

ADDENDUM 04

Issued: April 24, 2024

RE: Boney Courthouse Generator Replacement, ANC-C-2024-0005

FROM:
Alaska Court System
820 West 4th Avenue
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TO: Prospective Bidders

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated 3/21/2024 and Drawings dated 3/06/2024, as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of nine (9) pages and eight (8) attachments: Drawing A101, Drawing S101, Drawing M202, Drawing M301, Drawing E001, Drawing E301, Specification 09 2216 – Non-Structural Metal Framing, Specification 23 0993 – Sequence of Operations for HVAC Controls.

CHANGES TO PRIOR ADDENDA:

N/A

CHANGES TO BIDDING REQUIREMENTS:

N/A

CHANGES TO CONDITIONS OF THE CONTRACT:

In Section 00 3000 – Bid Schedule, under heading titled “Base Bid” DELETE “Ad. Alt #1,” fillable lines including “figures” and “words” in its entirety.

CHANGES TO SPECIFICATIONS:

Under Section 01 0100 – Summary of Work, REVISE paragraph 1.1.1.A to read:

“The ALASKA COURT SYSTEM requires services from a qualified contractor to install a 100 Kilowatts/125kVA, 277/480V, 60 Hz, three phase, diesel, emergency generator set Caterpillar D100-8, C4.4, an automatic transfer switch panel (ATS), a concrete platform and associated electrical connections. The contractor will be responsible for restoration repairs on the walls and floor surfaces areas around the location for the generator set; all electrical panels and all installations are to comply with the applicable local electric codes. The project site is located in Anchorage, AK. The price listed below shall include labor, materials, transportation, insurance and any additional fee included on this service. The ALASKA COURT SYSTEM will pay the Contractor a firm lump sum for standard services that have been satisfactorily performed.”

Under Section 01 0100 – Summary of Work, DELETE paragraph 1.1.1.B.

Under Section 01 0100 – Summary of Work, DELETE last sentence of paragraph 1.1.1.F.

ADD Section 09 2216 – Non-Structural Metal Framing in its entirety per attached.

Section 23 0923 – Direct Digital Control System for HVAC is DELETED in its entirety.

Section 23 0993 – Sequence of Operations for HVAC Controls is REVISED per attached.

Under Section 26 3200 – Packaged Generator Assemblies paragraph 1.04, REVISE sub item D to read:

“The Packaged Generator Assembly, enclosure, all dimensions, and performance data are based on Caterpillar model: D100-8, C.4. The Contractor shall make all necessary modifications required for other manufactures, at no additional cost to the OWNER, if Caterpillar Generation's equipment is not supplied.”

Under Section 26 3200 – Packaged Generator Assemblies paragraph 2.01 and Section 26 3623 – Automatic Transfer Switch paragraph 2.01 ADD sub item:

“E. Kohler Power Systems.”

Under Section 26 3200 – Packaged Generator Assemblies paragraph 2.04, REVISE sub item N to read:

“Mounting: The complete engine/generator package shall be mounted on a common, self-supporting, low profile, structural steel skid base with rubber in shear vibration isolators between the engine and base. The base shall extend from the rear end of the generator to the most forward point of the engine and shall be predrilled to accept a #2 AWG - 250 kCMIL copper grounding conductor.”

Under Section 26 3200 – Packaged Generator Assemblies paragraph 3.03, REVISE sub item E to read:

“Provide a two (2) hour full-load test utilizing a portable load bank. Building loads may be utilized during this full load test if approved by the Owner prior to testing. Simulate power failure including operation of each transfer switch. Full-load testing shall be done as follows:

- 1. 30 minutes at 50% rated load.*
- 2. 30 minutes at 75% rated load.*
- 3. 1 hour at 100% rated load.*

Record real power, apparent power, voltage, frequency, amperage, oil pressure, and coolant temperature at 15 minute intervals throughout the test.”

Under Section 26 3623 – Automatic Transfer Switches paragraph 1.06, REVISE sub item D to read:

“Supplier: Distributor of specified manufacturer authorized by the manufacturer to maintain and administer the warranty and employ factory certified technicians to complete all warranty work similar to the requirements of specification section 26 3200.1.08.B.”

Under Section 26 3623 – Automatic Transfer Switches paragraph 1.10, REVISE sub item A to read:

“Furnish service and maintenance of transfer switch with 3-year semi-annual maintenance and service similar to specification section 263200.1.11.A.”

Under Section 26 3623 – Automatic Transfer Switches paragraph 1.11, REVISE sub item A to read:

“Provide the ATS with a 5 year warranty similar to specification 263200.1.10.A.”

Under Section 26 3623 – Automatic Transfer Switches paragraph 2.01, REVISE sub item A to read:

“Description: NEMA ICS 2, UL 1008 listed, IBC Seismic Certified, automatic transfer switch.”

CHANGES TO DRAWINGS:

ADD sheet A101 Architectural Details.

ADD sheet S101 1st Floor Partial Framing Plan and Details.

Sheet M202 is REVISED per attached.

Sheet M301 is REVISED per attached.

Sheet E001 is REVISED per attached.

Sheet E301 is REVISED per attached.

BIDDER QUESTIONS:

1. Question: *Section 010100.1.1.1.A notes a different basis of design model than that listed in 263200.1.04.D. Please clarify which model is the correct basis of design.*

Response: The Model for the basis of design should be Caterpillar D100-8, C4.4. See revisions to Section 01 0100.1.1.1.A and 26 3200.1.04.D.

2. Question: *2. In specifications section 263200.2.01 and 263623.2.01 Kohler Power Systems is not listed as an approved manufacturer. We find this strange since Kohler was the basis of design on the recent Palmer Courthouse Generator Replacement project ANC-C-24-0006. Is there specific reason Kohler products are excluded from competing in this RFQ? If not, will you please include Kohler as an acceptable manufacturer in these specifications?*

Response: Add Kohler Power Systems to the list of approved manufacturers under Sections 263200.2.01 and 263623.2.01.

3. Question: *Section 263200.2.04.I requires a 12A battery charger. The basis of design does not utilize a 12A battery charger but they offer a 10A battery charger. Please confirm if 12A or 10A is required.*

Response: Provide a battery charger as recommended by the generator manufacturer.

4. Question: *263200.2.04.N requires rubber in shear vibration isolators and spring type vibration isolators. As part of an IBC Seismic Certified package no spring type isolators are utilized. Utilizing both internal and external vibration isolation can be problematic and will void the IBC Seismic Certification of the manufacturer. Will the project please remove the spring type vibration isolation requirement from this paragraph?*

Response: Delete the requirement for the spring type vibration isolator.

5. Question: *Section 263623 does not specifically indicate a basis of design for the Automatic Transfer Switch. Is it the intent of the project that the ATS be supplied by the generator set manufacturer to ensure compatibility and system integration?*

Response: ASCO 300 Series transfer switch is the Basis of Design. The generator manufacturer can substitute with an ATS that has better compatibility. However, due to the size of the area any re-engineering to fit into the space is the responsibility of the selected Contractor.

6. Question: *Section 263623 does not indicate if the ATS needs to have an IBC Seismic Certification while the generator specification 263200.2.02.K indicates IBC Seismic Certification is required for the generator set. Please confirm if the ATS needs to have an IBC Seismic Certification.*

Response: Provide an ATS that has IBC Seismic Certification.

7. Question: *Section 263623.1.06.B indicates the ATS is to be supplied by an authorized distributor however there is no mention of requirements for service facilities in Anchorage, AK. Also, there is no mention of the distributor being authorized by the manufacturer to maintain and administer the warranty and employ factory certified technicians to complete warranty work. Please confirm if the ATS supplier qualifications need to match the design intent of the generator qualifications noted in Section 263200.1.08.B.*

Response: The ATS supplier shall be authorized by the manufacturer to maintain and administer the warranty and employ factory certified technicians to complete warranty work similar to the requirements of 263299.1.08.B.

8. Question: *8. Section 263623.1.10.A indicates the ATS is to be supplied with service and maintenance for one year from substantial completion. The generator set specification 263200.1.11.A requires a 3 year semi-annual maintenance service. Is it possible that the one year maintenance service is a typo and the design intent is to provide an ATS with a 3 year semi-annual maintenance to match that of the generator set?*

Response: Provide the ATS with 3-year semi-annual maintenance and service similar to 263200.1.11.A.

9. Question: *Section 263623.1.11.A indicates the ATS is to be supplied with a 3 year manufacturer warranty while the generator set specifications 263200.1.10.A requires a 5 year warranty. Is it possible that the 3 year warranty is a typo and the design intent is to provide an ATS with a 5 year warranty to match that of the generator set?*

Response: Provide the ATS with a 5 year warranty similar to 263200.1.10.A.

10. Question: *The ceiling space outside the mechanical room where the 3" ECS/ECR and ACCS/ACCR piping is to run is extremely congested. Measurements were taken and there is only 12" of space +/- between the top of grid to the bottom of the supply duct running east west. The supply duct is tight to the bottom of structure. The entire run has conduit and sprinkler crossing the ceiling space north and south. These sprinkler lines and conduits are centered between the duct and grid.*

ACC S/R insulation in the corridor is 1-1/2". Total OD will be 6-1/2". JWS/R insulation in the corridor is 2" Total OD is 7". This leaves no room for the piping. Has alternate route been investigated?

Response: Alternate routes through adjacent rooms in the hallways were investigated but the corridor appeared to be the best option at the time. We would be open to alternative routing if proposed by the Contractor.

11. Question: *There is a note in Detail 1/M201 stating "Enlarge existing penetration into shaft as necessary to accommodate larger generator engine exhaust piping." The new generator exhaust piping per this detail is sized at 8" diameter while the existing generator exhaust piping is sized at 6" diameter according to Detail 1/M101 (indicating an enlargement of 2"). Please advise whether the penetration through the shaft wall is concrete or wood/metal framed?*

Response: Per as-built information this appears to be a 10 inch thick concrete wall. Contractor shall field verify.

12. Question: *Detail 1/M202 shows (2) 3" ACCR/ACCS and (2) 3" ECR/ECS piping penetrations noting "sleeve and seal piping penetrations up through floor." Our understanding is that these (4) penetrations are to be new/added as part of this project, and will be penetrating the existing structural concrete ceiling comprised of a concrete waffle slab plus an unknown concrete thickness above on the exterior of the building. Please provide a structural penetration detail to account for this specific condition to include, but not be limited to, the total anticipated length of each core (thickness of total structural concrete build-up), the required spacing of each core, the total core diameter sized to accommodate the piping plus the required sleeve and insulation, and any requirements associated with X-raying the concrete given that cutting through structural rebar is a strong likelihood given the structural nature of the tunnel's roof/ceiling.*

Response: Refer to Architectural and Structural sheet added to the Drawings under this addendum.

13. Question: *A portion of Sheet Note 2 on M202 states "Contractor to coordinate w/Owner for procurement of masonry wall fascia for radiator enclosure." Is the intent for the Owner to furnish the matching masonry wall fascia material, to be installed by the contractor? Or is the masonry fascia contractor furnished and contractor installed?*

Response: Refer to Architectural sheet added to the Drawings under this addendum.

14. Question: *Details 2/M202 and 1/M301 indicate that the existing masonry wall enclosure must be enlarged both vertically and horizontally. Does this mean the top and sides of the masonry enclosure will also need to be demolished and newly constructed to be enlarged in order to match the new footprint and 8'-2" height of the enlarged enclosure? Also, will the enlarged enclosure require demolition of adjacent building masonry fascia as well as exposed aggregate site concrete? The exposed aggregate site concrete sits directly on top of the basement/tunnel's structural concrete waffle lid.*

Response: Refer to Architectural sheet added to the Drawings under this addendum.

15. Question: *Typically masonry fascia is fastened to a wood or metal framing system. Currently none is shown. Is the intent for the contractor to construct new framed walls*

for the masonry fascia to attach to? If so, then please provide the necessary construction details and clarify the intent.

Response: Refer to Architectural sheet added to the Drawings under this addendum.

16. Question: *Please advise whether there are any hazardous materials associated with the scope of work that would necessitate an abatement contractor. If so, then please provide the quantities of materials to be abated as a basis of bid.*

Response: This will be addressed with the selected contractor after award.

17. Question: *Please see the attached photo. There is no room above the ceiling to route the (2) 3" ACCR/ACCS or the (2) 3" ECR/ECS piping without encountering major conflicts with existing plumbing, electrical, and sprinkler. Please provide direction for an alternate routing of this piping keeping in mind the pipe diameter plus the insulation thickness.*

Response: Alternate routes through adjacent rooms in the hallways were preliminarily investigated but the corridor appeared to be the best option at the time. We would be open to alternative routing if proposed by the Contractor.

18. Question: *Section 00 3000 BID SCHEDULE contains a blank line to insert a dollar amount for an Alternate #1, however there does not appear to be an Alternate #1 scope as part of this project. Please advise.*

Response: An alternate is not required for the bid. Refer to Changes to Conditions of the Contract above.

19. Question: *During the performance of the generator replacement work, please confirm that a back-up generator is not required to be provided by the Contractor during construction.*

Response: No, a backup generator is not anticipated for the project.

20. Question: *Please confirm that the required timeline for the performance of the work shall be adjusted to accommodate current lead times for the new generator.*

Response: The contract time indicated in the bid documents will remain. Should a time extension change order become necessary during the course of the project due to lead time, ACS will accommodate at that time.

21. Question: *Please confirm that the Owner and/or its consultants have paid (or will pay) for the MOA Plan Review fees and the MOA Building Permit fees.*

Response: Confirmed, ACS will address all permitting.

22. Question: *Section 01 0100 1.1 1.B. states "The generator set and the automatic transfer switch (ATS) shall be inspected by the contractor in the presence of the Project Manager to determine any damaged or missing parts. The contractor shall be responsible for damaged or loss occurring after the inspection and during transportation from the warehouse to the final location in Anchorage, AK." This section is written as if the new generator and ATS are Owner-furnished, Contractor-installed. If this is the intent, then*

please provide the current ETA for the new generator and ATS. Please also advise how the generator is set to arrive in terms of assembly.

Response: The generator set shall be provided and installed by the Contractor.

23. Question: *Section 01 0100 1.1 1.F. states "Electric load calculation and electric load demand design shall be done according the National Electric Code articles 210, 215, 220, 240 and 250." Please confirm that electric load calculations and electric load demand designs are the responsibility of the Engineer-of-Record, and are not the responsibility of the Contractor.*

Response: This is a typographical error. The electrical load calculation was provided by the Engineer of Record.

24. Question: *The bid documents indicate that this is a two-step solicitation requiring a "technical offer" to be graded as "Acceptable", "Potentially Acceptable", or "Unacceptable" and continues on to state "...address the need to continue to occupy the building during all phases of work" and "The Alaska Court System requires that the contractor provide a phasing plan that will address the need to relocate staff to other spaces in the facility, the timeframes for each disruption, and how the facility can remain operational during the construction phase." As this project is simply replacing a generator and associated mechanical and electrical components and appurtenances, it seems that "addressing the need to continue to occupy the building" and providing "phasing plans" and "schedules" as part of the bid process is not applicable to the project scope as this project does not affect building occupancy, does not require multiple phases, and a schedule is not possible until the contract execution date and submittal approval date are known. Typically these items are provided post-bid. Please confirm that a "technical offer" is not required, or please clarify the intent of how this section applies to the scope of this project.*

Response: The intent of the Technical Offer is to assess each bidder's respective understanding of the project and ensure they have thought through how their work plan coordinates with, and impacts the courthouse. While this project may not involve complex phasing and may have limited disruption to operations, each bidder is required to provide documentation that outlines any phasing, potential impacts requiring coordination with courthouse operations/staff, and at least an outline schedule which broadly defines the overall milestones and timeframes of the work. It is understood that at this stage, detail information may not be available and thus any schedule is preliminary, however, each bidder can reasonably estimate the sequence and timeframes for major scope items. Bidders could consider discussion in the Technical Offer of potential impacts to elevator use, hallways, and exterior doors during certain activities; potential noise impacts during certain work; after-hours work if bidders plan to utilize this approach; any potential disruptions to building systems and how those may impact staff.

25. Question: *Is a temporary backup generator required during the replacement?*

Response: No, a backup generator is not anticipated for this project.

26. Question: *Are there any known special requirements for penetrating and anchoring into the existing tunnel for the new radiator ECS/ECR and ACCS/ACCR piping and radiator enclosure?*

Response: Contractor shall perform non-destructive testing to locate existing rebar and cannot drill through any existing rebar. Refer to added structural drawing for general notes regarding anchors.

27. Question: *Section 02 41 19 Selective Demolition states that it is not expected that hazardous material will be encountered in the work, please confirm.*

Response: It appears that the probability of hazardous materials being present is low, however it cannot be determined with certainty. ACS will coordinate this with the selected contractor after award.

28. Question: *Section 23 09 23 Direct Digital Control System for HVAC and 23 09 93 Sequence of Operations for HVAC Controls is included in the project manual. Please confirm whether or not the new generator system is to be integrated into the existing Siemens DDC system.*

Response: The new remote radiator cooling system shall be stand-alone. A revised sequence of operations specification will be provided. The generator shall be provided with connections/relays for remotely signaling the pumps and radiator to turn on. All wiring is to be done by the electrical contractor. Section 23 09 23 is to be removed.

29. Question: *Schematic note 4 on sheet M301 states to coordinate with owner for procurement of masonry wall fascia. What coordination is this referring to, just finish look/color coordination?*

Response: Refer to Architectural sheet added to the Drawings under this addendum.

30. Question: *Specification 26 32 00 3.03.E states "Provide a two (2) hour full-load test utilizing the integrated load bank, as applicable, and a portable load bank. Building loads may be utilized during this full load test if approved by the Owner prior to testing." An integrated load bank is not discussed under part 2 – products. Please confirm that an integrated load bank is not required with the new generator and that this load test will need to be conducted via a portable load bank or with building loads as approved by owner.*

Response: Delete the requirement for an integrated load bank. Testing may be done with the building load supplemented by portable load banks to reach the required testing loads.

31. Question: *Referencing M301 and M302, will DDC be required to install any of the items shipped loose for the Generator? If so, Which items?*

Response: Refer to question 28.

32. Question: *Under Section 29 09 93-2, do we have to provide (2 qty) 3-way mixing valves per spec sequence of operation? No 3-way valve is show on the plans. If we have to provide it please advise if pipe size is 3"?*

Response: No 3-way valves are necessary. Refer to question 28.

33. Question: *Referencing M301, do we have to provide low level sensors?*

Response: Yes. Sensors are required for coolant monitoring by the generator. All wiring to be done by the electrical contractor.

34. Question: *Do we have to provide monitoring for new ATS switch?*

Response: No monitoring is required.

35. Question: *Drawing E001 & E301 – Panel X1 panel schedule indicates main breaker and the see one-line for size. One-line does not show main breaker size for Panel X1. Please provide main breaker size?*

Response: Provide a 200A, 3-pole main circuit breaker.

36. Question: *Drawing E301 – Panel X1, what size breaker required for circuit 2,4,6? Please provide location of Transformer Panel XB.*

Response: This is a 20A/3P circuit breaker. Transformer and panel are located in the penthouse.

37. Question: *Drawing E001 – Sheet note #4, please provide location of Main Switchboard in reference to this project.*

Response: Main switchboard is across the hall in the electrical room.

38. Question: *Spec 260533 1.04 E, is it acceptable to install EMT conduit for feeders larger than 60amps as long it meets the requirements for 260533 1.04 D?*

Response: This is acceptable.

39. Question: *The panel shown on the plans is functioning as a network panel and is BACnet. The Boiler room panel, located behind the boilers, is the panel that would be used for control per the plans and specs?*

Response: Refer to question 28.

END OF ADDENDUM

09 22 16 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Metal partition framing.

1.2 REFERENCE STANDARDS

- A. AISI S220 - North American Standard for Cold-Formed Steel Nonstructural Framing; 2020.

1.3 SUBMITTALS

- A. See Section 01 3000 - Submittals for submittal procedures.
- B. Product Data: Provide data describing framing member materials and finish, product criteria, load charts, and limitations.
- C. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

PART 2 - PRODUCTS

2.1 FRAMING MATERIALS

- A. Non-Loadbearing Framing System Components: AISI S220; sheet steel, of properties necessary for the spacing indicated, with maximum deflection of wall framing of L/120 at 5 psf (L/120 at 240 Pa).
 - 1. Studs: C-shaped with flat faces.
 - a. Products:
 - 1) CEMCO: www.cemcosteel.com/#sle.
 - 2) ClarkDietrich: www.clarkdietrich.com/#sle.
 - 3) Substitutions: See Section 01 3000 - Submittals.
 - 2. runners: U-shaped, sized to match studs.
 - 3. Size: 3 5/8 inch width.

2.2 FABRICATION

- A. Fabricate assemblies of framed sections to sizes and profiles required.
- B. Fit, reinforce, and brace framing members to suit design requirements.

2.3 ACCESSORIES

- A. Provide 16 gauge steel finish panels on exterior face of metal studs.
 - 1. Width: 48 inches, minimum.
 - 2. Color: Dark bronze to match existing metal.
 - a. Paint: 70% PVDF.
 - 3. Panel Orientation: Vertical, with interlocking joint with adjacent panel.
 - 4. Corner Style: Provide 2 inch leg to lap over adjacent face at corner. Hem edge of overlap leg.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify existing conditions before starting work.

3.2 INSTALLATION OF STUD FRAMING

- A. Extend partition framing as indicated on Drawings.
- B. Align and secure top and bottom runners at 24 inches (600 mm) on center.
- C. Fit runners under and above openings; secure intermediate studs to same spacing as wall studs.
- D. Install studs vertically at 16 inches (400 mm) on center.
- E. Align stud web openings horizontally.
- F. Secure studs to tracks using crimping method. Do not weld.
- G. Fabricate corners using a minimum of three studs.
- H. Install double studs at wall openings, door and window jambs, not more than 2 inches (50 mm) from each side of openings.
- I. Coordinate erection of studs with requirements of mechanical louvers; install supports and attachments.
- J. Coordinate installation of bucks, anchors, and blocking with electrical, mechanical, and other work to be placed within or behind stud framing.

3.3 TOLERANCES

- A. Maximum Variation From True Position: 1/8 inch in 10 feet (3 mm in 3 m).
- B. Maximum Variation From Plumb: 1/8 inch in 10 feet (3 mm in 3 m).

END OF SECTION

SECTION 23 09 93 - SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Engine Jacket Coolant System.
- B. Engine Aftercooler Cooling System.
- C. Glycol Mix Tank.

1.02 RELATED SECTIONS

- A. Section 23 05 00 - Common Work Results for HVAC.
- B. Section 23 09 23 - Direct Digital Control System for HVAC.
- C. Section 23 21 23 - Hydronic Pumps.

1.03 SYSTEM DESCRIPTION

- A. This Section defines the manner and method by which controls function. Requirements for each type of control system operation are specified. Equipment, devices, and system components required for control systems are specified in other Sections.

1.04 SUBMITTALS

- A. Submit under provisions of Division 01.

1.05 PROJECT RECORD DOCUMENTS

- A. Submit documents under provisions of Division 01.
- B. Accurately record actual setpoints and settings of controls, including changes to sequences made after submission of shop drawings.

PART 2 - PRODUCTS - Not Used

PART 3 - EXECUTION

3.01 ENGINE JACKET COOLANT SYSTEM AND ENGINE AFTERCOOLER COOLING SYSTEM

- A. Alarms:

1. None.
- B. Electronic Control and Indication:
 1. None.
- C. Automated Control:
 1. When engine receives signal to start, integral relay shall simultaneously start circulating pumps CP-RAD-1, CP-RAD-2, and radiator fan. Coordinate with the engine and switchgear supplier for required contacts.
 2. When generator powers off the circulating pumps and radiator fan shall also power off.

3.02 GLYCOL MIX TANK (GT-1)

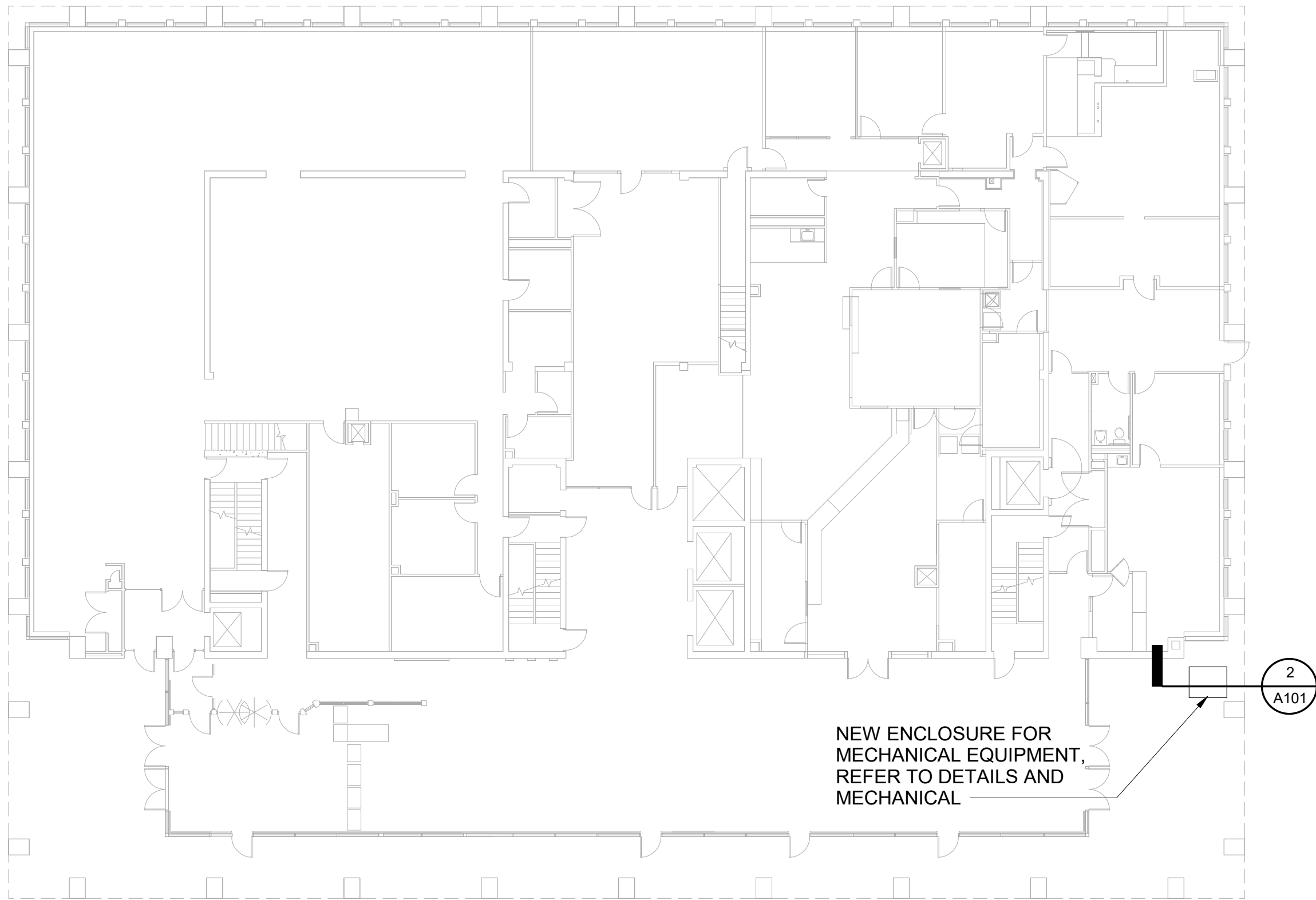
- A. Alarms:
 1. None.
- B. Digital Control and Indication:
 1. None.
- C. Automated Control:
 1. System shall normally be off. Utilize supervised fill procedure only. Package controls shall cycle pumps on as required to obtain system operating pressure.

END OF SECTION

1 FIRST FLOOR REFERENCE PLAN

A101

1/16" = 1'-0"



NEW ENCLOSURE FOR
MECHANICAL EQUIPMENT.
REFER TO DETAILS AND
MECHANICAL

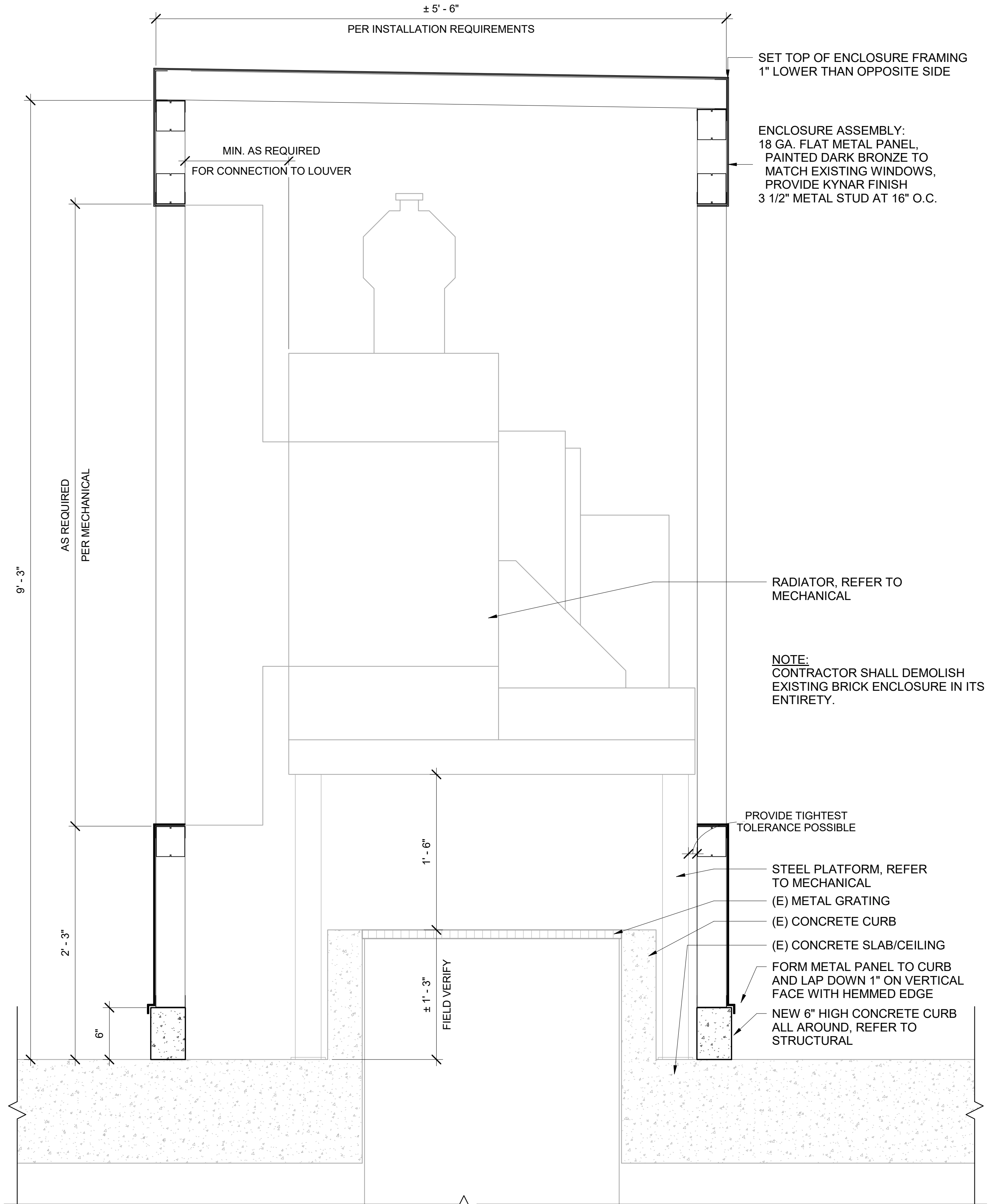
2

A101

2 ENCLOSURE DETAIL

A101

1 1/2" = 1'-0"



FOR:
• SUBMITTAL
• PRICING



**MCG
EXPLORE
DESIGN**

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Alaska Court System

**Boney
Courthouse
Generator
Replacement**

303 K Street Anchorage,
Alaska 99501

**CONSTRUCTION
DOCUMENTS**

JOB NO. 2021026.07
DATE: 03/06/2024
PROJ. MGR.: TJC
DRAWN BY: TJC
REVIEWED BY: TJC
REVISIONS:
1 Addendum 04 4/23/2024

**ARCHITECTURAL
DETAILS**

SHEET NO.

A101

DESIGN CRITERIA	
DESIGN CODES AND STANDARDS	
IBC-18: INTERNATIONAL BUILDING CODE, WITH LOCAL AMENDMENTS	
IEBC-18: INTERNATIONAL EXISTING BUILDING CODE, WITH LOCAL AMENDMENTS	
ASCE/SEI 7-16: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES	
RISK CATEGORY	III
DESIGN WIND LOADS	
ULTIMATE WIND SPEED, V_{ult}	135 MPH
NOMINAL WIND SPEED, V_{asd}	105 MPH
WIND EXPOSURE	B
DESIGN SEISMIC LOADS	
SEISMIC IMPORTANCE FACTOR, I_e	1.25
SITE CLASS	D
MAPPED SPECTRAL RESPONSE, S_s / S_1	1.50g / 0.68g
DESIGN SPECTRAL RESPONSE, S_{DS} / S_{D1}	1.00g / 0.68g
SEISMIC DESIGN CATEGORY	D

CONCRETE				
ITEMS	MIN COMP STRENGTH	MAX W/C RATIO	AIR ENTRAINMENT	SLUMP
EXTERIOR CONCRETE	4,000 PSI	0.45	6%, ±1%	1 - 3 IN
REINFORCING STEEL				
ITEMS	ASTM	GRADE	MIN YIELD STRESS, Fy	REMARKS
REBAR, #3	A615	40	40 KSI	---
REBAR, #4 - #9	A615	60	60 KSI	---
POST INSTALLED ANCHORS				
ITEMS	BASE MATERIAL	CONNECTOR	PRODUCT	REMARKS
EPOXY ANCHOR	CONCRETE	THREADED ROD	HIT-HY 200-R ADHESIVE (HILTI)	ICC ESR-4868
			HIT-RE 500 V3 ADHESIVE (HILTI)	ICC ESR-3814
			AC208+ ADHESIVE (DEWALT)	ICC ESR-4027
			PURE110+ ADHESIVE (DEWALT)	ICC ESR-3298
			EPCON G5 ADHESIVE (ITW RED HEAD)	ICC ESR-1137
			SET-3G ADHESIVE (SIMPSON)	ICC ESR-4057

NOTES:

1. CONTRACTOR SHALL VERIFY AND LOCATE EXISTING REINFORCING IN EXISTING CONCRETE FLOOR SYSTEM USING NON-DISTRUCTUIVE TESTING PRIOR TO CONSTRUCTION. DO NOT CUT OR DRILL EXISTING REINFORCING BARS OR WWF.
2. USE POST INSTALLED ANCHORS TO ATTACH PIPE SUPPORTS TO BOTTOM OF EXISTING FLOOR SLAB. INSTALL ANCHORS PER MANUFACTURERS INSTRUCTIONS.

FRAMING PLAN KEYNOTES:

- 1 TYPICAL: EXISTING CONCRETE BEAM.
- 2 TYPICAL: EXISTING 7 1/2" WIDE CONCRETE JOISTS.
- 3 EXISTING 60"x30" OPENING IN FLOOR SLAB.
- 4 TYPICAL: EXISTING WALL.
- 5 TYPICAL: EXISTING 4 1/2" THICK CONCRETE SLAB REINFORCED WITH 4x12-4/8 WWF.
- 6 TYPICAL: EXISTING CONCRETE COLUMN.
- 7 DRILL PENETRATIONS FOR (4) 3" DIAMETER PIPES THROUGH EXISTING CONCRETE BEAM. CENTER PENETRATIONS BETWEEN EXISTING REINFORCING. DO NOT CUT EXISTING REINFORCING. COORDINATE PENETRATION LOCATIONS AND SIZE WITH MECH DRAWINGS. PENETRATIONS SHALL NOT EXCEED MAXIMUM 7" DIAMETER .
- 8 NEW CONCRETE CURB, COORDINATE WITH ARCH DRAWINGS.

GENERAL STRUCTURAL NOTES

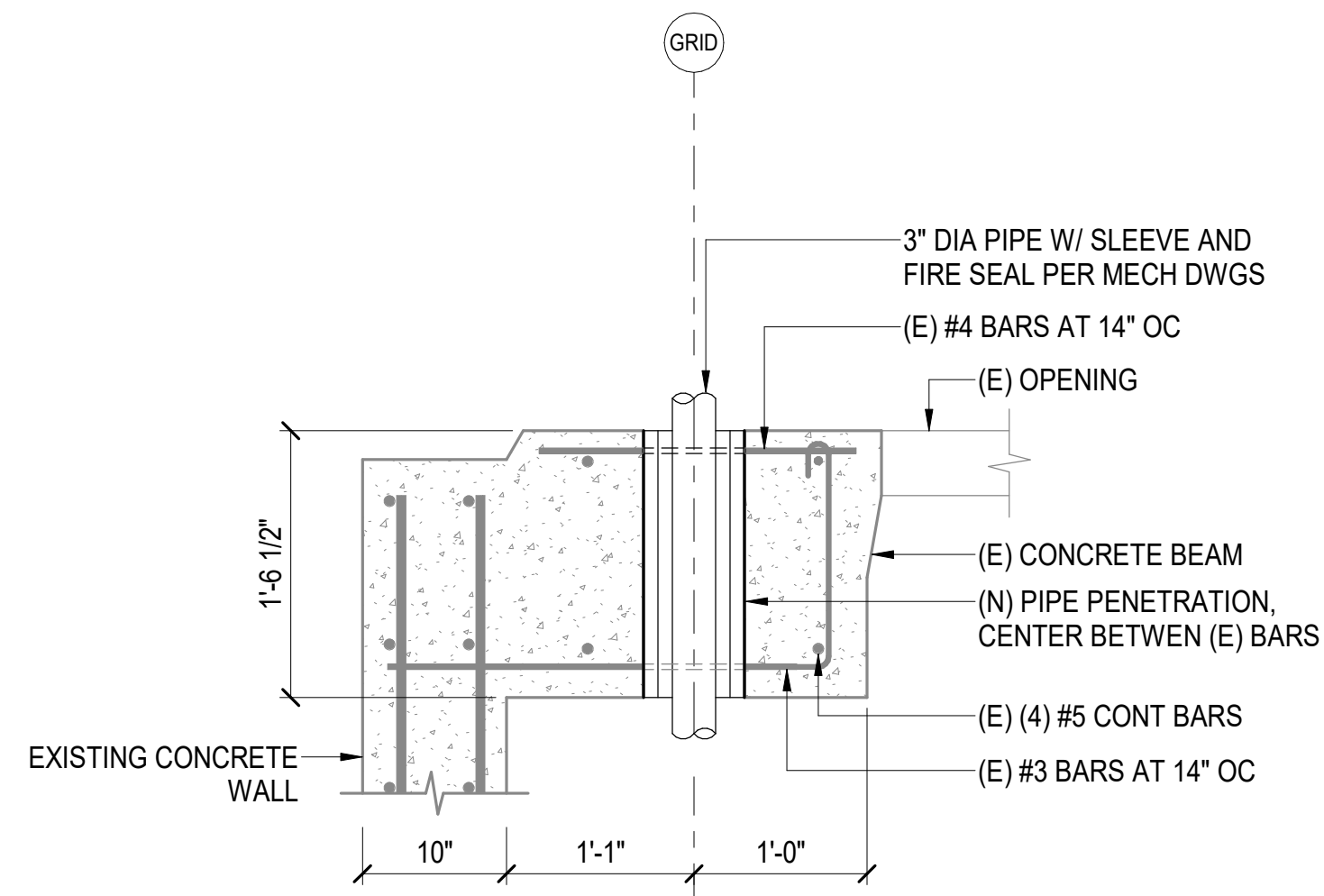
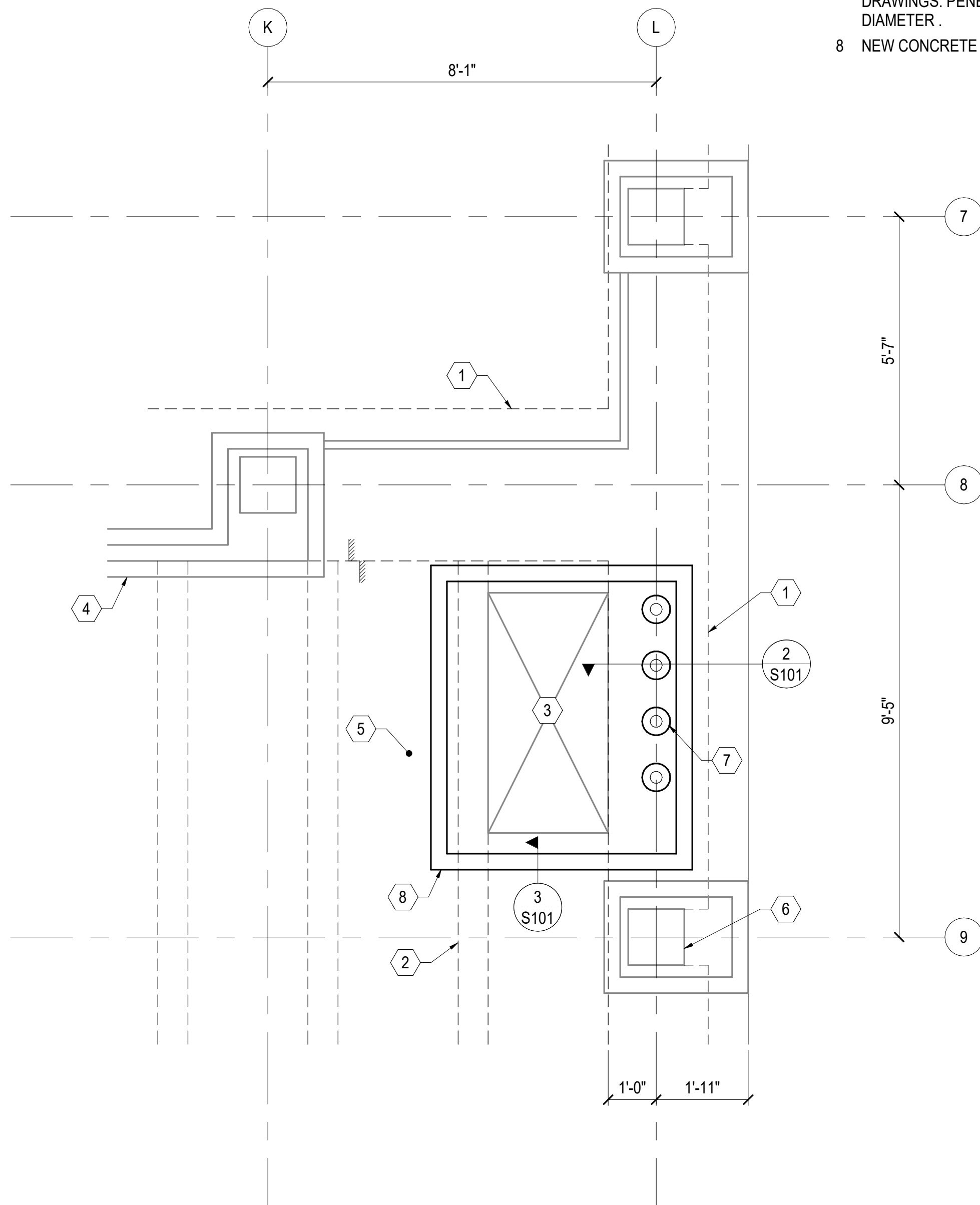
(APPLY UNLESS NOTED OTHERWISE)

EXISTING STRUCTURES

THESE CONSTRUCTION DOCUMENTS HAVE BEEN PREPARED BASED ON LIMITED VISUAL
OBSERVATIONS AND/OR LIMITED AS-BUILT DOCUMENTS. CHANGES MAY BE REQUIRED
DUE TO POSSIBLE AMBIGUITIES OR INCONSISTENCIES IN RECORD DRAWINGS.

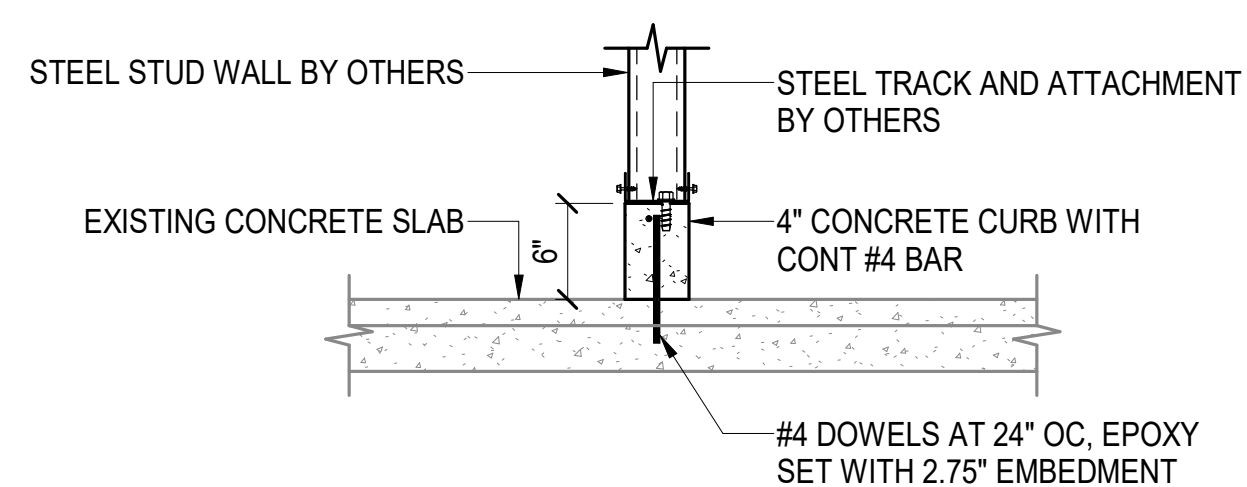
VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED.

IF FIELD CONDITIONS DIFFER FROM THOSE DEPICTED OR EXISTING MATERIALS ARE OF QUESTIONABLE OR SUBSTANDARD QUALITY, NOTIFY THE STRUCTURAL ENGINEER IN WRITING BEFORE COMMENCING ANY WORK. THE CONTRACTOR SHALL REPORT ALL DIFFERENCES AND DEFECTS PROMPTLY.



2 PIPE PENETRATION AT EXISTING CONCRETE BEAM

SCALE: NTS



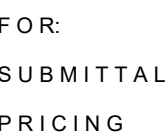
2 CONCRETE CURB AT EXISTING CONCRETE SLAB

SCALE: NTS



1 1ST FLOOR - EXISTING PARTIAL FRAMING PLAN

SCALE: 1/2" = 1'-0"



ALASKA COURT SYSTEM

BONEY COURTHOUSE GENERATOR REPLACEMENT

303 K STREET
ANCHORAGE, ALASKA 99501

CONSTRUCTION DOCUMENTS

JOB NO.	60123.13
DATE:	04.23.24
PROJ. MGR.:	JDK
DRAWN BY:	JDK
REVIEWED BY:	JHH
REVISIONS:	

1ST FLOOR PARTIAL FRAMING PLAN AND DETAILS

SHEET NO.

S101



Alaska Court System

Boney
Courthouse
Generator
Replacement

303 K Street
Anchorage, Alaska
99501

CONSTRUCTION
DOCUMENTS

JOB NO. M3152
DATE: 03/06/24
PROJ. MGR.: MRB
DRAWN BY: MRB
REVIEWED BY: BPP

REVISIONS:
ADDENDUM 04
4/23/2024

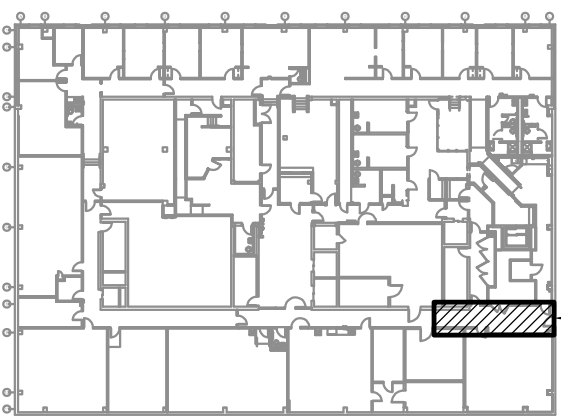
BASEMENT
CORRIDOR
1ST FLOOR HVAC
REMODEL

SHEET NO.

M202

GENERAL NOTES

- A. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM AS BUILT DRAWINGS AND A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN.
- B. MECHANICAL CONTRACTOR TO PROVIDE FIELD INSTALLATION FOR ALL GENERATOR COMPONENTS SHIPPED LOOSE FOR FIELD INSTALLATION.



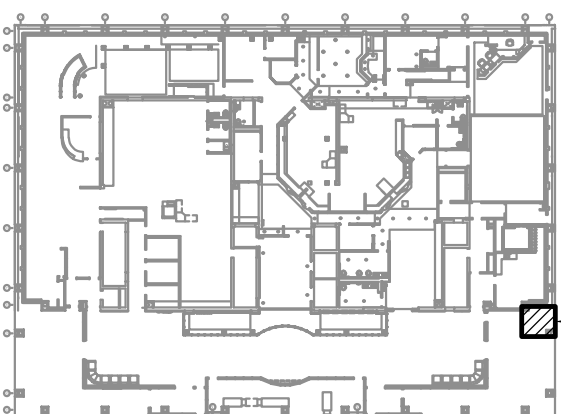
AREA OF
WORK

BASEMENT - KEY PLAN

NO SCALE

SHEET NOTES

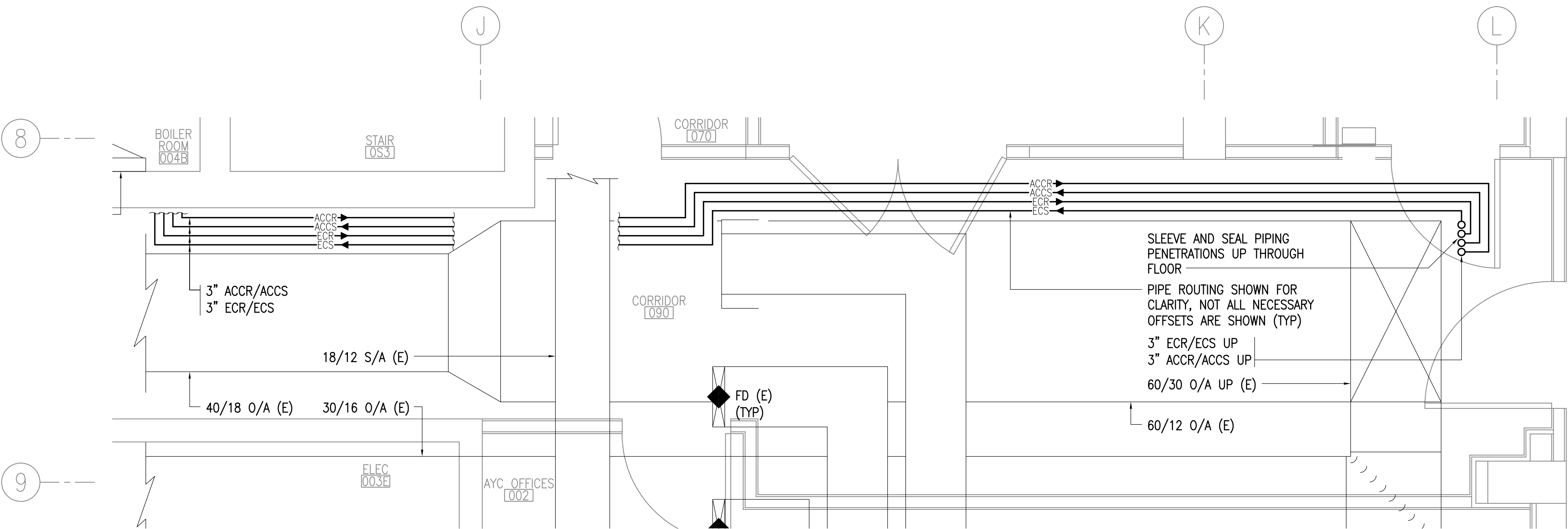
- 1 REMOVE AND SALVAGE BRICK FASCIA ASSOCIATED W/ O/A INTAKE. DEMOLISH EXISTING LOUVERS, TYP OF 3.
- 2 PROVIDE LOUVERS L-1 AND L-2 FOR RAD-1 AIRFLOW. MOUNT LOUVERS MINIMUM 6" AFG. TOP OF ENCLOSURE TO BE MINIMUM 6" ABOVE TOP OF LOUVER.
- 3 INSTALL RAD-1 ON STEEL SUPPORTS SECURED TO GRADE. CONTRACTOR TO PROVIDE A DEFERRED SUBMITTAL WITH STRUCTURAL & SEISMIC CALCULATIONS STAMPED BY A REGISTERED STRUCTURAL ENGINEER.



AREA OF
WORK

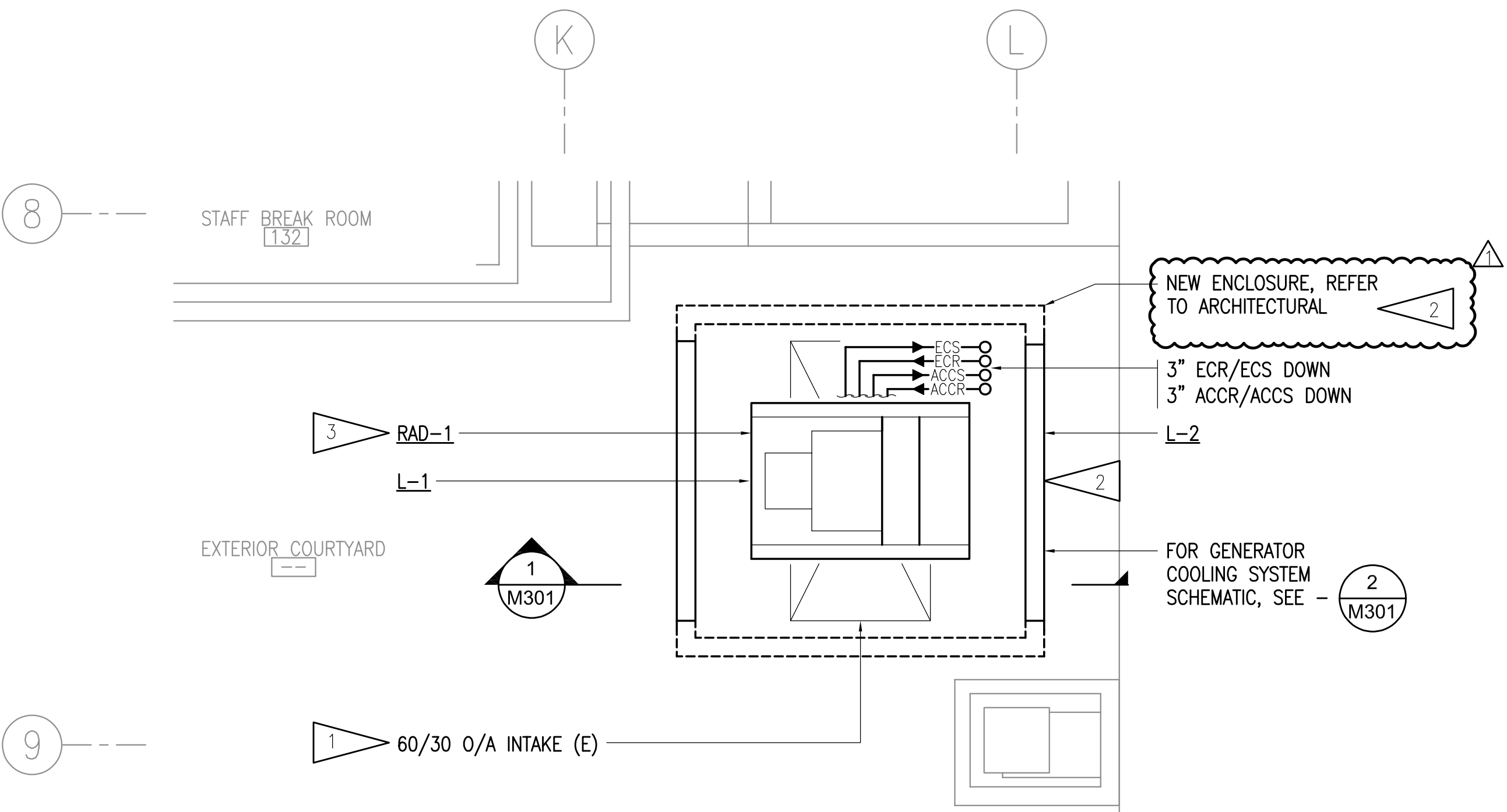
1ST FLOOR - KEY PLAN

NO SCALE



1 BASEMENT CORRIDOR - HVAC REMODEL PLAN

1/2" = 1'-0"



2 1ST FLOOR - HVAC REMODEL PLAN

1/2" = 1'-0"



Alaska Court System

Boney
Courthouse
Generator
Replacement

303 K Street
Anchorage, Alaska
99501

CONSTRUCTION
DOCUMENTS

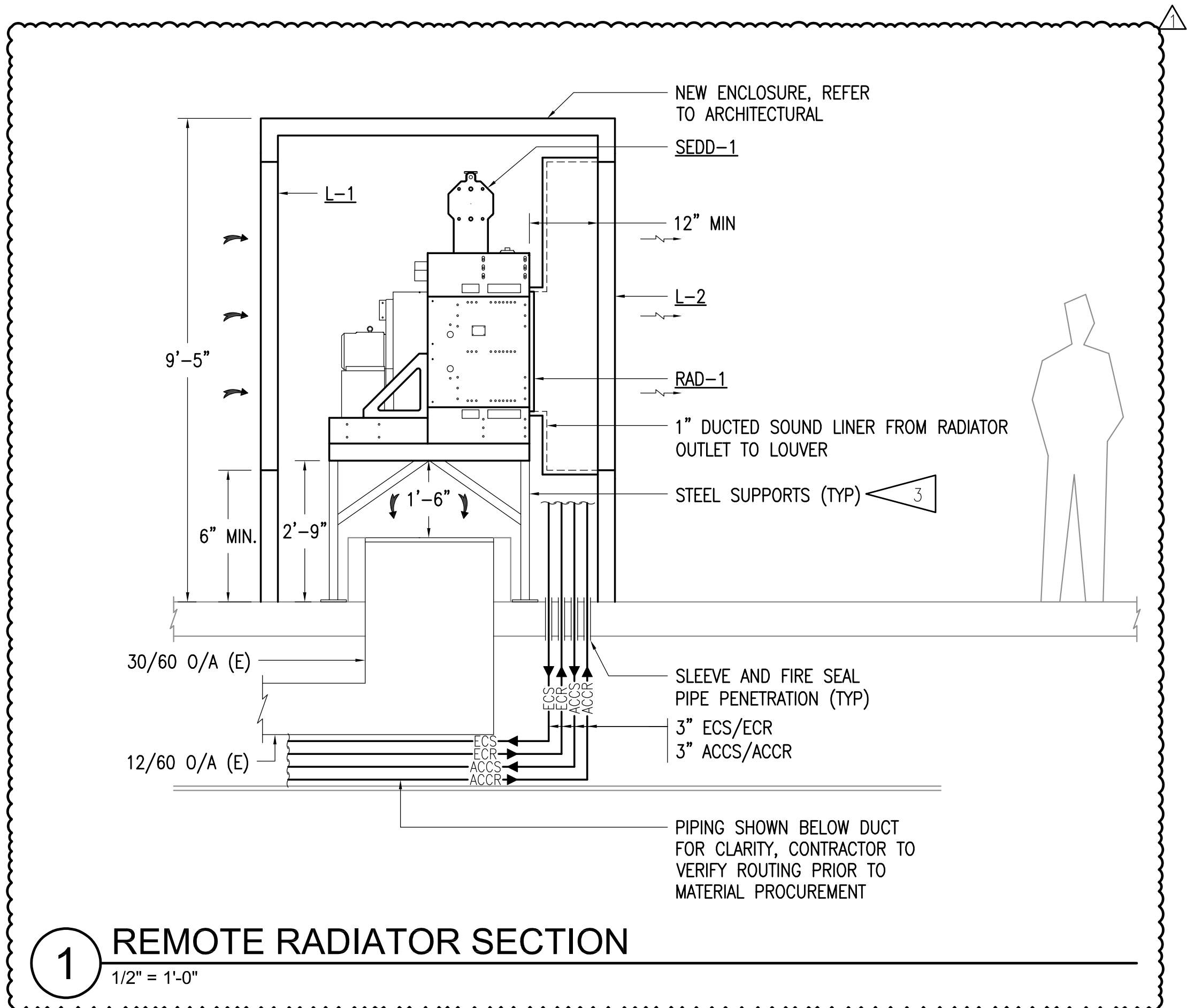
JOB NO. M3152
DATE: 03/06/24
PROJ. MGR.: MRB
DRAWN BY: MRB
REVIEWED BY: BPP

REVISIONS:
ADDENDUM 04
4/23/2024

MECHANICAL
SCHEDULES AND
SCHEMATICS

SHEET NO.

M301



1 REMOTE RADIATOR SECTION
1/2" = 1'-0"

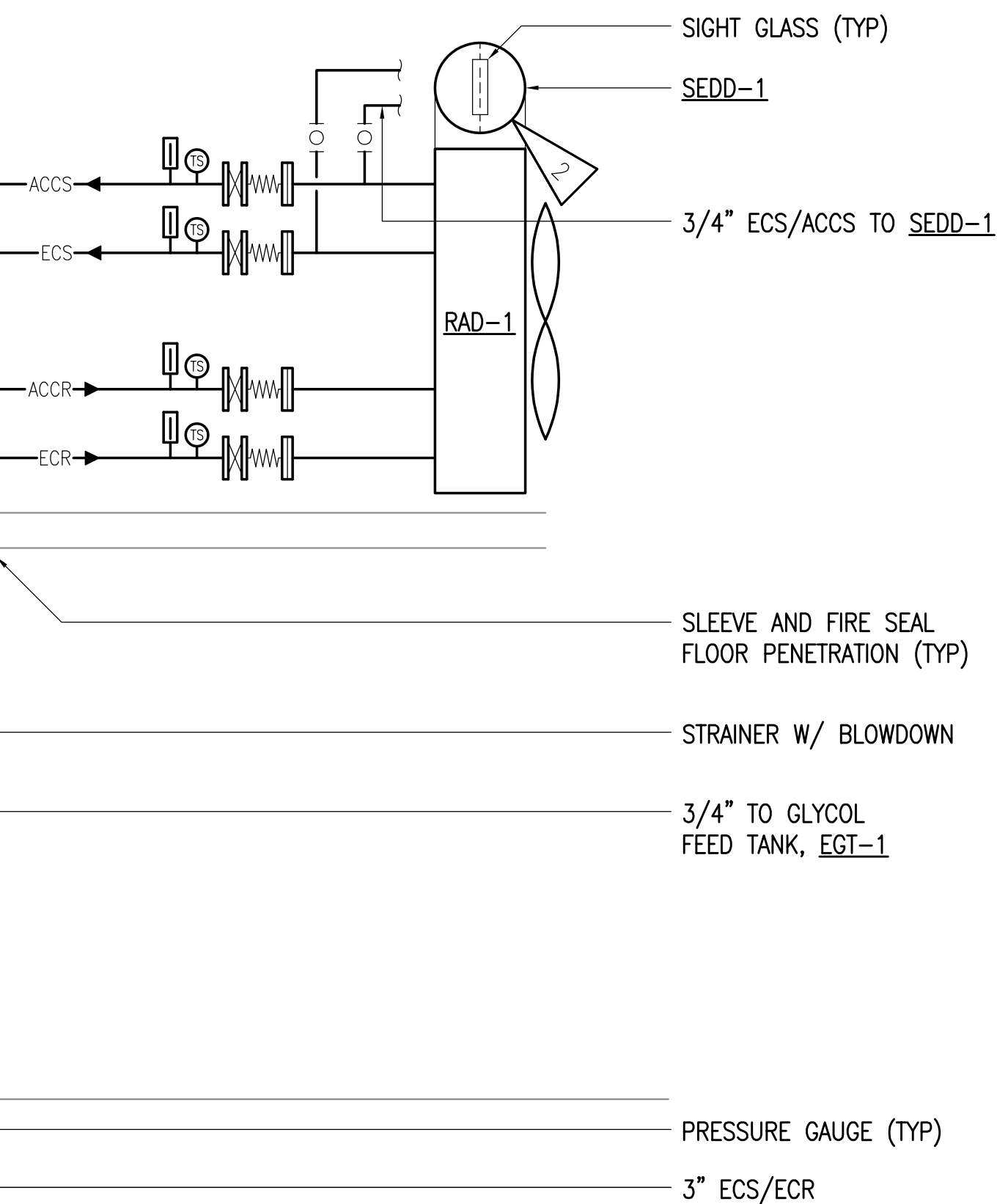
MANUAL AIR VENT W/LOCKING
ISOLATION VALVE (TYP)

CHECK VALVE (TYP)
PRESSURE SENSOR TO DDC (TYP)
3/4" TO EGT-1
PRESSURE RELIEF VALVE TO EGT-1 (TYP)
VALVED AND CAPPED 3/4" HOSE THREAD, MOUNT AT SYSTEM
LOW POINT (TYP)
3" ACCR/ACCS
BUTTERFLY VALVE (TYP)
FLEXIBLE HOSE CONNECTOR (TYP)

4" TO CAC-1
3/4" JWS TO SEDD-2
SEDD-2

THERMOMETER (TYP)
DDC TEMPERATURE SENSOR (TYP)
BALANCE VALVE (TYP)
3" JWR/JWS

2 GENERATOR FLOW DIAGRAM - COOLING SYSTEM
NO SCALE



GENERAL NOTES

- A. THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM AS BUILT DRAWINGS AND A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN.
- B. MECHANICAL CONTRACTOR TO PROVIDE FIELD INSTALLATION FOR ALL GENERATOR COMPONENTS SHIPPED LOOSE FOR FIELD INSTALLATION.

SCHEMATIC NOTES:

- 1 PROVIDE LOW LIQUID LEVEL SENSOR ON 1/2 NPT FITTING AT TANK, JW CIRCUIT. OUTPUT TO ENGINE CONTROLLER LOW COOLANT CONTACT.
- 2 PROVIDE TWO(2) LOW LIQUID LEVEL SENSORS ON 1/2 NPT FITTING AT TANK, AFTER COOLER AND ENGINE COOLANT CIRCUITS. OUTPUT TO ENGINE CONTROLLER LOW COOLANT CONTACT.
- 3 CONTRACTOR TO PROVIDE A DEFERRED SUBMITTAL WITH STRUCTURAL & SEISMIC CALCULATIONS STAMPED BY A REGISTERED STRUCTURAL ENGINEER.

LEGEND			
	CONDUIT, CONCEALED	C	CONDUIT
	NUMBER AND SIZE OF WIRES (NO MARKS = 3 #12)	CO	CONDUIT ONLY
	HOMERUN TO PANEL (PANEL AND CIRCUIT No.)	E	DENOTES EXISTING ITEM
	NEW PANEL, EXISTING PANEL	GFCI	GROUND FAULT CIRCUIT INTERRUPTER
	JUNCTION BOX	GRSC	GALVANIZED RIGID STEEL CONDUIT
	MOTOR (SIZED AS NOTED)	MCB	MAIN CIRCUIT BREAKER
	FRACTIONAL HORSEPOWER MOTOR STARTER	MLO	MAIN LUGS ONLY
	DISCONNECT SWITCH	N	DENOTES NEW ITEM
	DISCONNECT SWITCH (FUSED)	NEC	NATIONAL ELECTRICAL CODE
	COMBINATION DISCONNECT/MAGNETIC MOTOR STARTER	R	DENOTES EXISTING ITEM THAT HAS BEEN RELOCATED
	DUPLEX RECEPTACLE TO BE REMOVED (DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED TYPICAL)	TYP	TYPICAL
	NOTE TAG (No. INDICATES NOTE)	UON	UNLESS OTHERWISE NOTED
	ABOVE FINISHED FLOOR	WP	WEATHERPROOF
	ABOVE FINISHED GRADE		

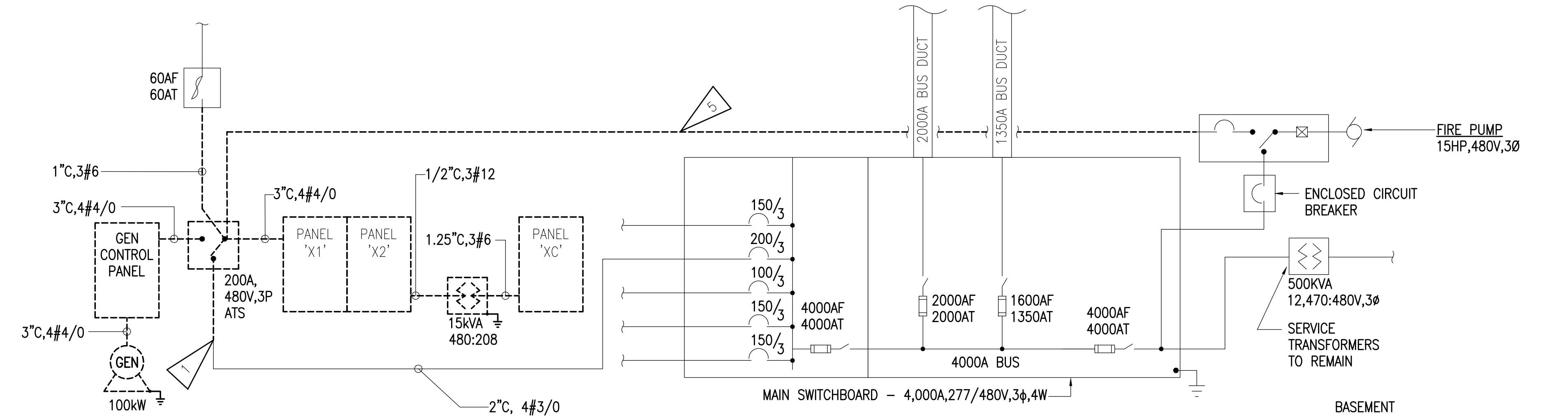
ELECTRICAL LOAD CALCULATION	
SERVICE SWITCHBOARD: 4,000A, 277/480V, 3Ø, 4-WIRE	
EXISTING SERVICE DEMAND LOAD	
EXISTING PEAK DEMAND LOAD (W) - PAST 12 MO	368,000 W
PER NEC 220.87(2) (125%)	460,000 W
0.85 POWER FACTOR	541,176 VA
PANEL 'X': 225A, 277/480VV, 3Ø, 4-WIRE	
EXISTING DEMAND LOAD (NEC 220.87)	
30-DAY DEMAND METERING (VA):	63,282 VA
ADDED EQUIPMENT LOADS	
RAD-1	2,494 VA
CP-RAD-1	770 VA
CP-RAD-2	1,300 VA
EGT-1 (2 @ 863 VA)	1,728 VA
TOTAL ADDED LOAD	6,292 VA
NEW CALCULATED DEMAND LOAD - SERVICE/MDP (VA): 547,468 VA	
NEW CALCULATED DEMAND LOAD - SERVICE/MDP (AMPS): 659 A	
NEW CALCULATED DEMAND LOAD - PANEL 'X' (VA): 69,574 VA	
NEW CALCULATED DEMAND LOAD - PANEL 'X' (AMPS): 84 A	
RESULT: THE EXISTING SERVICE, MDP, AND PANEL 'X' HAVE ADEQUATE CAPACITY FOR THE ADDED LOAD.	

GENERAL NOTES:

- THE INFORMATION SHOWN ON THIS DRAWING IS TAKEN FROM AS-BUILT DRAWINGS AND A NON-DESTRUCTIVE WALK THROUGH OF THE FACILITY. THERE IS NO WARRANTY OR GUARANTEE AS TO THE ACCURACY OF THE INFORMATION SHOWN HERE-IN. THE CONTRACTOR SHALL FIELD VERIFY ALL ITEMS SCHEDULED FOR DEMOLITION PRIOR TO START OF WORK.
- THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL ON ALL SALVAGEABLE MATERIALS. THE CONTRACTOR SHALL DELIVER SALVAGED MATERIALS TO A WAREHOUSE AS DIRECTED BY THE OWNER. THE CONTRACTOR SHALL DISPOSE OF, OFF SITE, ALL UNWANTED MATERIALS.
- DASHED OR DOTTED LINES INDICATE ITEMS TO BE REMOVED. SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.
- WORK INCLUDES THE DEMOLITION OF THE EXISTING GENERATOR AND ASSOCIATED EQUIPMENT FOR REPLACEMENT WITH A NEW GENERATOR AND ASSOCIATED EQUIPMENT TO INCLUDE A REMOTE RADIATOR.

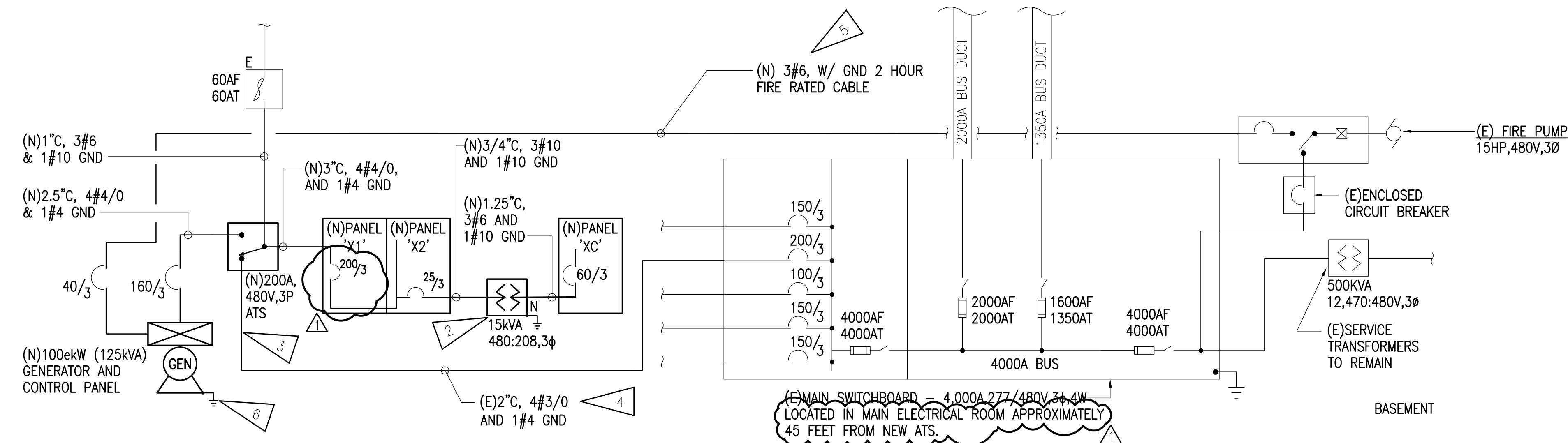
SHEET NOTES:

- DEMOLISH EXISTING FEEDER AS NEEDED TO INSTALL NEW ATS. EXTEND AND RECONNECT TO NEW TRANSFER SWITCH. PROVIDE JUNCTION BOXES, CONDUIT, AND WIRE AS REQUIRED.
- PROVIDE NEW TRANSFORMER AND RECONNECT TO EXISTING GROUNDING ELECTRODE CONDUCTOR FOR SEPARATELY DERIVED SYSTEM.
- EXTEND AND RECONNECT EXISTING FEEDERS AS REQUIRED.
- PROVIDE #4 EQUIPMENT GROUNDING CONDUCTOR IF IT DOES NOT EXIST IN THE FEEDER, OTHERWISE EXTEND.
- REMOVE EXISTING FEEDER TO FIRE PUMP AND REPLACE WITH 2 HOUR RATED FEEDER PER NEC 695.6(A)(2)(4). FIRE PUMP FEEDER IS APPROXIMATELY 140' IN LENGTH.
- PROVIDE #2 BARE COPPER GROUND ELECTRODE CONDUCTOR AND CONNECT TO EXISTING GROUNDING ELECTRODE.



1 DEMOLITION PARTIAL ONE-LINE DIAGRAM

NO SCALE

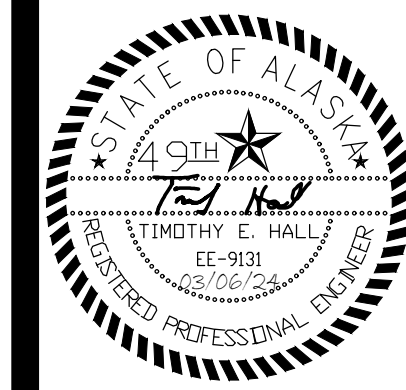


2 REMODEL PARTIAL ONE-LINE DIAGRAM

NO SCALE

FOR:
SUBMITTAL
PRICING

RSA ENGINEERING, INC.
670 W. FIREWEED, SUITE 200
ANCHORAGE, AK 99503
PHONE: 907-276-0521
FAX: 907-276-1751
CORPORATE NO: AECC542



Alaska Court System

**Boney
Courthouse
Generator
Replacement**

303 K Street
Anchorage, Alaska
99501

**CONSTRUCTION
DOCUMENTS**

JOB NO. M3152
DATE: 03/06/24
PROJ. MGR.: TEH
DRAWN BY: BC,NVF
REVIEWED BY: TEH, JAM
REVISIONS:
ADDENDUM 04
4/23/2024

**LEGEND,
ONE-LINE
DIAGRAMS, AND
LOAD
CALCULATION**

SHEET NO.

E001



Alaska Court System

Boney
Courthouse
Generator
Replacement

303 K Street
Anchorage, Alaska
99501

CONSTRUCTION
DOCUMENTS

JOB NO. M3152
DATE: 03/06/24
PROJ. MGR.: TEH
DRAWN BY: BC,NVF
REVIEWED BY: TEH, JAM

REVISIONS:
ADDENDUM 04
4/23/2024

PANEL
SCHEDULES

SHEET NO.

E301

NEW PANEL `X` (SECTION 1)																	
MFR/MODEL: SQUARE 'D' TYPE NF						VOLTS: 277/480V,3PH,4W			ENCLOSURE: NEMA 1			200 A					
						VOLT-AMPS			MTG: SURFACE								
NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	A	B	C	TYPE	SERVICE	AMPS	POLE	CIRC	NOTE			
b 1	3	70	PUMP P-7	MOTR					FEDR	TRANSFORMER PANEL 'XB'	20	3	2	b			
b 3	3	70	AAA	MOTR					FEDR	AAA	20	3	4	b			
b 5	3	70	AAA	MOTR					FEDR	AAA	20	3	6	b			
b 7	3	20	FAN F-10	MOTR					MOTR	PUMP P-2	20	3	8	b			
b 9	3	20	AAA	MOTR					MOTR	AAA	20	3	10	b			
b 11	3	20	AAA	MOTR					MOTR	AAA	20	3	12	b			
b 13	3	20	COMPRESSOR (3 HP)	MOTR					MOTR	PUMP P-3	20	3	14	b			
b 15	3	20	AAA	MOTR					MOTR	AAA	20	3	16	b			
b 17	3	20	AAA	MOTR					MOTR	AAA	20	3	18	b			
b 19	3	15	BLR 1	MOTR					MOTR	UNIT HEATER #1	20	3	20	b			
b 21	3	15	AAA	MOTR					MOTR	AAA	20	3	22	b			
b 23	3	15	AAA	MOTR					MOTR	AAA	20	3	24	b			
b 25	3	15	BLR 2	MOTR					MOTR	UNIT HEATER #2	20	3	26	b			
b 27	3	15	AAA	MOTR					MOTR	AAA	20	3	28	b			
b 29	3	15	AAA	MOTR					MOTR	AAA	20	3	30	b			
b 31	3	15	BLR 3	MOTR					MOTR	SUMP PUMPS	20	3	32	b			
b 33	3	15	AAA	MOTR					MOTR	AAA	20	3	34	b			
b 35	3	15	AAA	MOTR					MOTR	AAA	20	3	36	b			
b 37	3	15	JOCKEY PUMP	MOTR		831			MOTR	REMOTE RADIATOR	15	3	38	a			
b 39	3	15	AAA	MOTR			831		MOTR	AAA	15	3	40	a			
b 41	3	15	AAA	MOTR				831	MOTR	AAA	15	3	42	a			
SECTION 1 V-A ADDED						831	831	831				2,493	VA				
SECTION 1 AMPS ADDED						3	3	3				3	A				
A.I.C. RATING: 25,000																	

NEW PANEL `X` (SECTION 2)																	
MFR/MODEL: SQUARE 'D' TYPE NF						VOLTS: 277/480V,3PH,4W			ENCLOSURE: NEMA 1			200 A					
						VOLT-AMPS			MTG: SURFACE								
NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	A	B	C	TYPE	SERVICE	AMPS	POLE	CIRC	NOTE			
b 43	3	20	PUMP 1-B	MOTR		4,777			FEDR	TRANSFORMER PANEL 'XC'	25	3	44	b			
b 45	3	20	AAA	MOTR			4,561		FEDR	AAA	25	3	46	b			
b 47	3	20	AAA	MOTR				5,116	FEDR	AAA	25	3	48	b			
b 49	1	20	LTG-RM B26	LTG					LTG	LTG-STAIRWELLS	20	1	50	b			
b 51	1	20	LTG-CORRIDOR B25	LTG					LTG	LTG-STAIRWELLS	20	1	52	b			
b 53	1	20	LTG-MEZZANINE	LTG					LTG	LTG-4TH FLOOR	20	1	54	b			
b 55	1	20	LTG-1ST FLOOR	LTG					LTG	LTG-5TH FLOOR	20	1	56	b			
b 57	1	20	LTG-2ND FLOOR	LTG						SPARE	20	1	58				
b 59	1	20	LTG-3RD FLOOR	LTG						SPARE	20	1	60				
61	1	20	SPARE							SPARE	20	1	62				
63	1	20	SPARE						LTG	LTG-RMS B55,B67	20	1	64	b			
65	1	20	SPARE							SPACE	-	1	66				
67	1	20	SPARE						FEDR	PANEL 'XD'	*	3	68	b			
69	1	20	SPARE						FEDR	AAA	*	3	70	b			
71	1	20	SPARE						FEDR	AAA	*	3	72	b			
73	1	20	SPARE						HEAT	WATER HEATER WH-21	15	3	74	b			
75	1	20	SPARE						HEAT	AAA	15	3	76	b			
77	1	20	SPARE						HEAT	AAA	15	3	78	b			
a 79	3	15	CP-RAD-1 & 2	MOTR		690				SPACE			1	80			
a 81	3	15	AAA	MOTR			690			SPACE			1	82			
a 83	3	15	AAA	MOTR				690		SPACE			1	84			
SECTION 2 V-A ADDED						5,467	5,251	5,806				16,524	VA				
SECTION 2 AMPS ADDED						20	19	21				20	A				
TOTAL V-A ADDED						6,298	6,082	6,637				19,017	VA				
TOTAL AMPS ADDED						23	22	24				23	A				
A.I.C. RATING: 25,000																	

PANEL NOTES: a NEW LOAD CONNECTED TO NEW CIRCUIT. b EXISTING LOAD AND CIRCUIT THAT WAS DISCONNECTED AND SALVAGED FROM THE DEMOLISHED PANEL 'X'. RECONNECT WIRING TO NEW CIRCUIT BREAKER IN THIS PANEL AND PROVIDE EXTENSION OF EXISTING CIRCUITS AS REQUIRED TO SAFELY CONNECT TO NEW CIRCUIT BREAKERS. SALVAGED LOAD SHALL BE CONNECTED TO NEW BREAKERS MATCHING THE SIZE OF THE PREVIOUS.										PANEL OPTIONS: MAIN CIRCUIT BREAKER (SEE ONE-LINE FOR SIZE)							
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NEW PANEL 'XC'																							
MFR/MODEL: SQUARE 'D' TYPE NQ						VOLTS: 120/208V,3PH,4W						ENCLOSURE: NEMA 1						100 A					
						VOLT-AMPS						MTG: SURFACE											
NOTE	CIRC	POLE	AMPS	SERVICE	TYPE	A		B		C		TYPE	SERVICE	AMPS	POLE	CIRC	NOTE						
c	1	1	15	PUMP P-2	MOTR	215	500					MISC	BOILER CONTROL	20	1	2	b						
b	3	1	20	HANDICAP DOOR OPERATOR	MISC			500	300			MISC	BATTERY CHARGING	20	1	4	b						
c	5	1	20	PUMP P-5	MOTR					696	500	MISC	BOILER MGMT SYSTEM	20	1	6	b						
a	7	1	20	GENERATOR RM COOLING FAN	MOTR	1176	180					RECP	RECP-BOILER ROOM	20	1	8	c						
b	9	1	20	LTG-ELEVATOR PIT GEN ROOM	LTG			300	180			RECP	RECP-BOILER ROOM	20	1	10	c						
b	11	1	20	RECP-ELEVATOR PIT	RECP					180	1500	MISC	GENERATOR BLOCK HEATER	20	2	12	b						
c	13	1	20	SEWER DRAIN HT	HEAT	500	1000					MISC	TV CAMERA	20	2	14	b						
c	15	1	15	WATER HEATER 21	MISC			197	180			RECP	RECP-BOILER ROOM	20	1	16	c						
b	17	1	20	AIR DUCT SMOKE DETECTOR	MISC					200	360	MISC	TV CAMERA	20	1	18	b						
b	19	1	20	PUMP P-1	MOTR	1176	30					LTG	EMERGENCY LIGHTING UNIT	20	1	20	c						
b	21	1	20	PUMP P-11	MOTR			1176					SPACE		1	22							
c	23	1	20	RECP-GEN ROOM	RECP					180	1500	MISC	COMPUTER RM B53 UPS	20	1	24	b						
	25	1	20	SPARE									SPARE	20	1	26							
	27	1	20	EGT-1(1)	MOTR			864	864			MOTR	EGT-1(2)	20	1	28							
	29	1	20	SPARE									SPARE	20	1	30							
	31	1	20	SPARE									SPARE	20	1	32							
	33			SPACE									SPACE			34							
	35			SPACE									SPACE			36							
	37			SPACE									SPACE			38							
	39			SPACE									SPACE			40							
	41			SPACE									SPACE			42							
TOTAL V-A						4777		4561		5116		14,454 VA											
TOTAL AMPS						40		38		43		40 A											
A.I.C. RATING: 10,000																							
TOTAL CONNECTED LOAD IN KVA:						LTG	RECP	MOTR	LG.MT	MISC	KIT	HEAT	SPEC	TOTAL		AMPS							
						0.33	0.90	4.44	0.29	6.56	0.00	0.50	0.00	12.7 KVA		35 A							
DEMAND LOAD IN KVA:						0.41	0.90	4.44	0.29	6.56	0.00	0.50	0.00	13.1 KVA		36 A							
PANEL NOTES:												PANEL OPTIONS:											
a LOAD INFORMATION FROM RECORD DRAWINGS.												MAIN CIRCUIT BREAKER (SEE ONE-LINE FOR SIZE)											
b LOAD INFORMATION ESTIMATED BASED ON EQUIPMENT DATA FROM SIMILAR PROJECTS. SIZE BREAKER PER MANUFACTURER RECOMMENDATIONS OF EQUIVALENT SELECTED.																							
c LOAD INFORMATION BASED ON FIELD OBSERVATIONS.																							