:
 - a. Part 2.1 A, add the following: “25 year manufacturer performance warranty for fiber optic cabling, including pre-terminated cabling, is required.”
3. Sheet ED2.1 – PARTIAL SECOND FLOOR PLAN – ELECTRICAL DEMOLITION – PHASE 1
 - a. Add keynote E037 per attached sheet.
4. Sheet E2.1 – PARTIAL SECOND FLOOR PLAN – POWER – PHASE 1
 - a. Add keynotes E234 and E235 per attached sheet.
5. Sheet E2.1 – PARTIAL SECOND FLOOR PLAN – POWER – PHASE 1
 - a. Add keynote E234 per attached sheet.
6. Sheet E6.2 – ELECTRICAL DETAILS,
 - a. Delete reference to cable group LV#1
 - b. Cable group LV#1 – add “Belden 3G-UTP-50”
 - c. Cable group LV#2 – add “(2) Belden 3G-UTP-50”

FINDINGS ON THIS SHEET

R-007 PASS	The design shall maintain uninterrupted operation of all I
R-014 PARTIAL	The consulting team shall deliver accurate, complete, and
R-016 PARTIAL	All commissioning and integrated systems testing shall be
R-017 PARTIAL	Final as-built drawings, BIM models, asset data, O&M manua
R-035 PASS	The design scope shall include commissioning support where
R-282 PARTIAL	The design shall include blank panels and a sealing strate
R-337 PASS	The design shall define telecom room requirements.
R-384 PASS	Commissioning shall be incorporated into the design from t
R-385 NOT_EVI	The project shall include Factory Acceptance Testing (FAT)
R-386 NOT_EVI	The project shall include Site Acceptance Testing (SAT) wh
R-387 PASS	The project shall include pre-functional checklists where
R-388 PARTIAL	The project shall include Functional Performance Testing w
R-389 NOT_EVI	The project shall include Integrated Systems Testing (IST)
R-390 NOT_EVI	The project shall include load bank testing where applicab

questions from bidders

1. **Question:** There is asbestos flooring in some workspaces. Could a report and map of existing asbestos be provided?

Response: A report will be provided in a subsequent addendum. This should occur within a few days. In general, we believe tile located below raised access supports has already been abated prior to the installation of these floor assemblies, however, the floor area between supports has not all been abated. In general, we believe most of the floor area on the west half of Data 230A is already abated but the remaining area of Data 230A and much of Data 230 will require abatement.

2. **Question:** Where raised flooring is to be removed with asbestos flooring underneath, we won't be able to remove the raised floor bases directly in contact with the asbestos without disturbing the asbestos. We would only be able to remove the raised floor tiles and grid. Confirm this would be all right or if it would be more feasible to include all raised floor demo with asbestos underneath in the abatement contractor's scope?

Response: In general, we believe that most, if not all original "hot tile" was removed in areas directly beneath the locations of the raised access flooring supports, therefore we believe the existing raised access flooring can be removed by the Bidder. If there are supports that have been adhered directly to "hot tile", those supports will need to be removed by the abatement contractor. All other aspects of the raised access flooring are to be removed by the Bidder.

3. **Question:** Do you want mechanical floor grinding done after asbestos flooring abatement? On other jobs this was done to get rid of any abatement chemical residue possibly located on concrete surface to avoid warranty issues with new flooring to be installed.

Response: Yes, please provide basic mechanical floor grinding to eliminate any abatement chemical residue after abatement has been completed.

4. **Question:** Can noisy and vibration causing work such as concrete cutting and floor grinding be done during normal business hours?

Response: Yes. Coordinate type of work with the University team but the general area is not going to require special circumstances.

5. **Question:** Confirm that full removal of ceiling tiles and grid marked on demo pages will work instead of "portions"

Response: Contractor has the option to remove however much existing ceiling tile and grid they believe is necessary and most efficient for completion of the above ceiling work scheduled. Design intent is for the ceilings to be reinstalled in the same configuration with the same materials with the final appearance to be clean and uniform. No additional costs associated with ceiling removal and replacement should be sent through as a change order request during construction as costs should be factored into the final bid

6. **Question:** Was attendance at the pre-bid meeting mandatory for all sub-bidders, regardless of trade or scope or does the requirement apply only to specific trade categories or subcontractor tiers?

Response: Subcontractor attendance at the pre-bid conference is not mandatory if the

General Contractor submitting the bid was present.

7. **Question:** Note 8 on Sheet E5.1, where is the owner's storage location?

Response: At this time, the storage location is the NE Hall 2nd floor library area which is currently unused. This is not confirmed and subject to change.

8. **Question:** What is the manufacturer of the existing busway?

Response: Federal Pacific

9. **Question:** Will the electrical contractors be responsible to supply the generator or will the University be supplying this.

Response: Sheet E5.1, generator is furnished and installed by Electrical Contractor.

10. **Question:** Can we request an extension to this bid date of a week? After a site visit this morning, they have not received any clarifications on the asbestos abatement to-date, so the Owner maybe ok with an extension.

Response:

11. **Question:** Do we know when the asbestos report will be available?

Response: Asbestos report will be available in the next few days and will be in the final addendum.

12. **Question:** Will you be supplying more information about the permitting process or whom we need to reach out to for this.

Response: The University Project Manager will submit the permit application to the Build Safe department. Electrical permit will be acquired by the contractor. This will be the same process as it was in past projects.

13. **Question:** Will Tune be performing the commissioning?

Response: Specifications section 26000.1.2.C - Tune Facilities will perform commissioning.

14. **Question:** Page T2.1 has detailed backbone cabling shown for the racks in phase 1 but not phase 2. Will that be released in an addendum?

Response: Phase 2 backbone cabling is not included in this project.

15. **Question:** Will any detailed rack layouts be released?

Response: Detailed rack layouts are attached, see PDF included in this addendum.

16. **Question:** Will the contractor need to provide any blanking panels and/or shades for the racks?

Response: The owner will furnish the following containment components for each cabinet. The bidding contractor will be responsible for installing components on each cabinet:

(1) Gasketing strip between all movable rails and rack sides, Vertiv #VRA2004

- (2) 12-pack brush strips for side pass-through, Vertiv #VRA2005*
*Note – 12-pack brush strips will only be installed in 32" wide cabinets
- (2) Magnetic strips to cover top of cabinet square openings
- (1) Under-rack rubber gasket panel, 5-screw fasteners each, #10226

17. **Question:** Will UNL provide and store 100% of the racks, rack accessories, PDUs and UPS systems for the contractor to install?

Response: Yes, UNL will be procuring these items as part of a separate project. Contractor will be responsible for installing all cabinets and accessories. Equipment will be stored by UNL until time of installation.

18. **Question:** Is there a contact for Tune Facilities for commissioning questions?

Response: Jerry McNerney, Tune Facilities. (c) 402-880-1313

19. **Question:** Page E6.2, UPS Control Wiring Diagram detail E9, details cable groups. However, the cabling quantities and type are not all identified on drawings. Please provide clarification.

Response:

LV#1 – Belden 8461 or equivalent UTP

LV#2 – (2) Belden 8461 or equivalent UTP

HV#1 – Delete reference to cable group.

20. **Question:** Please confirm UNL to provide cabling for UPS Control Wiring Diagram with UPS system.

Response: Cable groups listed are furnished and installed by Electrical Contractor.

21. **Question:** Does Bidder need to submit Calendar Days to Completion for the Alternate? If so, how do we provide that information?

Response: Yes, a line for Calendar Days to Completion has been included under the alternate.

end of addendum

attendance roster

project name: UNL NE Hall Data Center Upgrade
 project no: 24518
 meeting location: Nebraska Hall
 meeting date: August 21, 2025
 subject: Pre-Bid Meeting

name	organization	phone	email
Jeff Frank	Morrissey Engineering	402-491-4144	jfrank@morrisseyengineering.com
Dobbie Olsen	Rogge General Cont.	402-441-3100	bids@rogeinc.com
Nick Collen	IES Electric Inc	402-890-7874	nick@ieselectricinc.com
Carson Jones	Kidwell, Inc.	402-499-3424	cjones@kidwellinc.com
Kalen Heister	High Plains Boiler	402-591-1088	kheister@highplainsboiler.com
Zak Edwards	High Plains Boiler	402-676-2008	zedwards@highplainsboiler.com
Ben Harris	BLUcor	402-416-1476	ben@blucor-cg.com
Craig Beebe	Beckenbauer	402-844-1014	cbeeb@beckenbauerconstruction.com
Chris Dyer	NU Procurement	402-472-6230	cdier@nebraska.edu
Rachul Voya	Hausmann Construction	402-217-4523	estimating@hausmannconstruction.com
CHRIS RESTUA	AYARS & AYARS	402-450-2517	crestua@ayarsayars.com

name	organization	phone	email
Kayla Butler	Kingery Construction	531-280-8294	Kayla@kconbuilders.com
Zachary Kuhn	National Concrete Cutting	402-631-7575	Zach@nationalconcretecutting.com
Cathy Kowalski	NJ OPCR	402-440-4144	cathykowalski@nebnsu.edu
Van Nelson	Cerris Systems	402-547-0370	vnelson@cerris.com
Justin Schulz	BIC	402-875-3522	jschulz@bicconstruction.com
Brian O'Leary	Cheer	402-432-7022	belevator@cheerconstruction.com
Patrick Forley	Tri-Net Electric	402-440-0588	jon@trinetelc.com
Tyler Castlin	BIC	402-245-7064	treathin@bicconstruction.com
Sam Garcia	Turner Construction	402-943-6125	sgarcia@tcco.com
Garret Biehl	Lueder Construction	402-201-1665	gbiehl@lueder.com
Tim Hieles	Wired Inc	402-499-9102	tim@wiredinc.com
Dylan Loeffe	Wired Inc.	(402) 840-5599	Dylan@wiredinc.com
Rob Svoboda	Paisie mech	402-8531708	rsvoboda@paisiemech.com
Jon Larnazzo	IEFlex Contracting	402-516-6472	larnazzo@ieflexcontracting.com (Buried Floor)
David Quade	Sinclair Hille	402-476-7331	dquade@sinclairhille.com
Adam Schlthausen	NJ EPCP	402-990-9375	adam.schlthausen@nebraska.edu

410 SECTION 01 19 13 – GENERAL COMMISSIONING REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract apply to this Section.
- B. OPR and BoD documentation are included by reference for information only.

1.2 SUMMARY

- A. 510 Section includes general requirements that apply to implementation of commissioning without regard to specific systems, assemblies, or components.

1.3 DEFINITIONS

- A. BoD: Basis of Design. A document that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
- B. 334 Commissioning Plan: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.
- C. CxA: Commissioning Authority.
- D. OPR: Owner's Project Requirements. A document that details the functional requirements of a project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
- E. 14 Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.

1.4 COMMISSIONING TEAM

- A. Members Appointed by Contractor(s): Individuals, each having the authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated action. The commissioning team shall consist of, but not be limited to, representatives of each Contractor, including Project superintendent and subcontractors, installers, suppliers, and specialists deemed appropriate by the CxA.
- B. Members Appointed by Owner:
 - 1. 510 CxA: The designated person, company, or entity that plans, schedules, and coordinates the commissioning team to implement the commissioning process. Owner will engage Tune Facilities under a separate contract.
 - 2. Representatives of the facility user and operation and maintenance personnel.
 - 3. Architect and engineering design professionals.

1.5 OWNER'S RESPONSIBILITIES

- A. Provide the OPR documentation to the CxA and Contractor for information and use.
- B. Assign operation and maintenance personnel and schedule them to participate in commissioning team activities.
- C. 409 Provide the BoD documentation, prepared by Design Professional and approved by Owner, to the CxA 438 and 412 Contractor for use in developing the commissioning plan, systems manual, and operation and maintenance training plan.

1.6 CONTRACTOR'S RESPONSIBILITIES

SECTION 01 19 13 – GENERAL COMMISSIONING REQUIREMENTS

- A. Contractor shall assign representatives with expertise and authority to act on its behalf and shall schedule them to participate in and perform commissioning process activities including, but not limited to, the following:
1. Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.
 2. Cooperate with the CxA for resolution of issues recorded in the Issues Log.
 3. Attend commissioning team meetings held on a monthly basis.
 4. Integrate and coordinate commissioning process activities with construction schedule.
 5. Review and accept construction checklists provided by the CxA.
 6. Complete electronic construction checklists as Work is completed and provide to the CxA.
 7. Review and accept commissioning process test procedures provided by the CxA.
 8. Complete commissioning process test procedures.

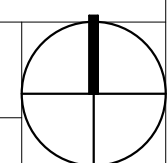
1.7 CxA'S RESPONSIBILITIES

- A. Organize and lead the commissioning team.
- B. Provide commissioning plan.
- C. Convene commissioning team meetings.
- D. Provide Project-specific construction checklists and commissioning process test procedures.
- E. Verify the execution of commissioning process activities using random sampling. The sampling rate may vary from 1 to 100 percent. Verification will include, but is not limited to, equipment submittals, construction checklists, training, operating and maintenance data, tests, and test reports to verify compliance with the OPR. When a random sample does not meet the requirement, the CxA will report the failure in the Issues Log.
- F. Prepare and maintain the Issues Log.
- G. Prepare and maintain completed construction checklist log.
- H. Witness systems, assemblies, equipment, and component startup.
- I. Compile test data, inspection reports, and certificates; include them in the systems manual and commissioning process report.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

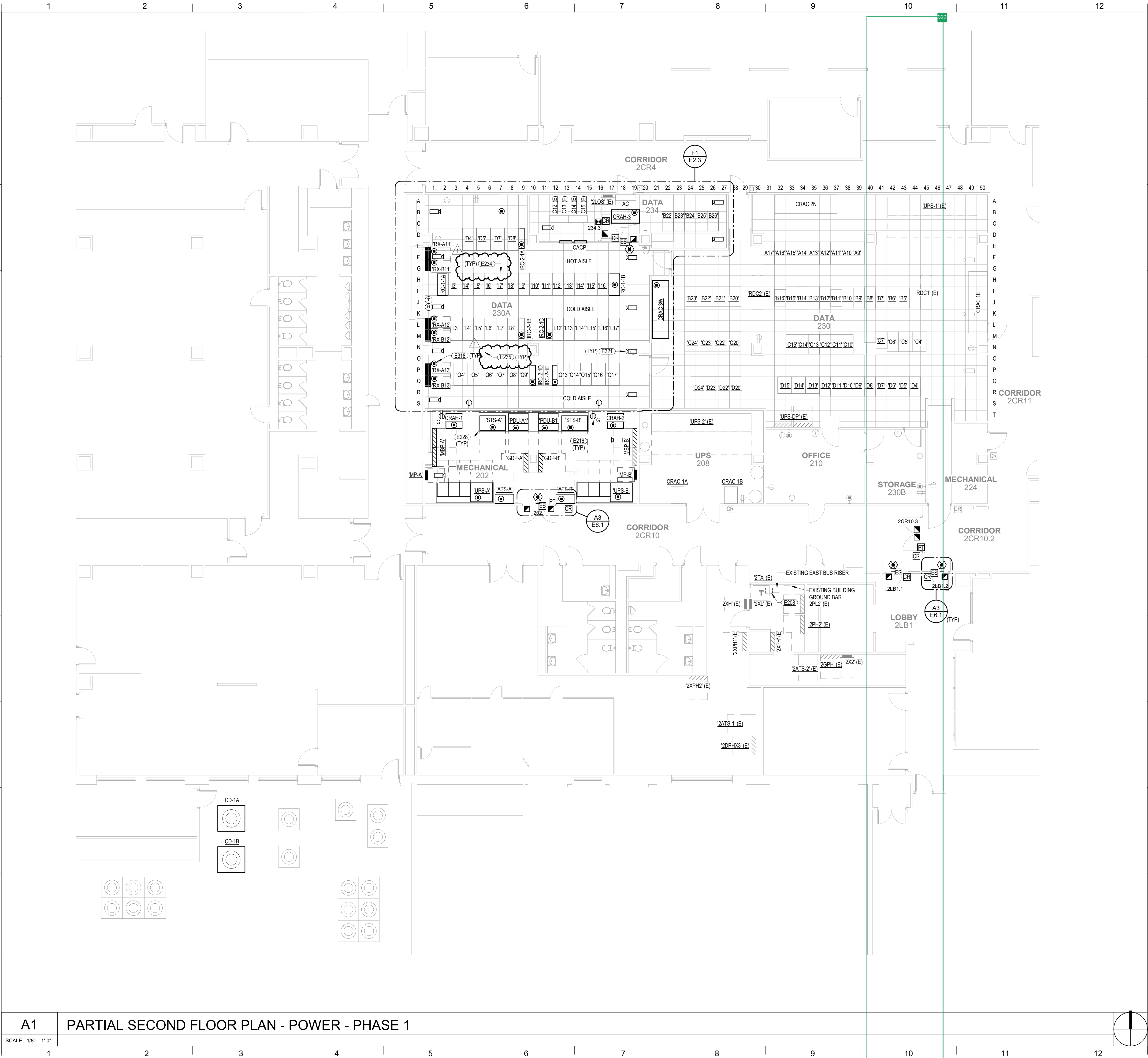
END OF SECTION



1
E037



9/4/2025 10:53:35 AM
Autodesk Docs (24030)_UNL Nebraska Hall Data Center Upgrade(24518) NE Hall DC Expansion MEI_KDS.v4



GENERAL NOTES:

1. SEE ELECTRICAL COVER SHEET E0.0 FOR ELECTRICAL GENERAL NOTES.

KEYNOTES

- E208 NEW BUSWAY TAP BOX ON THIRD FLOOR FOR ATS NORMAL FEED TO FLOOR BELOW. SEE ONE-LINE DIAGRAM.
- E216 CONNECT TO EXISTING RECEPTACLE CIRCUIT SERVING AREA.
- E228 3-1/2" EQUIPMENT CONCRETE BASE. SEE SPECIFICATIONS.
- E234 NEW IT CABINET, FURNISHED BY OWNER, SET IN PLACE BY ELECTRICAL CONTRACTOR. CABINETS SHALL BE DELIVERED TO THE SITE FULLY ASSEMBLED.
- E235 BOND NEW RAISED FLOOR PEDESTALS TO EXISTING UNDERFLOOR GROUNDING GRID IN THIS AREA PER SIGNAL REFERENCE GRID DETAIL ON SHEET E0.2.
- E318 PROVIDE 3/4" C. DROP TO MECHANICAL/ELECTRICAL EQUIPMENT FOR MONITORING WIRING. STUB CONDUIT TO NEAREST BASKET TRAY.
- E321 PROVIDE J-BOX ON CEILING AND 3/4" CONDUIT TO NEAREST BASKET TRAY TO ACCOMMODATE SECURITY CAMERA CABLING. COORDINATE CAMERA LOCATIONS WITH UNL POLICE.



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlottbauer
Campus Name: City Campus
Building Name: Nebraska Hall Data Center
Building Number: C024
Building Acronym NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

MORRISSEY ENGINEERING INC.

4940 North 118th Street
Omaha, NE 68164
P 402.491.4144
W morrisseyengineering.com

ARCHITECT OF RECORD

Consultant Project #: 24030
Certificate of Authorization #: CA-0285

SINCLAIR HILLE ARCHITECTS

700 Q Street
Lincoln, NE 68508
P 402.476.7331
W sinclairhille.com

Seal:



REVISION SCHEDULE

#	Date	Revision Description
1	09/04/2025	Addendum #1

Issue: Bid Documents

Date: August 8, 2025

Drawn by: Author

Checked by: Initials

Designer:

Project Architect: David Quade

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Sheet Title:

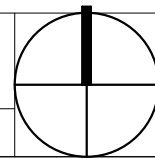
PARTIAL SECOND FLOOR PLAN - POWER - PHASE 1

Sheet Number:

E2.1

A1 PARTIAL SECOND FLOOR PLAN - POWER - PHASE 1

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



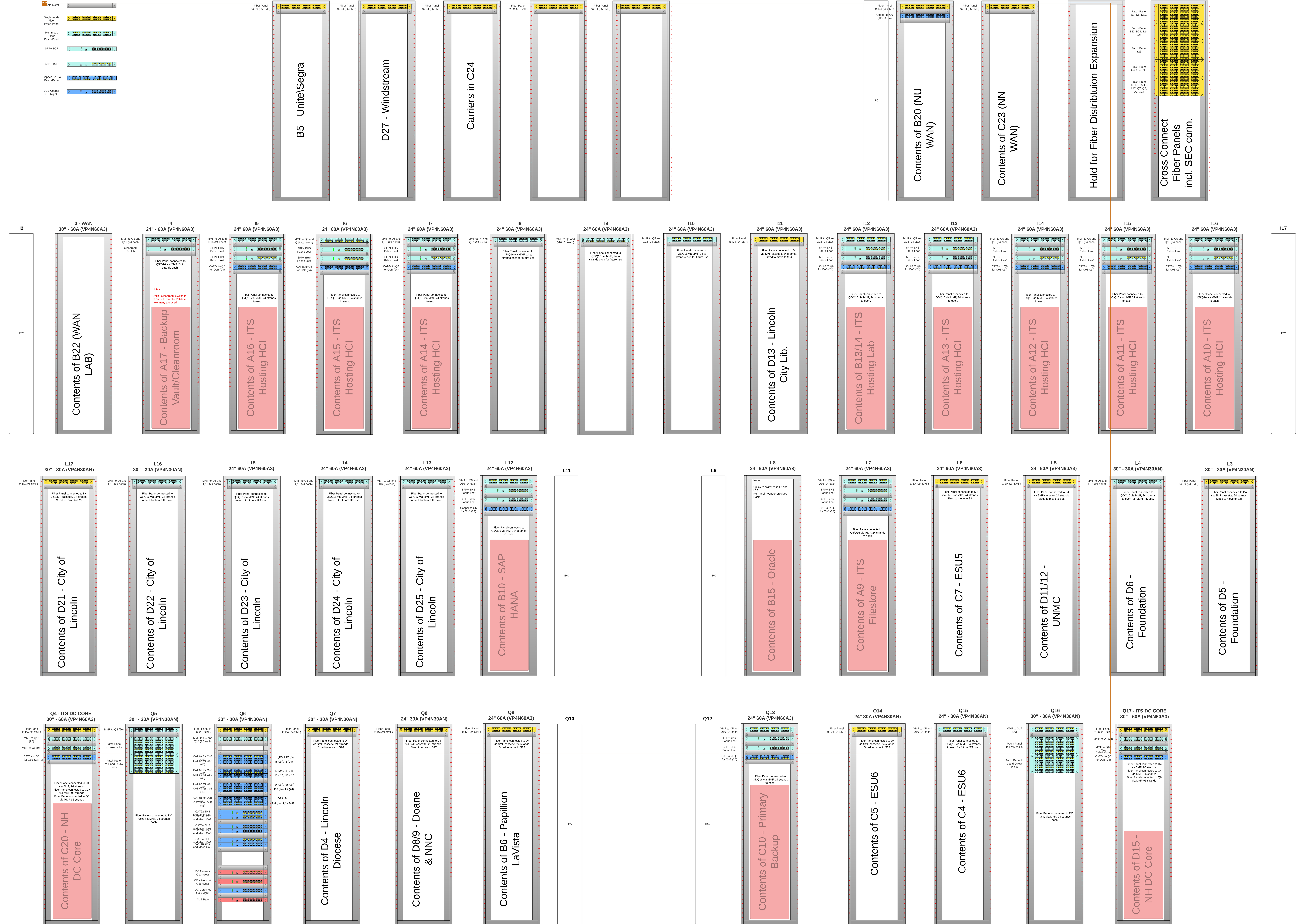
E321 PROVIDE J-BOX ON CEILING AND 3/4" CONDUIT TO
NEATERST BASKET TRAY TO ACCOMMODATE
SECURITY CAMERA CABLING. COORDINATE
CAMERA LOCATIONS WITH UNL POLICE.



E2 2

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

CARRIER RACK ELEVATIONS



ADDENDUM 2

NU Project Name: Nebraska Hall Datacenter Upgrade
NU Project Number: 14285
eBid Invitation Number: Doc1672144163

Consultant: Morrissey Engineering, Inc.
Address: 4940 N 118th St #100, Omaha, NE 68164

Date of Addendum Issuance: 9 September 2025

Date of Bid Deadline: 18 September 2025

The bid documents, dated 8 August 2025, for the above referenced project are amended by this addendum.

NOTICE: This Addendum is issued to all interested prospective bidders as an amendment to the project manual or other parts of the bidding (contract) documents for the above-named project. Reference to this Addendum must be included in the Bid proposal. The information contained herein shall be fully incorporated into the contract documents as though originally included therein. All interested parties are required to bid on all sections of the bid advertisement. If not, the bid will be deemed noncompliant. Where provisions of the following supplementary data differ from those of the original bid documents, this Addendum shall govern and take precedence. Bidders are hereby notified that they shall make any necessary adjustments in their estimates as a result of this Addendum. It will be construed that each bidder's proposal is submitted with full knowledge of all modifications and supplemental data specified herein.

Additional Information

- Item 2-1: Final Addendum Date and Bid Date Changes
Due to the need for the asbestos report for accurate bidding, the Final Addendum and Bid Dates will be pushed back again. The new Final Addendum date will be Thursday September 11th, 2025 and the Bid Date will be Thursday September 18th, 2025.
- Item 2-2: Staging Location
Materials may be staged in the inactive library space in the west half of the second floor of the building.

END OF ADDENDUM 2

addendum

addendum no. 03

date: 09/11/2025

bid date: 09/18/2025, 2:00pm

project name: UNL NE Hall Data Center Upgrade

project no: 24518

This addendum is hereby made a part of the contract documents to the same extent as if it were originally included therein. Contract documents shall be considered modified or revised as hereinafter described.

general

1. See attached asbestos survey from Bockman, Inc.

mechanical items

1. Sheet M2.1 – SECOND FLOOR PLAN – FIRE PROT. & LEAK DETECTION – PHASE 1
 - a. Revise leak detection design per attached sheet.
2. Sheet M2.2 – SECOND FLOOR PLAN – FIRE PROT. & LEAK DETECTION – PHASE 2
 - a. Revise leak detection design per attached sheet.

electrical items

1. Sheet E2.1 – PARTIAL SECOND FLOOR PLAN – POWER – PHASE 1
 - a. Provide 120V connection to leak detection control panel per attached sheet.
2. Sheet E2.2 – PARTIAL SECOND FLOOR PLAN – POWER – PHASE 2
 - a. Provide 120V connection to leak detection control panel per attached sheet.
3. Sheet E7.1 – ELECTRICAL SCHEDULES – PHASE 1
 - a. Revise RX panel schedule per attached sheet.
4. Sheet E7.2 – ELECTRICAL SCHEDULES – PHASE 2
 - a. Revise RX panel schedule per attached sheet.

end of addendum

FINDINGS ON THIS SHEET

R-001 PASS	The renovation shall be designed and executed to maintain
R-028 PASS	The design shall include fire protection and fire alarm mo
R-039 PASS	The design shall provide spare breaker capacity for future
R-083 NOT_EVI	Fire protection coverage shall be verified before design f
R-116 PASS	The data hall design shall provide fire protection coordin
R-117 PASS	The data hall design shall provide leak detection.
R-128 PASS	UPS and battery rooms shall provide fire protection approp
R-177 NOT_APP	Where medium voltage distribution applies, the design shal
R-185 PARTIAL	The design shall provide switchgear and switchboards with
R-189 PASS	The design shall provide spare sections and breakers in sw
R-206 PASS	The design shall identify battery fire protection requirem
R-270 PASS	Where applicable, the chilled water system design shall pr
R-283 PARTIAL	Leak detection shall be installed at chilled water piping.
R-284 NOT_EVI	Leak detection shall be installed at mechanical rooms.

**BOCKMANN INC.
1600 CENTERPARK ROAD
LINCOLN, NE. 68512**



Limited Asbestos Survey

UNL – Nebraska Hall

Data Center – Second Floor

LINCOLN, NEBRASKA

INDEX

Inspector	p.3
Survey Review	p.4
Non-Asbestos Materials	p.5
Inspection Field Sheets	Appendix A
Laboratory Analysis Sheets	Appendix B
Certificates	Appendix C

INSPECTOR

NAME: **Ron Thompson**

ADDRESS: **1600 CENTERPARK ROAD**
 LINCOLN, NE 68502

PHONE: **(402)423-6631**

DATE OF INSPECTION: September 2nd, 2025

EPA CERTIFICATE # 2 8 8 I 0 5 4

STATE OF NE. CERTIFICATE # NE-MP784

SURVEY REVIEW

On the date of September 2nd, 2025 Bockmann Inc. representative, Ron Thompson conducted a limited asbestos survey of Data Center area on the second floor of Nebraska Hall located on City Campus of UNL, Lincoln, Nebraska. The purpose of the survey was to identify flooring materials that may be asbestos containing. Federal and State regulations require that if a building is to be renovated, all ACBM's (asbestos containing building materials) must be identified and removed prior to this activity beginning.

Sampling was done in accordance with State and Federal regulations, with a minimum of one and a maximum of nine samples taken of each homogeneous area. "Homogeneous area" means an area of surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color and texture. No destructive sampling was performed. An independent third-party laboratory using Polarized Light Microscopy did analysis of bulk samples. The following is a summary of the materials which were sampled.

Appendix B contains copies of the bulk sampling records which give a detailed description of the samples taken and where they were taken. Appendix C contains copies of the laboratory bench sheets, which show what fibrous materials (asbestos and non-asbestos) were present in the sample. The samples were analyzed using PLM (Polarized Light Microscopy) methods by certified analysts. This lab is NVLAP (National Voluntary Laboratory Accreditation Program) accredited.

NOTE: None of the materials sampled contained asbestos but hard packed pipe fittings were observed above the plaster ceiling in Room 238. These fittings could not be reached to sampled but should be assumed to contain asbestos until they can be accessed and sampled.

**Building materials, which were sampled, but did not
contain asbestos (<1%) include:**

Yellow Mastic (Sample 01)

Location: Floor in Room 238

Quantity: Approx. 1,100square feet

Yellow Glue (Sample 02)

Location: Beneath computer floor support legs

Quantity: <300 square feet

Gray 9"x9" Floor Tile/Mastic (Samples 03-05)

Location: Lower floor in Room 234 (beneath computer floor)

Quantity: Approx. 3,700 square feet

Note: Using PLM analysis methods the mastic on sample 04 was shown to contain 2% asbestos. Additional analysis using 400 point count analysis methods showed the actual content as 0.4 % which makes it a non-asbestos material and not regulated.

Sub-Strate (scratch coat) (Sample 06)

Location: Upper layer in plaster ceiling in Room 238

Quantity: Approx. 1,100square feet

Plaster (Samples 07-09)

Location: Ceiling in Room 238

Quantity: Approx. 1,100square feet

Drywall (Sample 10)

Location: Misc. walls in Data Area

Quantity: >1,000 square feet

Appendix A

2505 8672

Location: Lincoln, Nebraska

[illegible]

Date: 9/3/25 Time: 1035 PM Received By: Shi

24 Hour TAT

Client 2048 – Bockmann Inc.

Appendix B



The Identification Specialists

Analysis Report
prepared for
Bockmann Inc

Report Date: 9/3/2025

Project Name: Nebraska Hall-Data Center-2nd Floor

Project #: 2025-0410

SanAir ID#: 25058672



NVLAP LAB CODE 200870-0

10501 Trade Court, North Chesterfield, Virginia 23236
888.895.1177 | 804.897.1177 | fax: 804.897.0070 | LabReports@SanAir.com | SanAir.com



SanAir ID Number
25058672
FINAL REPORT
9/3/2025 4:43:48 PM

Name: Bockmann Inc
Address: 1600 Center Park Road
Lincoln, NE 68512-1228
Phone: 402-423-6631 x 104

Project Number: 2025-0410
P.O. Number:
Project Name: Nebraska Hall-Data Center-2nd Floor
Collected Date: 9/2/2025
Received Date: 9/3/2025 10:35:00 AM

Dear Ron Thompson,

We at SanAir would like to thank you for the work you recently submitted. The 10 sample(s) were received on Wednesday, September 03, 2025 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

A handwritten signature in black ink that reads "Sandra Sobrino".

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:

- 10 samples in Good condition.



SanAir ID Number
25058672
FINAL REPORT
9/3/2025 4:43:48 PM

Name: Bockmann Inc
Address: 1600 Center Park Road
Lincoln, NE 68512-1228
Phone: 402-423-6631 x 104

Project Number: 2025-0410
P.O. Number:
Project Name: Nebraska Hall-Data Center-2nd Floor
Collected Date: 9/2/2025
Received Date: 9/3/2025 10:35:00 AM

Analyst: Garcia, Samantha

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic	Components		Asbestos Fibers
	Appearance	% Fibrous	% Non-fibrous	
01 / 25058672-001 N Side Of Room 238 Mastic	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
02 / 25058672-002 S-W Side Of Room 238 Glue	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
03 / 25058672-003 W Side Of Room 234 9"x9" Floor Tile/Mastic, Floor Tile	Gray Non-Fibrous Homogeneous		100% Other	None Detected
03 / 25058672-003 W Side Of Room 234 9"x9" Floor Tile/Mastic, Mastic	Yellow Non-Fibrous Homogeneous		100% Other	None Detected
04 / 25058672-004 Middle S Side Of Room 234 9"x9" Floor Tile/Mastic, Floor Tile	Gray Non-Fibrous Homogeneous		100% Other	None Detected
04 / 25058672-004 Middle S Side Of Room 234 9"x9" Floor Tile/Mastic, Mastic	Yellow Non-Fibrous Homogeneous		98% Other	2% Chrysotile
05 / 25058672-005 N-E Side Of Room 234 9"x9" Floor Tile/Mastic, Floor Tile	Gray Non-Fibrous Homogeneous		100% Other	None Detected
05 / 25058672-005 N-E Side Of Room 234 9"x9" Floor Tile/Mastic, Mastic	Yellow Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
06 / 25058672-006 Middle S-W Side Of Room 234 Sub Strate	White Non-Fibrous Heterogeneous		100% Other	None Detected
07 / 25058672-007 Middle E Side Of Room 234 Plaster	White Non-Fibrous Heterogeneous		100% Other	None Detected

Analyst: *Samantha Garcia*

Approved Signatory:

Analysis Date: 9/3/2025

Date: 9/3/2025



SanAir ID Number
25058672
FINAL REPORT
9/3/2025 4:43:48 PM

Name: Bockmann Inc
Address: 1600 Center Park Road
Lincoln, NE 68512-1228
Phone: 402-423-6631 x 104

Project Number: 2025-0410
P.O. Number:
Project Name: Nebraska Hall-Data Center-2nd Floor
Collected Date: 9/2/2025
Received Date: 9/3/2025 10:35:00 AM

Analyst: Garcia, Samantha

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic	Components		Asbestos Fibers
	Appearance	% Fibrous	% Non-fibrous	
08 / 25058672-008 S-E Side Of Room 234 Plaster	White Non-Fibrous Heterogeneous		100% Other	None Detected
09 / 25058672-009 Middle N-W Side Of Room 234 Plaster	White Non-Fibrous Heterogeneous		100% Other	None Detected
10 / 25058672-010 Middle E Side Of Room 234 Drywall, Drywall	White Non-Fibrous Homogeneous	4% Cellulose	96% Other	None Detected
10 / 25058672-010 Middle E Side Of Room 234 Drywall, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: *Samantha Garcia*

Approved Signatory: *[Signature]*

Analysis Date: 9/3/2025

Date: 9/3/2025

Disclaimer and Additional Information:
Asbestos Bulk PLM EPA 600/R-93/116

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Samples are held for a period of 60 days. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations. For NY state samples, method EPA 600/M4-82-020 is performed.

NYELAP Disclaimer:

Polarized-light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing.

Asbestos Accreditations, Certifications, and Licenses

National Voluntary Laboratory Accreditation Program (NVLAP) Lab Code 200870-0

City of Philadelphia Department of Public Health Air Management Services, Certification#ALL-460

Commonwealth of Pennsylvania Department of Environmental Protection Number 68-05397

California State Environmental Laboratory Accreditation Program Certificate Number 2915

Colorado Department of Public Health and Environment Registration Number AL-23143

Connecticut Department of Public Health Environmental Laboratory Registration Number PH-0105

Massachusetts Department of Labor Standards Asbestos Analytical Services License Number:

AA000222

State of Maine Department of Environmental Protection License Number: LB-0075

New York State Department of Health Laboratory ID: 11983

State of Rhode Island Department of Health Certification No.: PLM00126

Texas Department of State Health Services License Number: 300440

Commonwealth of Virginia Department of Professional and Occupational Regulation Number:

3333000323

State of Washington Department of Ecology Laboratory ID: C989

State of West Virginia Bureau for Public Health Analytical Laboratory Number: LT000616

Vermont Department of Health License Number: Asb-Co-An-000006

Louisiana Department of Environmental Quality AI Number 212253, LELAP Lab ID #05088



The Identification Specialists

Analysis Report
prepared for
Bockmann Inc

Report Date: 9/9/2025

Project Name: Nebraska Hall-Data Center-2nd Floor, Lincoln, NE

Project #: 2025-0410

SanAir ID#: 25059611



NVLAP LAB CODE 200870-0

10501 Trade Court, North Chesterfield, Virginia 23236
888.895.1177 | 804.897.1177 | fax: 804.897.0070 | LabReports@SanAir.com | SanAir.com



SanAir ID Number

25059611

FINAL REPORT

9/9/2025 11:52:20 AM

Name: Bockmann Inc

Address: 1600 Center Park Road

Lincoln, NE 68512-1228

Phone: 402-423-6631 x 104

Project Number: 2025-0410

P.O. Number:

Project Name: Nebraska Hall-Data Center-2nd Floor,
Lincoln, NE

Collected Date: 9/2/2025

Received Date: 9/8/2025 11:10:00 AM

Dear Ron Thompson,

We at SanAir would like to thank you for the work you recently submitted. The 1 sample(s) were received on Monday, September 08, 2025 via Fax or Email request. The final report(s) is enclosed for the following sample(s): 04.

These results only pertain to this job and should not be used in the interpretation of any other job. This report is only complete in its entirety. Refer to the listing below of the pages included in a complete final report.

Sincerely,

A handwritten signature in black ink that reads "Sandra Sobrino".

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

Final Report Includes:

- Cover Letter
- Analysis Pages
- Disclaimers and Additional Information

Sample conditions:

- 1 samples in Good condition.



SanAir ID Number

25059611

FINAL REPORT

9/9/2025 11:52:20 AM

Name: Bockmann Inc

Address: 1600 Center Park Road

Lincoln, NE 68512-1228

Phone: 402-423-6631 x 104

Project Number: 2025-0410

P.O. Number:

Project Name: Nebraska Hall-Data Center-2nd Floor,
Lincoln, NE

Collected Date: 9/2/2025

Received Date: 9/8/2025 11:10:00 AM

Analyst: Mayes, Jean

Asbestos Bulk EPA PLM NOB EPA 600/R-93/116

SanAir ID / Description	Appearance	% Fibrous	% Non Fibrous	Asbestos Types	% Total Asbestos
25059611-001 / 04 9"x9" Floor Tile/ Mastic, W Side of Room 234, Mastic	Yellow Non-Fibrous Homogeneous		99.6 %	Chrysotile	0.4 %

EPA 400 Point Count with Gravimetric Reduction.

Analyst:

Approved Signatory:

Analysis Date: 9/9/2025

Date: 9/9/2025

Disclaimer and Additional Information:
Method for the Determination of Asbestos in Bulk Building Materials
EPA 600/R-93/116, July 1993 PLM EPA NOB

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The information provided in this report applies only to the samples submitted and is relevant only for the date, time, and location of sampling. The accuracy of the results is dependent upon the client's sampling procedure and information provided to the laboratory by the client on the COC. SanAir assumes no responsibility for the sampling procedure and will provide evaluation reports based solely on the sample(s) in the condition in which they arrived at the laboratory and information provided by the client on the COC, such as: project number, project name, collection dates, P.O. number, special instructions, samples collected by, sample numbers, sample identifications, sample type, selected analysis type, flow rate, total volume or area, and start - stop times that may affect the validity of the results in this report. Samples were received in good condition unless otherwise noted. When client requires samples to be tested that deviates from a specific method or condition, all reported results may be affected by the deviation. Where noted on the chain of custody, 400 point count with gravimetric reduction was employed with this analysis. Limit of detection is 0.25%. SanAir assumes no responsibility or liability for the manner in which the results are used or interpreted.

This report does not constitute and shall not be used to claim product, process, system, or person certification, approval, or endorsement by NVLAP, NIST, NELAC, AIHA LAP, LLC or any other U.S. governmental agencies; all or some tests contained in this report may not be certified or accredited by every local, state, and federal regulatory agency. Refer to the SanAir website at www.sanair.com for copies of current certificates and scopes of various accreditations, certifications, and licenses or contact the laboratory for inquiries regarding the status or scope of an accreditation or certification.

Samples are held for a period of 60 days. Fibers smaller than 5 microns cannot be seen with this method due to scope limitations.

Appendix C

State of Nebraska

Department of Health and Human Services

Division of Public Health

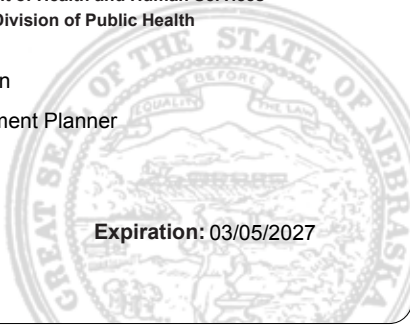
Ronald J Thompson

Asbestos Management Planner

License #: 784

Status: Active

Expiration: 03/05/2027





Educational Institute
— Environmental & Safety Training —

EDUCATIONAL INSTITUTE

certifies that

Ron Thompson

*has successfully passed the course and required examination with at least 70%
and completed the requirements for asbestos accreditation under section
206 of TSCA, Title II, 15 U.S.C. 2646*

EPA AHERA/Nebraska Asbestos Abatement

*Inspector/Management Planner
Refresher Training Course*

Course Date: 06/27/2024

Examination Date: 036/27/2024

Expiration Date: 06/27/2025

Certificate # EDI 2024-0005 IMPR

Last 4 digits Social Security # 1130

Course Location: Lincoln, Nebraska

Course Provided By:

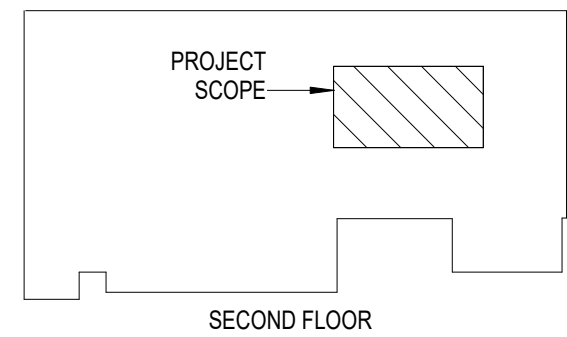
Educational Institute for Asbestos Training

1600 Center Park Road

Lincoln, NE 68512

(402) 423-7530

Gary Carson
Instructor



M226 PROVIDE LEAK DETECTION CABLE ON FLOOR AROUND THE PERIMETER OF ROOM. THE LEAK DETECTION TO THE CRAC UNIT MONITORING SYSTEM TO BE ADJACENT THROUGH THE SAS.

M229 PROVIDE NEW CLEAN AREA SYSTEM TO PROTECT THE RAISED FLOOR PLENUM FOR THE PHASE 2 AREA. INDICATED VALVE AND NOZZLE ARRANGEMENT IS SHOWN FOR REFERENCE ONLY. PROVIDE CLEAN, CIP (1200 PIPING), NOZZLES, CONTROLS, VISUAL APPLIANCES, ETC. FOR A COMPLETE OPERATIONAL SYSTEM. COORDINATE PIPE LAYOUT WITH ALL TRADES. ADJUST PIPING AS REQUIRED TO AVOID CONFLICTS.

M230 PROVIDE NEW CLEAN AREA SYSTEM TO PROTECT THE DATA ROOM FOR THE PHASE 2 AREA. INDICATED LAYOUT AND NOZZLE ARRANGEMENT IS SHOWN FOR REFERENCE ONLY. PROVIDE TANK, CLEAN AREA (NOVEZ 1200), PIPING, NOZZLES, CONTROLS, VISUAL APPLIANCES, ETC. FOR A COMPLETE OPERATIONAL SYSTEM. COORDINATE PIPE LAYOUT WITH ALL TRADES. ADJUST PIPING AS REQUIRED TO AVOID CONFLICTS.

M239 IN ROOM COOLING UNITS HAVE BEEN PRE-PURCHASED BY UNL. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ITS MEETING THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS.

M246 RELOCATE EXISTING LEAK DETECTION CONTROLLER FROM UPS ROOM TO LOCATION INDICATED. PROVIDE COVER FOR THE CONTROLLER TO DATA CENTER MONITORING SYSTEM AS REQUIRED.

M247 PROVIDE LEAK DETECTION CABLES AROUND PERIMETER OF ROOM. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. CONNECT LEAK DETECTION TO RELOCATED LEAK DETECTION CONTROLLER IN THE UPS ROOM.

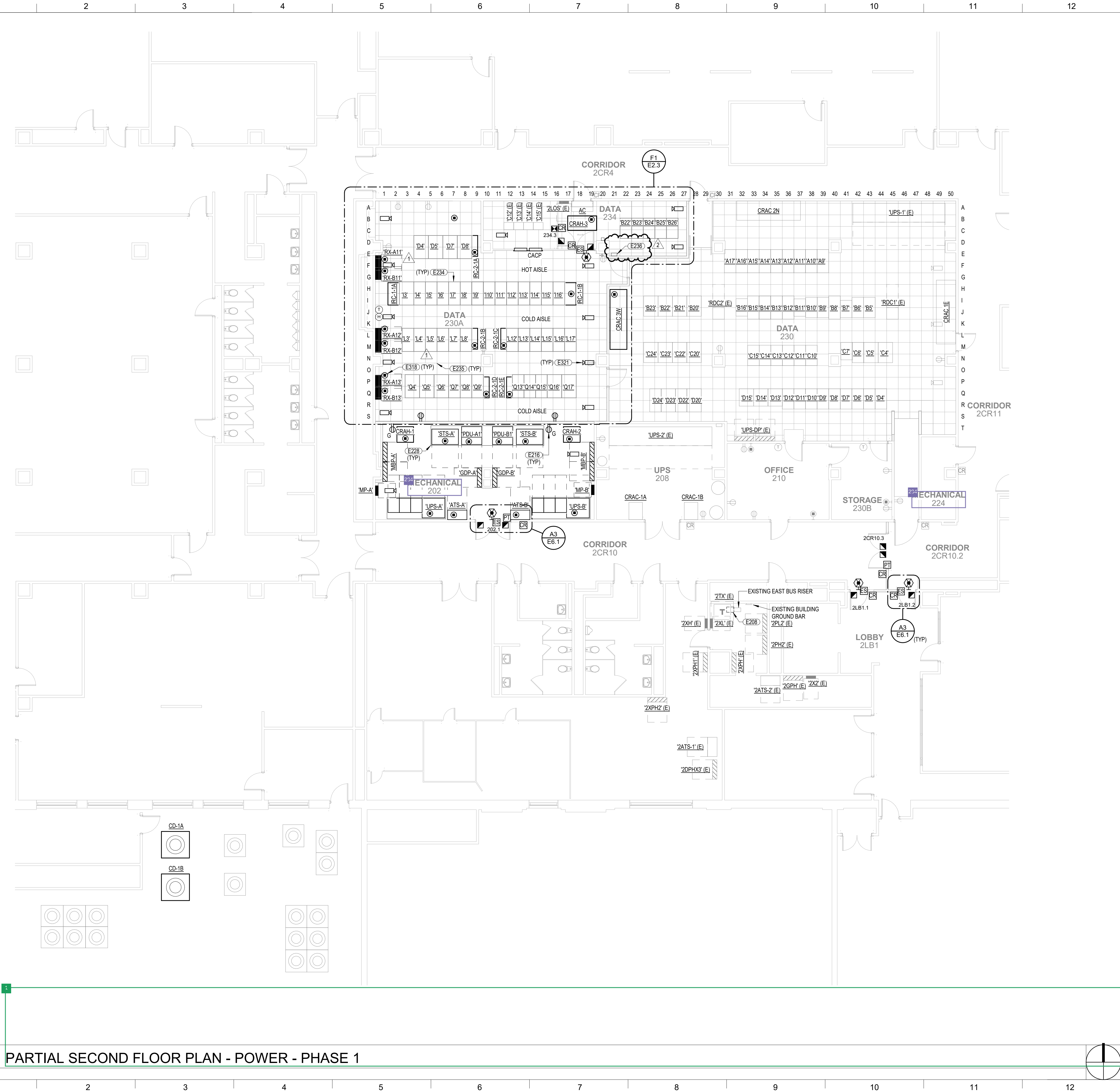
M248 INSTALL 20' FLOOR SECTION OF LEAK DETECTION CABLE FURNISHED WITH THE NEW IN ROOM COOLING UNIT. IN STALL CABLEING AROUND GENERAL PERIMETER OF UNIT. INSTALL CABLE PER COOLING EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. INTERFACED TO CRAC UNIT. (TYP. 9)

700 Q Street
Lincoln, NE 68508
P 402.476.7331
W sinclairhille.com

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M2.2

9/11/2025 11:47:03 AM
Autodesk Docs (24030)_UNL Nebraska Hall Data Center Upgrade(24518 NE Hall DC Expansion MEI)_E2.1.rvt



GENERAL NOTES:

1. SEE ELECTRICAL COVER SHEET E0.0 FOR ELECTRICAL GENERAL NOTES.

KEYNOTES

- E208 NEW BUSWAY TAP BOX ON THIRD FLOOR FOR ATS NORMAL FEED TO FLOOR BELOW. SEE ONE-LINE DIAGRAM.
- E216 CONNECT TO EXISTING RECEPTACLE CIRCUIT SERVING AREA.
- E228 3-1/2" EQUIPMENT CONCRETE BASE. SEE SPECIFICATIONS.
- E234 NEW IT CABINET, FURNISHED BY OWNER, SET IN PLACE BY ELECTRICAL CONTRACTOR. CABINETS SHALL BE DELIVERED TO THE SITE FULLY ASSEMBLED.
- E235 BOND NEW RAISED FLOOR PEDESTALS TO EXISTING UNDERFLOOR GROUNDING GRID IN THIS AREA PER SIGNAL REFERENCE GRID DETAIL ON SHEET E0.2.
- E236 **PROVIDE 120V UPS CONNECTION TO LEARN DETECTION CONTROL PANEL. CONNECT TO RX-A11.**
- E318 PROVIDE 3/4" DROP TO MECHANICAL/ELECTRICAL EQUIPMENT FOR MONITORING WIRING. STUB CONDUIT TO NEAREST BASKET TRAY.
- E321 PROVIDE J-BOX ON CEILING AND 3/4" CONDUIT TO NEAREST BASKET TRAY TO ACCOMMODATE SECURITY CAMERA CABLEING. COORDINATE CAMERA LOCATIONS WITH UNL POLICE.



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall Data Center
Building Number: C024
Building Acronym NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

MORRISSEY ENGINEERING INC.

4940 North 118th Street
Omaha, NE 68164
P 402.491.4144
W morrisseyengineering.com

ARCHITECT OF RECORD

Consultant Project #: 24030
Certificate of Authorization #: CA-0285

SINCLAIR HILLE ARCHITECTS

700 Q Street
Lincoln, NE 68508
P 402.476.7331
W sinclairhille.com

Seal:



REVISION SCHEDULE

#	Date	Revision Description
1	09/04/2025	Addendum #1
2	09/11/2025	Addendum #3

Issue: Bid Documents

Date: August 8, 2025

Drawn by: Author

Checked by: Initials

Designer:

Project Architect: David Quade

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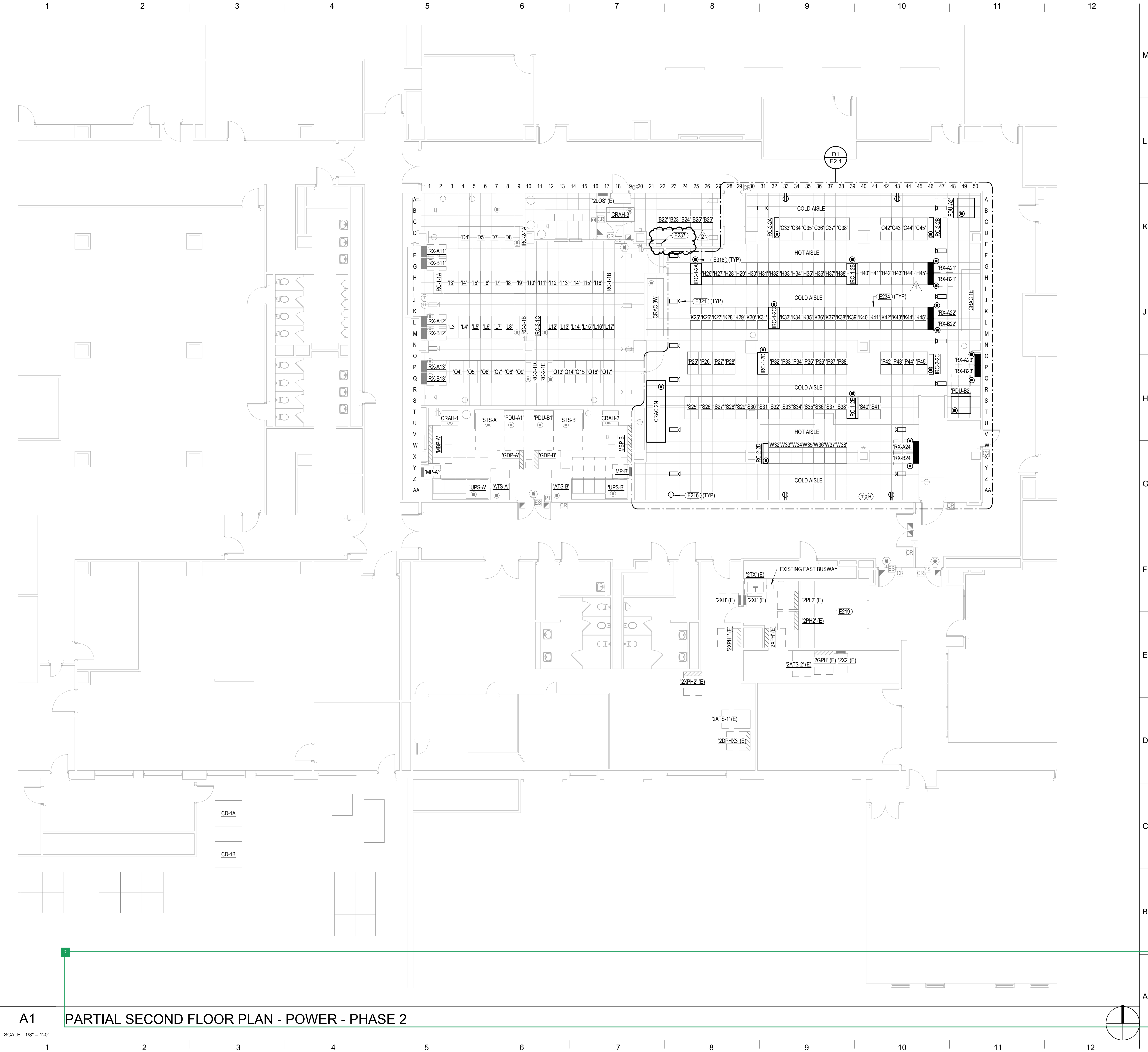
Sheet Title:

PARTIAL SECOND FLOOR PLAN - POWER - PHASE 1

Sheet Number:

E2.1

9/11/2025 11:47:04 AM
Autodesk Docs (24030)_UNL Nebraska Hall Data Center Upgrade (24518) NE Hall DC Expansion MEI_KDS.v4



GENERAL NOTES:

1. SEE ELECTRICAL COVER SHEET E0.0 FOR ELECTRICAL GENERAL NOTES.

KEYNOTES

- E216 CONNECT TO EXISTING RECEPTACLE CIRCUIT SERVING AREA.
- E219 EAST ELEVATOR SHAFT. ELEVATOR CONTROL EQUIPMENT IS LOCATED IN PENTHOUSE ELEVATOR EQUIPMENT ROOM. SEE ONE-LINE DIAGRAM FOR INFORMATION ON RE-FEEDING EAST ELEVATOR FROM NEW LIFE SAFETY/OPTIONAL STANDBY EMERGENCY GENERATOR.
- E234 NEW IT CABINET, FURNISHED BY OWNER. SET IN PLACE BY ELECTRICAL CONTRACTOR. CABINETS SHALL BE DELIVERED TO THE SITE FULLY ASSEMBLED.
- E237 PROVIDE 120V UPS CONNECTION TO LEAK DETECTION CONTROL PANEL. CONNECT TO RX-A21.
- E318 PROVIDE 34°C. DROP TO MECHANICAL/ELECTRICAL EQUIPMENT FOR MONITORING WIRING. STUB CONDUIT TO NEAREST BASKET TRAY.
- E321 PROVIDE J-BOX ON CEILING AND 3/4" CONDUIT TO NEAREST BASKET TRAY TO ACCOMMODATE SECURITY CAMERA CABLING. COORDINATE CAMERA LOCATIONS WITH UNL POLICE.



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

MORRISSEY ENGINEERING INC.

4940 North 118th Street
Omaha, NE 68164
P 402.491.4144
W morrisseyengineering.com

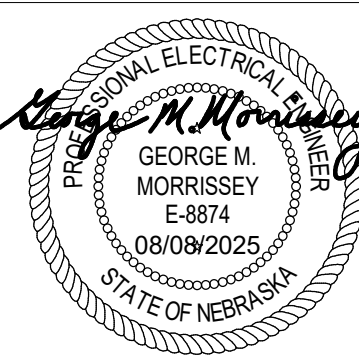
ARCHITECT OF RECORD

Consultant Project #: 24030
Certificate of Authorization #: CA-0285

SINCLAIR HILLE ARCHITECTS

700 Q Street
Lincoln, NE 68508
P 402.476.7331
W sinclairhille.com

Seal:



REVISION SCHEDULE

#	Date	Revision Description
1	09/04/2025	Addendum #1
2	09/11/2025	Addendum #3

Issue: Bid Documents

Date: August 8, 2025

Drawn by: --

Checked by: Initials

Designer:

Project Architect: David Quade

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Sheet Title:

PARTIAL SECOND FLOOR PLAN - POWER - PHASE 2

Sheet Number:

E2.2

Panel: RX-B11

Rating: 400 A

Mounting: SURFACE

Type: MCB W/GND. BAR

Integral SPD: NO

Voltage: 120/208

Phase: 3

Wire: 4

A.I.C. Rating:

Circuit Description		OPT	R	P	CKT	A	B	C	CKT	P	R	OPT	Circuit Description	
B23			30	3	1	...			2	3	30		B22	
					3	...			4					
					5	...			6					
B25			30	3	7	...			8	3	30		B24	
					9	...			10					
					11	...			12					
B26			30	3	13	...			14	3	30		D4	
					15	...			16					
					17	...	...		18					
D7			30	3	19	...	...		20	3	30		D5	
					21	...	...		22					
					23	...	...		24					
I3			60	3	25	...	...		26	3	30		D8	
					27	...	...		28					
					29	...	...		30					
I5			60	3	31	...	...		32	3	60		I4	
					33	...	...		34					
					35	...	...		36					
I7			60	3	37	...	...		38	3	60		I6	
					39	...	...		40					
					41	...	...		42					
I9			60	3	43	...	...		44	3	60		I8	
					45	...	...		46					
					47	...	...		48					
I11			60	3	49	...	...		50	3	60		I10	
					51	...	...		52					
					53	...	...		54					
I13			60	3	55	...	...		56	3	60		I12	
					57	...	...		58					
					59	...	...		60					
I15			60	3	61	...	...		62	3	60		I14	
					63	...	...		64					
					65	...	...		66					
SPARE		--	30	3	67	...	...		68	3	60		I16	
			69	...	...		70							
SPACE	--	--	1	73	...	...	...		72	1	--	--	SPACE	
SPACE	--	--	1	75	...	...	...		74					
SPACE	--	--	1	77	...	...	...		76	1	--	--	SPACE	
SPACE	--	--	1	79	...	...	...		77					
SPACE	--	--	1	81	...	...	...		78	1	--	--	SPACE	
SPACE	--	--	1	83	...	...	...		79					
SPACE	--	--	1	85	...	...	...		80	1	--	--	SPACE	
SPACE	--	--	1	87	...	...	...		81					
SPACE	--	--	1	89	...	...	...		82	1	--	--	SPACE	
SPACE	--	--	1	91	...	...	...		83					
SPACE	--	--	1	93	...	...	...		84	1	--	--	SPACE	
SPACE	--	--	1	95	...	...	...		85					

Options:

G – GFCI type circuit breaker.

L – Locking handle type circuit breaker.

Notes:

S – Shunt trip type circuit breaker.

RXV PANEL SCHEDULE

Panel: RX-B12

Rating: 400 A

Mounting: SURFACE

Type: MCB W/GND. BAR

Voltage: 120/208

Phase: 3

Wire: 4

A.I.C. Rating:

Integral SPD: NO

Circuit Description	OPT	R	P	CKT	A	B	C	CKT	P	R	OPT	Circuit Description
								2				1
L3				30	3	1	4	3				L4
					5	2	6					
					7	3	8					
L5				60	3	9	10	3				L6
					11	4	12					
					13	5	14					
L7				60	3	15	16	3				L8
					17	4	18					
					19	5	20					
L13				60	3	21	22	3				L12
					23	4	24					
					25	5	26					
L15				60	3	27	28	3				L14
					29	4	30					
					31	5	32					
L17				30	3	33	34	3				L16
					35	4	36					
					37	5	38					
SPARE				60	3	39	40	1	--	--		SPACE
					41	4	42	1	--	--		SPACE
SPACE	--	--		1	43	5	44	1	--	--		SPACE
SPACE	--	--		1	45	6	46	1	--	--		SPACE
SPACE	--	--		1	47	7	48	1	--	--		SPACE
SPACE	--	--		1	49	8	50	1	--	--		SPACE
SPACE	--	--		1	51	9	52	1	--	--		SPACE
SPACE	--	--		1	53	10	54	1	--	--		SPACE
SPACE	--	--		1	55	11	56	1	--	--		SPACE
SPACE	--	--		1	57	12	58	1	--	--		SPACE
SPACE	--	--		1	59	13	60	1	--	--		SPACE
SPACE	--	--		1	61	14	62	1	--	--		SPACE
SPACE	--	--		1	63	15	64	1	--	--		SPACE
SPACE	--	--		1	65	16	66	1	--	--		SPACE
SPACE	--	--		1	67	17	68	1	--	--		SPACE
SPACE	--	--		1	69	18	70	1	--	--		SPACE
SPACE	--	--		1	71	19	72	1	--	--		SPACE
SPACE	--	--		1	73	20	74	1	--	--		SPACE
SPACE	--	--		1	75	21	76	1	--	--		SPACE
SPACE	--	--		1	77	22	78	1	--	--		SPACE
SPACE	--	--		1	79	23	80	1	--	--		SPACE
SPACE	--	--		1	81	24	82	1	--	--		SPACE
SPACE	--	--		1	83	25	84	1	--	--		SPACE

Options:

G – GFCI type circuit breaker.

L – Locking handle type circuit breaker.

Notes:

S – Shunt trip type circuit breaker.

RXV PANEL SCHEDULE												
Panel: RX-B13				Voltage: 120/208								
Rating: 400 A				Phase: 3								
Mounting: SURFACE				Wire: 4								
Type: MCB W/GND. BAR				A.I.C. Rating:								
Integral SPD: NO												
Circuit Description	OPT	R	P	KT	A	B	C	2	P	R	OPT	Circuit Description
Q5		30	3	1	...	4	3	60				Q4
				5	...	6						
				7	...	8						
Q7		30	3	9	...	10	3	30				Q6
				11	...	12						
				13	...	14						
Q9		60	3	15	...	16	3	30				Q8
				17	...	18						
				19	...	20						
Q13		60	3	21	...	22	3	30				Q14
				23	...	24						
				25	...	26						
Q15		30	3	27	...	28	3	30				Q16
				29	...	30						
				31	...	32						
Q17		60	3	33	...	34	3	60	--	--	--	SPARE
				35	...	36						
SPACE	--	--	1	37	...	38	1	--	--	--	--	SPACE
SPACE	--	--	1	39	...	40	1	--	--	--	--	SPACE
SPACE	--	--	1	41	...	42	1	--	--	--	--	SPACE
SPACE	--	--	1	43	...	44	1	--	--	--	--	SPACE
SPACE	--	--	1	45	...	46	1	--	--	--	--	SPACE
SPACE	--	--	1	47	...	48	1	--	--	--	--	SPACE
SPACE	--	--	1	49	...	50	1	--	--	--	--	SPACE
SPACE	--	--	1	51	...	52	1	--	--	--	--	SPACE
SPACE	--	--	1	53	...	54	1	--	--	--	--	SPACE
SPACE	--	--	1	55	...	56	1	--	--	--	--	SPACE
SPACE	--	--	1	57	...	58	1	--	--	--	--	SPACE
SPACE	--	--	1	59	...	60	1	--	--	--	--	SPACE
SPACE	--	--	1	61	...	62	1	--	--	--	--	SPACE
SPACE	--	--	1	63	...	64	1	--	--	--	--	SPACE
SPACE	--	--	1	65	...	66	1	--	--	--	--	SPACE
SPACE	--	--	1	67	...	68	1	--	--	--	--	SPACE
SPACE	--	--	1	69	...	70	1	--	--	--	--	SPACE
SPACE	--	--	1	71	...	72	1	--	--	--	--	SPACE
SPACE	--	--	1	73	...	74	1	--	--	--	--	SPACE
SPACE	--	--	1	75	...	76	1	--	--	--	--	SPACE
SPACE	--	--	1	77	...	78	1	--	--	--	--	SPACE
SPACE	--	--	1	79	...	80	1	--	--	--	--	SPACE
SPACE	--	--	1	81	...	82	1	--	--	--	--	SPACE
SPACE	--	--	1	83	...	84	1	--	--	--	--	SPACE

Options:

G – GFCI type circuit breaker.

L – Locking handle type circuit breaker.

Notes:

S – Shunt trip type circuit breaker.

[illegible]

B	Issue:	Bid Documents
	Date:	August 8, 2025
	Drawn by:	Author
	Checked by:	Initials
	Designer:	
	Project Architect:	David Quade
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Sheet Title: **ELECTRICAL SCHEDULES - PHASE 1**

A Sheet Number: **E7.1**

[illegible]

addendum

addendum no. 04

date: 09/16/2025

bid date: 09/19/2025, 2:00pm

project name: UNL NE Hall Data Center Upgrade

project no: 24518

This addendum is hereby made a part of the contract documents to the same extent as if it were originally included therein. Contract documents shall be considered modified or revised as hereinafter described.

general

1. Bid Date Change - The Bid Date will be Friday, September 19th, 2025, 2:00pm.

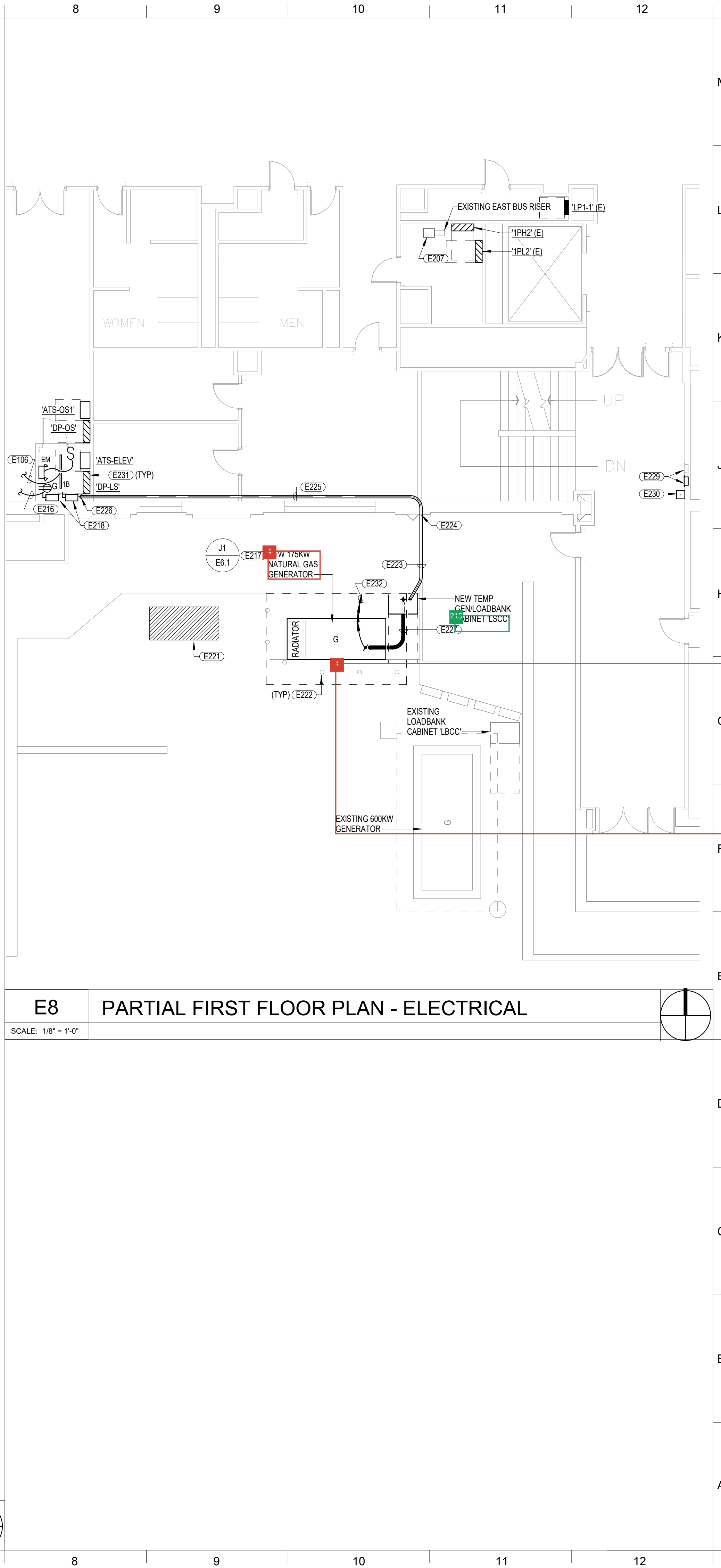
electrical items

1. Sheet E2.5 – PARTIAL FLOOR PLANS – ELECTRICAL
 - a. Partial Basement Floor Plan – Electrical. Add 800A circuit breakers to existing main switchboard per attached sheet.
2. Sheet E5.1 – ELECTRICAL ONE-LINE DIAGRAM
 - a. Add (225-4) feeder to schedule per attached sheet.
 - b. Delete references to new bus duct tap boxes per attached sheet.
 - c. Add new circuit breakers to existing main switchboard per attached sheet.

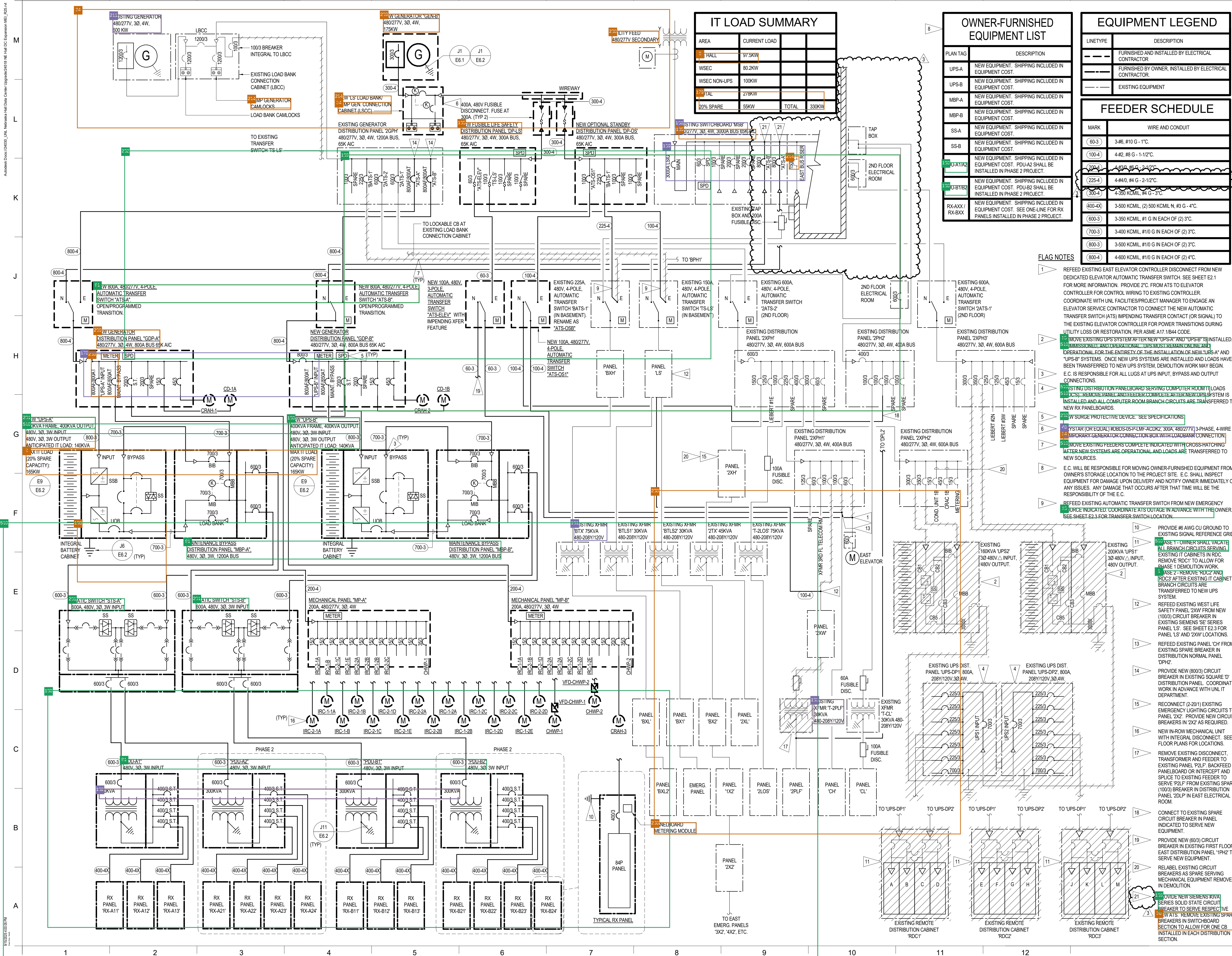
end of addendum

FINDINGS ON THIS SHEET

R-001 PASS	The renovation shall be designed and executed to maintain
R-002 PARTIAL	The design shall increase available IT capacity from appro
R-004 FAIL	Each generator shall be individually capable of supporting
R-009 PARTIAL	The design shall eliminate identified single points of fai
R-015 PASS	The design and construction approach shall ensure that no
R-034 PARTIAL	The design shall include temporary power and cooling provi
R-038 PARTIAL	The design shall provide spare switchgear sections for fut
R-040 NOT_EVI	The design shall provide generator expansion provisions fo
R-071 PARTIAL	Transformer ratings shall be verified before design freeze
R-091 PASS	The design shall support no single point of failure affect
R-125 PASS	Electrical rooms shall have no unrelated piping above crit
R-168 NOT_EVI	The consultant shall verify available fault current at the
R-169 NOT_EVI	The consultant shall verify utility protection requirement
R-170 NOT_EVI	The consultant shall verify utility metering requirements.



AutoCAD 2020 UNL Nebraska Hall Data Center Upgrade E5.1 NE Hall DC Expansion MEI E5.1



IT LOAD SUMMARY		
AREA	CURRENT LOAD	
2ND FLOOR	97.5KW	
WSEC	80.2KW	
WSEC NON-UPS	100KW	
TOTAL	278KW	
20% SPARE	55KW	TOTAL 333KW

OWNER-FURNISHED EQUIPMENT LIST	
PLAN TAG	DESCRIPTION
UPS-A	NEW EQUIPMENT, SHIPPING INCLUDED IN EQUIPMENT COST
UPS-B	NEW EQUIPMENT, SHIPPING INCLUDED IN EQUIPMENT COST
MBP-A	NEW EQUIPMENT, SHIPPING INCLUDED IN EQUIPMENT COST
MBP-B	NEW EQUIPMENT, SHIPPING INCLUDED IN EQUIPMENT COST
SS-A	NEW EQUIPMENT, SHIPPING INCLUDED IN EQUIPMENT COST
SS-B	NEW EQUIPMENT, SHIPPING INCLUDED IN EQUIPMENT COST
U-A17A2	NEW EQUIPMENT, SHIPPING INCLUDED IN EQUIPMENT COST. PDU-A3 SHALL BE INSTALLED IN PHASE 2 PROJECT
U-B11B2	NEW EQUIPMENT, SHIPPING INCLUDED IN EQUIPMENT COST. PDU-B2 SHALL BE INSTALLED IN PHASE 2 PROJECT
RX-AXX / RX-BXX	NEW EQUIPMENT, SHIPPING INCLUDED IN EQUIPMENT COST. SEE ONE-LINE FOR RX PANELS INSTALLED IN PHASE 2 PROJECT.

EQUIPMENT LEGEND	
LINE TYPE	DESCRIPTION
---	FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR
---	FURNISHED BY OWNER, INSTALLED BY ELECTRICAL CONTRACTOR
---	EXISTING EQUIPMENT

FEEDER SCHEDULE	
MARK	WIRE AND CONDUIT
(60-3)	3-#6, #10 G - 1" C.
(100-4)	4-#2, #8 G - 1-1/2" C.
(200-4)	4-#10, #8 G - 2-1/2" C.
(225-4)	4-#10, #4 G - 2-1/2" C.
(300-4)	4-3/8 KCML, #4 G - 3" C.
(400-4X)	3-500 KCML, (2) 500 KCML N, #3 G - 4" C.
(600-3)	3-350 KCML, #1 G IN EACH OF (2) 3" C.
(700-3)	3-400 KCML, #1/0 G IN EACH OF (2) 3" C.
(800-3)	3-500 KCML, #1/0 G IN EACH OF (2) 3" C.
(800-4)	4-800 KCML, #1/0 G IN EACH OF (2) 4" C.

- FLAG NOTES**
- REFEED EXISTING EAST ELEVATOR CONTROLLER DISCONNECT FROM NEW DEDICATED ELEVATOR AUTOMATIC TRANSFER SWITCH. SEE SHEET E2.1 FOR MORE INFORMATION. PROVIDE 2" C. FROM ATS TO ELEVATOR CONTROLLER FOR CONTROL WIRING TO EXISTING CONTROLLER. COORDINATE WITH UNL FACILITIES/PROJECT MANAGER TO ENGAGE AN ELEVATOR SERVICE CONTRACTOR TO CONNECT THE NEW AUTOMATIC TRANSFER SWITCH (ATS) IMPENDING TRANSFER CONTACT (OR SIGNAL) TO THE EXISTING ELEVATOR CONTROLLER FOR POWER TRANSITIONS DURING UTILITY LOSS OR RESTORATION, PER ASME A17.1/84 CODE.
 - MOVE EXISTING UPS SYSTEM AFTER NEW "UPS-A" AND "UPS-B" IS INSTALLED. DISCONNECT AND RECONNECT UPS MUST REMAIN ONLINE AND OPERATIONAL FOR THE ENTIRETY OF THE INSTALLATION OF NEW "UPS-A" AND "UPS-B" SYSTEMS. ONCE NEW UPS SYSTEMS ARE INSTALLED AND LOADS HAVE BEEN TRANSFERRED TO NEW UPS SYSTEM, DEMOLITION WORK MAY BEGIN. E.C. IS RESPONSIBLE FOR ALL LUGS AT UPS INPUT, BYPASS AND OUTPUT CONNECTIONS.
 - EXISTING DISTRIBUTION PANELBOARD SERVING COMPUTER ROOM IT LOADS SHALL BE REMOVED AND ALL COMPUTER ROOM BRANCH CIRCUITS ARE TRANSFERRED TO NEW RX PANELBOARDS.
 - NEW SURGE PROTECTIVE DEVICE: SEE SPECIFICATIONS.
 - YSTAR (OR EQUAL) #800-855-PLM-AC02K2, 300A, 480/277V, 3-PHASE, 4-WIRE TEMPORARY GENERATOR CONNECTION BOX WITH LOAD BANK CONNECTION.
 - MOVE EXISTING FEEDERS COMPLETELY INDICATED WITH CROSS-HATCHING AFTER NEW SYSTEMS ARE OPERATIONAL AND LOADS ARE TRANSFERRED TO NEW SOURCES.
 - E.C. WILL BE RESPONSIBLE FOR MOVING OWNER-FURNISHED EQUIPMENT FROM OWNERS STORAGE LOCATION TO THE PROJECT SITE. E.C. SHALL INSPECT EQUIPMENT FOR DAMAGE UPON DELIVERY AND NOTIFY OWNER IMMEDIATELY OF ANY ISSUES. ANY DAMAGE THAT OCCURS AFTER THAT TIME WILL BE THE RESPONSIBILITY OF THE E.C.
 - REFEED EXISTING AUTOMATIC TRANSFER SWITCH FROM NEW EMERGENCY FORCE INDICATED: COORDINATE ATS OUTAGE IN ADVANCE WITH THE OWNER. SEE SHEET E2.3 FOR TRANSFER SWITCH LOCATION.
 - PROVIDE #6 AWG CU GROUND TO EXISTING SIGNAL REFERENCE GRID.
 - REMOVE EXISTING WEST LIFE SAFETY PANEL 2XW FROM NEW (1000) CIRCUIT BREAKER IN EXISTING SIEMENS SE SERIES PANEL L'S. SEE SHEET E2.3 FOR PANEL L'S AND 2XW LOCATIONS.
 - REFEED EXISTING PANEL CH FROM EXISTING SPARE BREAKER IN DISTRIBUTION NORMAL PANEL 'DPH2'.
 - PROVIDE NEW (800) CIRCUIT BREAKER IN EXISTING SQUARE 'D' DISTRIBUTION PANEL. COORDINATE WORK IN ADVANCE WITH UNL IT DEPARTMENT.
 - RECONNECT (2-201) EXISTING EMERGENCY LIGHTING CIRCUITS TO PANEL 2XZ. PROVIDE NEW CIRCUIT BREAKERS IN 2XZ AS REQUIRED.
 - NEW IN-ROW MECHANICAL UNIT WITH INTEGRAL DISCONNECT. SEE FLOOR PLANS FOR LOCATIONS.
 - REMOVE EXISTING DISCONNECT, TRANSFORMER AND FEEDER TO EXISTING PANEL 'P2L' BACKFEED PANELBOARD OR INTERCEPT AND SPICE TO EXISTING FEEDER TO SERVE 'P2L' FROM EXISTING SPARE (1000) BREAKER IN DISTRIBUTION PANEL '2DLP' IN EAST ELECTRICAL ROOM.
 - CONNECT TO EXISTING SPARE CIRCUIT BREAKER IN PANEL INDICATED TO SERVE NEW EQUIPMENT.
 - PROVIDE NEW (60) CIRCUIT BREAKER IN EXISTING FIRST FLOOR EAST DISTRIBUTION PANEL '1P12' TO SERVE NEW EQUIPMENT.
 - RELABEL EXISTING CIRCUIT BREAKERS AS SPARE SERVING MECHANICAL EQUIPMENT REMOVED IN DEMOLITION.
 - PROVIDE NEW SIEMENS #30A SERIES SOLID STATE CIRCUIT BREAKER TO SERVE RESPECTIVE 30A WATS. REMOVE EXISTING SPARE BREAKERS IN SWITCHBOARD SECTION TO ALLOW FOR ONE CB INSTALLED IN EACH DISTRIBUTION SECTION.

UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street Lincoln, NE 68508

Design Team:
COORDINATING PROFESSIONAL MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835
MORRISSEY ENGINEERING INC.
4940 North 118th Street Omaha, NE 68164
P 402.491.4144
W morrisseyengineering.com

ARCHITECT OF RECORD
Consultant Project #: 24030
Certificate of Authorization #: CA-0285
SINCLAIR HILLE ARCHITECTS
700 Q Street Lincoln, NE 68508
P 402.476.7331
W sinclairhille.com

Seal:

REVISION SCHEDULE		
#	Date	Revision Description
3	09/15/2025	Addendum #4

Issue: Bid Documents
Date: August 8, 2025
Drawn by: Author
Checked by: Initials
Designer:
Project Architect: David Quade

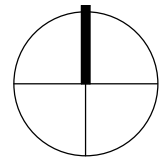
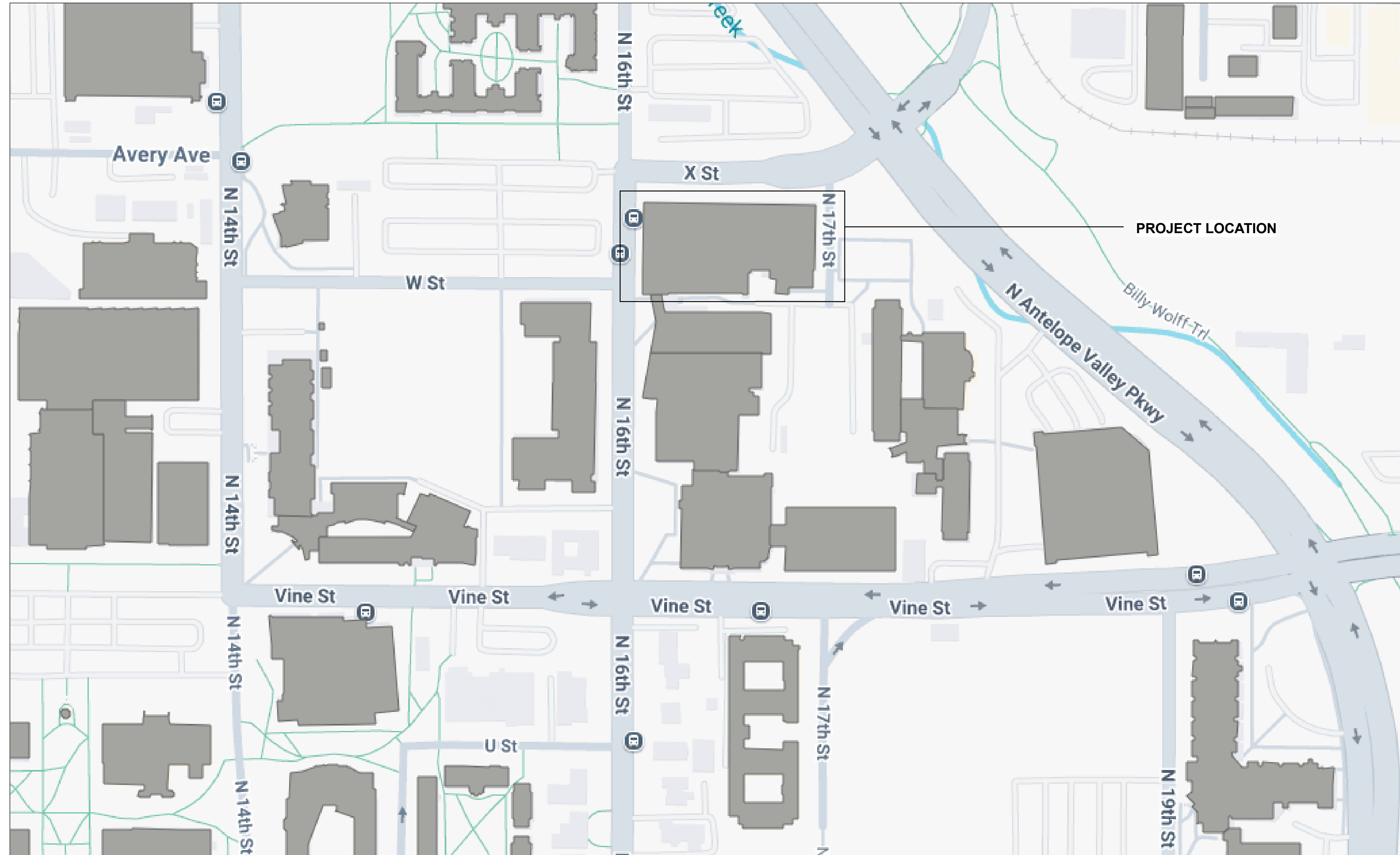
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Sheet Title:

ELECTRICAL ONE-LINE DIAGRAM

Sheet Number:

E5.1



Index of Drawings

LIFE SAFETY

LS1.0 Code Summary and Life Safety Plan

ARCHITECTURAL GENERAL

AG0.0 Architectural Specifications

AG1.0 Architectural Drawing Standards and Wall Types

ARCHITECTURAL DEMOLITION

AD1.12 Partial First Floor Architectural Demolition Plan - Phase 1 & 2

AD2.1 Partial Second Floor Architectural Demolition Plan - Phase 1

AD2.2 Partial Second Floor Architectural Demolition Plan - Phase 2

ARCHITECTURAL

A1.1 Partial First Floor Architectural Floor Plan - Phase 1

A2.1 Partial Second Floor Architectural Floor Plan - Phase 1

A2.2 Partial Second Floor Architectural Floor Plan - Phase 2

A3.1 Signage Plan - Phase 1

A3.2 Signage Plan - Phase 2

A4.0 Section Details, Door Schedule & Room Finish Schedule

MECHANICAL GENERAL

M0.0 Mechanical Cover Sheet

MECHANICAL DEMOLITION

MD2.1 Partial Second Floor Plan - Mechanical Demolition - Phase 1

MD2.2 Partial Second Floor Plan - Mechanical Demolition - Phase 2

MECHANICAL

M1.1 Partial Basement Floor Plan - Mechanical - Phase 1

M1.2 Partial First Floor Plan - Mechanical - Phase 1 & Phase 2

M1.3 Partial Second Floor Plan - Underfloor Mechanical Piping - Phase 1

M1.4 Partial Second Floor Plan - Underfloor Mechanical Piping - Phase 2

M1.5 Partial Second Floor Plan - Mechanical - Phase 1

M1.6 Partial Second Floor Plan - Mechanical - Phase 2

M2.1 Second floor Plan - Fire Protection & Leak Detection - Phase 1

M2.2 Second Floor Plan - Fire Protection & Leak Detection - Phase 2

M3.1 Partial Site Plan - Generator Gas Piping - Phase 1

M4.1 Mechanical Riser Diagrams

M5.1 Mechanical Schedules & Details

M5.2 Mechanical Schedules & Details

ELECTRICAL GENERAL

E0.0 Electrical Cover Sheet

ELECTRICAL DEMOLITION

ED2.1 Partial Second Floor Plan - Electrical Demolition - Phase 1

ED2.2 Partial Second Floor Plan - Electrical Demolition - Phase 2

ELECTRICAL

E1.1 Partial Second Floor Plan - Lighting - Phase 1

E1.2 Partial Second Floor Plan - Lighting - Phase 2

E2.1 Partial Second Floor Plan - Power - Phase 1

E2.2 Partial Second Floor Plan - Power - Phase 2

E2.3 Enlarged Computer Room Floor Plan - Power - Phase 1

E2.4 Enlarged Computer Room Floor Plan - Power - Phase 2

E2.5 Partial Floor Plans - Electrical

E3.1 Partial Second Floor Plan - Overhead Pathways - Phase 1

E3.2 Partial Second Floor Plan - Overhead Pathways - Phase 2

E4.1 Partial Second Floor Plan - Special Systems - Phase 1

E4.2 Partial Second Floor Plan - Special Systems - Phase 2

E5.1 Electrical One-Line Diagram

E6.1 Electrical Details

E6.2 Electrical Details

E6.3 Electrical Details

E7.1 Electrical Schedules - Phase 1

E7.2 Electrical Schedules - Phase 2

E7.3 Electrical Schedules

TELECOMMUNICATION

T1.1 Partial Second Floor Plan - Telecommunications - Phase 1

T1.2 Partial Second floor Plan - Telecommunications - Phase 2

T2.1 Telecommunications Connectivity Diagram - Phase 1

UNL NEBRASKA HALL DATA CENTER UPGRADE

UNIVERSITY OF NEBRASKA - LINCOLN

900 N 16th Street

Lincoln, NE 68508

BID DOCUMENTS

August 8, 2025

Sinclair Hille Architects Project No. 24030-03

700 Q St. Lincoln, NE 68508

T: 402.476.7331

W: sinclairhille.com

UNL Project Number:

14285

UNL Project Manager:

Adam Schlotthauer

Campus Name:

City Campus

Building Name:

Nebraska Hall Data Center

Building Number:

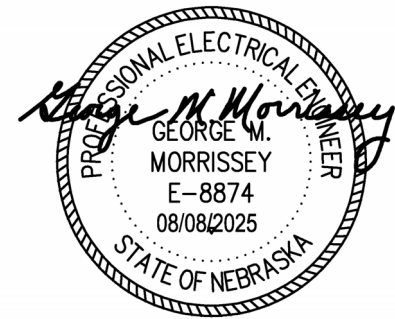
C024

Building Acronym:

NH

Professional Seal

COORDINATING
PROFESSIONAL



T. George Martin Morrissey
EIT
on the UNL Nebraska Hall Data Center Upgrade

Project Consultant:



4940 North 118th Street

Omaha, NE 68164

P: 402.491.4144

www.morrisseyengineering.com

Certificate of Authorization # 0835

Sub-Consultant:



700 Q Street

Lincoln, NE 68508

P: 402.476.7331

www.sinclairhille.com

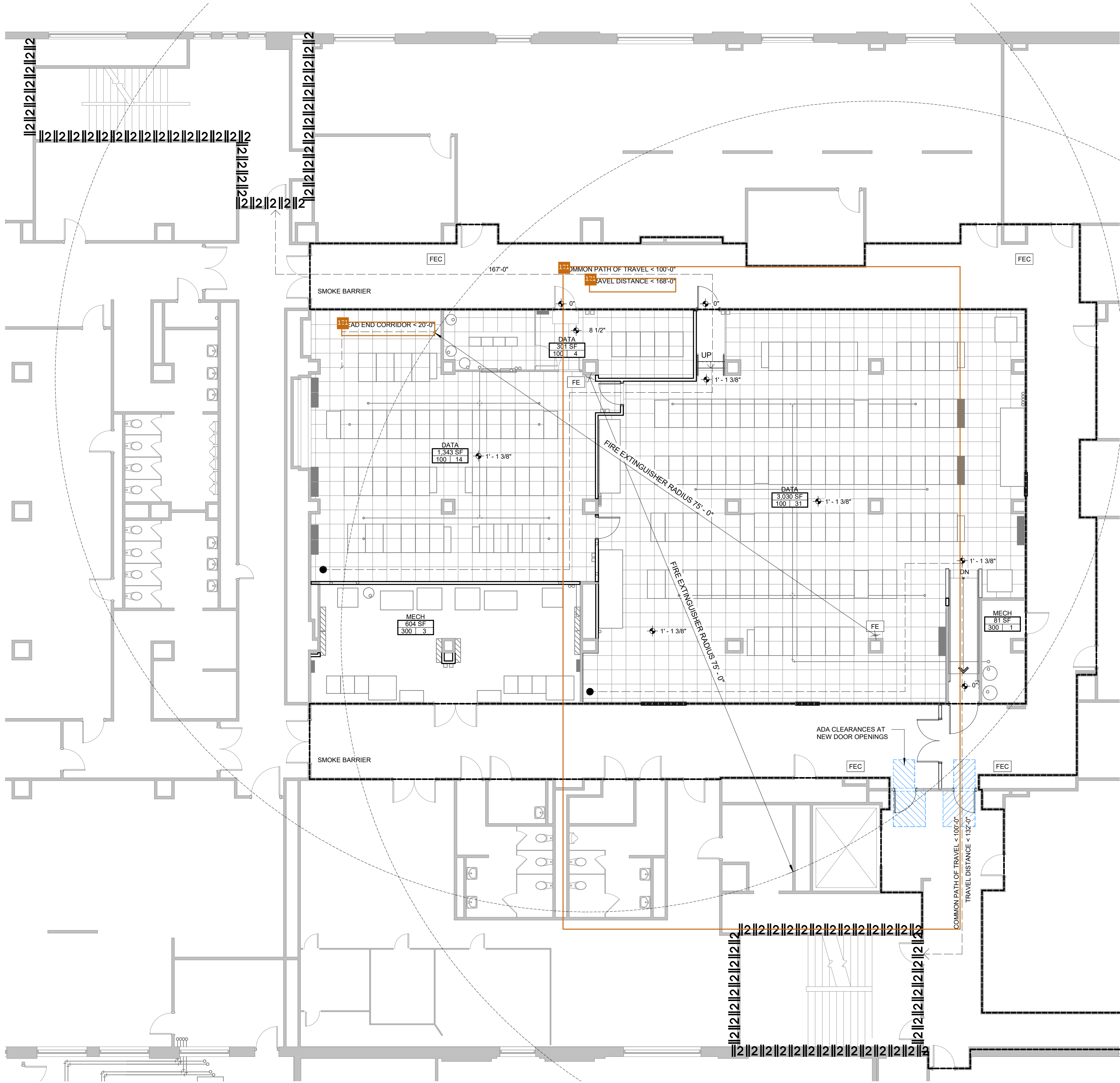
Certificate of Authorization

FINDINGS ON THIS SHEET

R-003 PASS	The design shall install a new generator such that 2N redu
R-004 FAIL	Each generator shall be individually capable of supporting
R-005 PASS	The design shall install two new UPS systems in a 2N confi
R-006 NOT EVI	The UPS systems shall be sized for the projected IT load w
R-007 PASS	The design shall maintain uninterrupted operation of all I
R-008 PARTIAL	The design shall preserve or improve the existing reliabl
R-010 PASS	The design shall improve the maintainability of the elect
R-011 PARTIAL	The design shall support future expansion of IT capacity t
R-012 PASS	The design and construction approach shall reduce operatio
R-013 PASS	The design shall improve energy efficiency and monitoring
R-014 PARTIAL	The consulting team shall deliver accurate, complete, and
R-017 PARTIAL	Final as-built drawings, BIM models, asset data, O&M manua
R-019 PASS	The design shall include architectural renovation where th
R-021 PASS	The design shall include civil/site modifications where th

Autodesk Docs / 24030_UNL Nebraska Hall Data Center Upgrade / 24030_UNL NE Hall Data Center Upgrade_V02_2025.rvt

8/7/2025 3:54:45 PM
David Quade



USE AND OCCUPANCY CLASSIFICATION

OCCUPANCY CLASSIFICATION

S-2 LOW HAZARD STORAGE (IBC 2018)
ORDINARY HAZARD STORAGE (NFPA 101)

CONSTRUCTION TYPE: IIB

Non-separated mixed use - Fully Sprinkled

REQUIREMENTS BASED ON MEANS OF EGRESS

OCCUPANT LOADS (Section 1004)

ACTIVITY USES	AREA	SQ. FT. / OCCUPANT (1004.1.1)	# OF OCCUPANTS
DATA ROOMS	4,674 SF	100	47
MECHANICAL ROOMS	685 SF	300	3
		TOTAL OCCUPANTS	50

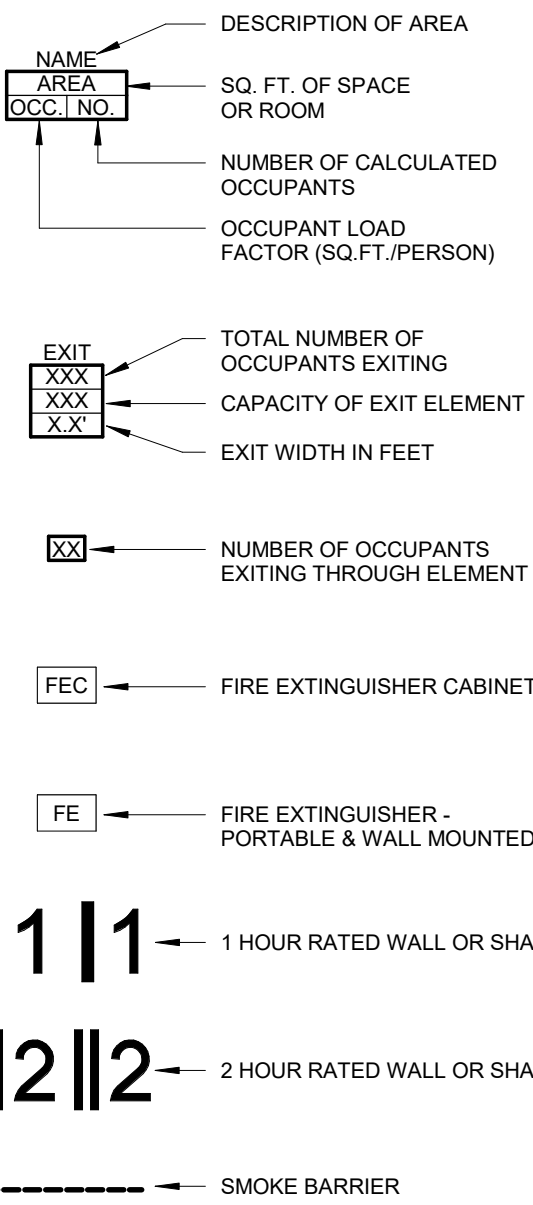
MAXIMUM TRAVEL DISTANCE (NFPA 101 42.2.6)
ORDINARY HAZARD STORAGE (WITH SPRINKLER SYSTEM) 400'-0"

MAXIMUM COMMON PATH OF TRAVEL (NFPA 101 42.2.5)
ORDINARY HAZARD STORAGE (WITH SPRINKLER SYSTEM) 100'-0"

DEAD END CORRIDORS (NFPA 101 42.2.5)
ORDINARY HAZARD STORAGE (WITH SPRINKLER SYSTEM) 100'-0"

*Per meeting with UNL, Sinclair Hille Architects, Richard Firebaugh, and Deborah Hurtya on June 4, 2025, it was discussed that the design team was to proceed with demolishing the two existing ramps entering the space. The south ramp is to be replaced with a ramp that meets ADA guidelines. The north ramp is to be replaced with a run of two steps to get to the raised platform while meeting ADA guidelines.

LIFE SAFETY SYMBOL LEGEND



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

MORRISSEY ENGINEERING INC.

4940 North 118th Street
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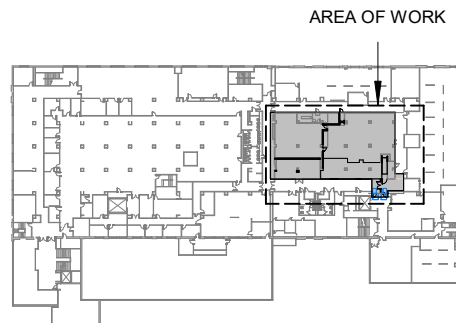
ARCHITECT OF RECORD

Consultant Project #: 24030
Certificate of Authorization #: CA-0285

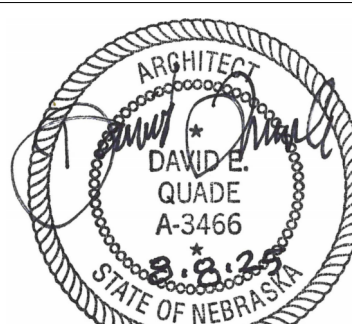
SINCLAIR HILLE ARCHITECTS

700 Q Street
Lincoln, NE 68508
P 402.476.7331
W sinclairhille.com

Key Plan:



Seal:



REVISION SCHEDULE

#	Date	Revision Description

Issue: Bid Documents

Date: August 8, 2025

Drawn by: NJP

Checked by: DEQ

Designer: -

Project Architect: David Quade

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Sheet Title:

Code Summary and Life Safety Plan

Sheet Number:

LS1.0

	1	2	3	4	5	6	7	8	9	10	11	12	
M													
L													
K													
J													
H													
G													
F													
E													
D													
C													
B													
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	A1	ARCHITECTURAL SPECIFICATIONS											
		NO SCALE	-										
		1	2	3	4	5	6	7	8	9	10	11	12

4133300 SUBMITTALS

Shop Submittals:

Shop submittals shall be reviewed and checked by the Contractor for coordination with other Work of the Contract and for compliance with the Contract Documents clearly identifying deviations from requirements in the Contract Documents, including minor variations and limitations. The Contractor shall not be relieved of responsibility for errors or omissions in shop submittals by the Architect's approval thereof.

Reviewed submittals shall bear the General Contractor's approval stamp certifying the information contained within the submittal has been reviewed, checked and approved for compliance with the Contract Documents. The General Contractor's review is a pre-requisite to the Architect's review. Architect will not review submittals received from the Contractor that do not bear the Contractor's approval stamp.

Requested Submittals:

The Architect will review the following architectural submittals as related to this project. No other submittals will be required or reviewed as part of this contract by the Architect.

Section	Description
079200	Joint Sealant Product Data
081113	Hollow Metal Doors and Frames Product Data
081113	Hollow Metal Doors and Frames Shop Drawing
087100	Hardware Product Data and Schedule
092900	Gypsum Board Product Data
096519	Resilient Tile Flooring Sample
096900	Access Flooring Sample
096900	Access Flooring Shop Submittal
099123	Interior Painting Draw Downs
099123	Interior Painting Product Data
102213	Wire Mesh Partitions Shop Drawing
104416	Fire Extinguisher Product Data

079200 JOINT SEALANTS

General:

Compatibility: Provide joint sealants, backings and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

Colors of exposed sealants will generally be selected to match the color of the masonry veneers, storefronts and other finish materials used on the project. Architect will work to utilize standard colors when possible however, if an acceptable color cannot be obtained using standard colors, Contractor shall provide opportunity for custom colors at no additional cost to the Owner.

Sealants identified as "nonstaining" shall not stain substrates when tested according to ASTM C1248.

Joint Sealant Products:

URETHANE JOINT SEALANTS:

(JS-U1): Urethane, S, NS, 100/50, T, NT

Acceptable Products:

Sika Corporation; SikaFlex 15LM

(JS-U2): Urethane, M, NS, 50, NT

Acceptable Products:

Pecora Corporation; Dynatrol II

(JS-U3): Urethane, M, NS, 50, T, NT

Acceptable Products:

Temco Incorporated; Dymetric 240

Joint Sealant Backings:

Backing material to be nonstaining and compatible with joint substrates, sealants, primers and other joint fillers, and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

Cylindrical sealant backings to comply with ASTM C1330, Type B and shall be of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

Bond breaker tape to be polyethylene or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces on back of joint.

Miscellaneous Materials:

Provide primer as recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated and as determined from preconstruction joint-sealant-substrate tests and field tests.

Joint Sealant Applications:

Interior Joints in Horizontal Traffic Surfaces:

(JS-U1): Urethane, S, NS, 100/50, T, NT

(JS-U3): Urethane, M, NS, 50, T, NT

(JS-U3): Urethane, M, NS, 50, T, NT

Installation:

Comply with ASTM C 1193.

Install sealant backings to support sealants during application and to produce cross-sectional shapes and depths of installed sealants that allow optimum sealant movement capability.

Install bond-breaker tape behind sealants where sealant backings are not used between shapes and backs of joints.

078413 PENETRATION FIRESTOPPING

General:

Provide penetration firestopping systems that resist spread of fire, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated.

Penetration firestopping systems must be compatible with one another, with the substrates forming openings, and with penetrating items if any. Provide components for each penetration firestopping system that, upon curing, do not re-emulsify, dissolve, leach, break down, or otherwise deteriorate over time from exposure to atmospheric moisture, sweating pipes, ponding water, or other forms of moisture characteristic during and after construction.

Provide components for each penetration firestopping system that are sufficiently flexible to accommodate movement, such as pipe vibration, water hammer, thermal expansion, and other normal building movement without damage.

Penetrations in Fire-Resistance-Rated Walls:

Provide systems with ratings determined in accordance with ASTM E814 or UL 1479.

F-Rating shall not be less than the fire-resistance rating of the wall assembly penetrated. For membrane penetrations, install recessed fixtures such that the required fire resistance will not be reduced.

Penetrations in Horizontal Assemblies:

Provide systems with ratings determined in accordance with ASTM E814 or UL 1479.

F-Rating shall be at least one hour, but not less than the fire-resistance rating of the floor/ceiling assembly penetrated.

T-Rating shall be at least one hour, but not less than the fire-resistance rating of the floor/ceiling assembly.

Penetrations in Smoke Barriers:

Provide systems with ratings determined in accordance with UL 1479.

L-Rating shall not exceed 5.0 cfm/sq. ft. of penetration opening and no more than 50-cfm cumulative total for any 100 sq. ft. at both ambient and elevated temperatures.

Exposed Penetration Firestopping:

Provide systems with flame-spread and smoke-developed indexes of less than 25 and 450 respectively when tested in accordance with ASTM E84 or UL 723.

Accessories:

Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping system manufacturer and approved by qualified testing and inspecting agency for conditions indicated, including but not limited to permanent forming / damming / backing materials. Substrate primers, collars and steel sleeves.

Preparation:

Before installing penetration firestopping systems, clean out openings in accordance with manufacturer's written instructions.

Prime substrates in accordance with penetration firestopping system manufacturer's written installation instructions, using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.

Identification:

Wall Identification: Permanently label walls containing penetration firestopping systems with the words "FIRE AND/OR SMOKE BARRIER – PROTECT ALL OPENINGS," using lettering not less than 3 inches high and with minimum 0.375-inch strokes. Locate in accessible concealed floor, floor-ceiling or attic spaces at 15 ft. from end of wall and at intervals not exceeding 30 ft.

Penetration Identification: Identify each penetration firestopping system with legible metal or plastic labels attached permanently to surfaces adjacent to and within 6 inches of penetration firestopping system edge so labels are visible to anyone seeking to remove penetrating items or firestopping systems. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:

The words "Warning – Penetration Firestopping – Do Not Disturb. Notify Building Management of Any Damage."

Contractor's name, address and phone number.

Designation of applicable testing and inspecting agency.

Date of installation.

Manufacturer's name.

Installer's name.

081113 HOLLOW METAL DOORS AND FRAMES

Quality Assurance:

Fire-Rated Door Assemblies shall comply with NFPA 80 and be listed and labeled by a qualified testing agency for the ratings indicated based on testing at positive pressure according to NFPA 252.

Standard Hollow Metal Doors:

Doors to be flush panel with manufacturer's standard core. Vertical edges of single-acting doors shall have a beveled edge of 1/8 inch in 2 inches. Vertical edges of double-acting doors shall be rounded with a 2 1/8 inch radius. Top and bottom edges are to be closed with flange or inverted 0.042 inch thick end closures or channels of same material as face sheets.

Interior doors are to be fabricated from cold-rolled steel sheet complying with ASTM A 1008/A 1008M, Commercial Steel, Type B suitable for exposed applications. Doors are to be Level 3, Performance Level A (Extra Heavy Duty), Model 2 (Seamless) as defined in ANSI/SI/SDI A250.8 and ANSI/SDI A250.4.

Standard Hollow Metal Frames:

All frames shall be fabricated with mitered or coped corners and shall be fabricated as full profile welded frames. Steel sheet thickness shall be 0.053 inch for all frames. Fabricate interior frames from cold-rolled steel sheet and exterior frames from metallic-coated steel sheet complying with requirements identified for standard hollow metal doors.

Provide frames with four anchors per jamb for lengths between 60 and 90 inches spaced a maximum of 32 inches o.c. and no more than 18 inches from the top and bottom of frame. On doors not scheduled to receive weatherstripping, drill stops to receive three door silencers in strike jamb and two on heads of double-door frames.

087100 DOOR HARDWARE

General:

Deliver keys to Owner.

Fire-Resistance-Rated Assemblies: Provide products that comply with NFPA 80 and are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for applications indicated. On exit devices provide label indicating "Fire Exit Hardware."

Hardware sets are located with the Door Hardware Schedule found on Sheet A.2.1.

Installation:

Mount hardware in locations recommended by the Door and Hardware Institute unless otherwise indicated.

092216 NON-STRUCTURAL METAL FRAMING

Non-Load-Bearing Steel Framing:

Provide with a G40, hot-dip galvanized protective coating. Minimum base metal thickness to be as follows:

Steel Studs and Runners: 0.0312 inch thick (30 mil/20 gauge)

Flat Strap and Backing Plates: 0.0312 inch thick (30 mil/20 gauge)

Flat-Shaped Cold Forming Channels: 0.0312 inch thick (30 mil/20 gauge)

Cold-Rolled Channel Bridging: 0.0538 inch thick (54 mil/16 gauge) with 1/2 inch minimum width flanges, 1 1/2 inch depth

Install studs so flanges within framing system point in the same direction. Stud spacing to be 16 inches o.c. Install tracks (runners) at floors and overhead supports. Framing to extend full height to supports. At doors and other framed openings, install two (2) studs at each jamb with cripple studs at head adjacent to each jamb with a minimum clearance of 1/2 inch from jamb stud to allow for installation of control joint in finished assembly.

Auxiliary Framing Materials:

Isolation Strips: At exterior walls, provide foam gasket, adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick in width to suit steel stud size.

092900 GYPSUM BOARD

General:

Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

Do not install panels that are wet, moisture damaged, and mold damaged.

For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

Installation:

Install gypsum board to comply with ASTM C 840.

Provide glass-mat interior gypsum board compliant with ASTM C1658, manufactured with fiberglass mat laminated to both sides and designed for interior use.

Base-of-Design Product: National Gypsum Company; Gold Bond eXP Interior Interior Extreme Fire-Shield X 5/8" Gypsum Panel.

Provide 5/8" Type "X" gypsum board with long edges tapered. Utilize glass mesh joint tape at all joints. At open joints and damaged areas of drywall board, use a setting-type taping compound. For all other subsequent steps to finishing, use drying-type, all-purpose compound.

Panel edges are to be installed with face side out. Butt panels together with no more than 1/16 inch of open space between panels. Locate edge and end joints over supports. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. DO NOT place joints other than control joints at corners of framed openings. Fit gypsum panels around ducts, pipes and conduits and where partitions intersect structural members projecting below underside of floor/floor slabs and decks, cut gypsum panels to fit profile formed by structural members. Allow 1/4 to 3/8-inch wide joints to install sealant.

Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4 to 1/2-inch-wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

At wall installations, install gypsum panels vertically unless indicated otherwise by fire-resistance-rated assembly, and minimize edge joints. Stagger abutting end joints not less than one framing member in alternate courses of panels. Utilize steel drill screws.

At ceiling installations, apply gypsum panels before wall/partition board applications and at right angles to framing. Install panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

Provide gypsum board finish levels as follows:

Level 4: A. All locations unless noted otherwise.

096513 RESILIENT BASE AND ACCESSORIES

Resilient Base:

Obtain from single source from single manufacturer. Product to comply with ASTM F 1861.

Provide Type TP (rubber, thermoplastic), Group I (solid, homogeneous), Style Cove (base with toe).

Minimum thickness shall be 0.125 inch with Height of 4 inches.

Provide product in coils of manufacturer's standard length. Outside and inside corners shall be job formed. Finish to be satin.

Base-of-Design Product: Tarkett Duracove Select from full range of available colors from manufacturer with intent to match PNT-3 color used for color of door frame.

Resilient Molding Accessory:

Obtain from single source from single manufacturer.

Provide reducer and transition strips as required between various flooring finishes. Product to be rubber with profile, colors and patterns as selected by Architect from the full range of industry colors.

Miscellaneous Materials:

Provide latex-modified, portland cement based or blended hydraulic-cement-based trowelable leveling and patching compounds as necessary.

Provide water-resistant type adhesives recommended by manufacturer to suit resilient products and substrate conditions on the job. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

Cove Base Adhesives: Not more than 50 g/L

Rubber Floor Adhesives: Not more than 60 g/L.

Extra Materials:

Furnish extra materials described below that match products installed, are packaged with protective covering for storage, and are identified with labels describing contents. Furnish not less than ten (10) linear feet in roll form for each (500) linear feet or fraction thereof.

Preparation:

Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

Fill cracks, holes and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.

Do not install resilient products until they are the same temperature as the space where they are to be installed. Products should be stored into spaces they will be installed at least 48 hours in advance of installation.

Installation:

Comply with manufacturer's written instructions.

Apply to walls, columns, pilasters, casework and cabinets in toe spaces and other permanent fixtures in rooms and areas where base is required. Install in lengths as long as practicable without gaps at seams and with tops of adjacent pieces aligned. Do not stretch product during installation.

Use straight pieces of maximum lengths possible formed without producing discoloration (whitening) at bends for all job-formed corners.

Butt resilient molding accessories to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of carpet, resilient floor covering and tile that would otherwise be exposed.

After installation of product, remove adhesive and other blemishes from exposed surfaces and damp-mop surfaces to remove marks and soil.

096519 RESILIENT TILE FLOORING

General Delivery, Storage, Handling, and Installation:

Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F. Store floor tiles on flat surfaces. Maintain ambient temperatures within range recommended by manufacturer prior to installation of product, during installation and until substantial completion. Do not install product until other finishing operations, including painting, have been completed.

Vinyl Composition Floor Tile:

Tile to comply with ASTM F 1066, Class2, through-pattern tile with a smooth wearing surface and thickness of 0.125 inch. Provide units 12 by 12 inches.

Base-of-Design: Armstrong Flooring, Safety Zone Tile Collection, #51860S2 "Soft Cool Gray" (VCT-1).

Miscellaneous Materials:

Provide latex-modified, portland cement based or blended hydraulic-cement-based trowelable leveling and patching compounds as necessary.

Provide water-resistant type adhesives recommended by manufacturer to suit resilient products and substrate conditions on the job. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

Cove Base Adhesives: Not more than 50 g/L

Rubber Floor Adhesives: Not more than 60 g/L.

Floor Polish: Provide protective, liquid floor-polish products recommended by floor tile manufacturer.

Extra Materials:

Furnish one box for every (5) boxes or fraction thereof, of each type, color and pattern of floor tile installed.

Preparation:

Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products. Verify that conditions of service and application as demonstrated by manufacturer based on testing and field experience. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

Do not install tiles until they are the same temperature as the space where they are to be installed. Products should be stored into spaces they will be installed at least 48 hours in advance of installation.

Installation:

Comply with manufacturer's written instructions.

Lay out tiles from center marks established with principal walls so tiles at opposite edges of room are of equal width. Lay tiles square with room axis with grain direction alternating in adjacent tiles (basket-weave pattern). Tiles should be matched for color and pattern by selecting from cartons in the same sequence as manufactured and packaged, if so numbered.

Scribe, cut and fit tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets and door frames. Tie to extend into toe spaces, door reveals, closets and similar openings. Tie to extend to center of door openings. Adhere tiles to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks and other surface imperfections.

Remove soil, visible adhesive and surface blemishes from floor tile surfaces prior to applying liquid floor polish. Follow manufacturer's guidelines for polishing. Apply three coats of liquid floor finish.

096900 ACCESS FLOORING

Design Requirements:

Access floor system where indicated on the design documents shall consist of modular and removable fully encased cementitious filled welded steel panels supported on all four edges by structural steel members which are designed to bolt onto adjustable height pedestal assemblies forming a modular grid pattern.

Panel shall be easily removed by one person with a suction cup lifting device and shall be interchangeable except where cut for special conditions.

Performance Requirements:

Design Load:

Base panel supported on actual understructure system shall be capable of supporting a point load of 1,500 lbs. applied on a one square inch area at any location on the panel without experiencing permanent set in excess of 0.010 inches as defined by CISC/A. The loading method used to determine allowable design load shall be in conformance with CISC/A Concentrated Load test method but with panel tested on actual understructure instead of steel blocks.

Safety Factor:

Base panel supported on actual understructure system shall withstand a point load of no less than (2) two times its design load rating on a one square inch area anywhere on the panel without failure when tested in accordance with CISC/A IF, Section 2 "Ultimate Loading". Failure is defined as the point at which the system will no longer accept the load.

Ultimate Load:

Base panel supported on actual understructure system shall be capable of supporting a point load of at least 3,000 lbs. applied through a load indenter on a one square inch area at any location on the panel without failure, with minimum safety factor of 2, when tested in accordance with CISC/A IF, Section 2, "Ultimate Loading".

Rolling Load:

Base panel supported on actual understructure system shall be able to withstand the following rolling loads at any location on the panel without developing a local and overall surface deformation greater than 0.040 inches when tested in accordance with CISC/A IF Section 3, "Rolling Loads". Note: Wheel 1 and 2 tests shall be performed on two separate panels.

Impact Load:

Base panel supported and supporting understructure shall be capable of supporting an impact load of 150 lbs. dropped from a height of 30 inches onto a one square inch area using a round or square indenter at any location on the panel when tested in accordance with CISC/A IF, Section 8, "Drop Impact Load Test".

Panel Cutout:

Base panel with an 8.625" diameter interior cutout shall be capable of withstanding an ultimate load of 3,000 lbs. without failure without the use of additional supports.

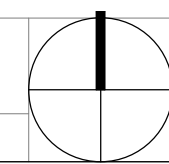
Axial Load:

Pedestal support assembly shall provide a 6,000 lb axial load without permanent deformation when tested in accordance with CISC/A IF, Section 5, "Pedestal Axial Load Test".

Pedestal support assembly shall provide an average overturning moment of 1,000 in-lbs. when glued to a clean, sound, uncured concrete surface when tested in accordance with CISC/A IF, Section 6, "Pedestal Overturning Moment Test".

Stringer Concentrated Load:

Stringer shall be capable of withstanding a concentrated load of 4



2. NOTES APPLY TO ALL TRADES AND DRAWINGS
3. ALL DIMENSIONS ARE REFERENCED FROM FACE OF FRAMING STUD, FACE OF MASONRY, FACE OF CAST-IN-PLACE CONCRETE OR FACE OF PRECAST CONCRETE, UNLESS NOTED OTHERWISE.
4. WHERE REMOVAL OF ITEMS LEAVES A HOLE OR DAMAGED SURFACE THAT WILL BE EXPOSED IN FINISHED WORK, PATCH AND REPAIR DAMAGE TO MATCH ADJACENT FINISHED SURFACE.
5. COORDINATE WORK OF ALL OTHER TRADES WITH YOUR TRADE PRIOR TO STARTING ANY CONSTRUCTION.
6. FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF ANY NEW CONSTRUCTION. NOTIFY ARCHITECT IMMEDIATELY IF DISCREPANCIES ARE FOUND.
7. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE WORK OF ALL TRADES.
8. CONSULT ARCHITECT / STRUCTURAL ENGINEER FOR ANY AND ALL LOCATIONS WHERE UNFORESEEN OR UNUSUAL STRUCTURAL CONDITIONS ARE ENCOUNTERED.
9. DO NOT SCALE DIMENSIONS FROM THESE DRAWINGS. VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.
10. ALLOWING FOR 1" GAPS FOR ALL BASE AND WALL CABINETS, TELEVISIONS, WALL HUNG EQUIPMENT, BATH ACCESSORIES AND WALL APPLIED DOOR HARDWARE.

D 001 PORTIONS OF EXISTING CEILING ASSEMBLY WILL NEED TO BE REMOVED AND REINSTALLED AS PART OF PHASE 1 WORK, IN ORDER TO COMPLETE WORK ASSOCIATED WITH MECHANICAL AND ELECTRICAL RELATIONS. CONTRACTOR TO SALVAGE AND REINSTALL WHERE APPROPRIATE AND REPLACE WITH NEW ASSEMBLIES TO MATCH EXISTING WHERE NECESSARY.

D 002 PORTIONS OF EXISTING CEILING ASSEMBLY WILL NEED TO BE REMOVED AND REINSTALLED AS PART OF PHASE 2 WORK, IN ORDER TO COMPLETE WORK ASSOCIATED WITH MECHANICAL AND ELECTRICAL RELATIONS. CONTRACTOR TO SALVAGE AND REINSTALL WHERE APPROPRIATE AND REPLACE WITH NEW ASSEMBLIES TO MATCH EXISTING WHERE NECESSARY.

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Issue:	Bid Documents
Date:	August 8, 2025
Drawn by:	DEQ
Checked by:	DEQ
Designer:	-
Project Architect:	David Quade

AD1.12

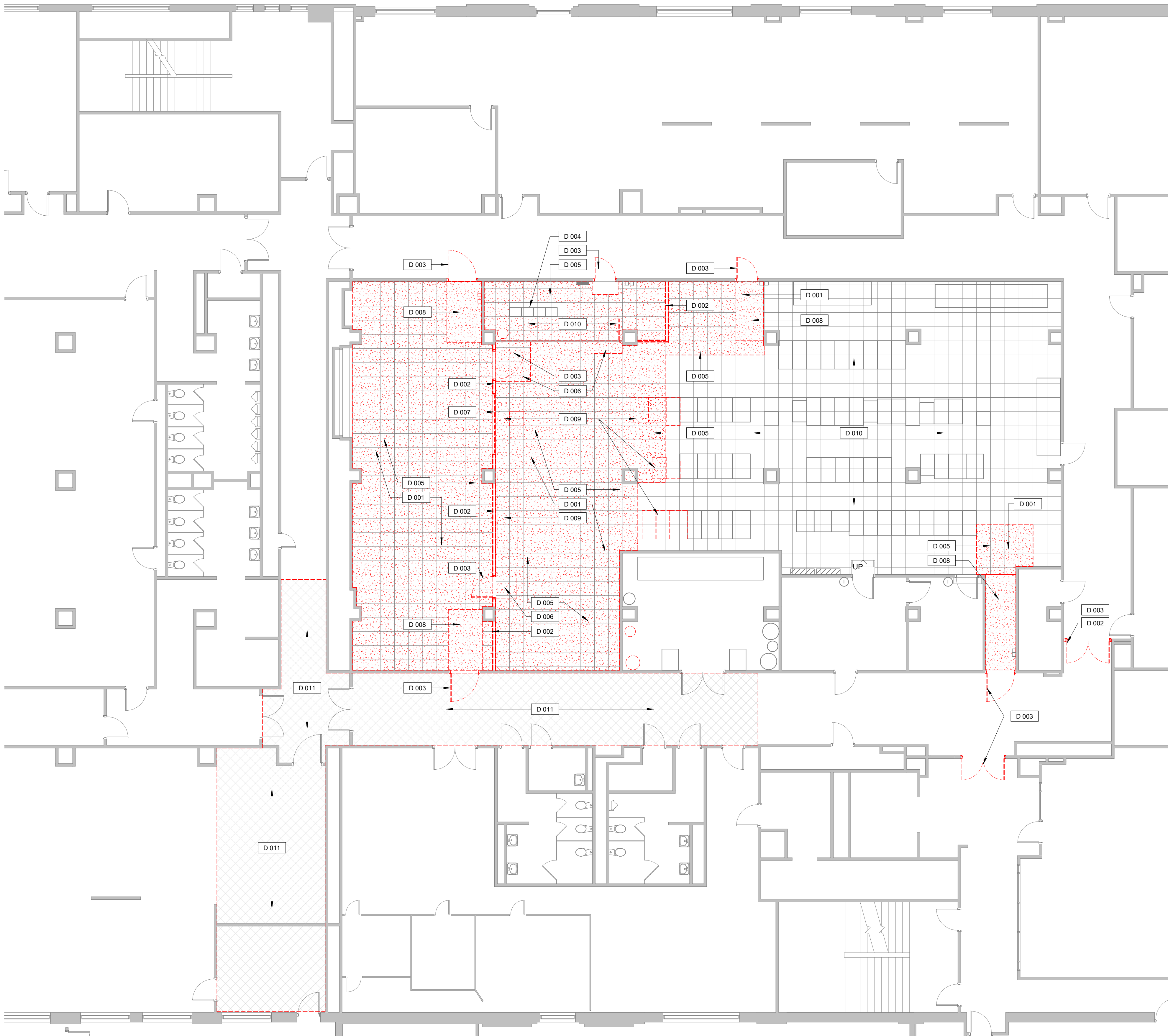
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David Quade

A1

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

PARTIAL SECOND FLOOR ARCHITECTURAL DEMOLITION PLAN - PHASE 1



GENERAL DEMOLITION NOTES

1. THE EXISTING INFORMATION SHOWN ON THE DRAWINGS IS AS EXACT AS COULD BE SECURED INsofar AS BUILDING CONSTRUCTION AND EXISTING CONDITIONS ARE CONCERNED. EXTREME ACCURACY IS NOT GUARANTEED. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED FOR THE ASSISTANCE OF THE CONTRACTOR IN ACHIEVING THE END RESULTS. MANY OF THE DIMENSIONS AND CONDITIONS NOTED ON THE DRAWINGS ARE BASED ON INFORMATION OBTAINED FROM THE ORIGINAL DRAWINGS AND MAY OR MAY NOT BE CORRECT. EXACT LOCATIONS, MEASUREMENTS, DISTANCES, LEVELS, ETC. WILL BE GOVERNED BY CONDITIONS AT THE JOB SITE. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS WHICH AFFECT WORK TO BE PERFORMED AS PART OF THIS PROJECT PRIOR TO ANY NEW CONSTRUCTION OR MATERIAL FABRICATION. ALL DIMENSIONS MUST BE FIELD VERIFIED AND SHOWN ON THE SHOP DRAWINGS OR ON A SEPARATE SUBMITTAL SO ADJUSTMENTS TO DETAILS CAN BE CONSIDERED. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL CONSTRUCTION CHANGES WHICH ARE A RESULT OF EXISTING JOB SITE CONDITIONS, AND WHICH ARE NOT ACCURATELY DOCUMENTED FOR THE OWNER IMMEDIATELY AFTER THE CONTRACTOR'S FIELD VERIFICATION EFFORTS.
2. REFER TO FLOOR PLANS FOR NEW CONSTRUCTION REQUIREMENTS. COORDINATE ALL DEMOLITION WORK WITH ALL NEW CONSTRUCTION INDICATED.
3. ALL BOLD, DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE REMOVED UNLESS NOTED OTHERWISE.
4. THESE PLANS INDICATE MAJOR ITEMS OF DEMOLITION IN THE PROJECT AND ARE NOT INTENDED TO INDICATE ALL DEMOLITION REQUIRED TO COMPLETE THE WORK. ADDITIONAL DEMOLITION MAY BE REQUIRED OF THE CONTRACTOR IN ORDER TO COMPLETE NEW CONSTRUCTION. ANY ADDITIONAL INCIDENTAL DEMOLITION REQUIRED TO COMPLETE WORK IS TO BE INCLUDED AS PART OF THE OVERALL DEMOLITION EFFORT WITH NO ADDITIONAL COSTS BEING ASSESSED TO THE OWNER.
5. CONTRACTOR IS TO PROVIDE OPENINGS IN WALLS AS REQUIRED BY ANY NEW DUCTWORK, CONDUIT OR OTHER UTILITIES. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR SIZE AND LOCATION OF POTENTIAL OPENINGS NOT SPECIFICALLY INDICATED AS PART OF THE DEMOLITION AND ELECTRICAL.
6. CONTRACTOR SHALL FILL ALL OPENINGS IN EXISTING FLOOR SLABS, WALLS AND CEILINGS LEFT BY THE REMOVAL OF EXISTING DUCTWORK, CONDUIT AND OTHER UTILITIES. FILL SIZES SO AS TO MATCH THE EXISTING ADJACENT CONSTRUCTION MATERIALS AND FINISHES. CONTRACTOR TO FIELD VERIFY THE SIZE, NUMBER AND LOCATION OF THESE OPENINGS.
7. REFER TO MECHANICAL AND ELECTRICAL SHEETS FOR ADDITIONAL DEMOLITION SCOPE RELATING TO THOSE SPECIFIC TRADES. IF ADDITIONAL ARCHITECTURAL DEMOLITION IS REQUIRED IN ORDER TO REMOVE THE ITEMS INDICATED FOR DEMOLITION, THE CONTRACTOR SHALL PROVIDE SUCH DEMOLITION AND RECONSTRUCTION AS NECESSARY TO MATCH SURROUNDING EXISTING CONDITIONS THAT REMAIN IN PLACE.
8. REPAIR OR REPLACE ANY EXISTING CONSTRUCTION AND FINISHES SCHEDULED TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OPERATIONS. DAMAGED CONSTRUCTION AND FINISHES SCHEDULED TO REMAIN SHALL BE REPAIRED OR REPLACED TO MATCH EXISTING ADJACENT CONSTRUCTION.
9. UNLESS NOTED OTHERWISE, WHERE EXISTING FIXTURES, ASSEMBLIES OR EQUIPMENT ARE REMOVED, REMOVE AND CAP ASSOCIATED SERVICES IN A CONCEALED LOCATION AND AS REQUIRED FOR NEW WORK. REMOVE OR REMOVE AND SALVAGE) ASSOCIATED CARRIERS AND MOUNTING DEVICES AS REQUIRED FOR REINSTALLATION OR NEW WORK. REFER TO AND COORDINATE WITH MECHANICAL AND ELECTRICAL.
10. SAW CUTTING OF CONCRETE BEYOND THE DIMENSIONS OF THE PLANNED OPENING IS PROHIBITED.
11. REPAIR AND PREPARE ALL EXISTING SURFACES ADJACENT TO DEMOLITION ITEMS AS REQUIRED TO RECEIVE NEW FINISHES.
12. THE OWNER RETAINS THE FIRST RIGHT OF SALVAGE FOR ALL ASSEMBLIES AND EQUIPMENT. IF OWNER DECLINES, THE CONTRACTOR SHALL REMOVE ITEMS FROM THE PREMISES AND DISPOSE OF PROPERLY. VERIFY OWNER'S INTENT PRIOR TO REMOVAL OR DEMOLITION.
13. REMOVE AND SALVAGE MOUNTED ITEMS AS REQUIRED BY THE WORK. REINSTATE ALL UNLESS DIRECTED OTHERWISE BY OWNER.
14. COORDINATE RELOCATION AND STORAGE OF ANY EXISTING FURNISHINGS & EQUIPMENT (SHOWN AND NOT SHOWN) WITH OWNER PRIOR TO COMMENCEMENT OF DEMOLITION ACTIVITIES.
15. MASONRY DEMOLITION SHALL ACCOMMODATE MATCHING EXISTING BOND PATTERNS.
16. ALL EXISTING MOVEABLE FURNISHINGS WILL BE REMOVED BY THE OWNER AS NEEDED FOR CONTRACTOR TO COMPLETE THE WORK. CONTRACTOR TO COORDINATE WITH OWNER.
17. PATCH AND REPAIR EXISTING WALL FINISHES WHERE REMOVAL OF EXISTING HANDRAILS AND GUARDRAILS OCCUR.

SHEET AD2.1 SHEET SPECIFIC DEMOLITION NOTES

- D 001 UNDER SEPARATE CONTRACT, OWNER SHALL COORDINATE THE WORK REQUIRED TO ABATE THE EXISTING VCT FLOORING AND ASSOCIATED ADHESIVE CURRENTLY INSTALLED ON THE CONCRETE SUBFLOOR BELOW THE EXISTING RAISED ACCESS FLOORING ASSEMBLIES.
- D 002 REMOVE WALL ASSEMBLY IN ITS ENTIRETY AS REQUIRED FOR SCHEDULED NEW CONSTRUCTION. COORDINATE REMOVAL AND OR MODIFICATION TO EXISTING MECHANICAL OR ELECTRICAL COMPONENTS WITH MECHANICAL AND ELECTRICAL PLANS.
- D 003 REMOVE DOOR AND ASSOCIATED FRAME ASSEMBLY IN THEIR ENTIRETY.
- D 004 **MAINTAIN EXISTING RAISED ACCESS FLOOR PANELS AROUND EXISTING DATA EQUIPMENT SCHEDULED TO REMAIN IN PLACE AND OPERATIONAL THROUGHOUT DURATION OF CONSTRUCTION.**
- D 005 REMOVE EXISTING RAISED ACCESS FLOORING ASSEMBLY IN ITS ENTIRETY TO ALLOW FOR THE ABATEMENT OF EXISTING FLOORING MATERIALS BENEATH RAISED ACCESS FLOORING WHICH WILL OCCUR UNDER A SEPARATE OWNER MANAGED CONTRACT. ONCE ABATEMENT HAS BEEN COMPLETED, PREP AND LEVEL FLOOR AS REQUIRED TO PROVIDE A UNIFORM SUBFLOOR ASSEMBLY BENEATH THE NEW RAISED ACCESS FLOORING SHOWN IN THE NEW CONSTRUCTION PLANS.
- D 006 REMOVE RAISED ACCESS FLOORING STEP ASSEMBLY IN ITS ENTIRETY. COORDINATE REMOVAL WITH OWNER AND THE SCHEDULED ABATEMENT OPERATIONS. PREP AND LEVEL FLOOR AS REQUIRED FOR NEW CONSTRUCTION.
- D 007 REMOVE EXISTING WINDOW ASSEMBLY IN ITS ENTIRETY.
- D 008 REMOVE EXISTING RAMP AND ASSOCIATED COMPONENTS IN THEIR ENTIRETY.
- D 009 REMOVAL OF MEP-RELATED AND OR IT DATA RACK - REFER TO MEP PLANS FOR ADDITIONAL INFORMATION.
- D 010 **COMPUTER ROOM WILL BE LIVE DURING CONSTRUCTION. CONTRACTOR SHALL PROTECT EXISTING EQUIPMENT AS REQUIRED. CLEANLINESS OF THE EQUIPMENT AREA IS OF UTMOST IMPORTANCE. CONTRACTOR SHALL EMPLOY PHYSICAL ISOLATION, FILTRATION OR VACUUM MEANS TO MAINTAIN A CLEAN ENVIRONMENT WHEN WORKING WITHIN AND ADJACENT TO THIS ROOM.**
- D 011 PORTIONS OF EXISTING CEILING ASSEMBLY WILL NEED TO BE REMOVED AND REINSTALLED IN ORDER TO COMPLETE WORK ASSOCIATED WITH MECHANICAL AND ELECTRICAL INSTALLATIONS. CONTRACTOR TO SALVAGE AND REINSTALL WHERE APPROPRIATE AND REPLACE WITH NEW ASSEMBLIES TO MATCH EXISTING WHERE NECESSARY.

UNIVERSITY OF
Nebraska
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UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall Data Center
Building Number: C024
Building Acronym NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
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Consultant Project #: 24518
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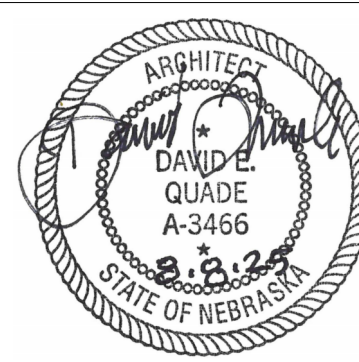
ARCHITECT OF RECORD

Consultant Project #: 24030
Certificate of Authorization #: CA-0285

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REVISION SCHEDULE

#	Date	Revision Description

Issue: Bid Documents

Date: August 8, 2025

Drawn by: NJP, DEQ

Checked by: DEQ

Designer: -

Project Architect: David Quade

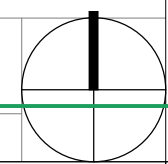
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Sheet Title:

**Partial Second Floor
Architectural Demolition
Plan - Phase 1**

Sheet Number:

AD2.1



SHEET AD2.2 SHEET SPECIFIC NOTES

	Issue:	Bid Documents
	Date:	August 8, 2025
	Drawn by:	NJP, DEQ
	Checked by:	DEQ
	Designer:	-
	Project Architect:	David Quade

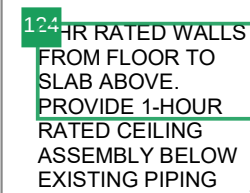
ARCHITECT
DAVID E. QUADE
A-3446
8.8.29
STATE OF NEBRASKA

Issue:	Bid Documents
Date:	August 8, 2025
Drawn by:	NJP, DEQ
Checked by:	DEQ
Designer:	-
Project Architect:	David Quade

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AD2.2



EXISTING CONCRETE FLOOR TO REMAIN UNFINISHED. PROVIDE RUBBER WALL BASE AT ALL WALLS IN ROOM. RUBBER WALL BASE TO ALSO BE APPLIED TO BOTH SIDES OF NEW WALLS.

- UNL Project Name:

UNL NE Hall Data Center Upgrade

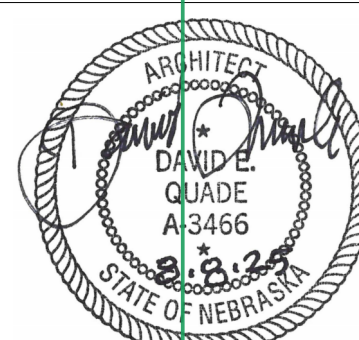
UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall
Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:
COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835
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Seal:

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Issue:	Bid Documents
Date:	August 8, 2023
Drawn by:	DEC
Checked by:	DEC

Designer:	
Project Architect:	David Quade

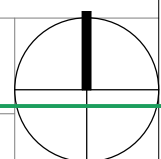
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Sheet Title:

**Partial First Floor
Architectural Floor Plan -
Phase 1**

Sheet Number:

A1.1



SHEET 24.1 SHEET SPECIFIC NOTES

NOTE 1	HEIGHT OF RAISED ACCESS FLOORING TO ALIGN WITH EXISTING FLOORING SCHEDULED TO REMAIN IN PLACE.
NOTE 2	15' W/ RAISED ACCESS FLOORING TO BE INSTALLED ONCE ABATEMENT ACTIVITIES ARE COMPLETED. PREP AND LEVEL EXISTING CONCRETE SUBFLOOR. CONTRACTOR SHALL APPLY 1" GARBARIER TO EXISTING CONCRETE SUBFLOOR. CONTRACTOR SHALL FILL BELOW RAISED ACCESS FLOORING TO AN ELEVATION OF 4-INCHES ABOVE FINISHED FLOOR PRIOR TO INSTALLATION OF NEW RAISED ACCESS FLOORING. CONTRACTOR SHALL PROVIDE ALL NECESSARY COMPONENTS NECESSARY TO PROVIDE A COMPLETE FINISHED FLOOR ASSEMBLY.
NOTE 3	16' WIRE PARTITION AS FAR EAST AS POSSIBLE. 17' ALLOWING ACCESS TO AND OPERATION OF EXISTING ELECTRICAL PANEL ON NORTH WALL.
NOTE 4	INSTALL NEW RAISED ACCESS FLOORING RAMP AND PREP AND LEVEL EXISTING CONCRETE SUBFLOOR TO RECEIVE RAMP ASSEMBLY. CONTRACTOR SHALL PREP AND LEVEL EXISTING SUBFLOOR AND PAINT WALL AREAS THAT FALL BELOW THE RAISED ACCESS FLOORING TO AN ELEVATION OF 4-INCHES ABOVE FINISHED FLOOR PRIOR TO REINSTALLATION OF THE RAISED ACCESS FLOORING ASSEMBLY. CONTRACTOR SHALL SALVAGED RAISED ACCESS FLOORING ONCE ABATEMENT ACTIVITIES ARE COMPLETED IN AND AROUND AREA OF NEW RAMP. PREP AND LEVEL EXISTING CONCRETE SUBFLOOR TO RECEIVE RAISED ACCESS FLOORING AND RAMP ASSEMBLY. CONTRACTOR SHALL INSTALL A NEW RAISED ACCESS FLOORING RAMP AND PAINT WALL AREAS THAT FALL BELOW THE RAISED ACCESS FLOORING TO AN ELEVATION OF 4-INCHES ABOVE FINISHED FLOOR PRIOR TO REINSTALLATION OF THE RAISED ACCESS FLOORING ASSEMBLY.
NOTE 5	MOST OF NEW WALL IS TO BE PARTIAL HEIGHT WITH A SOLID SURFACE FINISHED CAP. PROVIDE FULL HEIGHT TO THE ASSEMBLY TO THE NORTH WALL OF ADJACENT MECHANICAL 22A ROOM TO THE EAST OF THE NEW RAMP.
NOTE 6	REPAIR OF STUD WALLS EAST 58" WEST OF FINISHED FACE OF EXISTING COLUMN.
NOTE 7	PATCH / REPAIR EXISTING TILE FLOOR AT LOCATION - (DOOR AND) (WALL). CONTRACTOR SHALL REMOVE DEMOLITION. UTILIZE TILE FROM OWNER'S ATTIC STOCK AND MATCH GROUT. FINISH INSTALLATION SHOULD SUCCESSFULLY INTEGRATE WITH SURROUNDING EXISTING CONDITIONS.
NOTE 8	EXISTING DATA EQUIPMENT TO REMAIN IN PLACE AND COORDINATE THROUGHOUT CONSTRUCTION. CONSTRUCTION, THEREFORE, THE FOUR (4) RAISED ACCESS PANELS WILL NOT BE ABLE TO BE REMOVED IN THIS AREA.
NOTE 9	NEW RAISED ACCESS FLOORING. CONTRACTOR TO PREP AND LEVEL EXISTING CONCRETE SUBFLOOR AROUND AREA AND SHAPE TO RECEIVE RAISED ACCESS FLOORING. CONTRACTOR SHALL PREP AND LEVEL EXISTING SUBFLOOR AND PAINT WALL AREAS THAT FALL BELOW RAISED ACCESS FLOORING TO AN ELEVATION OF 4-INCHES ABOVE FINISHED FLOOR PRIOR TO REINSTALLATION OF NEW RAMP ASSEMBLY. CONTRACTOR TO COORDINATE INSTALLATION OF NEW ASSEMBLY INTO EXISTING EXHAUSTING EQUIPMENT. CONTRACTOR TO EMPLOY PHASE 2 WORK IN A MANNER THAT PROVIDES A CLEAN AND UNIFORM FINISH TO THIS ROOM.
NOTE 10	COMPUTER ROOM WILL BE LIVE DURING CONSTRUCTION. CONTRACTOR SHALL PROTECT EXISTING EQUIPMENT AS REQUIRED. CLEANLINESS OF THE EQUIPMENT AREA IS THE ULTIMOST IMPORTANCE. CONTRACTOR SHALL EMPLOY PHYSICAL ISOLATION, FILTRATION OR VACUUM MEANS TO MAINTAIN A CLEAN ENVIRONMENT WHEN WORKING WITHIN OR ADJACENT TO THIS ROOM.

Issue:	Bid Documents
Date:	August 8, 2025
Drawn by:	NJP, DEQ
Checked by:	DEQ
Designer:	-
Project Architect:	David Quade

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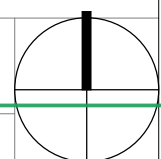
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Sheet Title:

**Partial Second Floor
Architectural Floor Plan
Phase 1**

Sheet Number:

A2.1



SHEET A2.2 SHEET SPECIFIC NOTES

NOTE 1 HEIGHT OF RAISED ACCESS FLOORING TO ALIGN WITH EXISTING FLOORING SCHEDULED TO REMAIN IN PLACE.

NOTE 2 1. FILL WALL WHERE DOOR AND ASSOCIATED FRAME ARE SCHEDULED FOR REMOVAL. INFILL WALL ASSEMBLY SHALL BE MATERIALS TO BE USED FOR THE REMOVED DOOR CONSTRUCTION. PAINT NEW WALL ASSEMBLY INFILL TO MATCH SURROUNDING CONDITIONS. IF UNABLE TO MATCH NEW PAINTED WALL TO EXISTING WALL, MATCH EXISTING FINISHES, RE-PAIN ENTIRE WALL.

NOTE 3 ENTIRE CEILING AREA TO BE CLEANED AND PAINTED TO MATCH ADJACENT EXPOSED CEILING CONDITIONS.

NOTE 4 1. NO PAINT WILL BE APPLIED TO WALLS BEING REMOVED. DEMISING WALL IN CORRIDOR.

NOTE 5 1. INSTALL NEW WALL BASE TO MATCH EXISTING WALL BASE. IF UNABLE TO MATCH TO EXISTING BASE, REMOVE WALL BASE ALONG ENTIRE LENGTH OF WALL AT POINT WHERE A LOGICAL TRANSITION CAN OCCUR AND THEN INSTALL NEW WALL BASE AS APPROPRIATE.

NOTE 6 1. EXISTING RAISED ACCESS RAMP DOORS TO BE REMOVED. INSTALLED UNDER PHASE 1 WORK TO REMAIN.

NOTE 7 1. EXISTING RAISED ACCESS RAMP ASSEMBLY PREVIOUSLY INSTALLED UNDER PHASE 1 WORK TO REMAIN.

NOTE 8 1. EXISTING SHOWER STALL TO BE REMOVED. NEW WALL ASSOCIATED WITH THESE DOOR(S) WAS PART OF PHASE 1 CONSTRUCTION. NO ADDITIONAL WORK ASSOCIATED WITH THESE DOORS IS SCHEDULED AS PART OF PHASE CONSTRUCTION.

NOTE 9 1. ALIGN FINISHED FACE OF NEW WALL WITH FINISHED FACE OF EXISTING ADJACENT WALLS.

NOTE 10 1. ALL WORK TO BE COMPLETED WHILE LIVE/DURING CONSTRUCTION. CONTRACTOR SHALL PROTECT EXISTING EQUIPMENT AS REQUIRED. CLEANLINESS OF ALL EQUIPMENT ARE REQUIRED. CONTRACTOR SHALL MAINTAIN CONTRACTOR SHALL EMPLOY PHYSICAL ISOLATION, FILTRATION OR VACUUM MEANS TO MAINTAIN A CLEAN ENVIRONMENT WHEN WORKING WITHIN AND ADJACENT TO THIS ROOM.

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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Consultant Project #: 24030
Certificate of Authorization #: CA-0285

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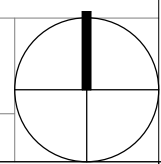
ARCHITECT
DAVID E. QUADE
A-3466
8.8.25
STATE OF NEBRASKA

Issue:	Bid Documents
Date:	August 8, 2025
Drawn by:	NJP, DEQ
Checked by:	DEQ
Designer:	-
Project Architect:	David Quade

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A2.2



101423.19.A BLACK VINYL STICK-ON CHARACTER. AFIX TO FINISHED FACE OF WALL OR COLUMN WITH TOP OF CHARACTER 2" BELOW FINISHED CEILING. ALIGN EACH LABEL WITH CENTER OF RESPECTIVE RAF GRID PANEL. BASIS OF DESIGN PRODUCT: SETON VINYL CHARACTER SIGN.

NOTE 1 VINYL SIGNAGE TO BE CENTERED ON RESPECTIVE RA
FLOOR PANEL. TYPICAL.

UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall
Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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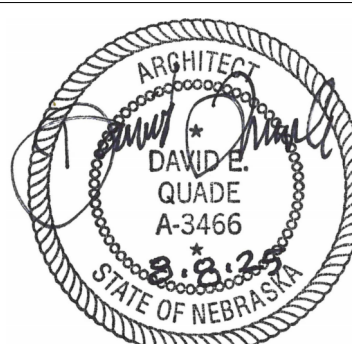
ARCHITECT OF RECORD

Consultant Project #: 24030
Certificate of Authorization #: CA-0285

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Seal:

[illegible]

Issue: Bid Documents

Date: August 8, 202

Drawn by: NJI

Checked by: _____ DEC _____

Designer:

Project Architect: David Quade

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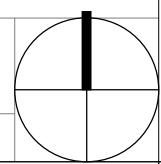
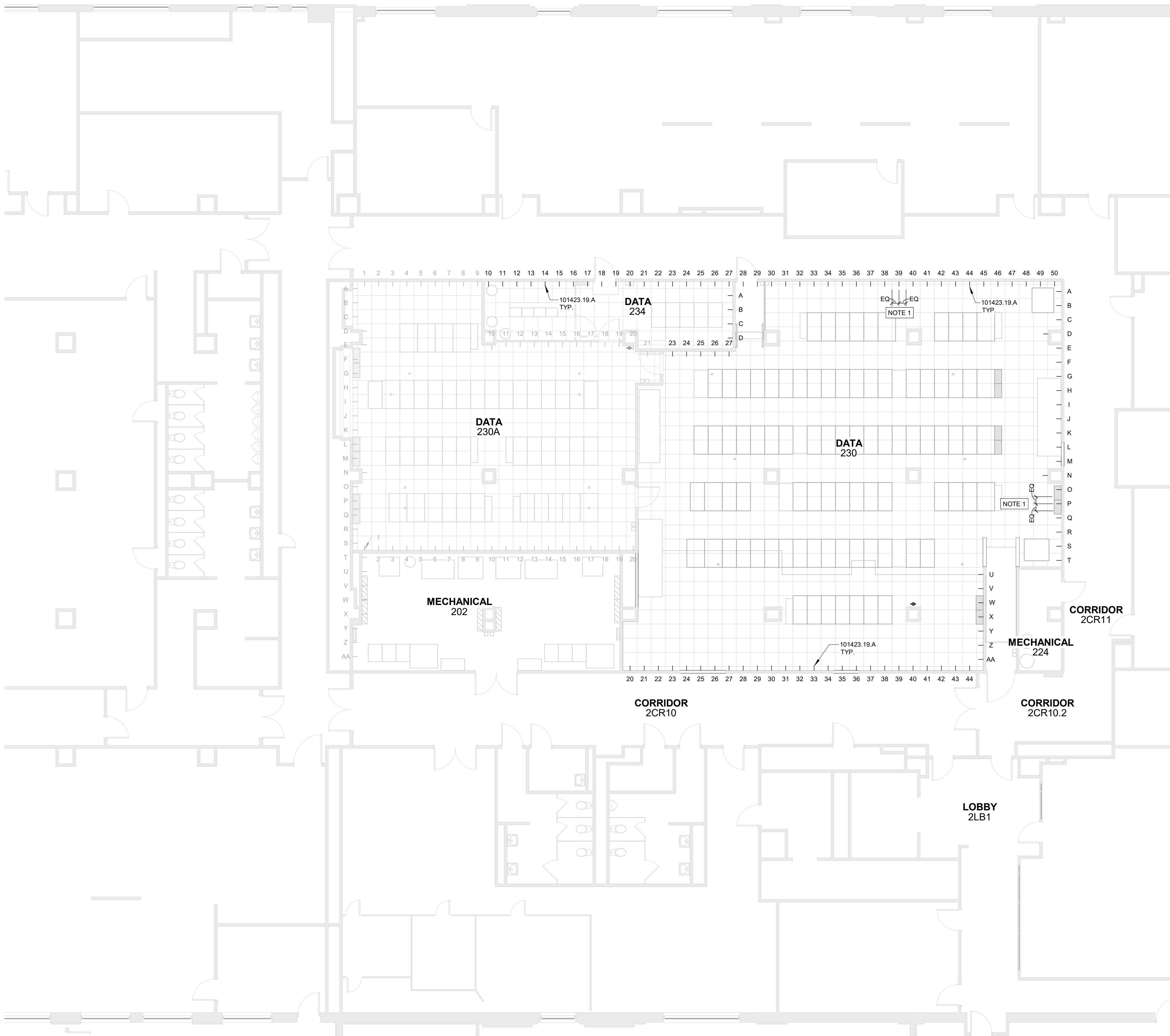
Signage Plan - Phase 1

Sheet Number:

A3.1

Autodesk Docs/24030_UNL_Nebraska Hall Data Center Upgrade/24030_UNL_NE Hall Data Center Upgrade_V02_2025.rvt

8/7/2025 3:55 PM
David Quade



KEYNOTE LEGEND

101423.19.A BLACK VINYL STICK-ON CHARACTER. AFIX TO FINISHED FACE OF WALL OR COLUMN WITH TOP OF CHARACTER 2" BELOW FINISHED CEILING. ALIGN EACH LABEL WITH CENTER OF RESPECTIVE RAF GRID PANEL. BASIS OF DESIGN PRODUCT: SETON VINYL CHARACTER SIGN.

SHEET A3.2 SHEET SPECIFIC NOTES

NOTE 1 VINYL SIGNAGE TO BE CENTERED ON RESPECTIVE RAF FLOOR PANEL, TYPICAL.



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
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Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

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MECHANICAL & ELECTRICAL ENGINEERING
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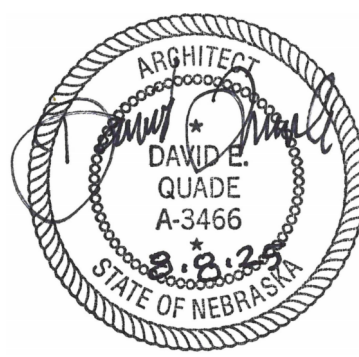
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Consultant Project #: 24030
Certificate of Authorization #: CA-0285

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REVISION SCHEDULE

#	Date	Revision Description

Issue: Bid Documents

Date: August 8, 2025

Drawn by: NJP

Checked by: DEQ

Designer: -

Project Architect: David Quade

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Sheet Title:

Signage Plan - Phase 2

Sheet Number:

A3.2

A1

SIGNAGE PLAN - PHASE 2

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

ROOM FINISH SCHEDULE - PHASE 2															
No.	Name	Floor Finish	Base	North Wall		East Wall		South Wall		West Wall		Ceiling		NOTES	No.
				Material	Finish	Material	Finish	Material	Finish	Material	Finish	Material	Finish		
2CR10	CORRIDOR	EXTG PT (2)	RWB-1 (1)	EXTG GWB / GWB INFILL (5)	PNT-2 (4)	EXTG GWB	-	EXTG GWB	-	-	-	EXTG APC (15)	-	1, 2, 4, 5, 7, 15	2CR10
2CR11	CORRIDOR	EXTG PT (2)	RWB-1 (1)	-	-	-	-	-	-	EXTG GWB / GWB INFILL (5)	PNT-2 (4)	-	-	1, 2, 4, 5	2CR11
230	DATA	RAF-1 / PNT (10)	RWB-1 (11)	EXTG GWB	PNT-1 (12, 19)	EXTG GWB / GWB INFILL (5)	PNT-1 (12, 19)	EXTG GWB / GWB	PNT-1 (12, 19)	EXTG GWB / GWB	PNT-1 (12, 19)	EXTG CONCRETE	PNT-1 (13)	5, 9, 10, 11, 12, 13, 19	230

NO SCALE

NO SCALE

[illegible][illegible][illegible]

1 **DOOR READER - REFER TO ELECTRICAL DRAWINGS**
2 **KEY PAD - REFER TO ELECTRICAL DRAWINGS**
3 EXISTING CARD READER AND KEY PAD TO REMAIN - REFER TO ELECTRICAL DRAWINGS
4 EXISTING DOOR AND HARDWARE TO REMAIN
5 RATING ON DOOR ASSEMBLY IS NOT A REQUIREMENT OF LIFE SAFETY. RATING IS TO BE PROVIDED TO OBTAIN DESIRED CERTIFICATIONS.

MANUFACTURER LIST			
MAR	MARRA	SAR	SARGENT
MCK	MCKINNEY	SCH	SCHLAGE
OTH	BY OTHERS	SEC	SECURITRON
PEM	PEMKO	XXX	EXISTING TO REMAIN
ROC	ROCKWOOD		
OPTION LIST			
CODE: NAME:			
55	SIGNAL SWITCH IN RAIL		
CSK	COUNTERSUNK SCREW HOLES		
53	LATCHBOLT MONITOR SWITCH		
LN	ROSE DESIGN		
NRP	NON REMOVABLE PIN		
C	LESS CYLINDER		
L	LEVER DESIGN		
NAC	ELECTRIFIED LOCK WITH HIGH SECURITY MONITORING		

						Set #5.0 Doors: 2CR10.3, 202.1	
T42714R 5" x 4 1/2"		26D	MCK	6	Butt Hinges	TA2714 NRP 4 1/2" x 4 1/2"	26D
TEF 2+HC		626	MCK	2	Power Transfer Hinge	TEF 2+HC	626
LC NAC 8271 UNL		US32D	SAR	1	Keyed Removable Mullion	L869C Door Height	GRY
20-7XX (key to facility Primus key system)		626	SCH	1	Mullion Cylinder Kit	980-C1 (less cylinder)	626
EN SAR		626	SCH	1	Mortise Cylinder	20-7XX (key to facility key system)	26D
K1050 10" x 2" LDW BAE CSK		RUC	ROC	2	Wire Rod Exit (ref. rx. monitor)	53 SS R810 (less rim)	US32D
S88 BL (head & jambs)		PEM	PEM	1	Elect Rim Exit (etf/rm. rx. monitor)	53 SS LC 8876 ETL	US32D
Per Facility Standards		MCK	MCK	1	Rim Cylinder	20-XXX (key to facility Primus key system)	626
Per Facility Standards (size for opening)		MCK	MCK	2	Closer (parallel, stop arm)	K1 Plate	EN
Centralized by Security Integrator		OTH	OTH	1	Perimeter Seal	K1050 10" x 1" LDW BAE CSK	US32D
By Security System Integrator		OTH	OTH	1	Mullion Seal	5110 BL	
				2	Wire Harness (door)	Per Facility Standards (size for opening)	
UNL Detail 1/1A1.0		CARD ACCESS ROUGH-IN DETAIL		2	Wire Harness (frame)	Per Facility Standards	
for additional information.				1	Power Supply	Centralized by Security Integrator	
				1	Card Reader / Keypad (202.1 only)	By Security System Integrator	
				1	Card Reader (2CR10.3 only)	By Security System Integrator	
				NOTE:			
				* Card Reader / Keypad existing to remain for door 236.1			
				* Install access control components per UNL Detail 1/1A1.0I CARD ACCESS ROUGH-IN DETAIL			
				* See electrical and access control plans for additional information.			
				Set #6.0			
				Doors: 234.3			
TA2714 4 1/2" x 4 1/2"		26D	MCK		Gate Spring Hinges	By Gate System Supplier	
TEF 2+HC		626	MCK		1 Gate Lock w/ Key	By Gate System Supplier	
LC NAC 8271 UNL		US32D	SAR		1 Electric Strike	By Gate System Supplier	
20-XXX (key to facility Primus key system)		626	SCH		1 Keyed Cylinder	Primus - Verify Type, Keyed to System	
EN SAR		626	SCH		1 Wiring Harnesses (as req'd)	BY UNL BS/MFMP	
K1050 10" x 2" LDW BAE CSK		RUC	ROC		Linear Power Supply		
40 9		626	ROC				
S88 BL (head & jambs)		PEM	PEM				
Per Facility Standards		MCK	MCK				
Per Facility Standards (size for opening)		MCK	MCK				
Centralized by Security Integrator		OTH	OTH				
By Security System Integrator		OTH	OTH				

UNL Detail 1/1 01 CARD ACCESS ROUGH-IN DETAILS

[illegible]

PROVIDE RUBBER WALL BASE WHERE EXISTING DOOR HAS BEEN REMOVED AND INFILLED TO MATCH SURROUNDING CONDITIONS
1 WALL BASE TO MATCH ADJACENT EXISTING WALL BASE. IF AN ACCEPTABLE MATCH IS NOT POSSIBLE AT THE AREA OF WALL
INFILL, REMOVE EXISTING WALL BASE FROM LOGICAL FULL LENGTH OF WALL (EXISTING DOOR FRAME TO INSIDE OR OUTSIDE
2 OF ROOM). CONTRACTOR SHALL PATCH AND FINISH WALL SURFACES TO MATCH ADJACENT EXISTING WALL SURFACES.

3 PROTECT EXISTING PORCELAIN TILE FLOOR FROM DAMAGE ASSOCIATED WITH REMOVAL AND REPLACEMENT OF EXISTING HM
FRAMES. IF TILE IS DAMAGED, CONTRACTOR TO REPAIR / INFILL TILE WITH MATERIAL FROM OWNER'S ATTIC STOCK AND GROUT
MATCHING ADJACENT EXISTING CONDITIONS.

4 FINISH GWB INFILL WHERE CONTRACTOR'S BLEND WITH FINISH OF ADJACENT EXISTING SURFACES.

5 PAINTED FINISH IS TO MATCH ADJACENT EXISTING SURFACES IN COLOR AND SHEEN. IF INFILLED AREA STILL STANDS OUT AS A
WALL PATCH, CONTRACTOR SHALL PAINT ENTIRE WALL SURFACE AREA UP TO THE MOST LOGICAL POINT OF TRANSITION SUCH
6 AS CORNER OR DOOR FRAME. CONTRACTOR SHALL PATCH AND FINISH WALL SURFACES TO MATCH ADJACENT EXISTING WALL SURFACES.

7 PATCHING OF EXISTING GWB WALL SURFACES WILL BE REQUIRED TO ALLOW FOR REPLACEMENT OF EXISTING HM FRAMES AND
WOOD DOORS. ANY GWB INFILL AND PATCHING REQUIRED FOR INSTALLATION OF NEW FRAMES AND CONNECTION TO NEW
CORRIDOR WALL ASSEMBLIES SHALL BE DONE IN A MANNER THAT BLENDS WITH FINISH OF ADJACENT EXISTING SURFACES.

8 CONTRACTOR SHALL PATCH AND PAINT CEILING AT SOUTH WALL OF CORRIDOR 2CR10 IS WALL AREA WHERE WORK IS OCCURRING
FOR INSTALLATION OF DOOR 2BL1.

9 PARTIAL REMOVAL AND REPLACEMENT OF EXISTING CEILING ASSEMBLY WILL BE REQUIRED FOR INSTALLATION AND FINISH OF
NEW WALL ASSEMBLY. CONTRACTOR TO SALVAGE, MODIFY AND REINSTALL CEILING AS REQUIRED TO COMPLETE SCHEDULED
SCOPE OF WORK.

10 NO WORK ASSOCIATED WITH ARCHITECTURAL FINISHES IS SCHEDULED FOR THIS ROOM.

11 OWNER TO COMPLETE ABATEMENT OF EXISTING TILE FLOORING ONCE CONTRACTOR HAS REMOVED AND SALVAGED EXISTING
COMPONENTS OF RAISED ACCESS FLOORING (RAF) ACCEPTABLE FOR REINSTALLATION IN FINISHED CONDITION.

12 CONTRACTOR SHALL RAISE ACCESS FLOORING TO MATCH EXISTING RAISED ACCESS FLOORING. CONTRACTOR SHALL PATCH SUBFLOOR
AS NECESSARY FOR APPLICATION OF SPECIFIED VAPOR BARRIER PRIMER. PRIOR TO INSTALLATION OF PRIMER, CONTRACTOR
SHALL ENSURE THAT SURROUNDING GWB WALL SURFACES HAVE BEEN TAPED AND FINISHED, AND THAT A SEALANT JOINT HAS
13 BEEN APPLIED BETWEEN THE SUBFLOOR AND GWB WALL SURFACES. CONTRACTOR SHALL VERIFY THE SUBFLOOR AND GWB
VERIFICATION OF WALL CONDITIONS HAS OCCURRED, VAPOR BARRIER PRIMER SHALL BE APPLIED TO THE SUBFLOOR AND TO
THE WALL SURFACES TO AN ELEVATION OF APPROXIMATELY 6" ABOVE THE INTENDED FINISH FLOOR ELEVATION OF THE
RAISED ACCESS FLOOR ASSEMBLY.

14 RWB TO BE APPLIED ON WALL ABOVE THE RAISED ACCESS FLOORING ASSEMBLY.

15 CONTRACTOR TO CONFIRM THAT VAPOR BARRIER PRIMER APPLIED TO WALL SURFACE OVERLAPS PRIMER THAT WAS APPLIED 6"
ABOVE RAISED ACCESS FLOORING (RAF) AT THE TIME THE RAF PREP WORK WAS OCCURRING. ALL WALL, SUBFLOOR AND
16 CEILING STRUCTURES TO BE REPAIRED AND FINISHED TO MATCH EXISTING CONDITIONS.

17 FINISHED PART ASSEMBLY AT CEILING SHOULD HAVE A VAPOR BARRIER PRIMER AS PART OF THE FINISH SYSTEM

18 PARTIAL REMOVAL AND REPLACEMENT OF EXISTING CEILING ASSEMBLY WILL BE REQUIRED FOR INSTALLATION OF NEW MEP
WORK. CONTRACTOR TO SALVAGE AND REINSTALL CEILING AS REQUIRED TO COMPLETE SCHEDULED SCOPE OF WORK.

19 EXISTING CORRIDOR FLOORING TO BE REMOVED AND REFINISHED TO MATCH ADJACENT EXISTING FLOORING.

20 INFILL PORCELAIN TILE FLOOR AT LOCATION WHERE EXISTING WALL AND PAIR OF DOORS HAVE BEEN REMOVED WITH ATTIC
STOCK MATERIAL AND GROUT TO MATCH EXISTING CONDITIONS.

21 PATCH EXISTING WALLS WHERE CORRIDOR WALL AND PAIR OF DOORS HAVE BEEN REMOVED. PATCH TO MATCH ADJACENT
EXISTING WALL SURFACES.

22 NEW PAINTED SURFACES ASSOCIATED WITH PHASE 1 WORK ONLY OCCUR AT NEW WALLS AND AT SPECIFIC LOCATIONS WHERE
WALL INFILL OR RAISED ACCESS FLOORING MODIFICATIONS HAVE BEEN MADE. OTHER AREAS OF EXISTING WALLS WILL BE
PAINTED UNDER PHASE 2 WORK.

23 NEW WALLS SURFACES ASSOCIATED WITH PHASE 2 WORK ONLY OCCUR AT NEW WALL INFILLS AND AT EXISTING WALLS
ADJACENT TO LOCATIONS WHERE THE RAISED ACCESS FLOORING IS BEING REPLACED UNDER PHASE 2.

081113.A	HOLLOW METAL DOOR
081113.B	HOLLOW METAL FRAME
106900.A	FIRE RATED GLAZING
106900.A2	RAMP AND ASSOCIATED HANDRAIL/GUARDRAIL SUPPLIED AS PART OF RAISED ACCESS FLOORING SYSTEM. COMPATIBLE WITH ALL APPLICABLE ACCESSIBILITY REQUIREMENTS.
102213.A2	WIRE MESH PARTITION SYSTEM DOOR BASIC-OF-DESIGN PRODUCT: CONATECH SINGLE HINGED CASE DOOR
123661.16.A	1/2" THICK SOLID SURFACE CAP, OVERHANG SOLID SURFACE 1/2" FROM TOP OF WALL. EXPOSED EDGES TO BE BEADED 1/8". BASIC-OF-DESIGN: WILSONART SOLID SURFACE, DESIGNER WHITE D354SL.

NOTE 1 GLAZING TO BE FULLY TEMPERED

NOTE 1 GLAZING TO BE FULLY TEMPERED

UNL Project Name:

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall
Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

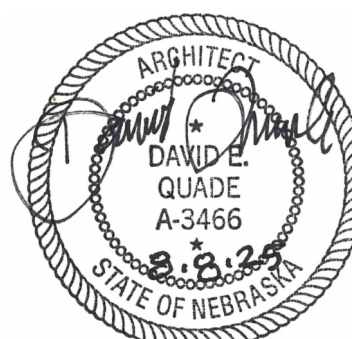
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#	Date	Revision Description
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Issue:	Bid Due:
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Issue:	Bid Documents
Date:	August 8, 2024

Drawn by: DEQ N.IE

Checked by: DEC

Designer:

Project Architect: David Quade

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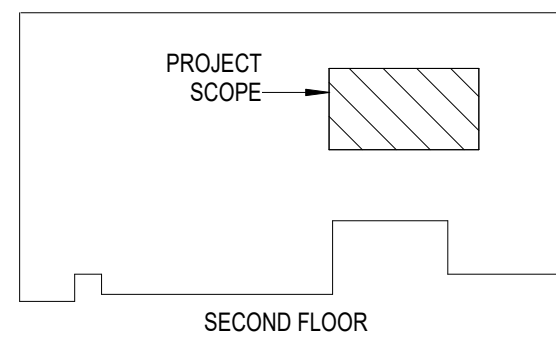
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435 436 Section Details Door

Schedule & Room Finish Schedule

Sheet Number:

A4.0



1. SEE MECHANICAL COVER SHEET M0.0 FOR MECHANICAL GENERAL NOTES.

M001 REMOVE AND RELOCATE EXISTING CRAC UNIT. SEE NEW WORK.

M002 EXISTING MANUAL RELEASE AND ABORT SWITCHES TO REMAIN.

M003 CONTRACTOR SHALL FIELD VERIFY EXISTING CLEAN AGENT SYSTEM LAYOUT AND CONFIGURATION PRIOR TO DEMOLITION TO CONFIRM LAYOUT INDICATED IN PHASE 1 WORK AREA. PROVIDE CLEAN AGENT SYSTEM SHOWN ON DRAWING. REMOVE ALL PIPING, NOZZLES, TANKS, POWER, CONTROL DETECTORS, ETC. COMPLETE AS REQUIRED.

M004 CONTRACTOR SHALL FIELD VERIFY EXISTING CLEAN AGENT SYSTEM LAYOUT AND CONFIGURATION PRIOR TO DEMOLITION TO CONFIRM LAYOUT INDICATED IN PHASE 1 WORK AREA. REMOVE EXISTING CLEAN AGENT SYSTEM THAT EXTENDS INTO LIMITS OF THE PHASE 1 WORK AREA. CAP PIPING BACK TO NEAREST ACTIVE TEE. REMOVE ALL PIPING, HANGERS, NOZZLES, AND DETECTORS IN AREA OF PHASE 1. REMAINING PORTION OF THE CLEAN AGENT SYSTEM SHALL REMAIN ACTIVE.

M005 EXISTING GRAC UNIT REFRIGERANT, CONDENSATE AND WATER LINE ROUTED UNDER THE RAISED FLOOR TO BE REMOVED. CONTRACTOR SHALL CONFIRM FOR THE RELOCATION OF THE EXISTING CRAC UNIT.

M006 EXISTING CLEAN AGENT TANK VOLUME WITH THE EXISTING MNR ROOM. ROOM SIZE / PROTECTS WILL INCREASE AS PART OF THE PHASE 1 WORK. FIRE PROTECTION CONTRACTOR SHALL CONFIRM THAT THE VOLUME OF TANK IS ADEQUATE FOR NEW SPACE VOLUME. PROVIDE NEW CLEAN AGENT TANK SYSTEM AS REQUIRED. EXISTING CLEAN AGENT TANK SHALL BE REMOVED (OR RELOCATED IF RELOCATION IS FOUND ADEQUATE). COORDINATE NEW TANK (OR RELOCATION) WITH NEW WORK.

M007 REMOVE EXISTING MANUAL RELEASE AND ABORT SWITCHES FOR THE CLEAN AGENT SYSTEM SERVING THIS AREA. CONFIRM DEVICES SERVE CLEAN AGENT SYSTEM SERVING THIS AREA.

M008 EXISTING COLD WATER AND DRAIN VALVE STATION FOR EMERGENCY COOLING UNIT CONNECTION TO REMAIN.

M009 REMOVE EXISTING SECTION OF UNDERFLOOR CLEAN AGENT PIPING THAT WILL FALL INSIDE THE NEW UPS ROOM.

M020 REMOVE WALL GRILLE. PATCH AND PAINT WALL OPENING TO MATCH SURROUNDING WALL AREA.

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UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall
Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
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Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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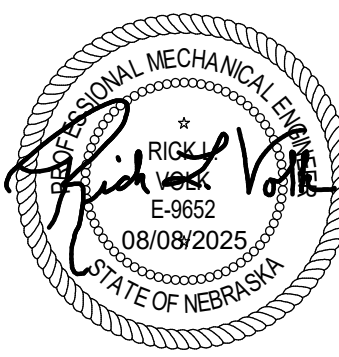
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Date: August 8, 2025

Drawn by: RLV

Checked by: _____ Initials: _____

Designer:

Project Architect: David Quade

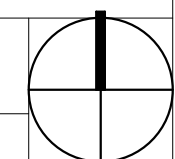
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Sheet Title:
**PARTIAL SECOND FLOOR
PLAN - MECHANICAL
DEMOLITION - PHASE 1**

Sheet Number:

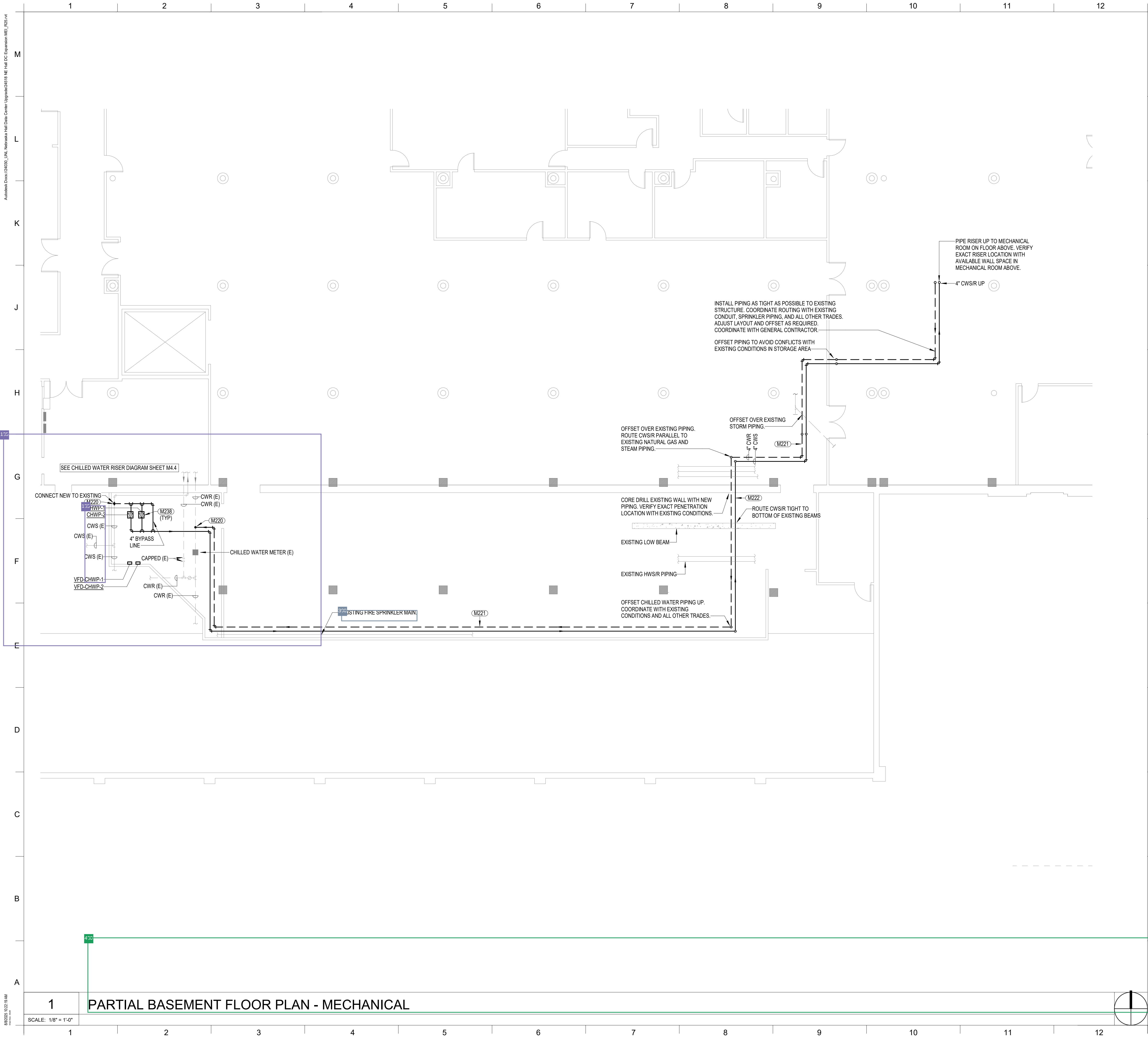
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KEYPLAN



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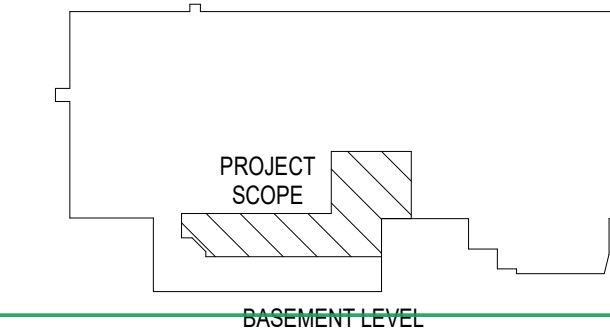


MECHANICAL GENERAL NOTES

1. SEE MECHANICAL COVER SHEET M0.0 FOR MECHANICAL GENERAL NOTES.

KEYNOTES

- M220 CONTRACTOR SHALL HOT TAP NEW 4" CHILLED WATER LINES TO THE EXISTING CHILLED WATER MAINS SERVING NEBRASKA HALL (6" - VERIFY). VERIFY EXACT LOCATION OF TAPS WITH NEW PIPE LAYOUT OF SPACE AND CLEARANCES REQUIRED FOR TAPPING PROCEDURE. COORDINATE TAPS WITH UNL 3 WEEKS IN ADVANCE OF WORK WITH WRITTEN PROCEDURE LIST. PERFORM WORK DURING OFF HOURS.
- M221 COORDINATE PIPE ROUTING ACROSS BASEMENT LEVEL WITH EXISTING CONDITIONS. ROUTE PIPING AS HIGH AS POSSIBLE TIGHT TO STRUCTURE. OFFSET PIPING AS REQUIRED TO AVOID CONFLICTS. ADJUST LIGHTING LAYOUT AND MISCELLANEOUS CONDUIT / SPRINKLER PIPING CONFIGURATION TO ALLOW FOR AS FEW OF TRANSITIONS AS POSSIBLE IN NEW PIPING.
- M222 NOT ALL TRANSITIONS REQUIRED FOR PIPE ROUTING ACROSS BASEMENT SHOWN. COORDINATE PATHWAY WITH EXISTING CONDITIONS AND DEVELOP THE MOST DIRECT ROUTING WITH FEWEST CONFLICTS. TRANSITION PIPING WHERE NEEDED.
- M238 SUPPORT NEW INLINE PUMPS FROM BUILDING STRUCTURE. PROVIDE SPRING VIBRATION SYSTEM TO PROTECT VIBRATION AND SOUND TRANSMISSION THROUGH FLOOR. SUPPORT HANGERS SHALL BE KINETICS KSIP OR APPROVED EQUAL.



KEYPLAN



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

SHA Project Number: 24030
Project Address: 900 N 16th Street
Lincoln, NE 68508

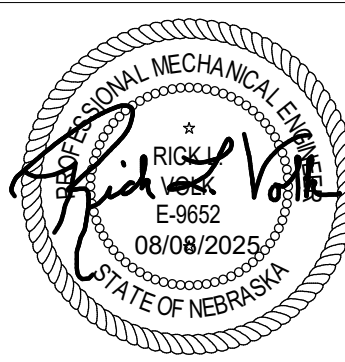
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Consultant Project #: 24030
Certificate of Authorization #: CA-0285
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Certificate of Authorization #: CA-0835
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Project Architect: David Quade

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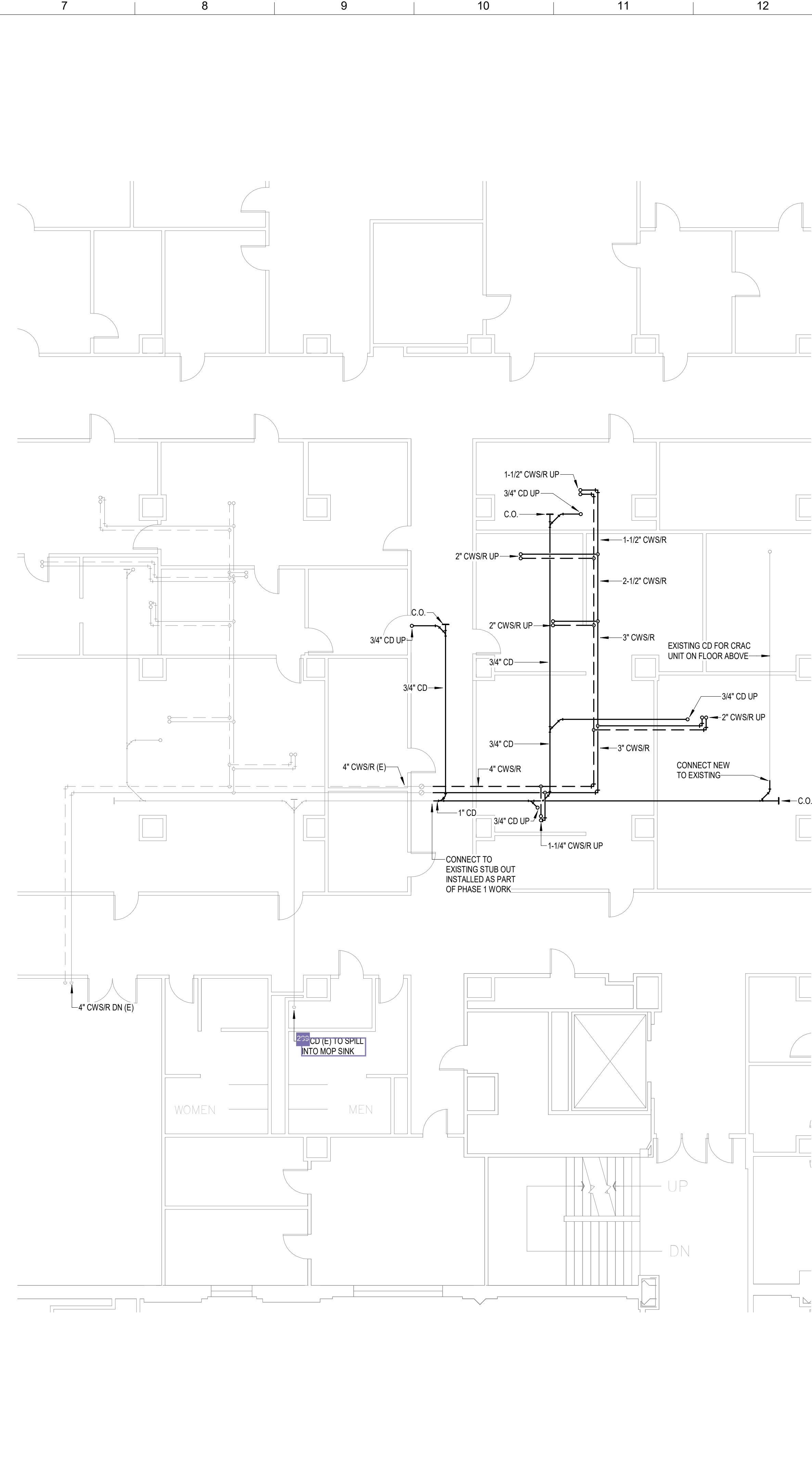
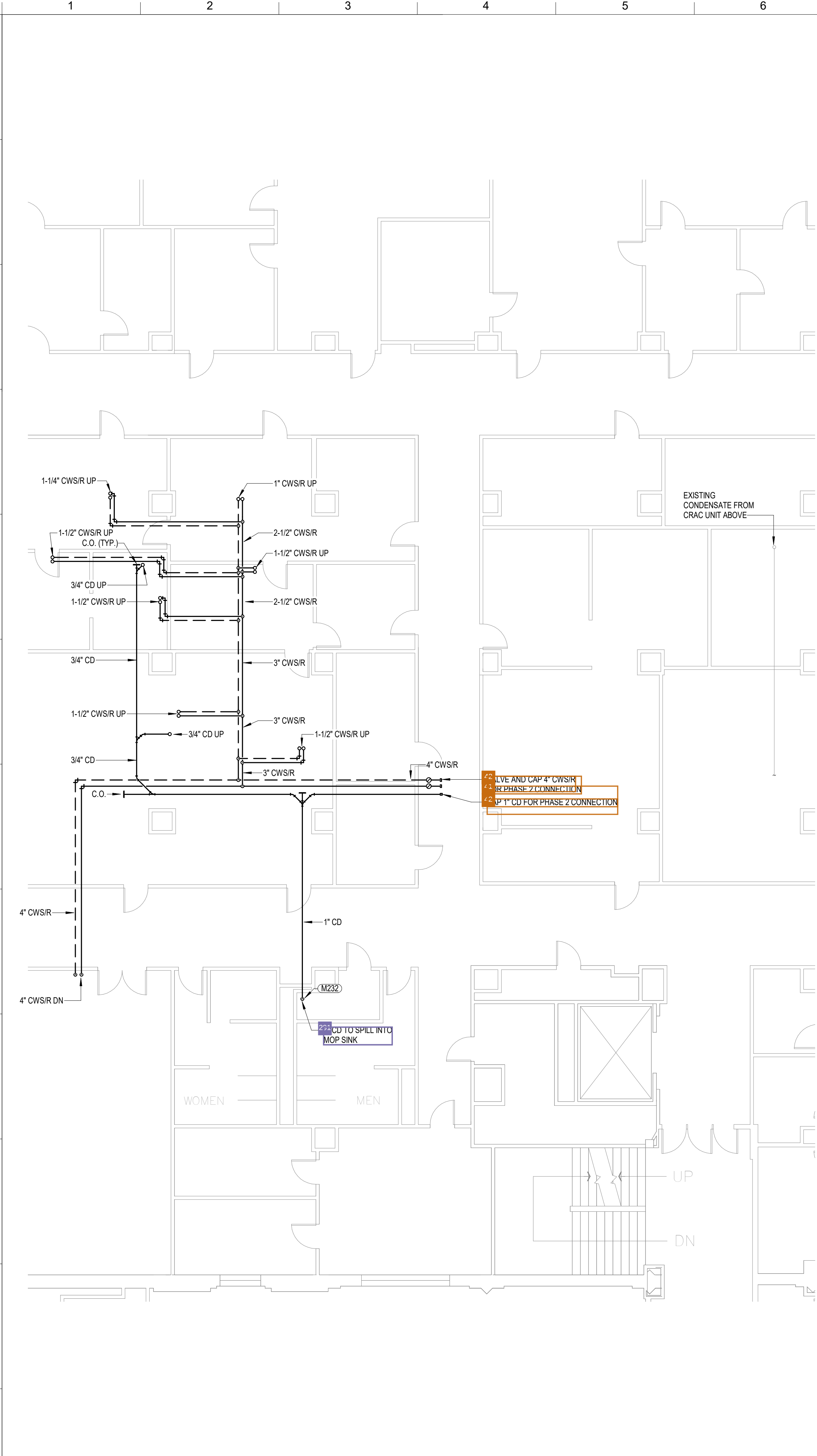
PARTIAL BASEMENT FLOOR PLAN - MECHANICAL - PHASE 1

Sheet Number:

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David Quade

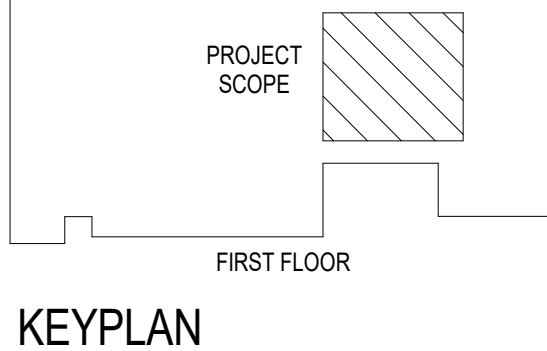


MECHANICAL GENERAL NOTES

1. SEE MECHANICAL COVER SHEET M0.0 FOR MECHANICAL GENERAL NOTES.

KEYNOTES

M232 **COORDINATE ROUTING OF 1\"/>**



KEYPLAN



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

SHA Project Number: 24030
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

ARCHITECT OF RECORD
Consultant Project #: 24030
Certificate of Authorization #: CA-0285

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Consultant Project #: 24518
Certificate of Authorization #: CA-0835

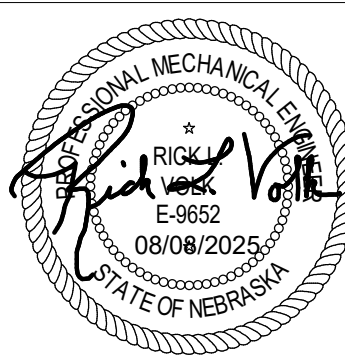
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REVISION SCHEDULE

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Issue: Bid Documents

Date: August 8, 2025

Drawn by: Author

Checked by: Initials

Designer:

Project Architect: David Quade

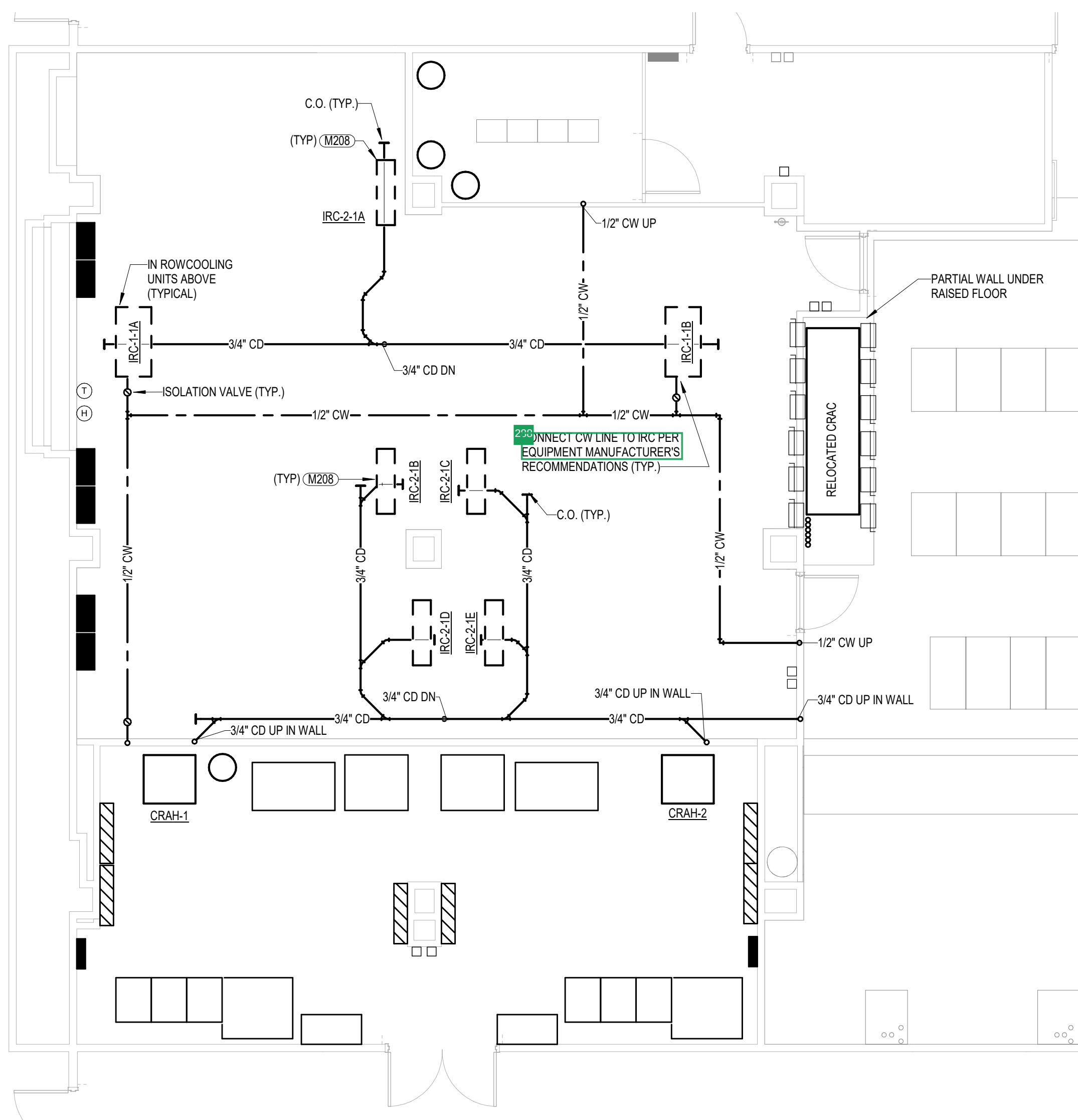
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Sheet Title:

PARTIAL FIRST FLOOR PLAN - MECHANICAL - PHASE 1 & PHASE 2

Sheet Number:

M1.2



1. SEE MECHANICAL COVER SHEET M0.0 FOR MECHANICAL GENERAL NOTES.

KEYNOTES

M203 PROVIDE 2X8 STUDY SILEE ZEEP AND DAMPER IN PLENUM BELOW RAISED FLOOR. INSTALL SLEEVES BETWEEN RAISED FLOOR FEDELS. EXTEND SLEEVES AS REQUIRED TO ALLOW ACCESS TO DAMPER ADJUSTER. PLENUM DIMENSION SHALL ADJUST AS REQUIRED TO ALLOW FOR 6 SLEEVES TO BE INSTALLED ON EACH SIDE OF CRAC UNIT. SLEEVES SHALL BE 1/2" THICK AND BE CLOSED ON THE OPPOSITE DEPENDING ON WHERE THE REDUNDANT CAPACITY IS REQUIRED (MANUALLY ADJUSTED). MAINTAIN FLOOR TILE ACCESS TO EACH BAY.

M207 PROVIDE FLOOR PENETRATION THROUGH 2ND FLOOR INTO 1ST FLOOR CEILING PLENUM FOR CHILLED WATER PIPING. COORDINATE OPENING WITH EXISTING BUILDINGS STRUCTURE AND EXISTING CONDITIONS. PROVIDE DAMPERS TO ALLOW CONTINUOUS INSULATION THROUGH FLOOR. FIRE CAULK PENETRATION.

M208 PROVIDE 3/4" CONDENSATE CONNECTION TO UNIT. VERIFY CONNECTION REQUIREMENT WITH EXISTING MANUFACTURER. PROVIDE 1/2" CONDENSATE LINES AS SPECIFIED. SLOPE PIPING TO DRAIN LOCATIONS WITH ALL. COORDINATE PIPE ROUTING WITH INDICATED TRADES AND EXISTING CONDITIONS. OFFER FOR CONSTRUCTION.

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UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall
Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
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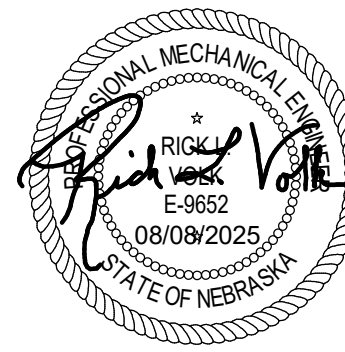
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Date: August 8, 2025

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Designer:

Project Architect: David Quade

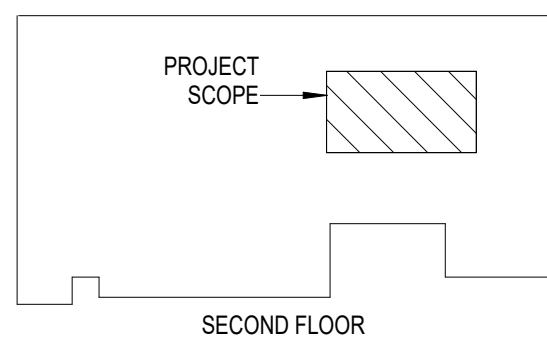
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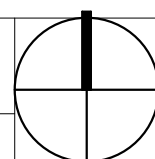
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**PARTIAL SECOND FLOOR
PLAN - UNDERFLOOR
MECHANICAL - PHASE 1**

Sheet Number:

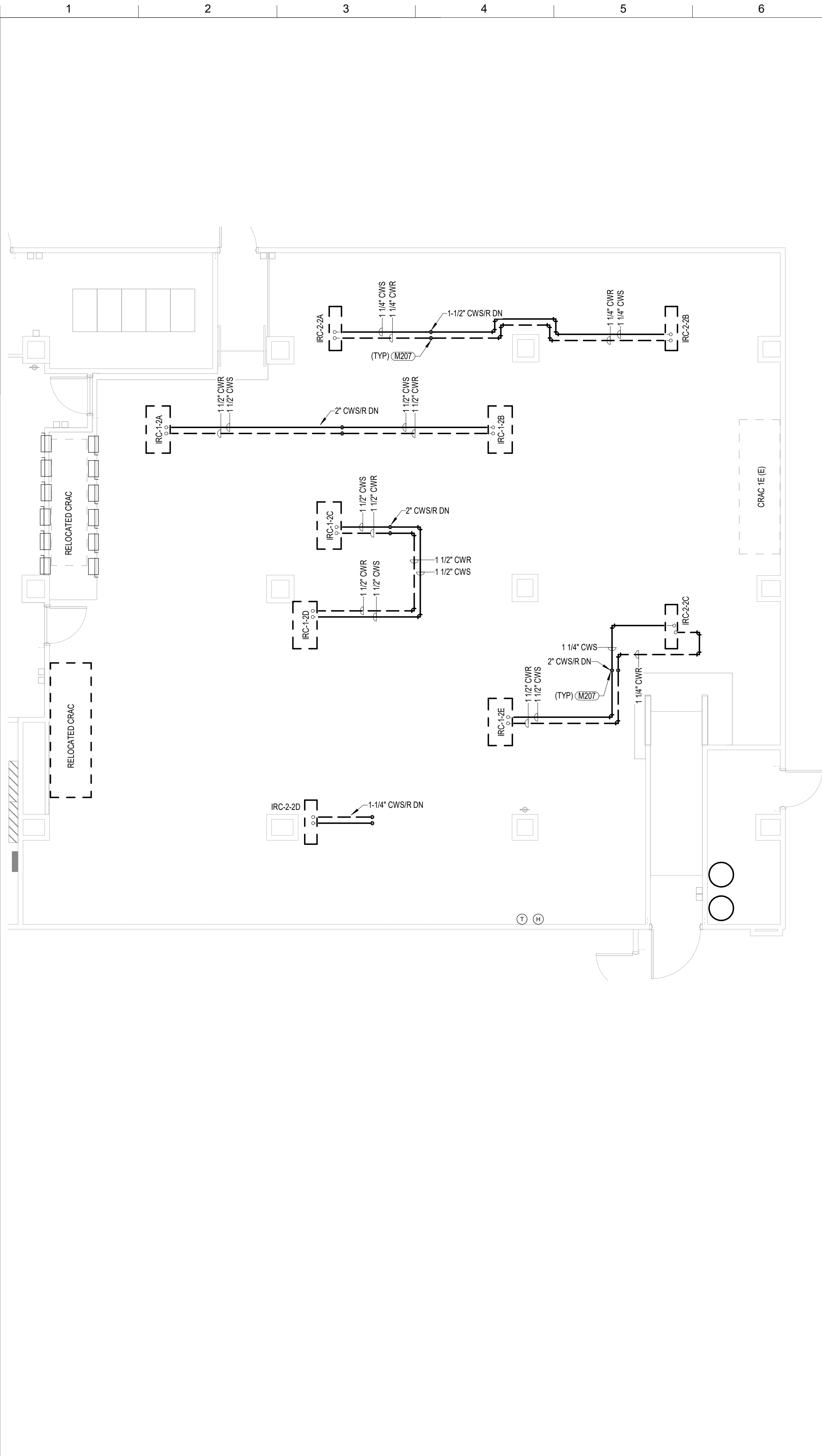
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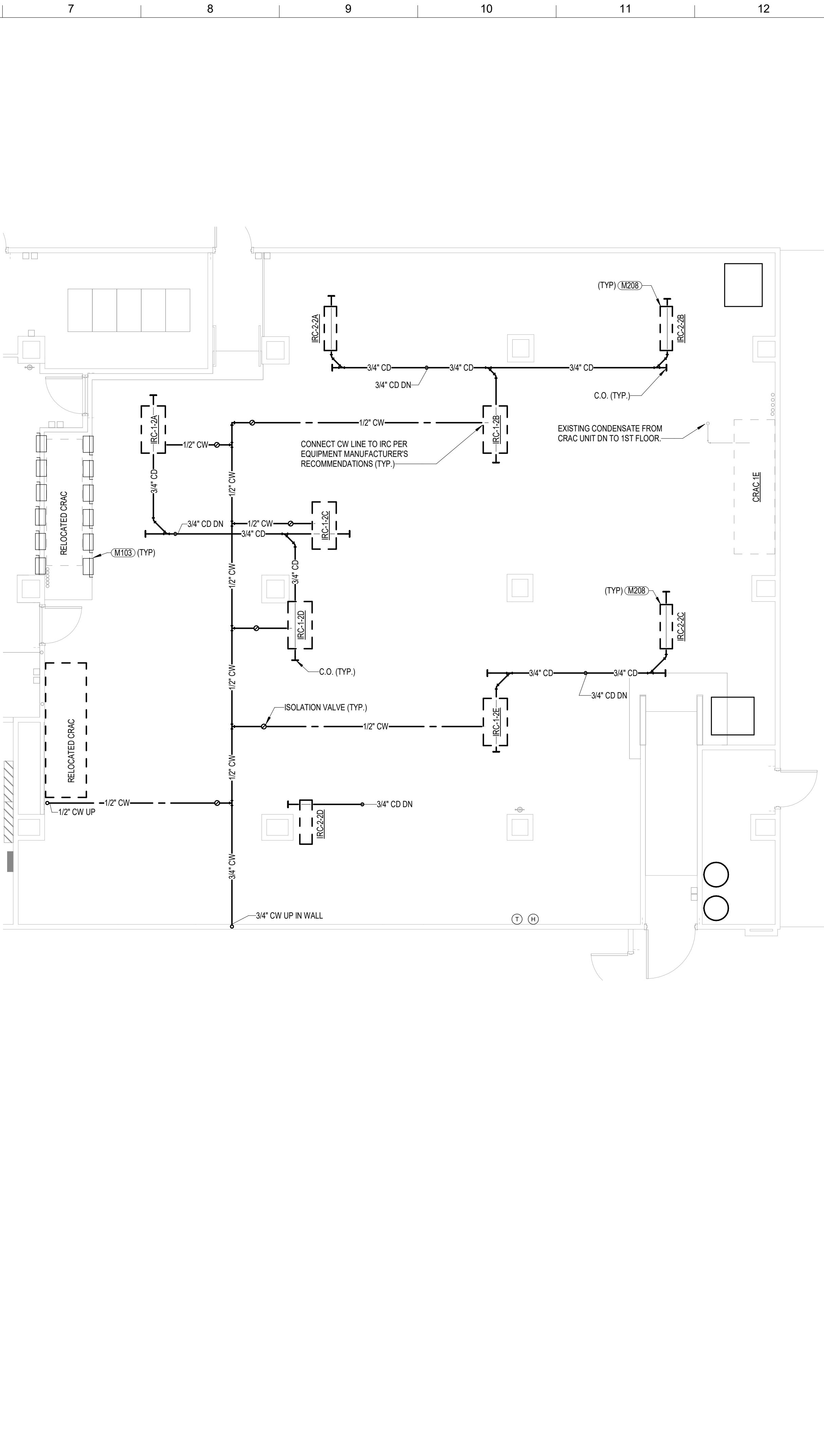
KEYPLAN



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1 SECOND FLOOR PLAN - UNDERFLOOR MECHANICAL PIPING - PHASE 2
SCALE: 3/16" = 1'-0"



2 SECOND FLOOR PLAN - UNDERFLOOR PLUMBING - PHASE 2
SCALE: 3/16" = 1'-0"

MECHANICAL GENERAL NOTES

1. SEE MECHANICAL COVER SHEET M0.0 FOR MECHANICAL GENERAL NOTES.

KEYNOTES

- M103 PROVIDE 20X8 SUPPLY AIR SLEEVE AND DAMPER IN PLENUM BELOW RAISED FLOOR. INSTALL SLEEVES BETWEEN RAISED FLOOR PRECASTS. EXTEND SLEEVES AS REQUIRED TO ALLOW ACCESS TO DAMPER ACTUATOR. PLENUM DIMENSION SHALL ADJUST AS REQUIRED TO ALLOW FOR 6 SLEEVES TO BE INSTALLED ON EACH SIDE OF CRAC UNIT. DAMPERS SHALL BE OPEN ON ONE SIDE AND CLOSED ON THE OPPOSITE DEPENDING ON WHERE THE REDUNDANT CAPACITY IS REQUIRED (MANUALLY ADJUSTED). MAINTAIN FLOOR TILE ACCESS TO EACH BALANCE DAMPER.
- M207 PROVIDE FLOOR PENETRATION THROUGH 2ND FLOOR INTO 1ST FLOOR CEILING PLENUM FOR CHILLED WATER PIPING. COORDINATE OPENING WITH EXISTING BUILDING STRUCTURE AND EXISTING CONDITIONS. OVERSIZE OPENINGS TO ALLOW CONTINUOUS INSULATION THROUGH FLOOR. FIRE CAULK PENETRATION.
- M208 PROVIDE 3/4" CONDENSATE CONNECTION TO IRC UNIT. VERIFY CONNECTION REQUIREMENT WITH EQUIPMENT MANUFACTURER. INSULATE CONDENSATE LINES AS SPECIFIED. SLOPE PIPING TO DROP LOCATIONS INDICATED. COORDINATE PIPE ROUTING WITH ALL TRADES AND EXISTING CONDITIONS. OFFSET AND EXTEND AS REQUIRED.

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:
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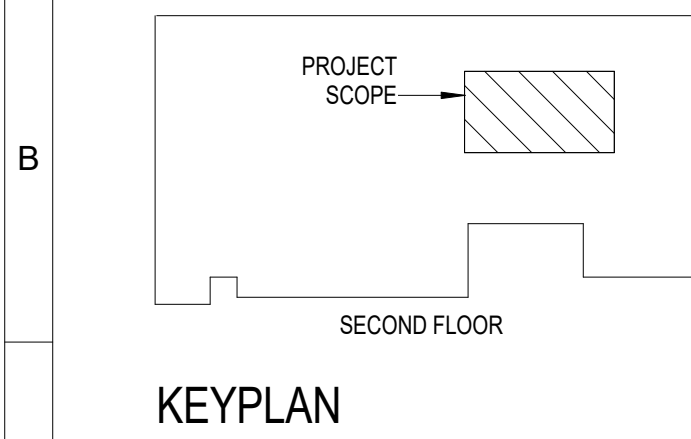
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Date: August 8, 2025
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Project Architect: David Quade
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Sheet Title:
**PARTIAL SECOND FLOOR
PLAN - UNDERFLOOR
MECH PPG - PHASE 2**

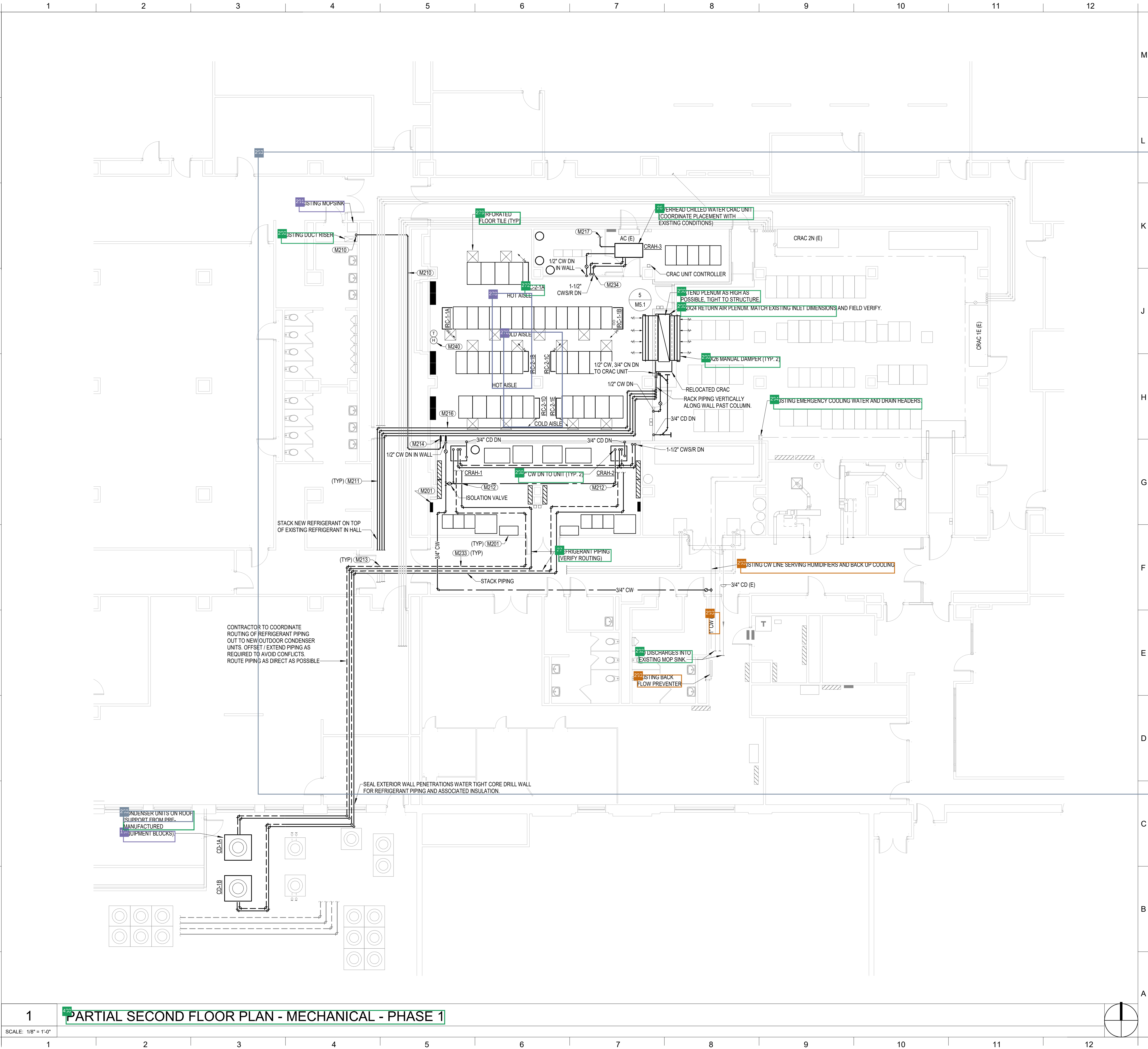
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KEYPLAN

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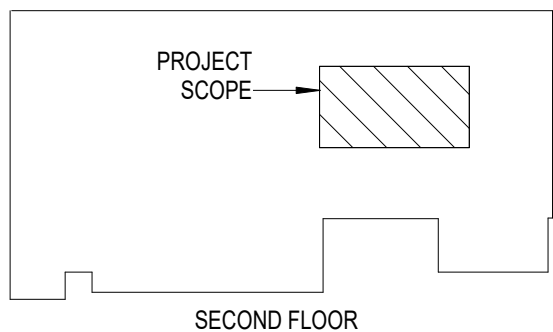


MECHANICAL GENERAL NOTES

1. SEE MECHANICAL COVER SHEET M0.0 FOR MECHANICAL GENERAL NOTES.

KEYNOTES

- M201 **DO NOT ROUTE PIPING OVER ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.**
- M210 **CONTRACTOR SHALL VERIFY DRAIN LINE ROUTING ACROSS HALL TO GET TO JANITORS CLOSET MOP SINK. OFFSET AND EXTEND PIPING AS REQUIRED TO AVOID CONFLICTS. INDIRECTLY DISCHARGE PIPING TO MOP SINK BASIN PER THE REQUIREMENTS OF THE AISC. DROP PIPING TIGHT TO WALL TO MAXIMIZE WORKING CLEARANCES OF SINK.**
- M211 **CONNECT NEW REFRIGERANT PIPING TO EXISTING AS INDICATED. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING PIPING. VERIFY WITH RELOCATED CRAC UNIT MANUFACTURER THAT REVISED REFRIGERANT PIPING ROUTING / LENGTHS / FITTINGS DO NOT PRESENT PERFORMANCE ISSUES WITH THE EXISTING EQUIPMENT. FILL REFRIGERANT PIPING WITH SALVAGED REFRIGERANT FROM DEMOLITION PLUS ADDITIONAL REFRIGERANT TO MAINTAIN APPROPRIATE CHARGE.**
- M212 **CONNECT REFRIGERANT PIPING TO CRAC UNIT. VERIFY CONNECTION REQUIREMENTS WITH THE CRAC UNIT MANUFACTURER. COORDINATE PIPE ROUTING WITH CHILLED WATER, CONDENSATE, AND WATER LINE PIPING.**
- M213 **ROUTE PIPING IN PARALLEL WITH EXISTING REFRIGERANT PIPING USED FOR CRAC UNITS SERVING EXISTING UPS ROOM. EXISTING REFRIGERANT PIPING TO BE REMOVED AS PART OF PHASE 2. COORDINATE PIPE ROUTING WITH EXISTING CONDITIONS. MODIFY PIPE ROUTING AS REQUIRED TO AVOID CONFLICTS.**
- M214 **PROVIDE 3/4" WATER AND DRAIN HEADERS WITH 3/4" VALVED CONNECTIONS WITH HOSE THREAD CONNECTIONS (CAPPED FOR EMERGENCY USE ONLY).**
- M216 **SIZE AND INSTALL REFRIGERANT PIPING PER CRAC UNIT MANUFACTURER'S RECOMMENDATIONS. INSTALL PIPING AS HIGH AS POSSIBLE THROUGH DATA HALL.**
- M217 **CONNECT PUMPED CONDENSATE TO CONDENSATE LINE USED TO SERVE THE EXISTING AC UNIT IN ROOM. PROVIDE A TOP WYE CONNECTION TO THE EXISTING LINE. FIELD VERIFY EXISTING CONDENSATE LINE SIZE AND LOCATION. OFFSET AND EXTEND NEW PIPING AS REQUIRED TO MAKE CONNECTION.**
- M233 **SIZE AND INSTALL REFRIGERANT PIPING PER CRAC UNIT MANUFACTURER'S RECOMMENDATIONS. ROUTE 1-1/2" CWS/R TIGHT TO WALL OF MNR ROOM. COORDINATE PIPE ROUTING WITH EXISTING CONDITIONS. ADJUST LOCATION OF RISER TO AVOID CONFLICTS WITH EXISTING WALL MOUNTED ITEMS. COORDINATE INSTALLATION TIMING AND WORK WITH GENERAL CONTRACTOR AND OWNER SCHEDULE TO MINIMIZE DOWNTIME.**
- M240 **TEMPERATURE AND HUMIDITY SENSORS TO BE USED TO CONTROL THE ACTIVATION OF THE RELOCATED CRAC UNIT TO SERVE AS BACK UP COOLING AND SUPPLEMENTAL HUMIDIFICATION.**



KEYPLAN



UNL Project Name:

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UNL Project Manager: Adam Schlotthauer
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Building Acronym: NH
Address: 900 N 16th Street
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MEI Project Number: 24518
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Design Team:

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Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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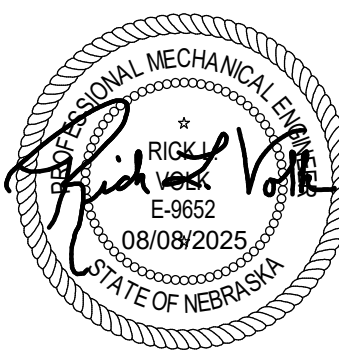
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Consultant Project #: 24030
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Designer:
Project Architect: David Quade

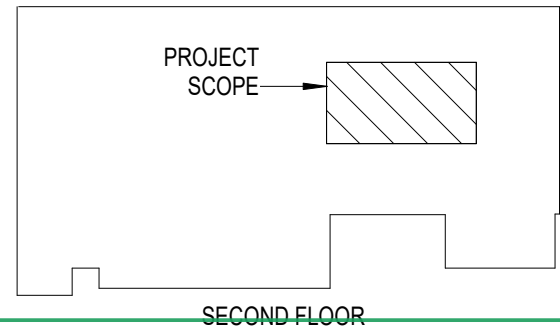
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Sheet Title:

PARTIAL SECOND FLOOR PLAN - MECHANICAL - PHASE 1

Sheet Number:

M1.5



1. SEE MECHANICAL COVER SHEET M0.0 FOR MECHANICAL GENERAL NOTES.

M202	CONNECT NEW PIPING TO EXISTING PIPING AT LOCATION INDICATED. FIELD VERIFY EXACT SIZE, LOCATION, AND ELEVATION OF EXISTING PIPING PRIOR TO CONNECTION. TRANSITION, EXTEND, AND OFFSET NEW PIPING AS REQUIRED TO MAKE CONNECTION AND AVOID CONFLICTS.
M211	CONNECT NEW REFRIGERANT PIPING TO EXISTING AS INDICATED. CONTRACTOR SHALL FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING PIPING. VERIFY WITH RELOCATED CRAC UNIT MANUFACTURER THAT REFRIGERANT PIPING ROUTING / LENGTHS / FITTINGS DO NOT PRESENT PERFORMANCE ISSUES WITH THE EXISTING EQUIPMENT. FILL REFRIGERANT PIPING WITH SALVAGED REFRIGERANT FROM DEMOLITION UNIT. ADDITIONAL REFRIGERANT TO MAINTAIN APPROPRIATE CHARGE.
M218	COORDINATE PIPING ROUTING WITH EXISTING CONDITIONS. OFFSET / EXTEND PIPING AS REQUIRED TO ROUTE PIPING ACROSS CORRIDOR. UTILIZE PATHWAY OF REFRIGERANT PIPING FROM REMOVED UPS CRAC UNITS. EXTEND PIPING ACROSS HALLWAY AND RELOCATE REFRIGERANT LINES THE SERVING RELOCATED UNIT AT ITS ORIGINAL LOCATION. FIELD VERIFY EXISTING CONDITIONS PRIOR TO NEW WORK.
M219	LOCATE EXISTING WATER AND DRAIN VALVE HEADERS TO TO PERIMETER AS INDICATED. ADJUST DRAIN AND WATER PIPING AS REQUIRED
M240	TEMPERATURE AND HUMIDITY SENSORS TO BE USED TO CONTROL THE ACTION OF THE RELOCATED CRAC UNIT TO SERVE AS BACK UP COOLING AND SUPPLEMENTAL HUMIDIFICATION.

UNL Project Name:

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall
Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

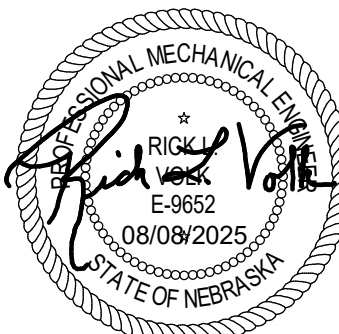
MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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ARCHITECT OF RECORD
Consultant Project #: 24030
Certificate of Authorization #: CA-0285
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Seal:



#	Date	Revision Description
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Issue:	Bid Documents
Date:	August 8, 2023
Drawn by:	RLV
Checked by:	Initials
Designer:	
Project Architect:	David Quade

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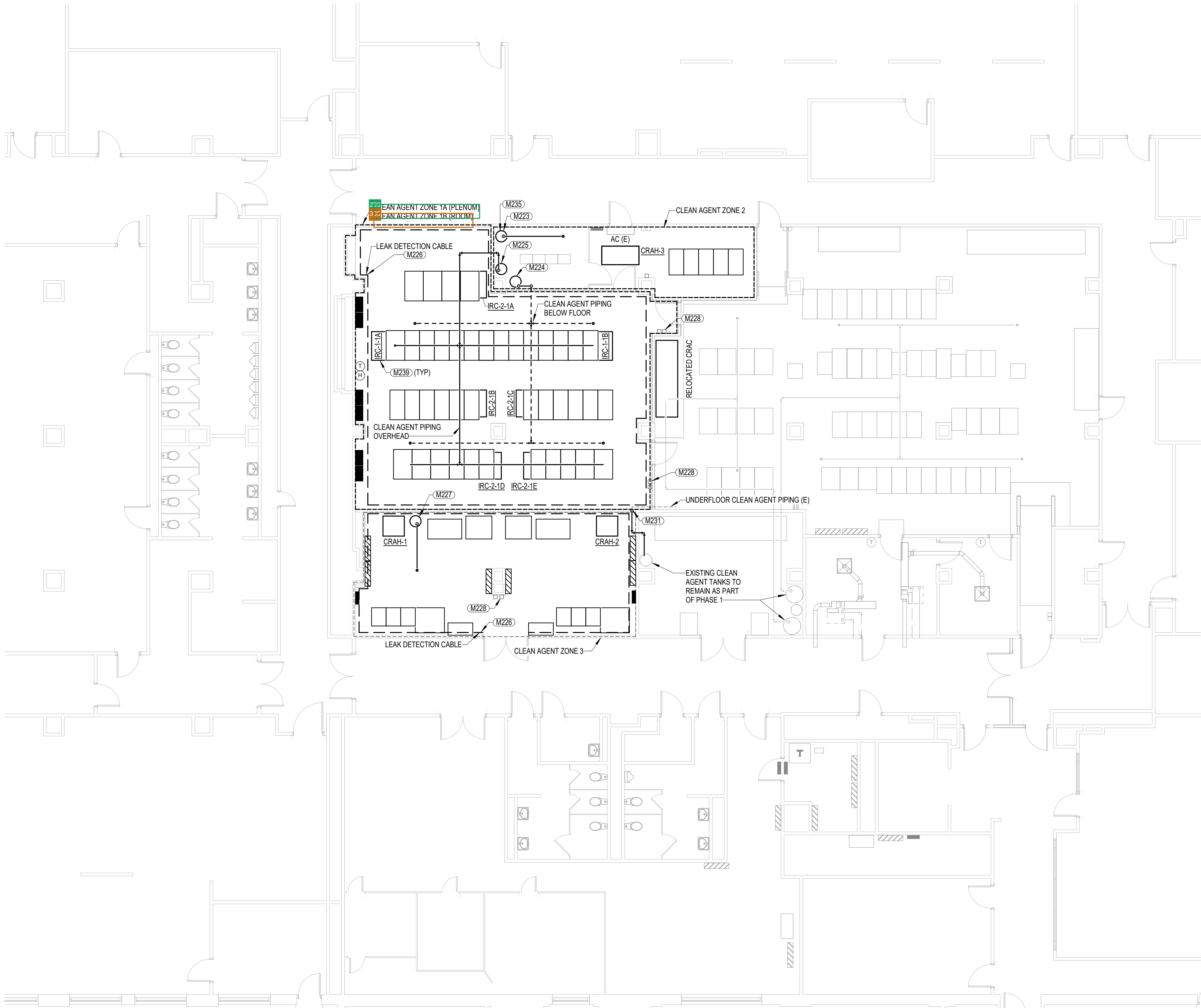
Sheet Title:

**PARTIAL SECOND FLOOR
PLAN - MECHANICAL -
PHASE 2**

Sheet Number:

M1.6

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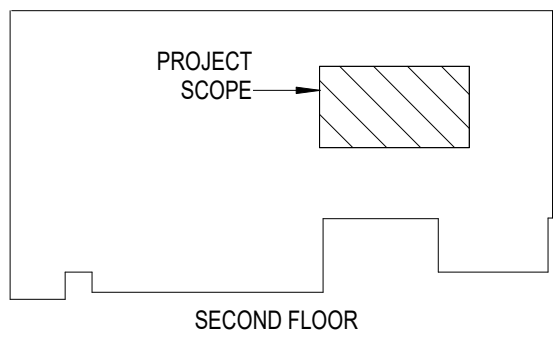


MECHANICAL GENERAL NOTES

1. SEE MECHANICAL COVER SHEET M0.0 FOR MECHANICAL GENERAL NOTES.

KEYNOTES

- M223 **1.2.3** PROVIDE PLACEMENT OF CLEAN AGENT TO BE USED TO PROTECT THE EXPANDED MM ROOM. REUSE EXISTING CLEAN AGENT TANK / NOZZLE IF CAPACITY IS ADEQUATE FOR NEW VOLUME.
- M224 **2.2.4** PROVIDE NEW CLEAN AGENT SYSTEM TO PROTECT THE RAISED FLOOR PLENUM FOR THE PHASE 1 AREA. INDICATED LAYOUT AND NOZZLE ARRANGEMENT IS SHOWN FOR REFERENCE ONLY. PROVIDE TANK, CLEAN AGENT (NOVEC 1230), PIPING, NOZZLES, CONTROLS, VISUAL APPLIANCES, ETC. FOR A COMPLETE OPERATIONAL SYSTEM. COORDINATE PIPE LAYOUT WITH ALL TRADES. ADJUST PIPING AS REQUIRED TO AVOID CONFLICTS.
- M225 **3.2.5** PROVIDE NEW CLEAN AGENT SYSTEM TO PROTECT THE DATA ROOM FOR THE PHASE 1 AREA. INDICATED LAYOUT AND NOZZLE ARRANGEMENT IS SHOWN FOR REFERENCE ONLY. PROVIDE TANK, CLEAN AGENT (NOVEC 1230), PIPING, NOZZLES, CONTROLS, VISUAL APPLIANCES, ETC. FOR A COMPLETE OPERATIONAL SYSTEM. COORDINATE PIPE LAYOUT WITH ALL TRADES. ADJUST PIPING AS REQUIRED TO AVOID CONFLICTS.
- M226 **4.2.6** PROVIDE LEAK DETECTION CABLE ON FLOOR. SOUND THE PERIMETER OF ROOM. TIE LEAK DETECTION TO THE CRAC UNIT MONITORING SYSTEM (TO BE ALARMED THROUGH THE BAS).
- M227 **5.2.7** PROVIDE NEW CLEAN AGENT SYSTEM TO PROTECT THE NEW UPS ROOM. INDICATED LAYOUT AND NOZZLE ARRANGEMENT IS SHOWN FOR REFERENCE ONLY. PROVIDE TANK, CLEAN AGENT (NOVEC 1230), PIPING, NOZZLES, CONTROLS, VISUAL APPLIANCES, ETC. FOR A COMPLETE OPERATIONAL SYSTEM. COORDINATE PIPE LAYOUT WITH ALL TRADES. ADJUST PIPING AS REQUIRED TO AVOID CONFLICTS.
- M228 **6.2.8** PROVIDE CLEAN AGENT MANUAL RELEASE AND ABORT BUTTONS AT ROOM EXIT.
- M231 **7.2.1** MODIFY EXISTING CLEAN AGENT PIPING SERVING THE EXISTING BELOW RAISED RAISED FLOOR PLENUM. RECONFIGURE PIPING TO ROUTE OVERHEAD UP HIGH ACROSS NEW UPS ROOM. DROP PIPING DOWN IN WALL OF NEW UPS ROOM TO DROP TO THE EXISTING PLENUM. RECONNECT PIPING TO EXISTING AT POINT INDICATED.
- M235 **8.2.5** COORDINATE PLACEMENT OF CLEAN AGENT TANKS WITH EXISTING CONDITIONS. MAINTAIN WALKWAY CLEARANCE AROUND RACKS. ADJUST EXACT PLACEMENT OF TANKS AS REQUIRED TO AVOID CONFLICT. ELEVATE TANKS TO BE SUPPORTED UP HIGH IF REQUIRED.
- M239 **9.2.9** IN ROW COOLING UNITS HAVE BEEN PRE-PURCHASED BY UNL. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING UNITS MEETING THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS.



KEYPLAN



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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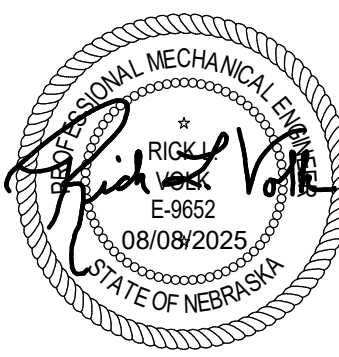
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Certificate of Authorization #: CA-0285

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#	Date	Revision Description

Issue: Bid Documents

Date: August 8, 2025

Drawn by: Author

Checked by: Initials

Designer:

Project Architect: David Quade

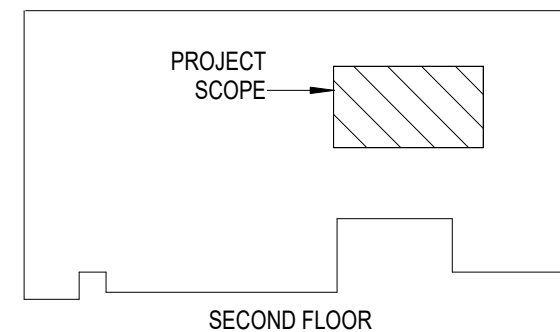
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Sheet Title:

**SECOND FLOOR PLAN -
FIRE PROT. & LEAK
DETECTION - PHASE 1**

Sheet Number:

M2.1



KEYPLAN

1. SEE MECHANICAL COVER SHEET M0.0 FOR MECHANICAL GENERAL NOTES.

M226 PROVIDE LEAK DETECTION CABLE ON FLOOR AROUND THE PERIMETER OF ROOM. THE LEAK DETECTION TO THE CRAC UNIT MONITORING SYSTEM TO BE ALARMED WITH THE BAS.

M229 PROVIDE NEW CLEAN AGENT SYSTEM TO PROTECT THE RAISED FLOOR PLENUM FOR THE PHASE 2 AREA. INDICATED LAYOUT AND NOZZLE ARRANGEMENT IS SHOWN FOR REFERENCE ONLY. PROVIDE TANK (KNOVE 1230), PIPING, NOZZLES, CONTROLS, VISUAL APPLIANCES, ETC. FOR A COMPLETE OPERATIONAL SYSTEM. COORDINATE PIPE LAYOUT WITH ALL SYSTEMS. ADJUST PIPING AS REQUIRED TO AVOID CONFLICTS.

M230 PROVIDE NEW CLEAN AGENT SYSTEM TO PROTECT THE DATA ROOM FOR THE PHASE 2 AREA. INDICATED LAYOUT AND NOZZLE ARRANGEMENT IS SHOWN FOR REFERENCE ONLY. PROVIDE TANK (KNOVE 1230), PIPING, NOZZLES, CONTROLS, VISUAL APPLIANCES, ETC. FOR A COMPLETE OPERATIONAL SYSTEM. COORDINATE PIPE LAYOUT WITH ALL SYSTEMS. ADJUST PIPING AS REQUIRED TO AVOID CONFLICTS.

M239 IN ROW COOLING UNITS HAVE BEEN PRE-PURCHASED BY UNL. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ITEMS MEETING THE PURCHASER'S INSTALLATION RECOMMENDATIONS.



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number:	14285
UNL Project Manager:	Adam Schlotthauer
Campus Name:	City Campus
Building Name:	Nebraska Hall Data Center
Building Number:	C024
Building Acronym	NH
Address:	900 N 16th Street Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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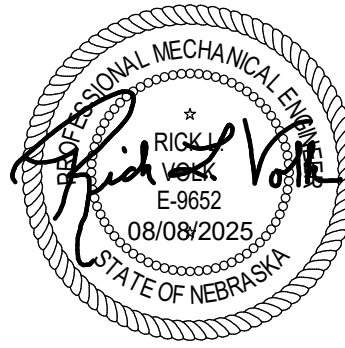
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Issue:	Bid Documents
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Date: August 8, 2025

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Designer:

Project Architect:	David Quade
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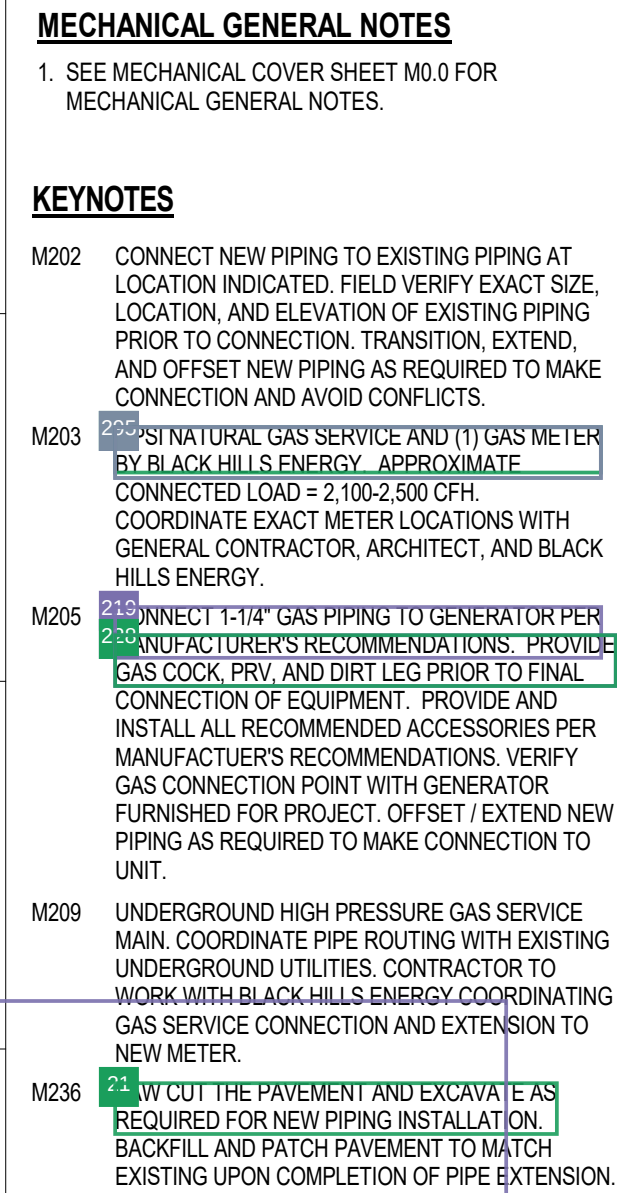
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Sheet title:

433 SECOND FLOOR PLAN -
FIRE PROT. & LEAK
DETECTION - PHASE 2

Sheet Number:

M2.2



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UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall
Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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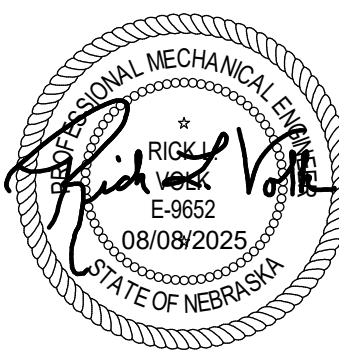
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Date: August 8, 2025

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Designer:

Project Architect:	David Quade
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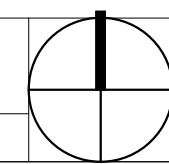
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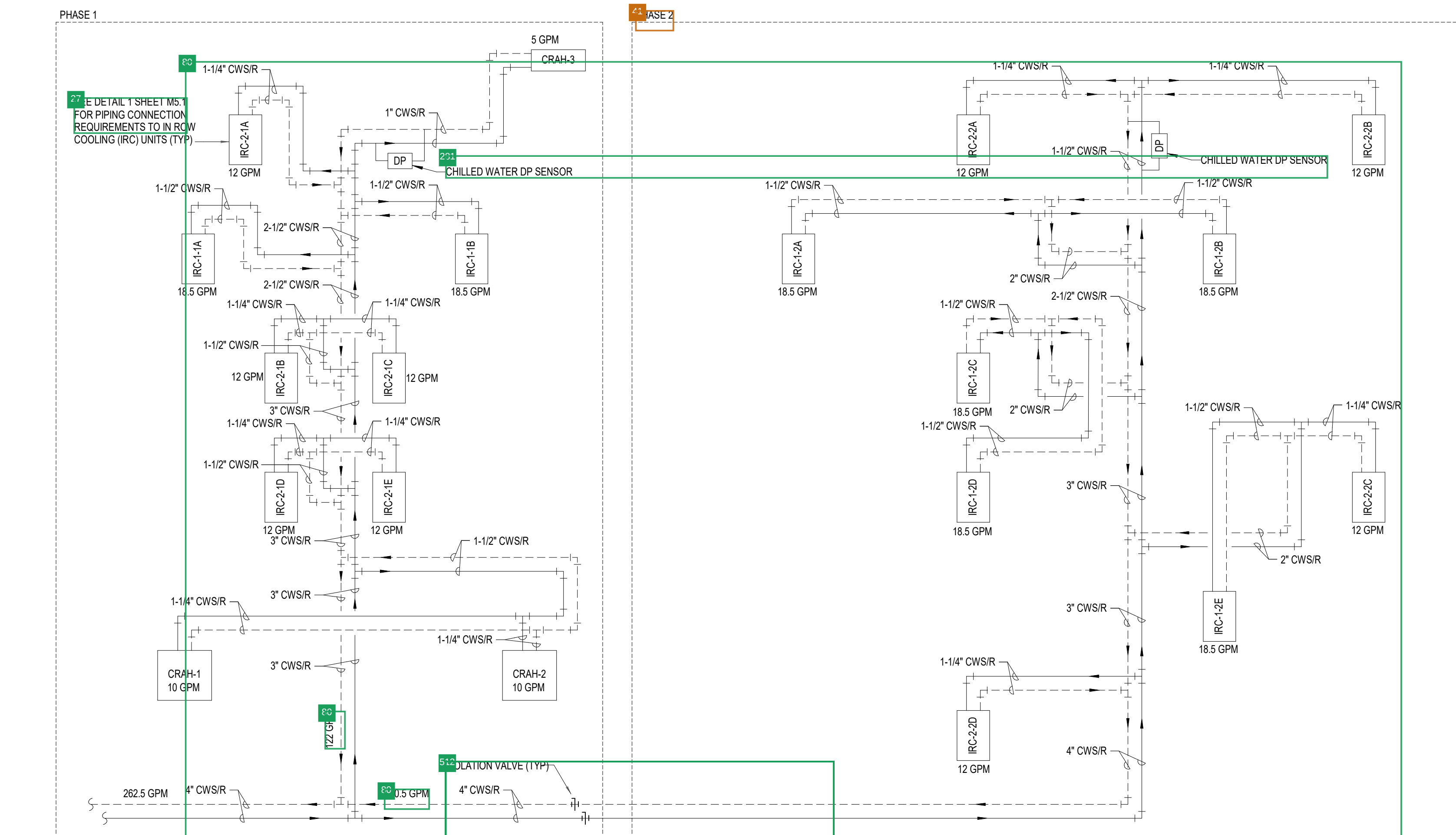
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290 PARTIAL SITE PLAN -
GENERATOR GAS PIPING
- PHASE 1

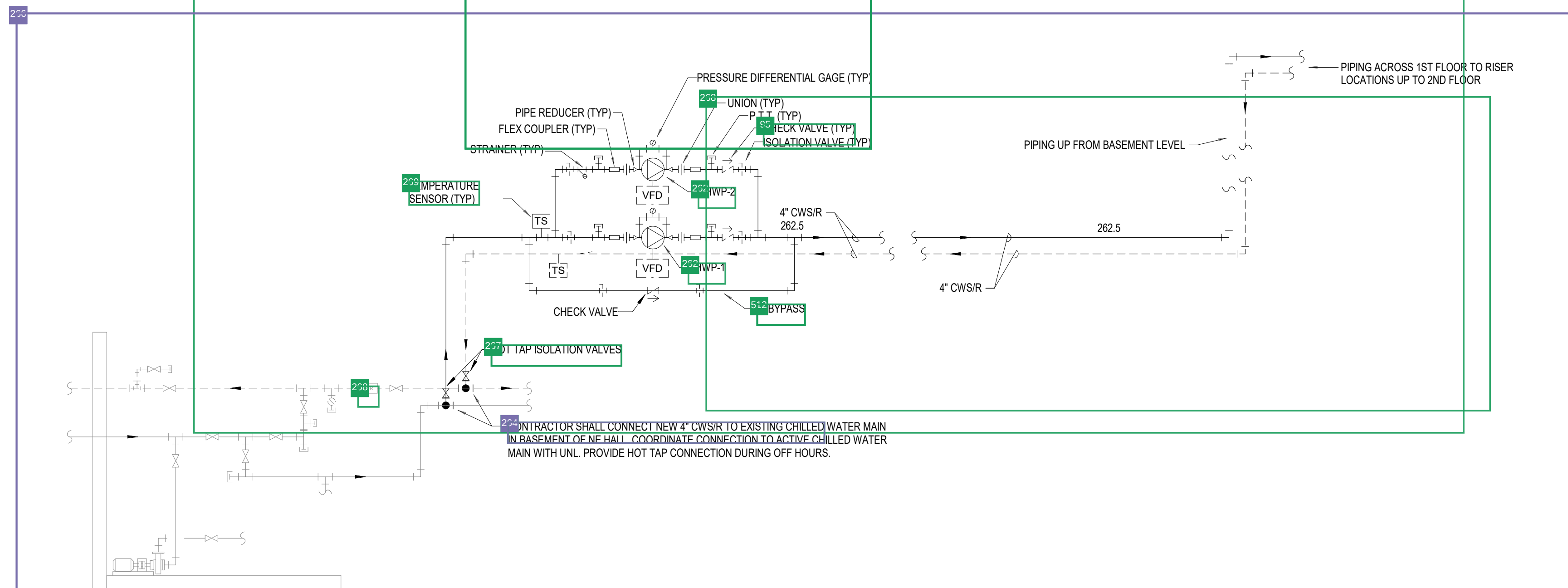
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M3.1





492	CHILLED WATER RISER DIAGRAM - DATA ROOM LAYOUT
NO SCALE	



CHILLED WATER RISER DIAGRAM - BUILDING DISTRIBUTION



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number:	14285
UNL Project Manager:	Adam Schlotthauer
Campus Name:	City Campus
Building Name:	Nebraska Hall Data Center
Building Number:	C024
Building Acronym	NH
Address:	900 N 16th Street Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
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Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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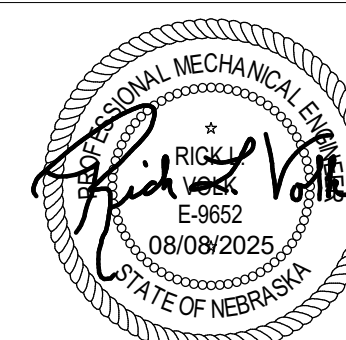
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Date: August 8, 2025

Date:	August 8, 2020
Drawn by:	RLV

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Designer:

Project Architect:	David Quade
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Sheet Title:

431 MECHANICAL RISER

MECHANICAL RISER DIAGRAMS

DIAGRAMS

A Sheet Number:

Sheet Number: 1

M4 1

IV4.1

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2 432 FILLED WATER PUMP CONTROL DIAGRAM
M5.1 1/4" = 1'-0"

3 432 PS CRAC UNIT CONTROLS DIAGRAM
M5.1 1/4" = 1'-0"

4 432 ROW COOLING UNIT CONTROLS DIAGRAM
M5.1 1/4" = 1'-0"

8
M5.1

432 GENERATOR BMS INTERFACE
1/4" - 1'-0"

6
M5.1

EXISTING / RELOCATED CRAC UNITS CONTROLS DIAGRAM

1/4" = 1'-0"

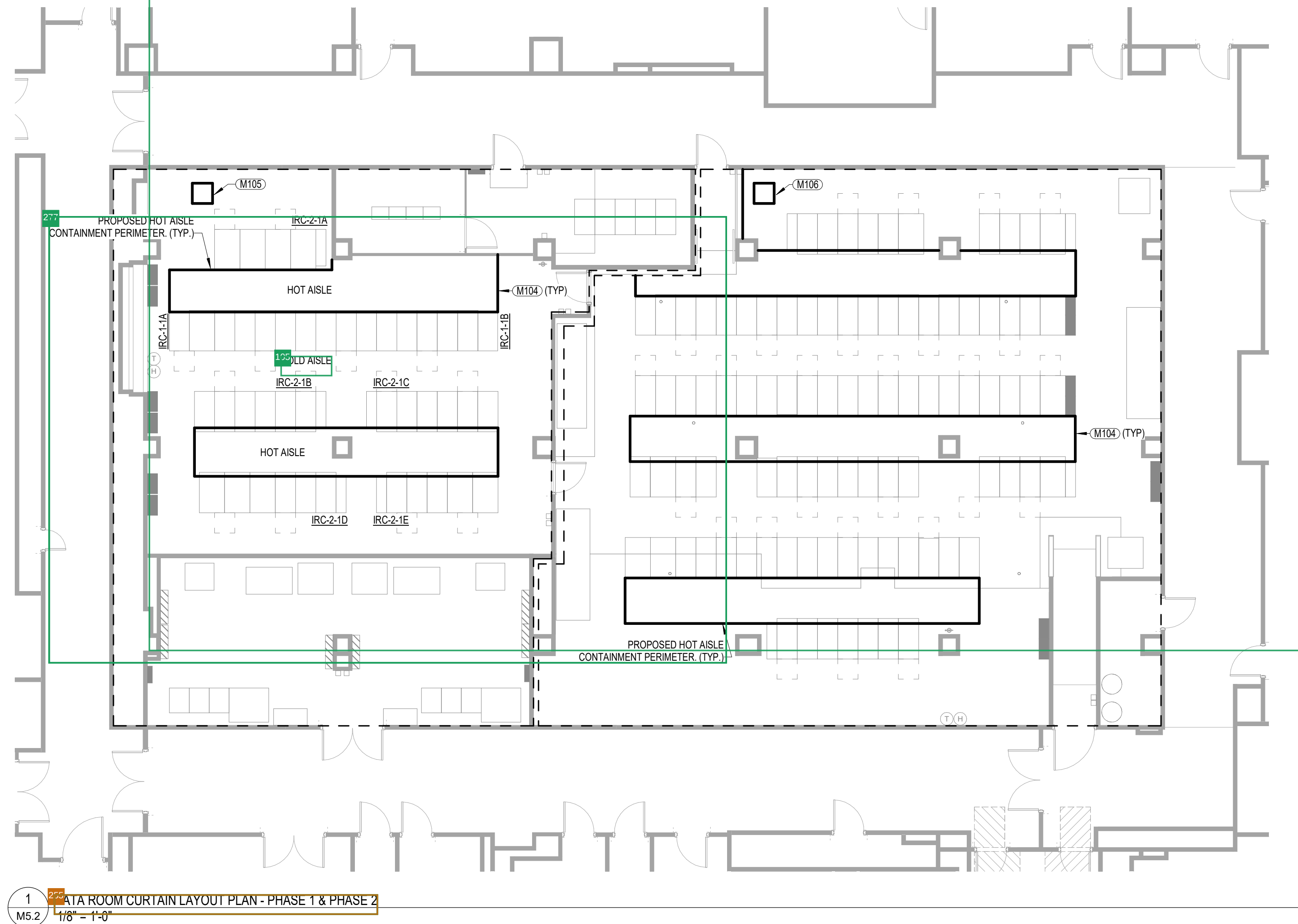
7 MNR ROOM CRAC UNIT CONTROLS DIAGRAM
M5.1 1/4" = 1'-0"

AI	3102	ENGINE OIL LEVEL %	BO	GENSET RUN SEQUENCE STATE
AI		ENGINE RUN TIME	AI	INTAKE MANIFOLD TEMPERATURE
AI		COOLANT TEMPERATURE	AI	FUEL TEMPERATURE
AI		OIL PRESSURE	AI	FUEL RATE
AI		OIL TEMPERATURE	AI	AVERAGE ENGINE SPEED
AI		BATTERY VOLTAGE	AI	FUEL SUPPLY PRESSURE
BI	3105	ARM STATUS	AI	PRE-FILTER OIL PRESSURE
BI		GENERATOR STATUS	AI	POST-FILTER OIL PRESSURE
BI		CONTROL SWITCH POSITION	BI	3106 WATER IN FUEL INDICATOR

M5.1 $1/4'' - 1'-0''$

M5.1

VARIABLE FREQUENCY DRIVE SCHEDULE		
	PLAN TAG	VFD-CHWP-2-1 & 2
GENERAL	SERVICES	CHWP- & 2
	435-1 ACTION	435-1E PLANS
	MIN. DRIVE CAPACITY (AMPS)	-
	435-1 VOLTAGE	460
ELECTRICAL	PHASE	3
	CONNECTED MOTOR HP	10
	MOTOR TYPE	O.D.P.
	REMARKS	(1) (2)
REMARKS	(1) VARIABLE FREQUENCY DRIVES SHALL BE SUITABLE FOR HVAC APPLICATIONS. DRIVE SHALL HAVE THE FOLLOWING FEATURES: DISCONNECT, EMI, RFI FILTERS, INPUT AC LINE REACTORS AND AUTOMATIC RESET UPON LOSS OF POWER. DRIVES SHALL HAVE BY-PASS. MANUAL THREE CONTACTOR BYPASS (OR TWO CONTACTOR BYPASS WITH ADDITIONAL INVERTER DISCONNECT) WITH THERMAL OVERLOAD RELAYS TO PROTECT THE MOTOR DURING BYPASS OPERATIONS. BYPASS SHALL BE INCORPORATED IN SAME ENCLOSURE AS DRIVE OR IN ATTACHED ENCLOSURE ASSEMBLED AS A SINGLE UNIT. SEE MECHANICAL SPECIFICATIONS. (2) VARIABLE FREQUENCY DRIVES SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.	



1. SEE MECHANICAL COVER SHEET M0.0 FOR MECHANICAL GENERAL NOTES.

M104 PROVIDE SUB-ZERO "RACK HAT" HOT AISLE CONTAINMENT CURTAINS (OR APPROVED EQUIV.) CURTAIN TO BE CONSTRUCTED OF MODULAR ALUMINUM RAIL WITH VINYL VERTICAL STRIPS TO CONTAIN AIRFLOW WITHIN THE BOUNDARIES DEFINED. CURTAIN SHALL BE SUPPORTED FROM STRUCTURE WITH A 6" GAP BETWEEN THE TOP OF THE CURTAIN FRAMING TO THE STRUCTURE ABOVE. VINYL WALLS SHALL BE FITTED AS REQUIRED EXTEND FROM FRAMING DOWN TO THE TOP OF CABINETS, TO FLOORS, AND TOP IN ROW COOLING UNITS FORMING A FULLY ENCLOSED BARRIER.

M105 CONTRACTOR TO PROVIDE A TOTAL OF 5 FAN ASSIST TILES FOR PHASE 1. FANS SHALL BE TATE AIRFLOW POWERAIR QUAD OR APPROVED EQUAL. PROVIDE FANS WITH STRING HANGERS, TEMPERATURE MONITORING PROBE, AND 6'-0" POWER CORD. FAN PLACEMENT WILL BE DETERMINED TO HELP ASSIST THE EMERGENCY CRAC UNIT EFFECTIVELY DISTRIBUTING AIR UNDERFLOOR. FINAL PLACEMENT OF UNITS TO BE DETERMINED DURING TESTING OF EQUIPMENT. POWER TO COME FROM CABINET POWER STRIP (255 WATTS POWER CONSUMPTION).

M106 2" CONTRACTOR TO PROVIDE A TOTAL OF 6 FAN ASSIST TILES FOR PHASE 2. FANS SHALL BE TATE AIRFLOW POWERAIRE QUAD OR APPROVED EQUAL. PROVIDE FANS WITH STRING HANGERS, TEMPERATURE MONITORING PROBE, AND 6'-0" POWER CORD. FAN PLACEMENT WILL BE DETERMINED TO HELP ASSIST THE EMERGENCY CRAC UNIT EFFECTIVELY DISTRIBUTING AIR UNDERFLOOR. FINAL PLACEMENT OF UNITS TO BE DETERMINED DURING TESTING OF EQUIPMENT. POWER TO COME FROM CABINET POWER STRIP (255 WATTS POWER CONSUMPTION).

UNIVERSITY OF
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UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
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Data Center
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Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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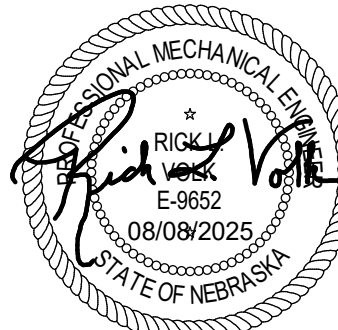
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Consultant Project #: 24030
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Project Architect:	David Quade

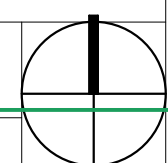
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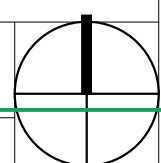
MECHANICAL SCHEDULES & DETAILS

Sheet Number:

M5.2



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UNL NE Hall Data Center Upgrade

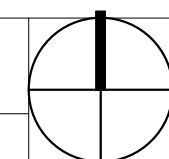
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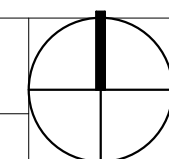
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ED2.2



E1.1

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



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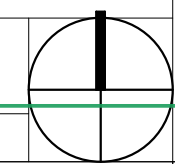
UNL NE Hall Data Center Upgrade

PROFESSIONAL ELECTRICAL ENGINEER
George M. Morrissey
 GEORGE M. MORRISSEY
 E-8874
 08/08/2025
 STATE OF NEBRASKA

Sheet Number:

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

E1.2



E208	NEW BUSWAY TAP BOX ON THIRD FLOOR FOR ATS NORMAL FEED TO FLOOR BELOW. SEE ONE-LINE DIAGRAM.
E216	CONNECT TO EXISTING RECEPTACLE CIRCUIT SERVING AREA.
E228	3-1/2" EQUIPMENT CONCRETE BASE. SEE SPECIFICATIONS.
E318	PROVIDE 3/4" DROP TO MECHANICAL/ELECTRICAL EQUIPMENT FOR MONITORING WIRING. STUB CONDUIT TO NEAREST BASKET TRAY.
E321	PROVIDE J-BOX ON CEILING AND 3/4" CONDUIT TO NEAREST BASKET TRAY TO ACCOMMODATE SECURITY CAMERA CABLING. COORDINATE CAMERA LOCATIONS WITH UNL POLICE.



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number:	14285
UNL Project Manager:	Adam Schlotthauer
Campus Name:	City Campus
Building Name:	Nebraska Hall Data Center
Building Number:	C024
Building Acronym	NH
Address:	900 N 16th Street Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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Consultant Project #: 24030
Certificate of Authorization #: CA-0285

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Date: August 8, 2025

Drawn by:	Author:
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Drawn by:	Initials
Checked by:	Initials

Checked by:	Initials:
Designer:	

Project Architect:	David Quade
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Project Architect.	David Quade
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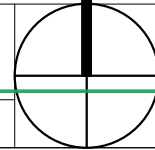
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Sheet Title:

**PARTIAL SECOND FLOOR
PLAN - POWER - PHASE 1**

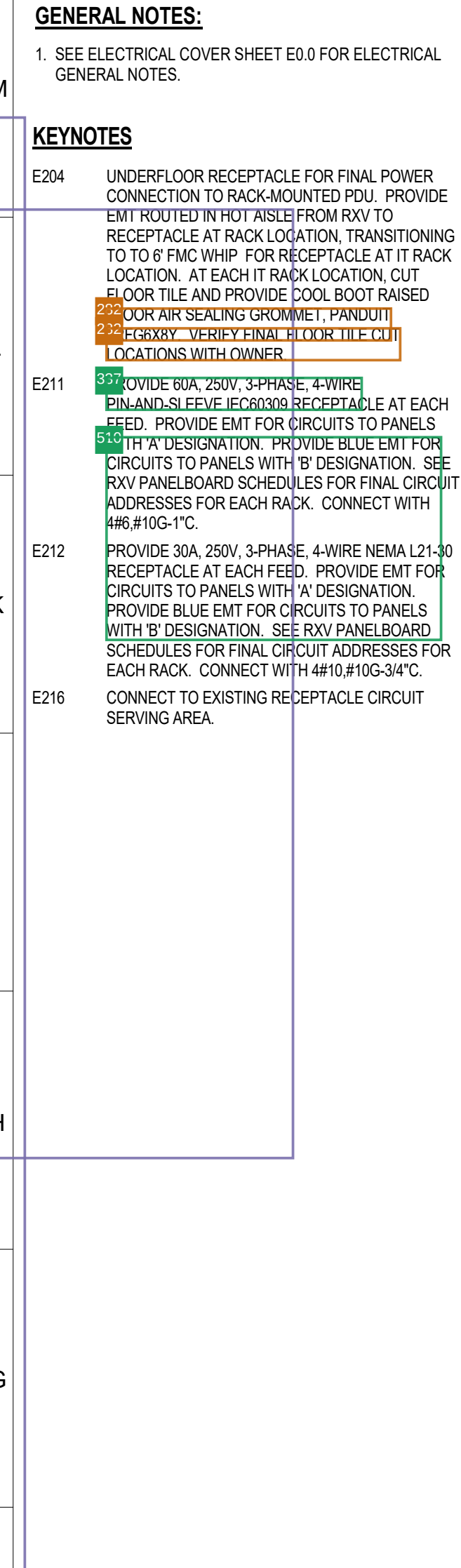
Sheet Number:

E2.1



E216	CONNECT TO EXISTING RECEPTACLE CIRCUIT SERVING AREA.
E219	EAST ELEVATOR SHAFT. ELEVATOR CONTROL EQUIPMENT IS LOCATED IN PENTHOUSE ELEVATOR EQUIPMENT ROOM. SEE ONE-LINE DIAGRAM FOR INFORMATION ON RE-FEEDING EAST ELEVATOR FROM NEW LIFE SAFETY/OPTIONAL STANDBY EMERGENCY GENERATOR.
E318	PROVIDE 3/4" DROP TO MECHANICAL/ELECTRICAL EQUIPMENT FOR MONITORING WIRING. STUB CONDUIT TO NEAREST BASKET TRAY.
E321	PROVIDE 1/2" BOX ON CEILING AND 3/4" CONDUIT TO NEAREST BASKET TRAY TO ACCOMMODATE SECURITY CAMERA CABLEING. COORDINATE CAMERA LOCATIONS WITH UNL POLICE.





1. SEE ELECTRICAL COVER SHEET E0.0 FOR ELECTRICAL GENERAL NOTES.

E204 UNDERFLOOR RECEPTACLE FOR FINAL POWER CONNECTION TO RACK-MOUNTED PDU. PROVIDE EMT ROUTED IN HOT AISLE FROM RXV TO RECEPTACLE AT RACK LOCATION, TRANSITIONING TO 6 FMC WHIP FOR RECEPTACLE AT IT RACK LOCATION. AT EACH IT RACK LOCATION, CUT FLOOR TILE AND PROVIDE COOL BOOT RAISED

2-22 DOOR AIR SEALING GROMMET, PENDUITS
2-22 EG8X8Y VERIFY FINAL FLOOR TILE CUT LOCATIONS WITH OWNER

E211 PROVIDE QUA 250V, 3-PHASE, 4-WIRE
PANELBOARD RECEPTACLE AT EACH
FEED. PROVIDE EMT FOR CIRCUITS TO PANELS
174 DESIGNATION. PROVIDE BLUE EMT FOR
CIRCUITS TO PANELS WITH 7 DESIGNATION. SEE
RXV PANELBOARD SCHEDULES FOR FINAL CIRCUIT
ADDRESSES FOR EACH RACK. CONNECT WITH
#6-10G-1/2.

E212 PROVIDE QUA 250V, 3-PHASE, 4-WIRE NEMA L21-30
RECEPTACLE AT EACH FEED. PROVIDE EMT FOR
CIRCUITS TO PANELS WITH A DESIGNATION.
PROVIDE BLUE EMT FOR CIRCUITS TO PANELS
WITH 7 DESIGNATION. SEE RXV PANELBOARD
SCHEDULES FOR FINAL CIRCUIT ADDRESSES FOR
EACH RACK. CONNECT WITH #410-10G-3/4".

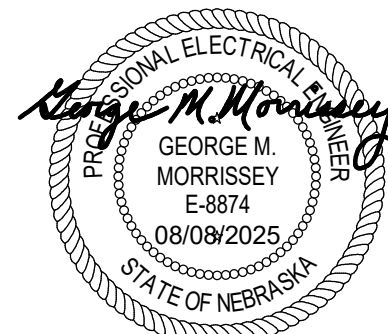
E216 CONNECT TO EXISTING RECEPTACLE CIRCUIT
SERVING AREA.

			MEI Project Number:	24518
		J	Project Address:	900 N 16th Street Lincoln, NE 68508

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Consultant Project #: 24518
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Project Architect:	David Quade

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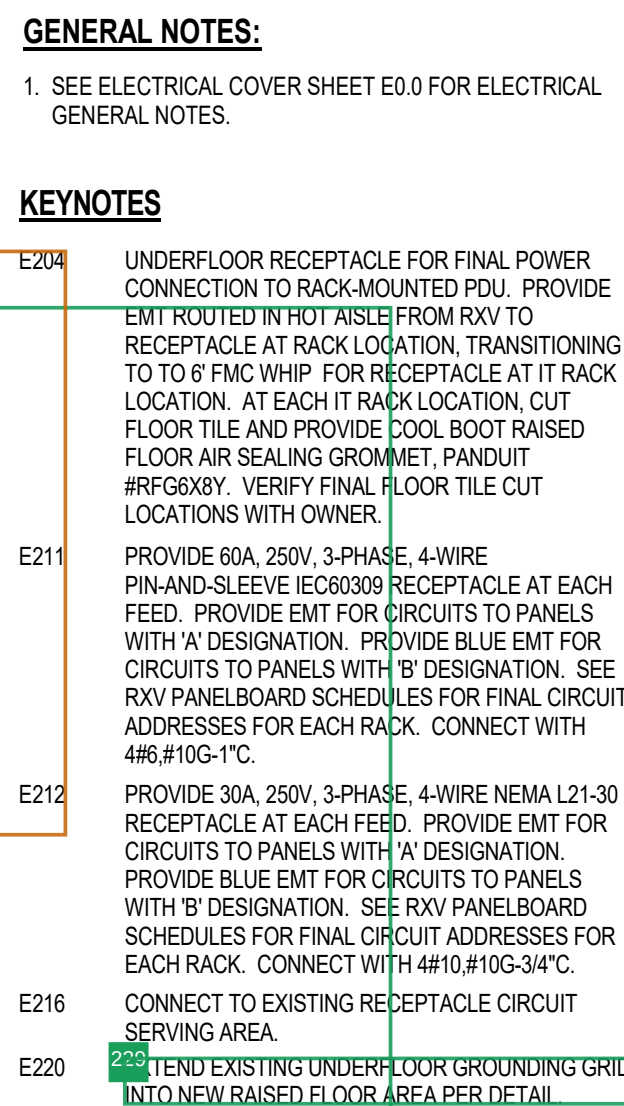
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Sheet Title:

**ENLARGED COMPUTER
ROOM FLOOR PLAN -
POWER - PHASE 1**

Sheet Number:

E2.3



KEYNOTES

E204	UNDERFLOOR RECEPTACLE FOR FINAL POWER CONNECTION TO RACK-MOUNTED PDU. PROVIDE EMT ROUTED IN HOT AISLE FROM RXV TO RECEPTACLE AT RACK LOCATION, TRANSITIONING TO 2 TO 6" FMC WHIP FOR RECEPTACLE AT IT RACK LOCATION. AT EACH IT RACK LOCATION, CUT FLOOR TILE AND PROVIDE COOL BOOT RAISED FLOOR AIR SEALING GROMMET, PANDUIT #RF6GX8Y. VERIFY FINAL FLOOR TILE CUT LOCATIONS WITH OWNER.
------	--

E211 PROVIDE 60A, 250V, 3-PHASE, 4-WIRE
PIN-AND-SLEEVE IEC60309 RECEPTACLE AT EACH
FEED. PROVIDE EMT FOR CIRCUITS TO PANELS
WITH 'A' DESIGNATION. PROVIDE BLUE EMT FOR
CIRCUITS TO PANELS WITH 'B' DESIGNATION. SEE
RXV PANELBOARD SCHEDULES FOR FINAL CIRCUIT
ADDRESSES FOR EACH RACK. CONNECT WITH
486, #10G-1" C.

E212 PROVIDE 30A, 250V, 3-PHASE, 4-WIRE NEMA L21-30 RECEPTACLE AT EACH FEED. PROVIDE EMT FOR CIRCUITS TO PANELS WITH 'A' DESIGNATION. PROVIDE BLUE EMT FOR CIRCUITS TO PANELS WITH 'B' DESIGNATION. SEE RXV PANELBOARD SCHEDULES FOR FINAL CIRCUIT ADDRESSES FOR EACH RACK. CONNECT WITH 4#10, #10G-3/4" C

E216 CONNECT TO EXISTING RECEPTACLE CIRCUIT
SERVING AREA.

E220 2-3 EXTEND EXISTING UNDERFLOOR GROUNDING GRID INTO NEW RAISED FLOOR AREA PER DETAIL.

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Nebraska
Lincoln®

UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall
Data Center
Building Number: C024
Building Acronym NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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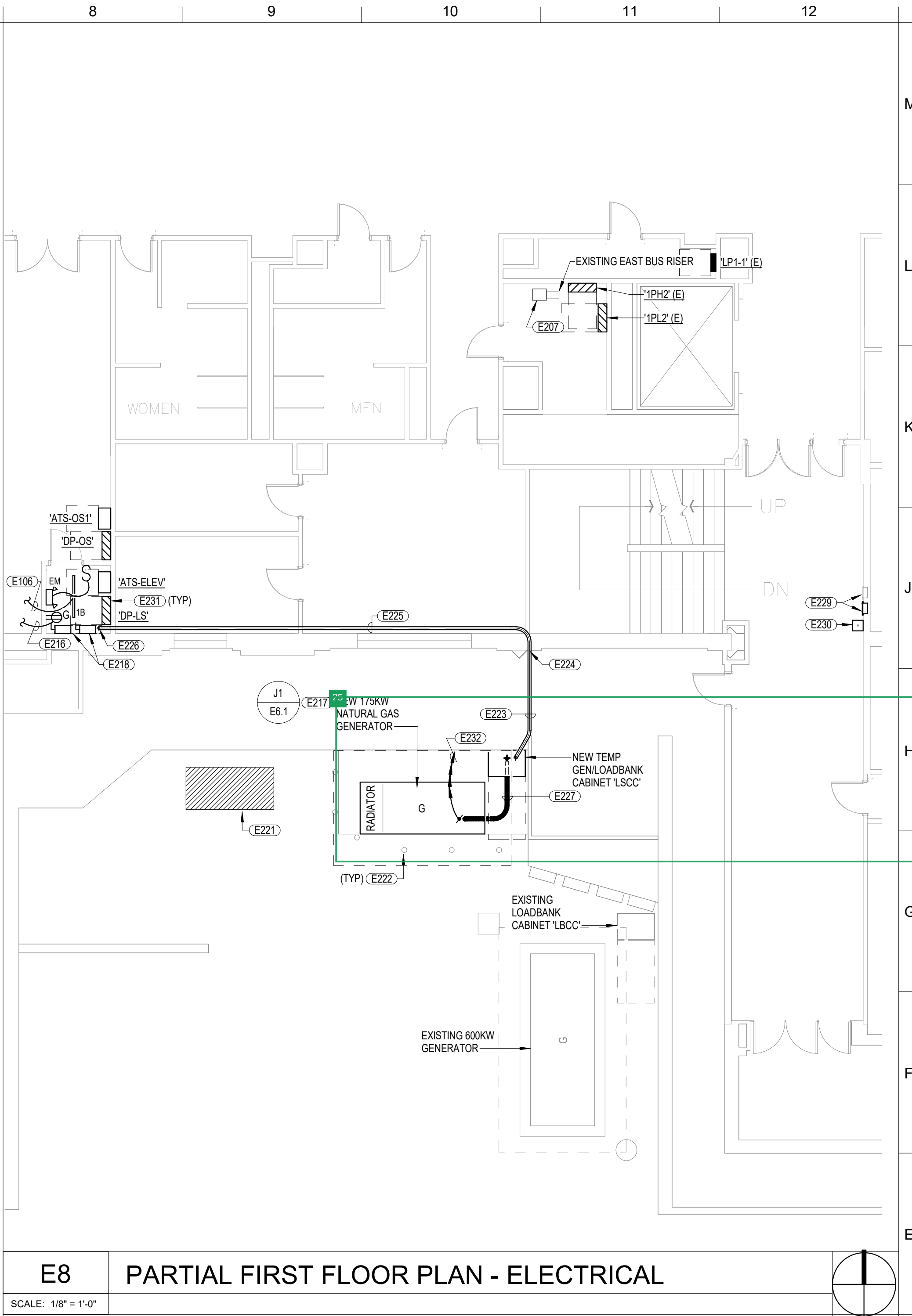
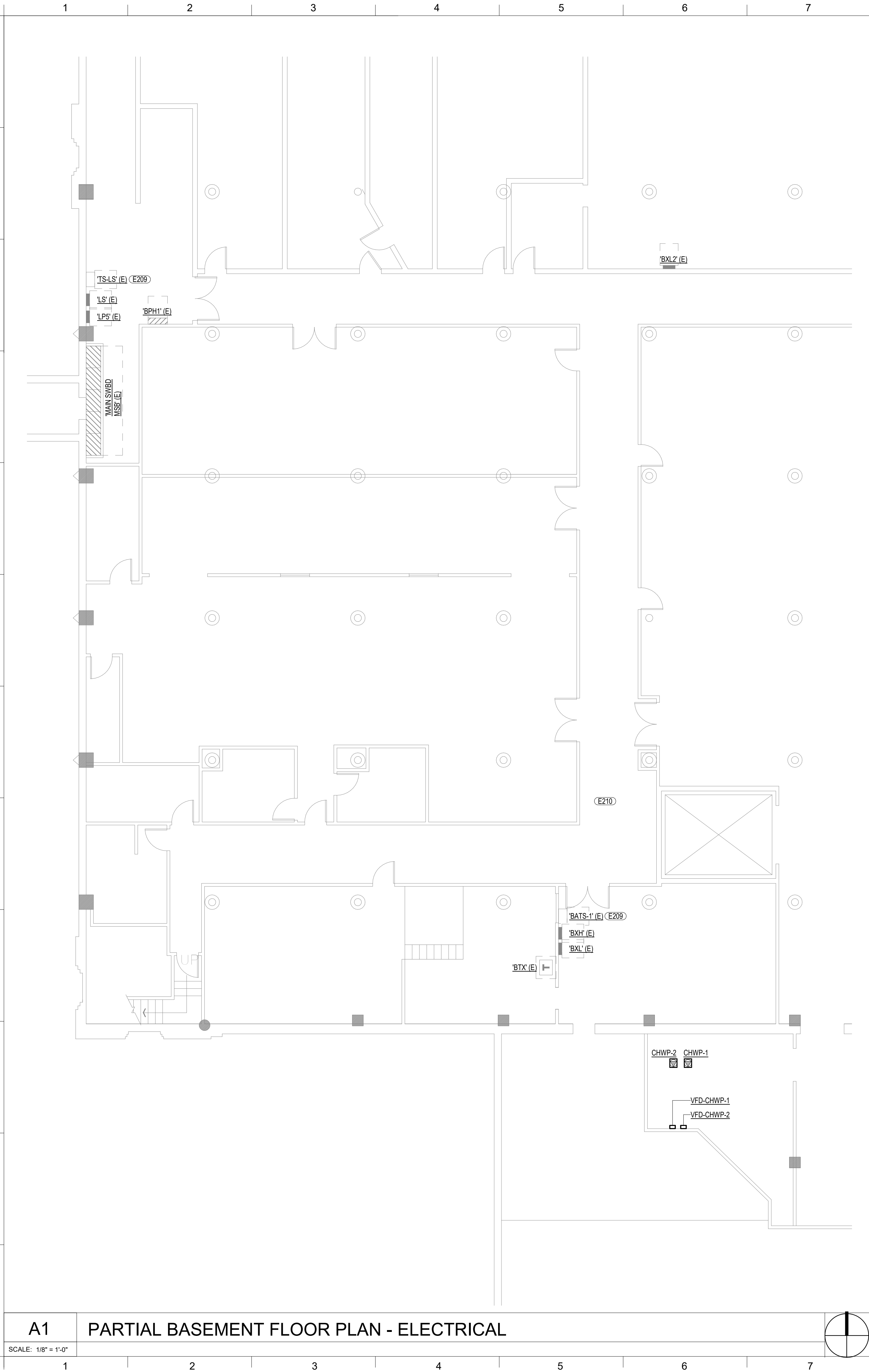
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Checked by:	Initials
Designer:	
Project Architect:	David Quade

Sheet Title:

**ENLARGED COMPUTER
ROOM FLOOR PLAN -
POWER - PHASE 2**

Sheet Number:

E2.4



1. SEE ELECTRICAL COVER SHEET E0.0 FOR ELECTRICAL GENERAL NOTES.

KEYNOTES

- E106 CONNECT TO EXISTING 277V CIRCUIT WITH ADEQUATE CAPACITY SERVING NORMAL LIGHTING IN THIS AREA.
- E207 NEW BUSWAY TAB BOX FOR ATS NORMAL FEED TO FLOOR ABOVE. SEE ONE-LINE DIAGRAM.
- E208 REPAIR EXISTING ATS FROM NEW EMERGENCY SOURCE. SEE ONE-LINE DIAGRAM.
- E210 APPROXIMATE LOCATION OF EXISTING PANEL 20XW IN SECOND FLOOR ELECTRICAL ROOM ABOVE.
- E216 CONNECT TO EXISTING RECEPTACLE CIRCUIT SERVING AREA.
- E217 ~~20~~ 25 INSTALL GENERATOR ON EXISTING PAD. ROUTE CONTROL CONDUITS OVERHEAD WITH EXISTING GENERATOR CONDUITS TO FIRST FLOOR CEILING SERVICE. ROUTE POWER CONDUIT UNDERGROUND TO TEMP/LOADBANK ENCLOSURE. THEN TO PANEL WIREWAY IN FIRST FLOOR MECHANICAL ROOM. SEE ONE-LINE DIAGRAM.
- E218 LS/IS EMERGENCY GENERATOR DISCONNECT SWITCHES. SEE ONE-LINE DIAGRAM.
- E221 ~~12~~ 15 PROVIDE 400VX MINIMUM PORTABLE LOADBANK FOR STARTUP AND COMMISSIONING. ROUTE TEMPORARY LOADBANK CABLES TO SECOND FLOOR FOR LOADBANK BREAKER CONNECTION AT "MBP.X". SEE ONE-LINE DIAGRAM.
- E222 ~~15~~ 20 RIPPY FINAL GENERATOR ENCLOSURE ACCESS DOOR LOCATIONS AND SWINGS WITH REVISIONS. ~~25~~ 20 GENERATOR SHOP DRAWINGS. EXISTING TEMPORARY BOLLARD TO BE REMOVED AS REQUIRED TO MAINTAIN SERVICE ACCESS TO NEW GENERATOR. INCLUDING BUT NOT LIMITED TO: ~~15~~ 20 BOLLARD REMOVAL AND RELOCATION.
- E223 RACK GENERATOR OUTPUT AND CONTROLS CONDUIT WITH EXISTING GENERATOR OUTPUT CONDUIT IN THIS AREA.
- E224 CORE BUILD EXTERIOR WALL FOR CONDUIT PENETRATION INTO BUILDING. SEAL WALL PENETRATION WEATHERTIGHT AFTER CONDUIT INSTALLATION.
- E225 ROUTE CONDUIT ABOVE CEILING ABOVE CLASSROOMS/ABS. COORDINATE WORK WITH UTILITIES AND BUILDING OCCUPANTS. REMOVE CEILING TILES TO REPLACE ANY DAMAGED CEILING TILE FROM OWNER'S STOCK.
- E226 ROUTE CONDUIT TO WIREWAY AT LIFE SAFETY AND OPTIONAL STANDBY DISCONNECTS. SEE ONE-LINE DIAGRAM.
- E227 ~~25~~ 20 WUCUT AND PATCH EXISTING GENERATOR PAD FOR 15-KVA. INSTALL 15-KVA TEMPORARY GENERATOR/LOADBANK CONNECTION CABINET.
- E229 APPROXIMATE LOCATION OF EXISTING 600KW GENERATOR ANNUNCIATOR. INSTALL NEW 175KW GENERATOR ANNUNCIATOR ADJACENT TO EXISTING.
- E230 175KW GENERATOR REMOTE EPO PUSHBUTTON. VERIFY FINAL LOCATION WITH AHI. IF LOCATED IN 15-KVA AREA, INSTALL PUSHBUTTON WITH PROTECTIVE COVER WITH SOUNDER ALARM - STI #ST1-1322-0CR OR EQUAL.
- E231 INSTALL DRIP PANS OVER ELECTRICAL EQUIPMENT LOCATED BELOW MECHANICAL PIPING IN THIS AREA AS REQUIRED. INSTALL AS HIGH AS POSSIBLE BELOW EXISTING PIPING.
- E232 BRANCH CIRCUITS FOR GENERATOR ACCESSORY CONNECTIONS. VERIFY FINAL GENERATOR ACCESSORIES FURNISHED WITH GENERATOR WITH SUPPLIER. ROUTE BRANCH CIRCUITS OVERHEAD WITH EXISTING GENERATOR OUTPUT CONDUITS TO EXISTING PANEL 1P1-1. PROVIDE NEW CIRCUIT BREAKERS IN EXISTING PANEL AS REQUIRED FOR ACCESSORY CONNECTIONS.



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall
Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

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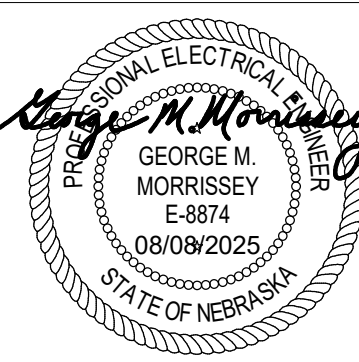
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Designer:

Project Architect:	David Quade
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Sheet Title:

**PARTIAL FLOOR PLANS -
ELECTRICAL**

Sheet Number:

E2.5

Autodesk Docs (24030)_UNL Nebraska Hall Data Center Upgrade(240318 NE Hall DC Expansion ME)_E301.rvt

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David Quade

A1
SCALE: 1/8" = 1'-0"

PARTIAL SECOND FLOOR PLAN - OVERHEAD PATHWAYS - PHASE 1



GENERAL NOTES:

1. SEE ELECTRICAL COVER SHEET E0.0 FOR ELECTRICAL GENERAL NOTES.

KEYNOTES

E301 PROVIDE CEILING-MOUNTED TRAPEZE SUPPORTS FOR CABLE TRAYS PER MANUFACTURER'S INSTRUCTIONS. ATTACH TO STRUCTURE ABOVE.

E303 PROVIDE 18" X 4" WIRE MESH BASKET CABLE TRAY WITH SOLID BOTTOM. PROVIDE FACTORY-MADE TEES, INTERSECTIONS, BENDS, AND OTHER CONNECTORS AS REQUIRED FOR A COMPLETE PATHWAY SYSTEM. PROVIDE ONE CABLE WATERFALL ABOVE EACH CABINET. COORDINATE EXACT PLACEMENT WITH OWNER'S IT REPRESENTATIVE. SEE SPECIFICATIONS. BOND EACH SECTION OF LADDER RUNWAY WITH #6 THHN.

E319 PROVIDE 2" CONDUIT FROM ELECTRICAL ROOM TO CABLE TRAY TO ACCOMMODATE ELECTRICAL ROOM NETWORK CABLING.



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UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
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Address: 900 N 16th Street
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ARCHITECT OF RECORD

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Consultant Project #: 24518

Certificate of Authorization #: CA-0835

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mechanical | electrical | lighting | technology | sustainability

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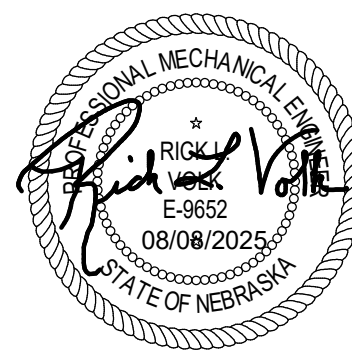
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Project Architect: David Quade

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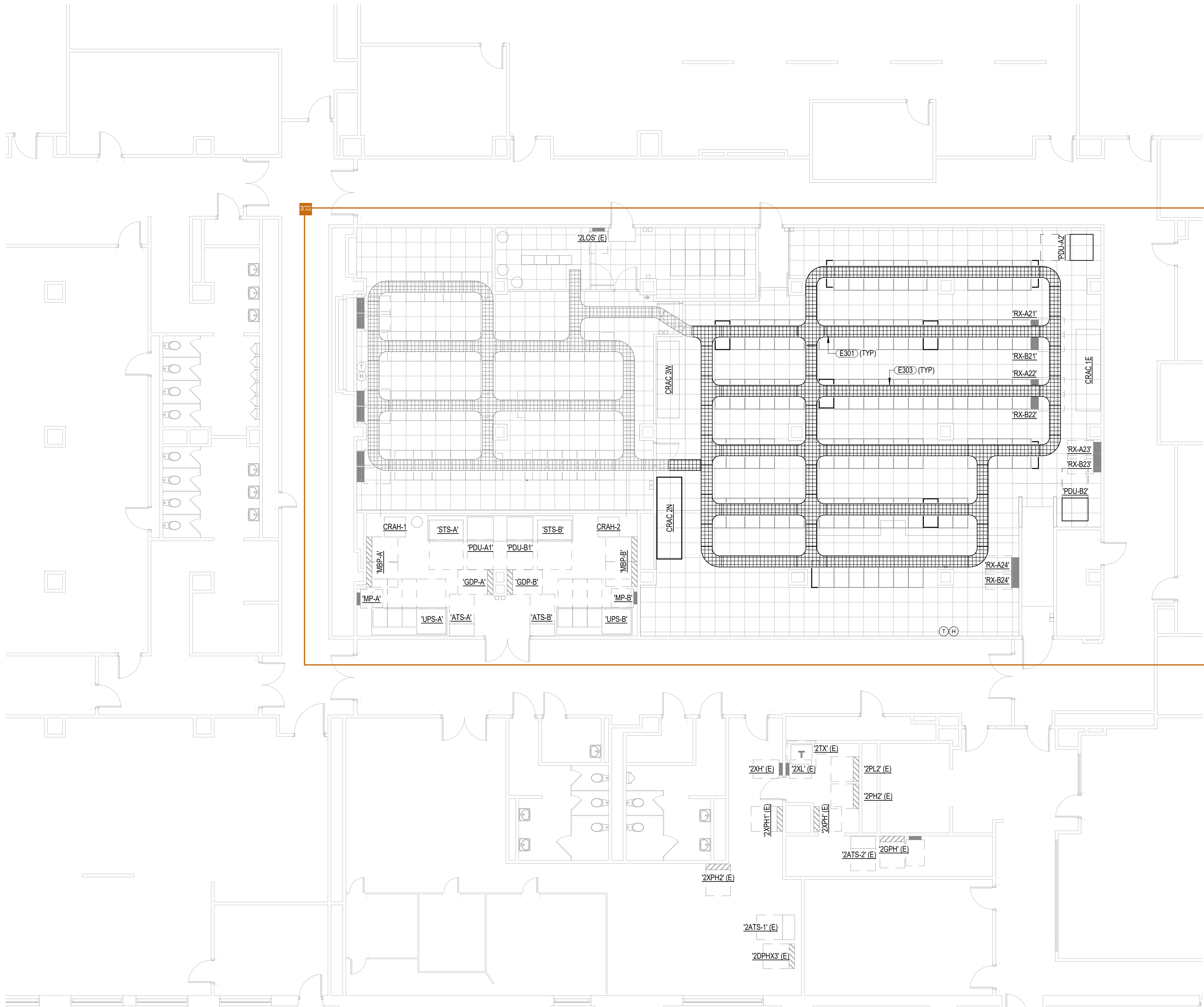
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PARTIAL SECOND FLOOR
PLAN - OVERHEAD
PATHWAYS - PHASE 1

Sheet Number:

E3.1

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Autodesk Docs (24030)_UNL Nebraska Hall Data Center Upgrade(24518) NE Hall DC Expansion MEI_KDS.v4



GENERAL NOTES:

1. SEE ELECTRICAL COVER SHEET E0.0 FOR ELECTRICAL GENERAL NOTES.

KEYNOTES

E301 PROVIDE CEILING-MOUNTED TRAPEZE SUPPORTS FOR CABLE TRAYS PER MANUFACTURER'S INSTRUCTIONS. ATTACH TO STRUCTURE ABOVE.

E303 PROVIDE 18"x4" WIRE MESH BASKET CABLE TRAY WITH SOLID BOTTOM. PROVIDE FACTORY-MADE TEES, INTERSECTIONS, BENDS, AND OTHER CONNECTORS AS REQUIRED FOR A COMPLETE PATHWAY SYSTEM. PROVIDE ONE CABLE WATERFALL ABOVE EACH CABINET. COORDINATE EXACT PLACEMENT WITH OWNER'S IT REPRESENTATIVE. SEE SPECIFICATIONS. BOND EACH SECTION OF LADDER RUNWAY WITH #6 THHN.



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UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
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MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

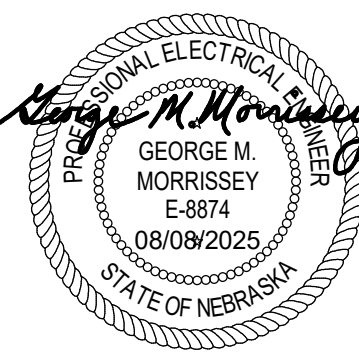
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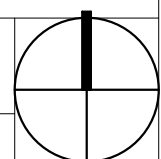
PARTIAL SECOND FLOOR PLAN - OVERHEAD PATHWAYS - PHASE 2

Sheet Number:

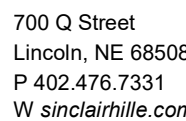
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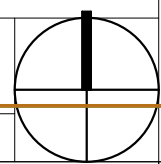
A1

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



E320 319 LOCATE EXISTING FIRE ALARM AND CLEAN
AGENT RELEASE CONTROL PANEL TO THIS
LOCATION. EXTEND EXISTING 110V CIRCUIT AND
CONTROL WIRING TO NEW LOCATION AND
RECONNECT.



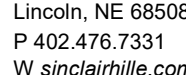


E316 CEILING SMOKE DETECTOR REMOVED IN DEMOLITION AND REINSTALLED IN THIS LOCATION.

E317 3RD FLOOR SMOKE DETECTOR REMOVED IN DEMOLITION AND REINSTALLED IN THIS LOCATION.

E318 PROVIDE 3/4" DROP TO MECHANICAL/ELECTRICAL EQUIPMENT FOR MONITORING WIRING. STUB CONDUIT TO NEAREST BASKET TRAY.

E319 PROVIDE J-BOX ON CEILING AND 3/4" CONDUIT TO NEAREST BASKET TRAY TO ACCOMMODATE SECURITY CAMERA CABLEING TO COORDINATE CAMERA LOCATIONS WITH LOCAL POLICE.

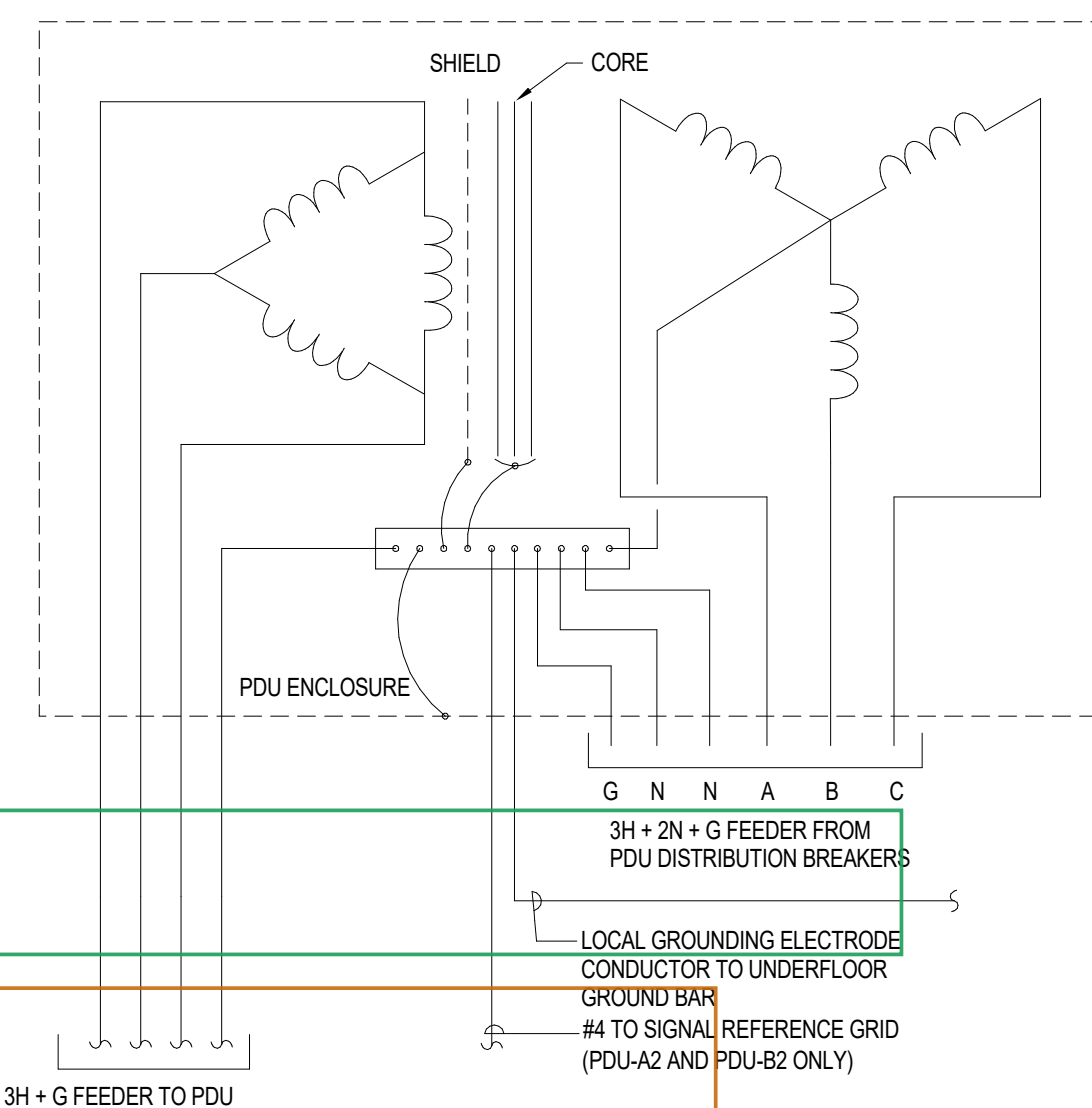


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E4.2

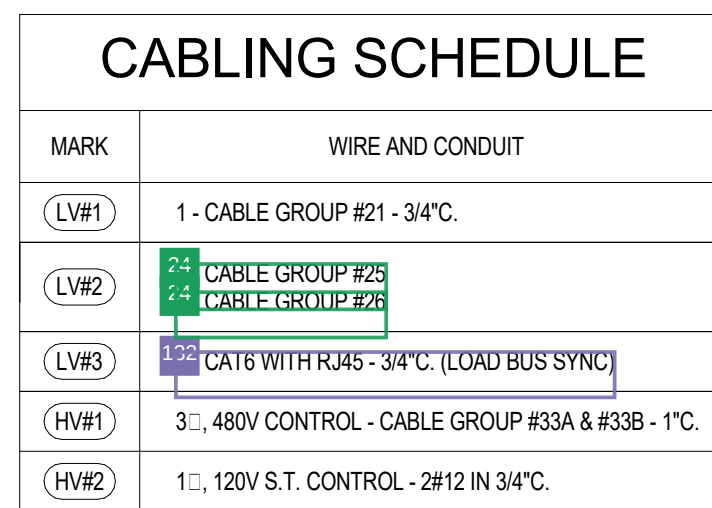
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PARTIAL SECOND FLOOR PLAN - SPECIAL SYSTEMS - PHASE 2

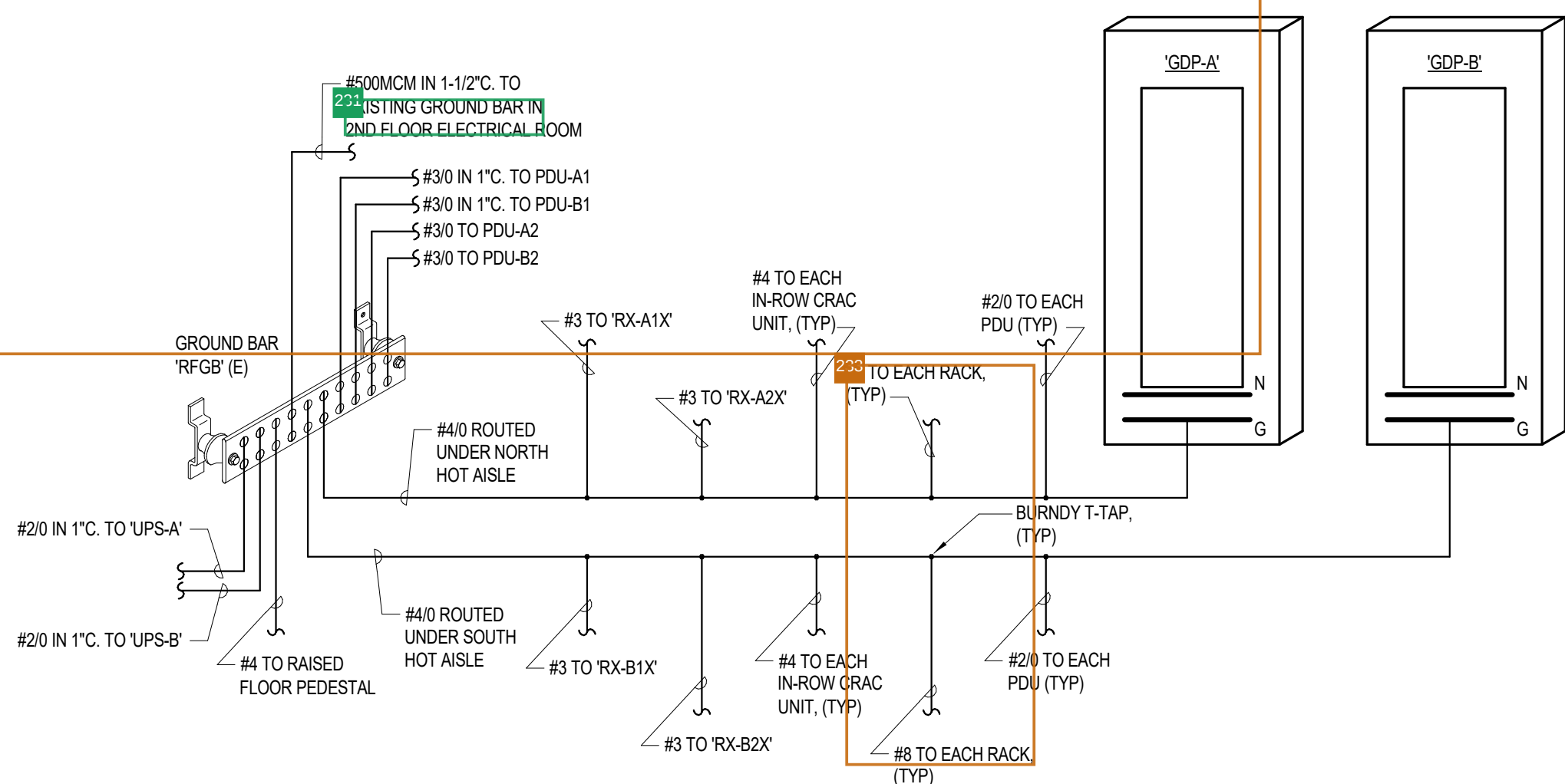


J11 435 PDU GROUNDING DETAIL

SCALE: N.T.S.



SCALE: N.T.S.



SCALE: N.T.S.



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UNL Project Manager:	Adam Schlotthauer
Campus Name:	City Campus
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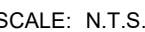
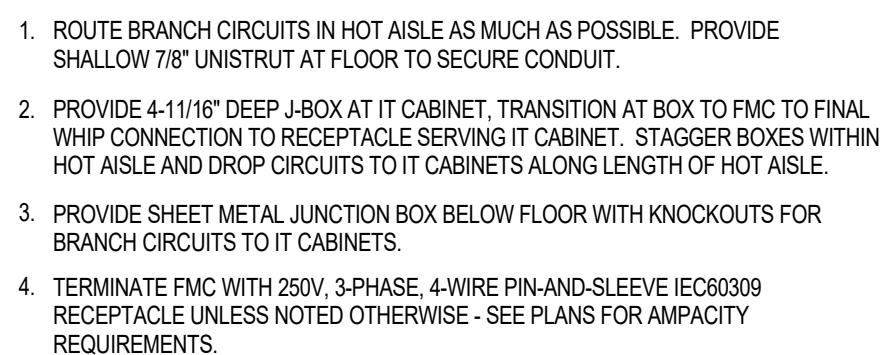
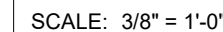
ELECTRICAL DETAILS

Sheet Number:

E6.2



- 7 237 LIGHTING CONTROL NETWORK WALL OCCUPANCY SENSOR SWITCH. REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR TYPES.



M

L

K

J

H

G

F

E

D

C

B

A

RXV PANEL SCHEDULE																
Panel: RX-A11 Rating: 400 A Mounting: SURFACE Type: MCB W/GND. BAR Integral SPD: NO					Voltage: 120/208 Phase: 3 Wire: 4 A.I.C. Rating:											
Circuit Description		OPT	R	P	CKT	A	B	C	CKT	P	R	OPT	Circuit Description			
B23				30	3	1	...	2	4	3	30		B22			
					5	...	...	6	...							
					7	...	...	8	...							
B25				30	3	9	...	10	10	3	30		B24			
					11	...	...	12	...							
					13	...	...	14	...							
B26				30	3	15	...	16	3	30			D4			
					17	...	...	18	...							
					19	...	...	20	...							
D7				30	3	21	...	22	3	30			D5			
					23	...	...	24	...							
					25	...	...	26	...							
I3				60	3	27	...	28	3	30			D8			
					29	...	...	30	...							
					31	...	...	32	...							
I5				60	3	33	...	34	3	60			I4			
					35	...	...	36	...							
					37	...	...	38	...							
I7				60	3	39	...	40	3	60			I6			
					41	...	...	42	...							
					43	...	...	44	...							
I9				60	3	45	...	46	3	60			I8			
					47	...	...	48	...							
					49	...	...	50	...							
I11				60	3	51	...	52	3	60			I10			
					53	...	...	54	...							
					55	...	...	56	...							
I13				60	3	57	...	58	3	60			I12			
					59	...	...	60	...							
					61	...	...	62	...							
I15				60	3	63	...	64	3	60			I14			
					65	...	...	66	...							
					67	...	...	68	...							
SPARE	--		30	3	69	...	70	3	60				I16			
					71	...	...	72	...							
SPACE	--	--	1	73	...	...	74	1	--	--	--	--	SPACE			
SPACE	--	--	1	75	...	...	76	1	--	--	--	--	SPACE			
SPACE	--	--	1	77	...	...	78	1	--	--	--	--	SPACE			
SPACE	--	--	1	79	...	...	80	1	--	--	--	--	SPACE			
SPACE	--	--	1	81	...	...	82	1	--	--	--	--	SPACE			
SPACE	--	--	1	83	...	...	84	1	--	--	--	--	SPACE			
Options: G – GFCI type circuit breaker. S – Shunt trip type circuit breaker. L – Locking handle type circuit breaker. Notes:																

RXV PANEL SCHEDULE																
Panel: RX-B11 Rating: 400 A Mounting: SURFACE Type: MCB W/GND. BAR Integral SPD: NO										Voltage: 120/208 Phase: 3 Wire: 4 A.I.C. Rating:						
Circuit Description		OPT	R	P	CKT	A	B	C	CKT	P	R	OPT	Circuit Description			
B23				30	3	1	...	2	4	3	30		B22			
					5	...	...	6	...							
					7	...	...	8	...							
B25				30	3	9	...	10	3	30			B24			
					11	...	...	12	...							
					13	...	...	14	...							
B26				30	3	15	...	16	3	30			D4			
					17	...	...	18	...							
					19	...	...	20	...							
D7				30	3	21	...	22	3	30			D5			
					23	...	...	24	...							
					25	...	...	26	...							
I3				60	3	27	...	28	3	30			D8			
					29	...	...	30	...							
					31	...	...	32	...							
I5				60	3	33	...	34	3	60			I4			
					35	...	...	36	...							
					37	...	...	38	...							
I7				60	3	39	...	40	3	60			I6			
					41	...	...	42	...							
					43	...	...	44	...							
I9				60	3	45	...	46	3	60			I8			
					47	...	...	48	...							
					49	...	...	50	...							
I11				60	3	51	...	52	3	60			I10			
					53	...	...	54	...							
					55	...	...	56	...							
I13				60	3	57	...	58	3	60			I12			
					59	...	...	60	...							
					61	...	...	62	...							
I15				60	3	63	...	64	3	60			I14			
					65	...	...	66	...							
					67	...	...	68	...							
SPARE	--		30	3	69	...	70	3	60				I16			
					71	...	...	72	...							
SPACE	--	--	1	73	...	...	74	1	--	--	--	--	SPACE			
SPACE	--	--	1	75	...	...	76	1	--	--	--	--	SPACE			
SPACE	--	--	1	77	...	...	78	1	--	--	--	--	SPACE			
SPACE	--	--	1	79	...	...	80	1	--	--	--	--	SPACE			
SPACE	--	--	1	81	...	...	82	1	--	--	--	--	SPACE			
SPACE	--	--	1	83	...	...	84	1	--	--	--	--	SPACE			
Options: G – GFCI type circuit breaker. S – Shunt trip type circuit breaker. L – Locking handle type circuit breaker. Notes:																

RXV PANEL SCHEDULE																
Panel: RX-A12 Rating: 400 A Mounting: SURFACE Type: MCB W/GND. BAR Integral SPD: NO										Voltage: 120/208 Phase: 3 Wire: 4 A.I.C. Rating:						
Circuit Description			OPT	R	P	CKT	A	B	C	CKT	P	R	OPT	Circuit Description		
L3				30	3	1	...	2	4	3	30			L4		
					5	...	...	6	...							
					7	...	...	8	...							
L5				60	3	9	...	10	3	60				L6		
					11	...	...	12	...							
					13	...	...	14	...							
L7				60	3	15	...	16	3	60				L8		
					17	...	...	18	...							
					19	...	...	20	...							
L13				60	3	21	...	22	3	60				L12		
					23	...	...	24	...							
					25	...	...	26	...							
L15				60	3	27	...	28	3	60				L14		
					29	...	...	30	...							
					31	...	...	32	...							
L17				30	3	33	...	34	3	30				L16		
					35	...	...	36	...							
					37	...	...	38	1	...	...					
SPARE			---	60	3	39	...	40	1	---	---					SPACE
					41	...	...	42	1	---	---					SPACE
SPACE			---	---	1	43	...	44	1	---	---					SPACE
SPACE			---	---	1	45	...	46	1	---	---					SPACE
SPACE			---	---	1	47	...	48	1	---	---					SPACE
SPACE			---	---	1	49	...	50	1	---	---					SPACE
SPACE			---	---	1	51	...	52	1	---	---					SPACE
SPACE			---	---	1	53	...	54	1	---	---					SPACE
SPACE			---	---	1	55	...	56	1	---	---					SPACE
SPACE			---	---	1	57	...	58	1	---	---					SPACE
SPACE			---	---	1	59	...	60	1	---	---					SPACE
SPACE			---	---	1	61	...	62	1	---	---					SPACE
SPACE			---	---	1	63	...	64	1	---	---					SPACE
SPACE			---	---	1	65	...	66	1	---	---					SPACE
SPACE			---	---	1	67	...	68	1	---	---					SPACE
SPACE			---	---	1	69	...	70	1	---	---					SPACE
SPACE			---	---	1	71	...	72	1	---	---					SPACE
SPACE			---	---	1	73	...	74	1	---	---					SPACE
SPACE			---	---	1	75	...	76	1	---	---					SPACE
SPACE			---	---	1	77	...	78	1	---	---					SPACE
SPACE			---	---	1	79	...	80	1	---	---					SPACE
SPACE			---	---	1	81	...	82	1	---	---					SPACE
SPACE			---	---	1	83	...	84	1	---	---					SPACE
Options:																
G -- GFCI type circuit breaker.																
L -- Locking handle type circuit breaker.																
Notes:																

As noted on 2/20/20 UNL, Nebraska Hall Data Center Upgrade 2018 NE Hall DC Expansion MEI_KDS.v4

8/20/2025 10:31:41 AM
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RXV PANEL SCHEDULE												
Panel: RX-A21 Rating: 400 A Mounting: SURFACE Type: MCB W/GND. BAR Integral SPD: NO								Voltage: 120/208 Phase: 3 Wire: 4 A.I.C. Rating:				
Circuit Description	OPT	R	P	CKT	A	B	C	CKT	P	R	OPT	Circuit Description
C33			30	3	1	...	...	2	4	3	30	C34
				5	...	...	...	6				
				7	...	...	...	8				
C35			30	3	9	...	...	10	3	30		C36
				11	...	...	...	12				
				13	...	...	...	14				
C37			30	3	15	...	...	16	3	30		C38
				17	...	...	...	18				
				19	...	...	...	20				
C43			30	3	21	...	...	22	3	30		C42
				23	...	...	...	24				
				25	...	...	...	26				
C45			30	3	27	...	...	28	3	30		C44
				29	...	...	...	30				
				31	...	...	...	32				
H27			60	3	33	...	...	34	3	60		H26
				35	...	...	...	36				
				37	...	...	...	38				
H29			60	3	39	...	...	40	3	60		H28
				41	...	...	...	42				
				43	...	...	...	44				
H31			60	3	45	...	...	46	3	60		H30
				47	...	...	...	48				
				49	...	...	...	50				
H33			60	3	51	...	...	52	3	60		H32
				53	...	...	...	54				
				55	...	...	...	56				
H35			60	3	57	...	...	58	3	60		H34
				59	...	...	...	60				
				61	...	...	...	62				
H37			60	3	63	...	...	64	3	60		H36
				65	...	...	...	66				
				67	...	...	...	68				
SPARE	--	--	60	3	69	...	...	70	3	60		H38
				71	...	...	...	72				
SPACE	--	--	--	1	73	...	...	74				
SPACE	--	--	--	1	75	...	...	76	3	60	--	SPARE
SPACE	--	--	--	1	77	...	...	78				
SPACE	--	--	--	1	79	...	...	80	1	--	--	SPACE
SPACE	--	--	--	1	81	...	...	82	1	--	--	SPACE
SPACE	--	--	--	1	83	...	...	84	1	--	--	SPACE
Options: G – GFCI type circuit breaker. S – Shunt trip type circuit breaker. L – Locking handle type circuit breaker. Notes:												

RXV PANEL SCHEDULE												
Panel: RX-B21 Rating: 400 A Mounting: SURFACE Type: MCB W/GND. BAR Integral SPD: NO						Voltage: 120/208 Phase: 3 Wire: 4 A.I.C. Rating:						
Circuit Description	OPT	R	P	CKT	A	B	C	CKT	P	R	OPT	Circuit Description
C33			30	3	1	...	...	2	4	3	30	C34
				5	...	...	...	6				
				7	...	...	...	8				
C35			30	3	9	...	...	10	3	30		C36
				11	...	...	...	12				
				13	...	...	...	14				
C37			30	3	15	...	...	16	3	30		C38
				17	...	...	...	18				
				19	...	...	...	20				
C43			30	3	21	...	...	22	3	30		C42
				23	...	...	...	24				
				25	...	...	...	26				
C45			30	3	27	...	...	28	3	30		C44
				29	...	...	...	30				
				31	...	...	...	32				
H27			60	3	33	...	...	34	3	60		H26
				35	...	...	...	36				
				37	...	...	...	38				
H29			60	3	39	...	...	40	3	60		H28
				41	...	...	...	42				
				43	...	...	...	44				
H31			69	3	45	...	...	46	3	60		H30
				47	...	...	...	48				
				49	...	...	...	50				
H33			60	3	51	...	...	52	3	60		H32
				53	...	...	...	54				
				55	...	...	...	56				
H35			60	3	57	...	...	58	3	60		H34
				59	...	...	...	60				
				61	...	...	...	62				
H37			60	3	63	...	...	64	3	60		H36
				65	...	...	...	66				
				67	...	...	...	68				
SPARE	--	--	60	3	69	...	...	70	3	60		H38
				71	...	...	...	72				
SPACE	--	--	--	1	73	...	...	74				
SPACE	--	--	--	1	75	...	...	76	3	60	--	SPARE
SPACE	--	--	--	1	77	...	...	78				
SPACE	--	--	--	1	79	...	...	80	1	--	--	SPACE
SPACE	--	--	--	1	81	...	...	82	1	--	--	SPACE
SPACE	--	--	--	1	83	...	...	84	1	--	--	SPACE
Options: G – GFCI type circuit breaker. S – Shunt trip type circuit breaker. L – Locking handle type circuit breaker. Notes:												

RXV PANEL SCHEDULE												
Panel: RX-A22 Rating: 400 A Mounting: SURFACE Type: MCB W/GND. BAR Integral SPD: NO						Voltage: 120/208 Phase: 3 Wire: 4 A.I.C. Rating:						
Circuit Description	OPT	R	P	CKT	A	B	C	CKT	P	R	OPT	Circuit Description
H41			60	3	1	...	...	2	4	3	60	H40
				5	...	...	...	6				
				7	...	...	...	8				
H43			60	3	9	...	...	10	3	60		H42
				11	...	...	...	12				
				13	...	...	...	14				
H45			60	3	15	...	...	16	3	60		H44
				17	...	...	...	18				
				19	...	...	...	20				
K25			60	3	21	...	...	22	3	60		K26
				23	...	...	...	24				
				25	...	...	...	26				
K27			60	3	27	...	...	28	3	60		K28
				29	...	...	...	30				
				31	...	...	...	32				
K29			60	3	33	...	...	34	3	60		K30
				35	...	...	...	36				
				37	...	...	...	38				
K31			60	3	39	...	...	40	3	60		K34
				41	...	...	...	42				
				43	...	...	...	44				
K33			60	3	45	...	...	46	3	60		K36
				47	...	...	...	48				
				49	...	...	...	50				
K35			60	3	51	...	...	52	3	60		K38
				53	...	...	...	54				
				55	...	...	...	56				
K37			60	3	57	...	...	58	3	60		K40
				59	...	...	...	60				
				61	...	...	...	62				
K39			60	3	63	...	...	64	3	60		K42
				65	...	...	...	66				
				67	...	...	...	68				
K41			60	3	69	...	...	70	3	60		K44
				71	...	...	...	72				
				73	...	...	...	74				
K43			60	3	75	...	...	76	3	60	--	SPARE
				77	...	...	...	78				
				79	...	...	...	80				
K45			60	3	81	...	...	82	3	60	--	SPARE
				83	...	...	...	84				
Options: G – GFCI type circuit breaker. L – Locking handle type circuit breaker. Notes:												
S – Shunt trip type circuit breaker.												

MECHANICAL EQUIPMENT CONNECTION SCHEDULE						
PLAN TAG	VOLTAGE	PHASE	DISCONNECT	CIRCUIT	WIRE AND CONDUIT	REMARKS
CD-1A	480 V	3	INTEGRAL	GDP-A-5	3#12,#12G-3/4"	NOTE 2
CD-1B	480 V	3	INTEGRAL	GDP-B-5	3#12,#12G-3/4"	NOTE 2
CHWP-1	480 V	3	VIA VFD			
CHWP-2	480 V	3	VIA VFD			
CRAC 1E	480 V	3	--	2XPH-1	EXISTING	
CRAC 2N	480 V	3	--	2DPHX3-1	MATCH EXISTING	NOTE 1
CRAC 3W	480 V	3	--	2DPHX3-2	MATCH EXISTING	NOTE 1
CAH-1	480 V	3	INTEGRAL	GDP-A-6	3#8,#10G-1"	
CAH-2	480 V	3	INTEGRAL	GDP-B-6	3#8,#10G-1"	
CAH-3	480 V	3	INTEGRAL	MP-B-32,34,36	3#12,#12G-3/4"	
IRC-1-1A	480 V	3	INTEGRAL	MP-B-2,4,6	4#12,#12G-3/4"	
IRC-1-1B	480 V	3	INTEGRAL	MP-A-7,9,11	4#12,#12G-3/4"	
IRC-1-2A	480 V	3	INTEGRAL	MP-B-13,15,17	4#12,#12G-3/4"	
IRC-1-2B	480 V	3	INTEGRAL	MP-A-2,4,6	4#12,#12G-3/4"	
IRC-1-2C	480 V	3	INTEGRAL	MP-B-20,22,24	4#12,#12G-3/4"	
IRC-1-2D	480 V	3	INTEGRAL	MP-B-25,27,29	4#12,#12G-3/4"	
IRC-1-2E	480 V	3	INTEGRAL	MP-B-26,28,30	4#12,#12G-3/4"	
IRC-2-1A	480 V	3	INTEGRAL	MP-A-1,3,5	4#12,#12G-3/4"	
IRC-2-1B	480 V	3	INTEGRAL	MP-B-7,9,11	4#12,#12G-3/4"	
IRC-2-1C	480 V	3	INTEGRAL	MP-A-13,15,17	4#12,#12G-3/4"	
IRC-2-1D	480 V	3	INTEGRAL	MP-B-1,3,5	4#12,#12G-3/4"	
IRC-2-1E	480 V	3	INTEGRAL	MP-B-14,16,18	4#12,#12G-3/4"	
IRC-2-1F	480 V	3	INTEGRAL	MP-A-19,21,23	4#12,#12G-3/4"	
IRC-2-1G	480 V	3	INTEGRAL	MP-B-19,21,23	4#12,#12G-3/4"	
IRC-2-2A	480 V	3	INTEGRAL	MP-B-8,10,12	4#12,#12G-3/4"	
IRC-2-2B	480 V	3	INTEGRAL	MP-A-8,10,12	4#12,#12G-3/4"	
IRC-2-2C	480 V	3	INTEGRAL	MP-A-14,16,18	4#12,#12G-3/4"	
IRC-2-2D	480 V	3	INTEGRAL	MP-A-20,22,24	4#12,#12G-3/4"	
VFD-CHWP-1	480 V	3	--	MP-A-25,27,29	3#10,#10G-1"	
VFD-CHWP-2	480 V	3	--	MP-B-31,33,35	3#10,#10G-1"	

1. EXTEND EXISTING CIRCUIT TO NEW CRAC UNIT LOCATION AND RECONNECT.
2. RACK BRANCH CIRCUIT CONDUIT WITH REFRIGERANT PIPING FOR A CLEAN INSTALLATION

UNIVERSITY OF
Nebraska
Lincoln®

UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall
Data Center
Building Number: C024
Building Acronym: NH
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
Lincoln, NE 68508

Design Team:

COORDINATING PROFESSIONAL
MECHANICAL & ELECTRICAL ENGINEERING
Consultant Project #: 24518
Certificate of Authorization #: CA-0835

MORRISSEY ENGINEERING INC.

4940 North 118th Street
Omaha, NE 68164
P 402.491.4144
W morrisseyengineering.com

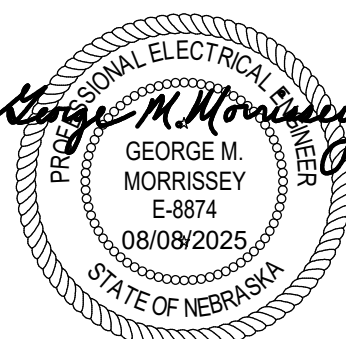
ARCHITECT OF RECORD

Consultant Project #: 24030
Certificate of Authorization #: CA-0285

SINCLAIR HILLE ARCHITECTS

700 Q Street
Lincoln, NE 68508
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Seal:



REVISION SCHEDULE

[illegible]

Issue: Bid Documents

Date: August 8, 2025

Drawn by: _____ Author: _____

Checked by: _____ Initials: _____

Project Architect: David Quade

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Sheet Title:

ELECTRICAL SCHEDULES

Sheet Number:

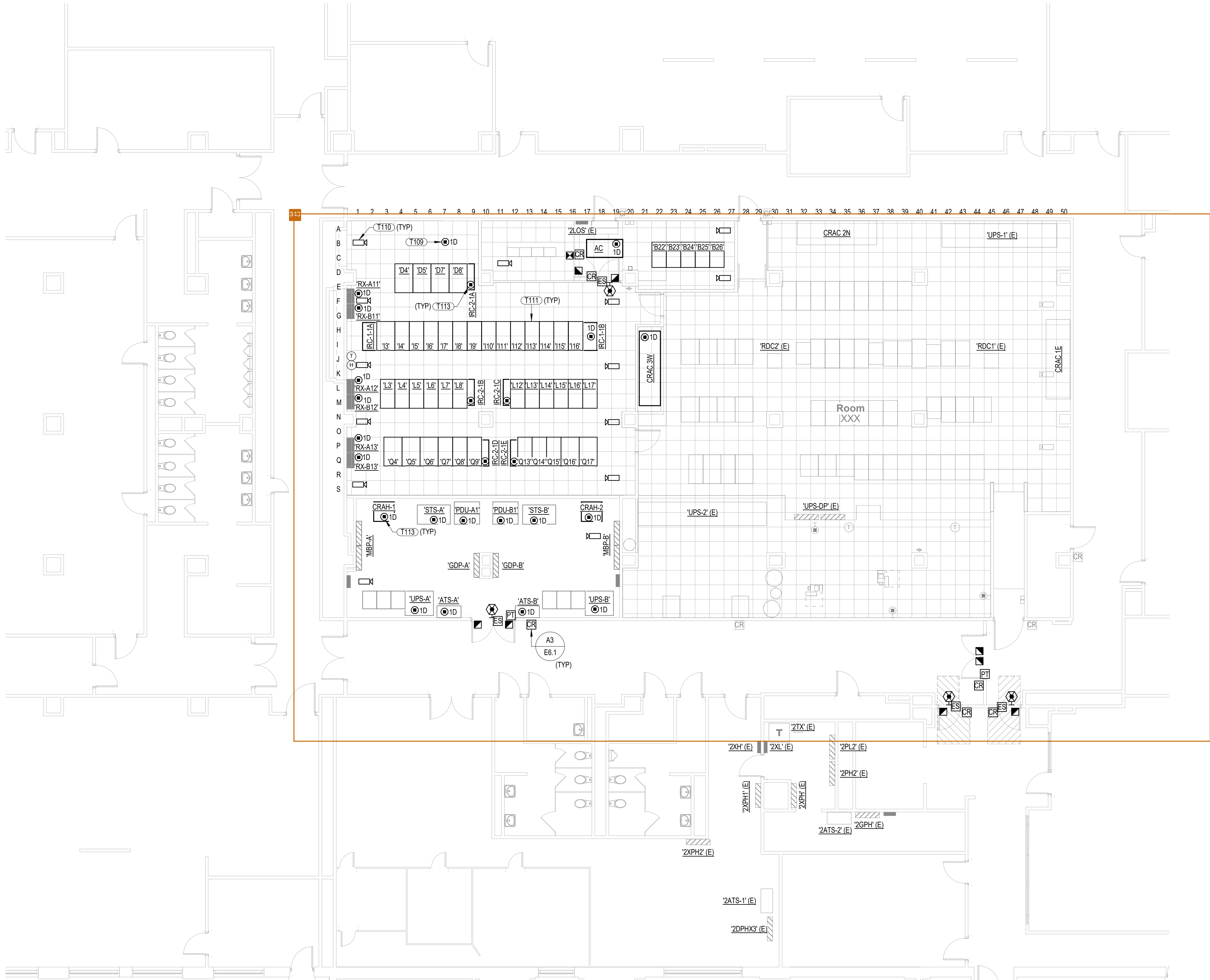
E7.3

Autodesk Docs (24030_UNL_Nebraska Hall Data Center Upgrade)24518 NE Hall DC Expansion MEI_KDS.v14

8/8/2025 10:31:44 AM
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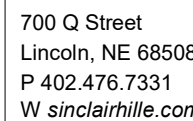
A1
SCALE: 1/8" = 1'-0"

PARTIAL SECOND FLOOR PLAN - TELECOMMUNICATIONS - PHASE 1





T110	3-43	PROVIDE ONE CATEGORY 6A CABLE FOR CONNECTION TO EQUIPMENT INDICATED.
	3-43	OWNER-PROVIDED VIDEO SURVEILLANCE CAMERA PROVIDE 10' SLACK LOOP AT CAMERA END
T111		PROVIDE TWO CATEGORY 6A CABLES TO EACH CABINET FOR CONNECTION TO PDUS.
T113		PROVIDE ONE CATEGORY 6A CABLE FOR CONNECTION TO EQUIPMENT INDICATED.



T1.2

Autodesk Docs (24030)_UNL Nebraska Hall Data Center Upgrade(24018) NE Hall DC Expansion MEI_KDS-v16

8/8/2025 10:31:50 AM
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A1

SCALE: N.T.S.

TELECOMMUNICATIONS CONNECTIVITY DIAGRAM - PHASE 1



GENERAL TELECOMMUNICATION NOTES:

1. SEE ELECTRICAL COVER SHEET E0.0 FOR ELECTRICAL GENERAL NOTES.
2. FIBER OPTIC CABLEING SHALL BE PRE-TERMINATED TYPE CORNING EDGE MTP SERIES TRUNK. PROVIDE FIBER TRUNK AND MTP PRO CONNECTORS AT BOTH ENDS FOR ALL RUNS FOR 100% TERMINATION OF ALL FIBERS SHOWN. REFER TO OWNER-PROVIDED BILL OF MATERIAL FOR ADDITIONAL INFORMATION.
3. CONTRACTOR SHALL DO TAKE-OFFS FOR ALL FIBER (TRUNK LENGTHS AND COPPER CABLES AS REQUIRED TO REACH TERMINATION POINTS BY WAY OF OVERHEAD CABLE TRAY. PROVIDE 6'-0" SERVICE LOOP AT DESTINATION END. COIL IN LADDER TRAY ABOVE CABINET.
4. TERMINATE ALL INDIVIDUAL CAT 6A CABLES FOR CAMERAS, PDUS, MONITORING, ETC. TO NEAREST CABINET WITH COPPER CONNECTIVITY. COORDINATE EXACT TERMINATION LOCATION WITH OWNER PRIOR TO INSTALLATION.

KEYNOTES

- T101 PROVIDE SUFFICIENT SLACK LOOP TO RE-TERMINATE FIBER TO CABINET S40 IN PHASE 2 SCOPE. COIL SLACK LOOP IN CABLE TRAY ABOVE CABINET IN PHASE 1.
- T102 PROVIDE SUFFICIENT SLACK LOOP TO RE-TERMINATE FIBER TO CABINET S38 IN PHASE 2 SCOPE. COIL SLACK LOOP IN CABLE TRAY ABOVE CABINET IN PHASE 1.
- T103 PROVIDE SUFFICIENT SLACK LOOP TO RE-TERMINATE FIBER TO CABINET S36 IN PHASE 2 SCOPE. COIL SLACK LOOP IN CABLE TRAY ABOVE CABINET IN PHASE 1.
- T104 PROVIDE SUFFICIENT SLACK LOOP TO RE-TERMINATE FIBER TO CABINET S37 IN PHASE 2 SCOPE. COIL SLACK LOOP IN CABLE TRAY ABOVE CABINET IN PHASE 1.
- T105 PROVIDE SUFFICIENT SLACK LOOP TO RE-TERMINATE FIBER TO CABINET W38 IN PHASE 2 SCOPE. COIL SLACK LOOP IN CABLE TRAY ABOVE CABINET IN PHASE 1.
- T106 PROVIDE SUFFICIENT SLACK LOOP TO RE-TERMINATE FIBER TO CABINET S34 IN PHASE 2 SCOPE. COIL SLACK LOOP IN CABLE TRAY ABOVE CABINET IN PHASE 1.
- T107 PROVIDE SUFFICIENT SLACK LOOP TO RE-TERMINATE FIBER TO CABINET S35 IN PHASE 2 SCOPE. COIL SLACK LOOP IN CABLE TRAY ABOVE CABINET IN PHASE 1.
- T108 PROVIDE SUFFICIENT SLACK LOOP TO RE-TERMINATE FIBER TO CABINET W32 IN PHASE 2 SCOPE. COIL SLACK LOOP IN CABLE TRAY ABOVE CABINET IN PHASE 1.
- T112 24 STRAND SINGLEMODE FIBER FROM RACKS Q4 AND Q17 IN DIVERGENT PATHWAYS TO DESTINATION CABINETS.
- T114 PROVIDE 1U D-RING STYLE CABLE MANAGEMENT.



UNL Project Name:

UNL NE Hall Data Center Upgrade

UNL Project Number: 14285
UNL Project Manager: Adam Schlotthauer
Campus Name: City Campus
Building Name: Nebraska Hall Data Center
Building Acronym: C024
Address: 900 N 16th Street
Lincoln, NE 68508

MEI Project Number: 24518
Project Address: 900 N 16th Street
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Design Team:

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Seal:



REVISION SCHEDULE

#	Date	Revision Description

Issue: Bid Documents
Date: August 8, 2025
Drawn by: Author
Checked by: Initials
Designer:
Project Architect: David Quade

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Sheet Title:
TELECOMMUNICATIONS CONNECTIVITY DIAGRAM - PHASE 1

Sheet Number:

T2.1