### 1.0 NOTICE TO ALL BIDDERS AND PLANHOLDERS

The Contract Documents for the above-referenced Project are modified as set forth in this Addendum. The original Contract Documents and any previously issued addenda remain in full force and effect, except as modified by this Addendum, which is hereby made part of the Contract Documents. Bidder shall take this Addendum into consideration when preparing and submitting a bid, and shall acknowledge receipt of this Addendum in the space provided on the Bid Form.

### 2.0 BID SUBMITTAL DEADLINE

The bid submittal deadline remains the same and is not changed by this Addendum.

### 3.0 SPECIFICATIONS

<table>
<thead>
<tr>
<th>Item</th>
<th>Section No.</th>
<th>Description of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>230548</td>
<td><strong>ADD to subparagraph 2.4:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Type IP-1, Isolation Pad:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Description: Neoprene waffle pads, with 2 layers of 3/4 inch thick neoprene separated by 16 gage galvanized sheet metal shim and load distribution plates. Size to limit surface pressure to 45 pounds per square inch. Where bolts are used to secure equipment, isolate bolts from equipment with neoprene washers and grommets. Allow no metal-to-metal contact between bolt and equipment.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Manufacturer and Model: Mason Industries Super W.</td>
</tr>
<tr>
<td>3.2</td>
<td>232116</td>
<td><strong>REVISE the second sentence of 2.1A to read:</strong> “Furnish piping specialties of types and pressure ratings as indicated for piping systems in Section 232113 to comply with installation requirements.”</td>
</tr>
<tr>
<td>3.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.0 DRAWINGS

<table>
<thead>
<tr>
<th>Item</th>
<th>Drawing No.</th>
<th>Description of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1</td>
<td>MS M7.0</td>
<td><strong>DELETE</strong> the balancing valve located in the 6”CCWR piping just upstream of the heat exchanger CCWR piping point of connection.</td>
</tr>
</tbody>
</table>
4.0 DRAWINGS

<table>
<thead>
<tr>
<th>Item</th>
<th>Drawing No.</th>
<th>Description of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2</td>
<td>MS M7.0</td>
<td><strong>ADD</strong> make-up water meter assembly upstream of the new make-up water PRV (ref. Flag Note ‘5’ for PRV location). The 1” meter shall be furnished by the Owner and installed by the Contractor with unions on either side of the meter, and a ¾” by-pass with isolation valves for meter service and repair as shown in the detail below.</td>
</tr>
</tbody>
</table>

![Diagram](image)

| 4.3  | PAB M9.1    | **REVISE** the note pointing to the air separator discharge piping to read “Pipe full size and drop into the top off the adjacent exhaust fan housing drain”. |

| 4.4  | RR M4.1     | **ADD to the end of Diamond Note ‘1’**: “Provide 3-1/2” housekeeping pad (sized min. 3" larger than the condensing unit, coordinate with approved shop drawings). Provide Type IP-1 vibration isolators.” |

5.0 QUESTIONS AND ANSWERS

The following questions and answers are provided as a matter of information to clarify issues raised about the Contract Documents. To the extent that changes to the Contract Documents are required based on the questions received, the Contract Documents have been modified as noted above in the Specifications and Drawings sections of this Addendum.

<table>
<thead>
<tr>
<th>Item</th>
<th>Questions and Answers</th>
</tr>
</thead>
</table>
| 5.1  | Question: NPL – Does the cooling tower VFD replacement include the entire panel/enclosure or just the VFD?  
Answer: Per Flag Note ‘2’ on NPL Dwg. MD4.2 and Flag Note ‘1’ on NPL Dwg. M4.2, the intent is to install the new VFD in the existing enclosure. |

| 5.2  | Question: NPL – Could you please provide O&M data or any other equipment data available for the existing CT-1 cooling tower at the Nuclear Physics Lab building (Dwg. M4.2)?  
Answer: See attached 2013 Record Drawing M4 for the existing Cooling Tower Schedule. |
### ADDENDUM #1
Date of Addendum: December 11, 2020
Page 3 of 3

<table>
<thead>
<tr>
<th></th>
<th>Question: NPL – Referencing Drawing M9.1, Detail 2, what are the valve sizes required for Flag Notes 2, 3 &amp; 4? Answer: Existing piping sizes are to be field-verified prior to ordering the valves. For bidding purposes, assume 2” valves at Flag Notes 2, 3 and 4.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.4</td>
<td>Question: PAB – Which company provided the original review of the crane setup? Answer: Magnum. Contact: Kevin Elter, 253-630-6244.</td>
</tr>
<tr>
<td>5.5</td>
<td>Question: Should the bid bond be a PDF attachment submitted with the bid via email? Answer: Yes</td>
</tr>
</tbody>
</table>

### INFORMATION
The following item(s) are provided as a matter of information only to all bidders and plan holders and do not modify or become part of the Contract Documents.

<table>
<thead>
<tr>
<th>Item</th>
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<tbody>
<tr>
<td>6.1</td>
<td>List of attendees at the Pre-Bid Meeting.</td>
</tr>
<tr>
<td>6.2</td>
<td>UW Record Drawing M4, for reference only.</td>
</tr>
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</table>

END OF ADDENDUM
<table>
<thead>
<tr>
<th>Timestamp</th>
<th>Name</th>
<th>Company Name</th>
<th>Email Address</th>
<th>Phone Number</th>
<th>Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020/12/09 10:04:13 AM PST</td>
<td>John Muonio</td>
<td>Apex Mechanical</td>
<td><a href="mailto:john@apexmechanical.org">john@apexmechanical.org</a></td>
<td>3608521282</td>
<td>Division 01 General Requirement</td>
</tr>
<tr>
<td>2020/12/09 10:04:18 AM PST</td>
<td>Ryan O'Rourke</td>
<td>Holaday Parks</td>
<td><a href="mailto:Ryano@holadayparks.com">Ryano@holadayparks.com</a></td>
<td>2062489700</td>
<td>Division 01 General Requirement</td>
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<tr>
<td>2020/12/09 10:04:24 AM PST</td>
<td>Jake Smith</td>
<td>Shinn Mechanical</td>
<td><a href="mailto:Jakes@shinnmech.com">Jakes@shinnmech.com</a></td>
<td>206-571-2712</td>
<td>Division 15 Mechanical/Plumbing</td>
</tr>
<tr>
<td>2020/12/09 10:05:10 AM PST</td>
<td>Garrett Brown</td>
<td>Hawk Mechanical</td>
<td><a href="mailto:gbrown@hawkmechanical.com">gbrown@hawkmechanical.com</a></td>
<td>425-864-5543</td>
<td>Division 15 Mechanical/Plumbing</td>
</tr>
<tr>
<td>2020/12/09 10:05:31 AM PST</td>
<td>Colin Mercer</td>
<td>Apollo Mechanical</td>
<td><a href="mailto:Colin.mercer@apollomech.com">Colin.mercer@apollomech.com</a></td>
<td>2064027726</td>
<td>Division 15 Mechanical/Plumbing</td>
</tr>
<tr>
<td>2020/12/09 10:05:50 AM PST</td>
<td>Jarrod Diamond</td>
<td>Apollo Mechanical</td>
<td><a href="mailto:Jarrod.diamond@apollomech.com">Jarrod.diamond@apollomech.com</a></td>
<td>253-508-7048</td>
<td>Division 15 Mechanical/Plumbing</td>
</tr>
<tr>
<td>2020/12/09 9:09:33 PM PST</td>
<td>Garrett Brown</td>
<td>Hawk Mechanical</td>
<td><a href="mailto:gbrown@hawkmechanical.com">gbrown@hawkmechanical.com</a></td>
<td>425-864-5543</td>
<td>Division 15 Mechanical/Plumbing</td>
</tr>
</tbody>
</table>
ELEVATIONS PRIOR TO ROUGH-IN.

DIVISION 26 RESPONSIBILITIES
PRIOR TO FABRICATION, PURCHASE, AND DEVICE LOCATIONS ARE APPROXIMATE. COORDINATE REQUIRED INSPECTIONS.

NATIONAL AND STATE CODES AS AMENDED LOCALLY SHALL ADHERE TO REQUIREMENTS AND AS SUCH, SUPPORTS AND SIMILAR ITEMS.

SCHEDULE INSTALLATION WITH OTHER TRADES TO OTHERWISE DIRECTED. RETURN ITEMS TO OWNER IN OTHER TRADES. REFER TO MECHANICAL DRAWINGS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE 2015 INTERNATIONAL BUILDING CODE AND FROM ACCORDANCE WITH THE PROJECT SCHEDULE.

IN ADDITION TO OTHER TRADES THAT MAY BE EQUIPMENT, RACEWAYS, AND OTHER ELECTRICAL SYSTEMS SHALL BE DESIGNED AND EXERCISED TO OBTAIN CONFORMANCE WITH SPECIFIED BY DIVISION 26. DIVISION 26 SHALL:

1. Coordination with Construction Activities.
2. Coordination with other trades.
3. Coordination with architectural and structural systems.
4. Coordination with mechanical, plumbing, and HVAC systems.

EXCEPTIONAL ADDENDUM #1             12/11/20
PUMP TO BE REMOVED. REMOVED ASSOCIATED WIRE AND FUSED DISCONNECT, EXPOSED CONDUIT. HOME RUN TO REMAIN FOR CONNECTION OF NEW EQUIPMENT, SEE SHEET E4.1 FOR ADDITIONAL INFORMATION.

1. ELECTRICAL ITEMS SHOWN ARE DIAGRAMMATIC BASED ON AVAILABLE RECORD DRAWINGS AND SITE WALKS DURING THE DESIGN PERIOD. NOT ALL SYSTEM COMPONENTS ARE SHOWN. CONTRACTOR SHALL FIELD VERIFY DEVICE LOCATIONS AND QUANTITIES PRIOR TO COMMENCING WORK. REROUTE EXISTING TO REMAIN DEVICE CONDUIT AND WIRING AS REQUIRED TO SUPPORT REMODEL ACTIVITIES.

2. REMOVE UNUSED SURFACE RACEWAY, BOXES AND WIRING. COORDINATE PATCHING AND PAINTING WITH DIVISION 09 CONTRACTOR. REMOVE UNUSED BOXES. PROVIDE MUD RINGS AND BLANK COVERS FOR UNUSED RECESSED BOXES TO REMAIN. REFER TO SPECIFICATION SECTION 262726 FOR ADDITIONAL INFORMATION.

3. PATCHING AND PAINTING TO MATCH EXISTING CONDITIONS SHALL BE PROVIDED BY DIVISION 09 CONTRACTOR.

4. ABANDON BELOW GRADE AND INACCESSIBLE RACEWAY IN PLACE AND RECORD LOCATIONS ON RECORD DRAWINGS.

FLAG NOTE: PUMP TO BE REMOVED. REMOVE ASSOCIATED WIRE AND FUSED DISCONNECT, EXPOSED CONDUIT, HOME RUN TO REMAIN FOR CONNECTION OF NEW EQUIPMENT. SEE SHEET E4.1 FOR ADDITIONAL INFORMATION.
1. DEMOLISH EXISTING FLUID COOLER CONNECTIONS, CONDUIT, WIRE, DISCONNECTS, ETC.
BACK TO SERVICE POINT. RE-LABEL SERVICE POINT AS "SPARE".

2. ELECTRICAL ITEMS SHOWN ARE DIAGRAMMATIC BASED ON AVAILABLE RECORD DRAWINGS AND SITE WALKS DURING THE DESIGN PERIOD. NOT ALL SYSTEM COMPONENTS ARE SHOWN. CONTRACTOR SHALL FIELD VERIFY DEVICE LOCATIONS AND QUANTITIES PRIOR TO COMMENCING WORK. REROUTE EXISTING-TO-REMAIN DEVICE CONDUIT AND WIRING AS REQUIRED.

3. REMOVE UNUSED SURFACE RACEWAY, BOXES AND WIRING. COORDINATE PATCHING AND PAINTING WITH DIVISION 09 CONTRACTOR. REMOVE UNUSED BOXES. PROVIDE MUD RINGS AND BLANK COVERS FOR UNUSED RECESSED BOXES TO REMAIN. REFER TO SPECIFICATION SECTION 2627 FOR ADDITIONAL INFORMATION.

4. PATCHING AND PAINTING TO MATCH EXISTING CONDITIONS AND SHALL BE PROVIDED BY DIVISION 09 CONTRACTOR.

5. ABANDON BELOW GRADE AND INACCESSIBLE RACEWAY IN PLACE AND RECORD LOCATIONS ON RECORD DRAWINGS.

FLAG NOTE:

DEMOLISH EXISTING FLUID COOLER CONNECTIONS, CONDUIT, WIRE, DISCONNECTS, ETC. BACK TO SERVICE POINT. RE-LABEL SERVICE POINT AS "SPARE".

MECHANICAL POWER DEMOLITION FLOOR PLAN - ROOF

HARGIS
MARINE SCIENCE BUILDING
UNIVERSITY OF WASHINGTON
SEATTLE, WA 98195

APPROVED BY
UW PROJECT NO.
CHECKED BY
DRAWN BY
HARGIS PROJECT NO.
SHEET TITLE
SHEET NUMBER
REV.
RELEASE
DATE
PERMIT SET
BID DOCUMENTS

COOLING TOWER PROGRAM
UW - CHILLER AND MECHANICAL POWER DEMOLITION FLOOR PLAN - ROOF

E1
ED4.1

12/07/2020
1. Refer to Mechanical Equipment Schedule Sheet E9.1 for additional equipment characteristics, requirements and circuit information.

2. Final location of equipment disconnects/controllers shall be coordinated with other trades prior to rough-in. Maintain code-required working clearances. Provide/construct Unistrut assembly for mounting of disconnects/controllers which cannot be located on building structure.

See one-line diagram and equipment schedule, Sheet E9.1, for additional information. Provide Unistrut support as needed for new equipment disconnect switch.
### Mechanical Equipment Schedule

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>EQUIPMENT</th>
<th>VOLTAGE</th>
<th>PHASE</th>
<th>HP</th>
<th>KW</th>
<th>FLA</th>
<th>MCA</th>
<th>MOCP</th>
<th>SCCR</th>
<th>BRANCH CIRCUIT</th>
<th>DISCONNECT</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CWP-1</td>
<td>480</td>
<td>3</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5,000</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CWP-2</td>
<td>480</td>
<td>3</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5,000</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
1. CONNECT TO ECM PROVIDED WITH UNIT.
2. PROVIDE FUSED DISCONNECT.
3. MINIMUM SCCR RATING CALCULATED BASED ON AVAILABLE FAULT CURRENT FROM RECORD DRAWINGS.

---

### Load Reduction Calculation

<table>
<thead>
<tr>
<th>PANEL</th>
<th>CONNECTED (KVA)</th>
<th>REMOVED LOAD (KVA)</th>
<th>ADDED LOAD (KVA)</th>
<th>NET DEDUCT (KVA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCC-N0-1</td>
<td>12</td>
<td>3.3</td>
<td>8.7</td>
<td></td>
</tr>
</tbody>
</table>

**GENERAL NOTES:**
1. EXISTING LOADS BASED OFF AS-BUILT DRAWINGS.
2. CWP-01 & 02 ARE NON-COINCIDENT LOADS.

---

### Electrical Partial One-Line Diagram

- **Scale:** 1/8" = 1'
- **Drawing:** E9.1

---

**UW - Chiller and Cooling Tower Program**

**MARINE SCIENCE BUILDING**

**UNIVERSITY OF WASHINGTON**

**SEATTLE, WA 98195**

**Professional Stamp**

**COOLING TOWER PROGRAM**

**UW - CHILLER AND COOLING TOWER PROGRAM**

**UNIVERSITY OF WASHINGTON**

**SEATTLE, WA 98195**

---

**ELECTRICAL PARTIAL ONE-LINE DIAGRAM**

---

**PROFESSIONAL STAMP**

**MARINE SCIENCE BUILDING**

**UNIVERSITY OF WASHINGTON**

**SEATTLE, WA 98195**

---

**E9.1**
INSTALLATION, INCLUDING BUT NOT LIMITED TO
ITEMS ARE SHOWN SCHEMATICALLY. COORDINATE
FOLLOWING:

EXCLUDING CHAPTER 14 AND APPENDIX 11A.

FOR COMPLETE AND OPERATIONAL SYSTEMS
EXISTING CONDITION WHEN DIRECTED BY OWNER.

MECHANICAL, ELECTRICAL, AND NON-STRUCTURAL
LOCATIONS OF RACEWAY, PATHWAY AND SIMILAR
DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW
PLANS OR AS REQUIRED FOR INSTALLATION OF NEW

STATEMENT OF RESPONSIBILITY SHALL INCLUDE THE
COMPONENT LISTED IN THE QUALITY ASSURANCE PLAN
COMPONENTS THAT ARE PERMANENTLY ATTACHED TO
SPACES, AND EXACT LOCATION OF HORIZONTAL AND
SCHEDULE INSTALLATION WITH OTHER TRADES TO
COMPLETION OF WORK SHALL BE EXECUTED IN

THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)
THE 2015 INTERNATIONAL BUILDING CODE AND FROM
ABOVE FOR ADDITIONAL INFORMATION, EXCEPTIONS,

AND ENFORCED BY THE AHJ.

EXERCISED TO OBTAIN CONFORMANCE WITH
RACEWAYS AND OTHER ELECTRICAL SYSTEMS
DIVISION 26 SHALL COORDINATE THE SUPPORT
PROCEDURES FOR EXERCISING CONTROL
WITHIN THE CONTRACTOR'S ORGANIZATION, THE
THEIR POSITION(S) IN THE ORGANIZATION.

THEIR ORGANIZATION. THE

WITHIN THE CONTRACTOR'S ORGANIZATION, THE
THEIR POSITION(S) IN THE ORGANIZATION.

WITHIN THE CONTRACTOR'S ORGANIZATION, THE
THEIR POSITION(S) IN THE ORGANIZATION.

WITHIN THE CONTRACTOR'S ORGANIZATION, THE
THEIR POSITION(S) IN THE ORGANIZATION.

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THEIR POSITION(S) IN THE ORGANIZATION.

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THEIR POSITION(S) IN THE ORGANIZATION.

WITHIN THE CONTRACTOR'S ORGANIZATION, THE
THEIR POSITION(S) IN THE ORGANIZATION.

WITHIN THE CONTRACTOR'S ORGANIZATION, THE
THEIR POSITION(S) IN THE ORGANIZATION.
1. ELECTRICAL ITEMS SHOWN ARE DIAGRAMMATIC BASED ON AVAILABLE RECORD DRAWINGS AND SITE WALKS DURING THE DESIGN PERIOD. NOT ALL SYSTEM COMPONENTS ARE SHOWN. CONTRACTOR SHALL FIELD VERIFY DEVICE LOCATIONS AND QUANTITIES PRIOR TO COMMENCING WORK. REMOVE ASSOCIATED WIRE AND FUSED DISCONNECT, EXPOSED CONDUIT, AND MOTOR STARTERS. HOME RUN TO REMAIN FOR CONNECTION OF NEW EQUIPMENT. SEE SHEET E4.1 FOR ADDITIONAL INFORMATION.

2. REMOVE UNUSED SURFACE RACEWAY, BOXES AND WIRING. COORDINATE PATCHING AND PAINTING WITH DIVISION 09 CONTRACTOR. REMOVE UNUSED BOXES. PROVIDE MUD RINGS AND BLANK COVERS FOR UNUSED RECESSED BOXES TO REMAIN. REFER TO SPECIFICATION SECTION 2627 FOR ADDITIONAL INFORMATION.

3. PATCHING AND PAINTING TO MATCH EXISTING CONDITIONS SHALL BE PROVIDED BY DIVISION 09 CONTRACTOR.

4. ABANDON BELOW GRADE AND INACCESSIBLE RACEWAY IN PLACE AND RECORD LOCATIONS ON RECORD DRAWINGS.

5. REFER TO E4.1 FOR NEW WORK.

PLANT TO BE REMOVED. REMOVE ASSOCIATED WIRE AND FUSED DISCONNECT, EXPOSED CONDUIT, AND MOTOR STARTERS. HOME RUN TO REMAIN FOR CONNECTION OF NEW EQUIPMENT. REFER E4.1 FOR ADDITIONAL INFORMATION.

MECHANICAL POWER DEMOLITION FLOOR PLAN - FIRST FLOOR
1. REMOVE EXISTING POWERFLEX 70 VFD. REFER TO E4.2 FOR NEW WORK.
EXISTING CONDUIT AND CONDUCTORS TO REMAIN FOR RECONNECTION.

2. ELECTRICAL ITEMS SHOWN ARE DIAGRAMMATIC BASED ON AVAILABLE RECORD DRAWINGS AND SITE WALKS DURING THE DESIGN PERIOD. NOT ALL SYSTEM COMPONENTS ARE SHOWN. CONTRACTOR SHALL FIELD VERIFY DEVICE LOCATIONS AND QUANTITIES PRIOR TO COMMENCING WORK. REROUTE EXISTING-TO-REMAIN DEVICE CONDUIT AND WIRING AS REQUIRED TO SUPPORT REMODEL ACTIVITIES.

3. REMOVE UNUSED SURFACE RACEWAY, BOXES AND WIRING. COORDINATE PATCHING AND PAINTING WITH DIVISION 09 CONTRACTOR. REMOVE UNUSED BOXES. PROVIDE MUD RINGS AND BLANK COVERS FOR UNUSED RECESSED BOXES TO REMAIN. REFER TO SPECIFICATION SECTION 2627 FOR ADDITIONAL INFORMATION.

4. PATCHING AND PAINTING TO MATCH EXISTING CONDITIONS AND SHALL BE PROVIDED BY DIVISION 09 CONTRACTOR.

5. ABANDON BELOW GRADE AND INACCESSIBLE RACEWAY IN PLACE AND RECORD LOCATIONS ON RECORD DRAWINGS.
1. EXTEND BRANCH CIRCUIT TO NEW VFD AND MAKE CONNECTION TO NEW MECHANICAL UNIT.

PROVIDE NEW 12"X12"X6" ENCLOSURE WITH HINGED COVER AND LOCK. PROVIDE STANDARD DOUBLE GANG (4" SQUARE) J-BOX WITHIN ENCLOSURE FOR TELECOMMUNICATIONS OUTLET. PROVIDE 1" CONDUIT FROM THIS J-BOX TO POWER SUB-METER FOR PATCH CABLE. PROVIDE 1" CONDUIT FROM THIS J-BOX TO LOCATION INDICATED ON PLAN FOR TIE-IN TO BUILDING NETWORK. COORDINATE LOCATION WITH UNIVERSITY OF WASHINGTON (UW). TELECOMMUNICATIONS OUTLET AND CABLING TO BE PROVIDED BY UW IT SHOP. UW-IT INSTALLATION DETAIL AVAILABLE: DWG. NO.: CNT-CI-2 ENCLOSURE PART #: 'MILBANK 12126-LC1' WITH 'A-LKSFMKEYL' LOCK OR APPROVED EQUAL. SEE ONE-LINE DIAGRAM, SHEET E9.1 FOR METER INFORMATION.

2. PROVIDE NEW POWER METER FOR CONNECTION TO THE UNIVERSITY OF WASHINGTON METERING SYSTEM. PROVIDE RACEWAY FOR NETWORK CABLE FROM POWER METER TO TELECOMMUNICATIONS RACK. COORDINATE PATHWAY WITH UNIVERSITY OF WASHINGTON METERING AND POWER SYSTEM SHOPS. METER, CURRENT SENSING TRANSDUCERS, AND NETWORK CABLE FURNISH AND INSTALLED BY DIVISION 26 CONTRACTOR. COORDINATE LOCATION WITH UW. NETWORK CABLE AND ASSOCIATED NETWORK PARAMETER PROGRAMMING BY UNIVERSITY OF WASHINGTON.

INSTALL VFD'S AND DISCONNECT SWITCHES ON NEW UNISTRUT.

REFER TO MECHANICAL EQUIPMENT SCHEDULE SHEET E9.1 FOR ADDITIONAL EQUIPMENT CHARACTERISTICS, REQUIREMENTS AND CIRCUIT INFORMATION.

FINAL LOCATION OF EQUIPMENT DISCONNECTS/CONTROLLERS SHALL BE COORDINATED WITH OTHER TRADES PRIOR TO ROUGH-IN. MAINTAIN CODE REQUIRED WORKING CLEARANCES. PROVIDE/CONSTRUCT UNISTRUT ASSEMBLY FOR MOUNTING OF DISCONNECTS/CONTROLLERS WHICH CANNOT BE LOCATED ON BUILDING STRUCTURE.

PROVIDE 1" CONDUIT TO DATA CLOSET IN ROOM 170. SEE VICINITY MAP ON SHEET G0.1 FOR APPROXIMATE ROOM LOCATION. COORDINATE WITH UNIVERSITY OF WASHINGTON.
INSTALL NEW VFD FOR EXISTING FAN MOTOR FURNISHED BY MECHANICAL.

REFER TO MECHANICAL EQUIPMENT SCHEDULE SHEET E9.1 FOR ADDITIONAL EQUIPMENT CHARACTERISTICS, REQUIREMENTS AND CIRCUIT INFORMATION.

REFER TO SHEET E4.1 FOR WORK INSIDE MECHANICAL ROOM.
### MECHANICAL EQUIPMENT SCHEDULE

<table>
<thead>
<tr>
<th>TAG</th>
<th>EQUIPMENT</th>
<th>VOLTAGE</th>
<th>PHASE</th>
<th>HP</th>
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<th>FLA</th>
<th>MCA</th>
<th>MOCP</th>
<th>SCCR</th>
<th>BRANCH CIRCUIT</th>
<th>DISCONNECT</th>
<th>NOTES</th>
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<td>CWP-3B</td>
<td>480V 3</td>
<td>3</td>
<td>25</td>
<td>25</td>
<td>-</td>
<td>34</td>
<td>5,000</td>
<td>1</td>
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<td>1</td>
<td>1</td>
<td>60</td>
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<td>27</td>
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<td>27</td>
<td>5,000</td>
<td>1</td>
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<td>1</td>
<td>1</td>
<td>60</td>
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<tr>
<td>CWP-4B</td>
<td>480V 3</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>60</td>
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**NOTES**

1. INSTALL VFD WITH FURNISHED BY DIVISION 23. PROVIDE UNISTRUT BACKING.
2. MINIMUM SCCR RATING CALCULATED BASED ON AVAILABLE FAULT CURRENT FROM RECORD DRAWINGS.

### PANEL 'HC' LOAD REDUCTION CALCULATION

<table>
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<tr>
<td>HC-12</td>
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<tr>
<td>HC-13</td>
<td>24099</td>
<td>21512</td>
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**GENERAL NOTES:**

EXISTING LOADS ARE BASED OFF RECORD DRAWINGS.
CWP3A & 3B ARE NON-COINCIDENT LOADS.
CWP4A & 4B ARE NON-COINCIDENT LOADS.

---

**FLAG NOTES:**

- INSTALL VFD WITH FURNISHED BY DIVISION 23. PROVIDE UNISTRUT BACKING.
- MINIMUM SCCR RATING CALCULATED BASED ON AVAILABLE FAULT CURRENT FROM RECORD DRAWINGS.

---

**MECHANICAL EQUIPMENT SCHEDULE**

<table>
<thead>
<tr>
<th>QTY OF SETS</th>
<th>RACEWAY PHASE</th>
<th>N</th>
<th>G</th>
<th>SIZE</th>
<th>FUSE</th>
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<tr>
<td>1</td>
<td>3#6</td>
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</tbody>
</table>

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**ELECTRICAL PARTIAL ONE-LINE DIAGRAM**

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**APPROVED BY**

---

**DRAWN BY**

---

**CHECKED BY**

---

**HARGIS PROJECT NO.**

---

**SHEET TITLE**

---

**SHEET NUMBER**

---

**REV.**

---

**RELEASE**

---

**DATE**

---

**E9.1**
PRIOR TO THE COMMENCEMENT OF WORK ON THE MECHANICAL, ELECTRICAL, AND NON-STRUCTURAL SYSTEM, DESIGNATED SEISMIC SYSTEM, OR CONSTRUCTION OF A SEISMIC-FORCE-RESISTING COMPONENTS THAT ARE PERMANENTLY ATTACHED TO SHALL BE INCLUDED WITHIN BID. ALSO REFER TO CASEWORK AND BUILDING CONDITIONS AFFECTING SUPPORTS AND SIMILAR ITEMS.

OTHERWISE DIRECTED. RETURN ITEMS TO OWNER IN OTHER TRADES. REFER TO MECHANICAL DRAWINGS OBTAIN AND PAY FOR PERMITS REQUIRED FOR WORK. MATERIAL SHALL BE REMOVED FROM SITE AND FURTHER DESCRIPTIONS THE CONTRACTOR ACCORDANCE WITH THE PROJECT SCHEDULE.

ELECTRICAL SYSTEMS SHALL BE DESIGNED AND HANGERS AND SEISMIC BRACING FOR RACEWAYS AND OTHER ELECTRICAL SYSTEMS DIVISION 26 SHALL COORDINATE THE SUPPORT LOCATIONS OF EQUIPMENT AND ELECTRICAL PERSON(S) EXERCISING SUCH CONTROL AND BY THE AUTHORITY HAVING JURISDICTION;

SPECIAL REQUIREMENTS CONTAINED IN THE THE STEEL AND WOOD JOIST MANUFACTURERS ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED BY THE ORGANIZATION.

1. Electrical Items shown are diagrammatic based on available record drawings and site walks during the design period. All work shall comply with the latest edition of the National Electrical Code (NEC) and all applicable local codes and standards. Contractor shall field verify device locations and quantities prior to commencing work. Remove existing conduit and wiring as required.


3. Remove exposed conduit and boxes. Abandon below grade and inaccessible raceway in place and record locations on record drawings.

4. Refer to Sheet E4.2 for new work. Reuse existing conduit and wire. Extend to new location shown on E4.2. Refer to one-line diagram on E9.1 for additional information.

5. Patching and painting to match existing conditions and shall be provided by Division 09 Contractor.
1. MAKE HARDWIRED CONNECTION TO NEW HEAT TRACE EQUIPMENT.
2. COORDINATE EXACT LOCATION OF VFD WITH MECHANICAL CONTRACTOR.
3. MOUNT ON UNISTRUT. FIELD COORDINATE EXACT LOCATION.
4. PROVIDE NEW 12"X12"X6" ENCLOSURE WITH HINGED COVER AND LOCK. PROVIDE STANDARD DOUBLE GANG (4" SQUARE) J-BOX WITHIN ENCLOSURE FOR TELECOMMUNICATIONS OUTLET. PROVIDE 1" CONDUIT FROM THIS J-BOX TO NEAREST DATA CLOSET FOR TIE-IN TO BUILDING NETWORK. COORDINATE LOCATION WITH UNIVERSITY OF WASHINGTON (UW). TELECOMMUNICATIONS OUTLET AND CABLING TO BE PROVIDED BY UW IT SHOP. UW-IT INSTALLATION DETAIL AVAILABLE: DWG. NO.: CNT-CI-2 ENCLOSURE PART #: 'MILBANK 12126-LC1' WITH 'A-LKSFMKEYL' LOCK OR APPROVED EQUAL. SEE ONE-LINE DIAGRAM, SHEET E9.1 FOR METER INFORMATION.
5. PROVIDE NEW POWER METER FOR CONNECTION TO THE UNIVERSITY OF WASHINGTON METERING SYSTEM. PROVIDE RACEWAY FOR NETWORK CABLE FROM POWER METER TO TELECOMMUNICATIONS RACK. COORDINATE PATHWAY WITH UNIVERSITY OF WASHINGTON METERING AND POWER SYSTEM SHOPS. METER, CURRENT SENSING TRANSDUCERS, AND NETWORK CABLE HOUSING FURNISHED AND INSTALLED BY DIVISION 26 CONTRACTOR. COORDINATE LOCATION WITH UW.

SHEET NOTES:
1. REFER TO MECHANICAL EQUIPMENT SCHEDULE SHEET E9.1 FOR ADDITIONAL EQUIPMENT CHARACTERISTICS, REQUIREMENTS AND CIRCUIT INFORMATION.
2. FINAL LOCATION OF EQUIPMENT DISCONNECTS CONTROLLERS SHALL BE COORDINATED WITH OTHER TRADES PRIOR TO ROUGH-IN. PROVIDE/CONSTRUCT CUSTOM ASSEMBLY FOR LOCATING OF DISCONNECTS CONTROLLERS WHICH CORRECTLY LOCATED ON BUILDING STRUCTURE.

FLAG NOTES:
1. MAKE HARDWIRED CONNECTION TO NEW HEAT TRACE EQUIPMENT.
2. COORDINATE EXACT LOCATION OF VFD WITH MECHANICAL CONTRACTOR.
3. MOUNT ON UNISTRUT. FIELD COORDINATE EXACT LOCATION.
4. PROVIDE NEW 12"X12"X6" ENCLOSURE WITH HINGED COVER AND LOCK. PROVIDE STANDARD DOUBLE GANG (4" SQUARE) J-BOX WITHIN ENCLOSURE FOR TELECOMMUNICATIONS OUTLET. PROVIDE 1" CONDUIT FROM THIS J-BOX TO NEAREST DATA CLOSET FOR TIE-IN TO BUILDING NETWORK. COORDINATE LOCATION WITH UNIVERSITY OF WASHINGTON (UW). TELECOMMUNICATIONS OUTLET AND CABLING TO BE PROVIDED BY UW IT SHOP. UW-IT INSTALLATION DETAIL AVAILABLE: DWG. NO.: CNT-CI-2 ENCLOSURE PART #: 'MILBANK 12126-LC1' WITH 'A-LKSFMKEYL' LOCK OR APPROVED EQUAL. SEE ONE-LINE DIAGRAM, SHEET E9.1 FOR METER INFORMATION.
5. PROVIDE NEW POWER METER FOR CONNECTION TO THE UNIVERSITY OF WASHINGTON METERING SYSTEM. PROVIDE RACEWAY FOR NETWORK CABLE FROM POWER METER TO TELECOMMUNICATIONS RACK. COORDINATE PATHWAY WITH UNIVERSITY OF WASHINGTON METERING AND POWER SYSTEM SHOPS. METER, CURRENT SENSING TRANSDUCERS, AND NETWORK CABLE HOUSING FURNISHED AND INSTALLED BY DIVISION 26 CONTRACTOR. COORDINATE LOCATION WITH UW.
MECHANICAL EQUIPMENT SCHEDULE

<table>
<thead>
<tr>
<th>TAG</th>
<th>QTY</th>
<th>VOLTAGE</th>
<th>PHASE</th>
<th>HP</th>
<th>KW</th>
<th>FLA</th>
<th>MCA</th>
<th>MOCP</th>
<th>SCCR</th>
<th>BRANCH CIRCUIT DISCONNECT</th>
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<tr>
<td>CH-1A</td>
<td>1</td>
<td>480</td>
<td>3</td>
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<td>P-13</td>
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<td>480</td>
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<td>3</td>
<td></td>
<td></td>
<td>5000</td>
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NOTES:
1. INSTALL VFD WITH INTEGRAL DISCONNECT FURNISHED BY DIVISION 23.
2. PROVIDE FUSED DISCONNECT SWITCH.
3. MINIMUM SCCR RATING CALCULATED BASED ON AVAILABLE FAULT CURRENT FROM RECORD DRAWINGS.

LOAD CALCULATION

<table>
<thead>
<tr>
<th>SYSTEMS/Area</th>
<th>EXISTING TOTAL CONNECTED (KW)</th>
<th>TOTAL CONNECTED (KW)</th>
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<td>PCM-BE0-N1</td>
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<tr>
<td>EXISTING TOTAL CONNECTED</td>
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<td>TOTAL CONNECTED</td>
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<td>REMOVED LOAD</td>
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<tr>
<td>ADDED LOAD</td>
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<tr>
<td>NEW TOTAL CONNECTED</td>
<td>1441.50</td>
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<table>
<thead>
<tr>
<th>SYSTEMS/Area</th>
<th>EXISTING TOTAL CONNECTED (KW)</th>
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<tbody>
<tr>
<td>MCC-EB5-N1</td>
<td>800</td>
<td>389.85</td>
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<tr>
<td>EXISTING TOTAL CONNECTED</td>
<td>389.85</td>
<td>TOTAL CONNECTED</td>
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<tr>
<td>REMOVED LOAD</td>
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<td>ADDED LOAD</td>
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<tr>
<td>NEW TOTAL CONNECTED</td>
<td>408.35</td>
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</tr>
</tbody>
</table>

GENERAL NOTE:
1. EXISTING LOADS BASED OFF AS-BUILT DRAWINGS.

ELECTRICAL PARTIAL DEMOLITION ONE-LINE DIAGRAM

ELECTRICAL PARTIAL ONE-LINE DIAGRAM

FLAG NOTES:
1. PROVIDE NEW TAP BOX IN PERiphery EPM.
2. PROVIDE NEW MCC BUCKET. MATCH EXISTING WESTINGHOUSE MCC.
3. PROVIDE NEW MCC BUCKET. MATCH EXISTING WESTINGHOUSE MCC.

BASE BID SCOPE:
DEENERGIZE CHILLER AND REVIEW EXISTING OVERCURRENT PROTECTION DEVICE. REPLACE EXISTING 200A CIRCUIT BREAKER WITH NEW 150A CIRCUIT BREAKER IN EXISTING WESTINGHOUSE MOTOR CONTROL CENTER.

DEDUCTIVE ALTERNATE:
PROVIDE A CREDIT TO RE-USE EXISTING 200A CIRCUIT BREAKER. IF, UPON REVIEW, EXISTING CIRCUIT BREAKER ADEQUATELY PROTECTS EXISTING CONDUCTORS, TEST EXISTING CIRCUIT BREAKER AND PROVIDE A CREDIT.
7. FOLLOWING:

EARTHQUAKE MOTIONS IN ACCORDANCE WITH ASCE 7, EXISTING CONDITION WHEN DIRECTED BY OWNER.

DIVISION 26 RESPONSIBILITIES

PRIOR TO FABRICATION, PURCHASE, AND DEVICE LOCATIONS ARE APPROXIMATE. COORDINATE REQUIRED INSPECTIONS.

STATEMENT OF RESPONSIBILITY TO THE REGULATORY SYSTEM, DESIGNATED SEISMIC SYSTEM, OR SHALL BE INCLUDED WITHIN BID. ALSO REFER TO SHALL ADHERE TO REQUIREMENTS AND AS SUCH, CASEWORK AND BUILDING CONDITIONS AFFECTING SPACES, AND EXACT LOCATION OF HORIZONTAL AND SUPPORTS AND SIMILAR ITEMS.

COMPLETION OF WORK SHALL BE EXECUTED IN OTHER TRADES. REFER TO MECHANICAL DRAWINGS SHOP DRAWINGS AND ARCHITECT'S INTERIOR OBTAIN AND PAY FOR PERMITS REQUIRED FOR THE 2015 INTERNATIONAL BUILDING CODE AND FROM CONTRACTOR RESPONSIBILITY AND FURTHER DESCRIPTIONS. THE CONTRACTOR ACCORDANCE WITH THE PROJECT SCHEDULE.

IN ADDITION TO OTHER TRADES THAT MAY BE ELECTRICAL SYSTEMS SHALL BE DESIGNED AND HANGERS AND SEISMIC BRACING FOR REFER TO THE ELECTRICAL DRAWINGS FOR SPECIFIED BY DIVISION 26. DIVISION 26 SHALL THE STEEL AND WOOD JOIST MANUFACTURERS THEIR POSITION(S) IN THE ORGANIZATION.

THE DISTRIBUTION OF THE REPORTS; AND THE PERSON(S) EXERCISING SUCH CONTROL AND METHODS AND FREQUENCY OF REPORTING AND PROCEDURES FOR EXERCISING CONTROL (INCLUDING COMBINED MULTIPLE RACEWAY COMPONENTS.

SHOW THE LOCATIONS OF ELECTRICAL COMPONENTS. ENSURE COMPLETE COORDINATION AND INTEGRATION TO THE ELECTRICAL SYSTEM AND SEISMIC SYSTEMS AS REQUIRED.

CIRCUIT BREAKER, DRAWOUT CIRCUIT BREAKER, ENCLOSURE CIRCUIT BREAKER, FIXED

THE CONTRACTOR AND PERSON(S) EXERCISING SUCH CONTROL AND METHODS AND FREQUENCY OF REPORTING AND PROCEDURES FOR EXERCISING CONTROL (INCLUDING COMBINED MULTIPLE RACEWAY COMPONENTS.

SHOW THE LOCATIONS OF ELECTRICAL COMPONENTS. ENSURE COMPLETE COORDINATION AND INTEGRATION TO THE ELECTRICAL SYSTEM AND SEISMIC SYSTEMS AS REQUIRED.

CIRCUIT BREAKER, DRAWOUT CIRCUIT BREAKER, ENCLOSURE CIRCUIT BREAKER, FIXED
BID ALTERNATE #1 NOTES:

CONDUIT AND WIRE TO REMAIN.

BID ALTERNATE #1: DEMOLISH EXISTING CONDENSING UNIT CONNECTIONS, CONDUIT, WIRE, DISCONNECTS, ETC. AND REPLACE WITH NEW. SEE SHEET E4.1 FOR NEW WORK.

1. ELECTRICAL ITEMS SHOWN ARE DIAGRAMMATIC BASED ON AVAILABLE RECORD DRAWINGS AND SITE WALKS DURING THE DESIGN PERIOD. NOT ALL SYSTEM COMPONENTS ARE SHOWN. QUANTITIES PRIOR TO COMMENCING WORK. REVISES REQUIRING ADDITIONAL CONDUIT AND WIRE AS REQUIRED.

2. REMOVE UNUSED SURFACE RACEWAY, BOXES AND WIRING. COORDINATE PATCHING AND PAINTING WITH DIVISION 09 CONTRACTOR. REMOVE UNUSED BOXES. PROVIDE MUD RINGS AND BLANK COVERS FOR UNUSED RECESSED BOXES TO REMAIN. REFER TO SPECIFICATION SECTION 262726 FOR ADDITIONAL INFORMATION.

3. PATCHING AND PAINTING TO MATCH EXISTING CONDITIONS AND SHALL BE PROVIDED BY DIVISION 09 CONTRACTOR.

4. ABANDON BELOW GRADE AND INACCESSIBLE RACEWAY IN PLACE AND RECORD LOCATIONS ON RECORD DRAWINGS.

E4.1
1. Refer to Mechanical Equipment Schedule Sheet E9.1 for additional equipment characteristics, requirements and circuit information.

BID ALTERNATE #1 NOTES:

- Extend existing conduit and wire to new fused disconnect. Provide new wiring to new condensing unit. Provide new circuit breaker as indicated.

- Refer to Mechanical Equipment Schedule Sheet E9.1 for power to pneumatic controls.

- CU-1: 1"C., 3#8 and 1#10G to new 25A/3P circuit breaker.

- CKT: H9-8,10,12

- AHU integration kit

- Intercept (E) homerun with new junction box (E) SF-1 controller, 5A
# MECHANICAL EQUIPMENT SCHEDULE

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
<th>AMPS</th>
<th>PHASE</th>
<th>HP</th>
<th>KW</th>
<th>FLA</th>
<th>MCA</th>
<th>MOCP</th>
<th>SCCR</th>
<th>BRANCH CIRCUIT</th>
<th>NOTES</th>
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</table>

**NOTES:**
1. PROVIDE FUSED DISCONNECT SWITCH.
2. PROVIDE 120V/20A CIRCUIT FOR POWER TO PNEUMATIC CONTROLS. COORDINATE WITH MECHANICAL.
3. MINIMUM SCCR RATING CALCULATED BASED ON AVAILABLE FAULT CURRENT FROM RECORD DRAWINGS.

## LOAD REDUCTION CALCULATION

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<thead>
<tr>
<th>PANEL-CKT</th>
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<tbody>
<tr>
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<td>16786</td>
</tr>
</tbody>
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### GENERAL NOTES:
EXISTING LOADS ARE BASED OFF RECORD DRAWINGS.