WAYNE STATE UNIVERSITY

MATTHAEI CENTER - HVAC AND ELECTRICAL UPGRADES

5101 JOHN C. LODGE FWY DETROIT, MI 48202

ISSUED FOR: BIDS

06/27/2023
### Section 1.0 - Seismic Load

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCE 7</td>
<td>Governing Code: 2015 Michigan Building Code in conjunction with ASCE 7</td>
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</tbody>
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### Section 2.0 - Wind Load

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>AISC</td>
<td>Existing Framing to remain. Framing shall be removed only after the load supported by that framing is transferred to the replacement structure.</td>
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### Section 3.0 - Seismic Importance Factor

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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>Ct</td>
<td>Thermal Factor, $C_t$</td>
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</tbody>
</table>

### Section 4.0 - Internal Pressure Coefficient

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>$P_g$</td>
<td>Ground Snow Load</td>
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</tbody>
</table>

### Section 5.0 - Snow Load

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<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>$P_s$</td>
<td>Site Spectral Response Acceleration</td>
</tr>
</tbody>
</table>

### Section 6.0 - Service Factor

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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>$S_d$</td>
<td>Design Spectral Response Acceleration</td>
</tr>
<tr>
<td>$S_s$</td>
<td>Site Spectral Response Acceleration</td>
</tr>
</tbody>
</table>

### Section 7.0 - Material Selection

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>ASTM A36</td>
<td>Fy = 36 KSI for Channels, Angles, Plates, Bars, Rods, Uncoated Steel</td>
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<tr>
<td>ASTM A500 Grade C</td>
<td>For HSS Tubing, Fy = 50 KSI for Rectangular, Fy = 46 KSI for Round</td>
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### Section 8.0 - Connections

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<thead>
<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>AISC Manual of Steel Construction</td>
<td>Minimum number of bolts in bolted connections shall be 2. Connections must develop 75% of the total beam allowable strength. Composite beam support 55% of the total uniform load capacity derived from the ASD value of the tables and formula of the structural design.</td>
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### Section 9.0 - Connections

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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>IBC</td>
<td>Section 1704. Connections that have been engineered on these drawings (PER IBC CHAPTER 17)</td>
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### Section 10.0 - Miscellaneous Items

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>ASTM C827</td>
<td>Products complying with all requirements of CRD S-001</td>
</tr>
<tr>
<td>CD</td>
<td>Review of Service is prohibited.</td>
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### Section 11.0 - Construction

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>ASME</td>
<td>All design calculations shall be sealed by the fabricator’s engineer.</td>
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### Section 12.0 - Demolition and Erection

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>IND</td>
<td>Connection of the deck to the supporting structural steel.</td>
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### Section 13.0 - Roof Deck

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<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>UNO</td>
<td>Minimum 1/4&quot; fillet weld shall apply unless noted otherwise.</td>
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### Section 14.0 - Composite Floor Deck

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<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>CRD</td>
<td>Minimum 0.75&quot; thickness of concrete slab shall be placed over the steel plate. Existing slabs shall be core drilled at required locations and the concrete shall be removed using a jackhammer, unless otherwise noted. A composite floor deck shall be placed using a primer and conform to ASTM C621.</td>
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### Section 15.0 - Lead Paint

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<tr>
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<tbody>
<tr>
<td>ENV</td>
<td>If materials, quantities, strengths or sizes indicated by the drawings or specifications are different than those shown on the structural drawings, the contractor shall provide an abatement of existing lead paint in conformance with local regulations.</td>
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</table>

### Section 16.0 - Connection of Existing Structure

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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>IND</td>
<td>The contractor shall uncover and visually field verify the existing construction and existing services, and the site before beginning work.</td>
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### Section 17.0 - Construction Live Loads

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<tr>
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<tbody>
<tr>
<td>ENV</td>
<td>Construction loads shall not exceed design live loads. The contractor shall be responsible for all miscellaneous/ornamental steel not specifically part of the contract.</td>
</tr>
</tbody>
</table>
1. REFERENCE: GENERAL NOTES

2. VERIFY ALL ELEVATIONS AND DIMENSIONS SHOWN WITH ARCHITECTURAL DRAWINGS AND EQUIPMENT SUPPLIERS SHOP DRAWINGS PRIOR TO FABRICATION AND INSTALLATION OF STRUCTURAL STEEL

3. TOP OF STEEL ELEVATION = 112' - 9 1/2"

4. ROOF CONSTRUCTION:
   A. 1 1/2"x20GA GALVANIZED WIDE RIB METAL ROOF DECK

5. GENERAL CONTRACTOR SHALL COORDINATE ROOF TOP UNIT DIMENSIONS WITH APPROVED RTU MANUFACTURER DRAWINGS.

6. SUPPORT FRAMING SHOWN IS FOR THE RTU'S SPECIFIED ON MECHANICAL DRAWING. IF A DIFFERENT UNIT IS TO BE USED, CONTACT STRUCTURAL ENGINEER BEFORE PROCEEDING.

7. SET UNIT CURB ON EXISTING ROOF FRAMING MEMBERS OR SUPPORT MEMBERS RUNNING BETWEEN THEM. DO NOT PLACE CURB ON UNSUPPORTED ROOF DECK.

8. FIELD VERIFY ALL DIMENSIONS PRIOR TO FINAL DETAILING AND FABRICATION. IF ANY EXISTING CONDITION IS NOT AS SHOWN, CONTACT A/E BEFORE PROCEEDING WITH WORK.

9. COORDINATE LOCATION, SIZE, AND QUANTITY OF ROOF OPENINGS AND PENETRATIONS (HATCHES, EXHAUST FAN, ETC.) WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.

10. PROVIDE ROOF OPENING FRAMING FOR ALL OPENINGS AND PENETRATIONS THROUGH THE ROOF PER TYPICAL DETAIL.
1. REFERENCE: GENERAL NOTES

2. VERIFY ALL ELEVATIONS AND DIMENSIONS SHOWN WITH ARCHITECTURAL DRAWINGS AND EQUIPMENT SUPPLIERS SHOP DRAWINGS PRIOR TO FABRICATION AND INSTALLATION OF STRUCTURAL STEEL

3. TOP OF STEEL ELEVATION = 124' - 10 1/2"

4. ROOF CONSTRUCTION:
   A. 1 1/2"x20GA GALVANIZED WIDE RIB METAL ROOF DECK

5. GENERAL CONTRACTOR SHALL COORDINATE ROOF TOP UNIT DIMENSIONS WITH APPROVED RTU MANUFACTURER DRAWINGS.

6. SUPPORT FRAMING SHOWN IS FOR THE RTU'S SPECIFIED ON MECHANICAL DRAWING. IF A DIFFERENT UNIT IS TO BE USED, CONTACT STRUCTURAL ENGINEER BEFORE PROCEEDING.

7. SET UNIT CURB ON EXISTING ROOF FRAMING MEMBERS OR SUPPORT MEMBERS RUNNING BETWEEN THEM. DO NOT PLACE CURB ON UNSUPPORTED ROOF DECK.

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9. COORDINATE LOCATION, SIZE, AND QUANTITY OF ROOF OPENINGS AND PENETRATIONS (HATCHES, EXHAUST FAN, ETC.) WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.

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PROVIDE ROOF OPENING FRAMING FOR ALL OPENINGS AND PENETRATIONS

FIELD VERIFY ALL DIMENSIONS PRIOR TO FINAL DETAILING AND FABRICATION. IF
HELP REQUIRED CALL: 855-338-6011

1. PROVIDE ROOF OPENING FRAMING FOR ALL OPENINGS AND PENETRATIONS
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10. PROVIDE ROOF OPENING FRAMING FOR ALL OPENINGS AND PENETRATIONS

METAL STAIR ...

MC6X12 (ABOVE)

F31

3' - 6 7/8"
1. REFERENCE: GENERAL NOTES

2. VERIFY ALL ELEVATIONS AND DIMENSIONS SHOWN WITH ARCHITECTURAL DRAWINGS AND EQUIPMENT SUPPLIERS SHOP DRAWINGS PRIOR TO FABRICATION AND INSTALLATION OF STRUCTURAL STEEL

3. TOP OF STEEL ELEVATION = 136’-6"

4. ROOF CONSTRUCTION:
   A. 1 1/2"x20GA GALVANIZED WIDE RIB METAL ROOF DECK

5. GENERAL CONTRACTOR SHALL COORDINATE ROOF TOP UNIT DIMENSIONS WITH APPROVED RTU MANUFACTURER DRAWINGS.

6. SUPPORT FRAMING SHOWN IS FOR THE RTU’S SPECIFIED ON MECHANICAL DRAWING. IF A DIFFERENT UNIT IS TO BE USED, CONTACT STRUCTURAL ENGINEER BEFORE PROCEEDING.

7. SET UNIT CURB ON EXISTING ROOF FRAMING MEMBERS OR SUPPORT MEMBERS RUNNING BETWEEN THEM. DO NOT PLACE CURB ON UNSUPPORTED ROOF DECK.

8. FIELD VERIFY ALL DIMENSIONS PRIOR TO FINAL DETAILING AND FABRICATION. IF ANY EXISTING CONDITION IS NOT AS SHOWN, CONTACT A/E BEFORE PROCEEDING WITH WORK.

9. COORDINATE LOCATION, SIZE, AND QUANTITY OF ROOF OPENINGS AND PENETRATIONS (HATCHES, EXHAUST FAN, ETC.) WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.

10. PROVIDE ROOF OPENING FRAMING FOR ALL OPENINGS AND PENETRATIONS THROUGH THE ROOF PER TYPICAL DETAIL.
TYPICAL JOIST REINFORCING DETAIL AT CONCENTRATED LOADS

TYPICAL ROOFTOP EQUIPMENT SUPPORT DETAIL

TYPICAL METAL DECK SUPPORT AT STEEL JOISTS

TYPICAL METAL DECK SUPPORT AT STEEL BEAMS

HANDRAIL POST DETAIL

TYPICAL HSS TO HSS CONNECTION DETAIL

NOTE:
- PROVIDE THIS FRAMING FOR OPENINGS GREATER THAN 12".
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1. In every instance of demolition and/or remodeling, the contractor shall figure a complete job as none other shall be accepted.
2. The drawings are to be used only as a guideline for demolition. The contractor must visit the site prior to bidding to verify all work required for a complete job & include the cost of such work in his bid.
3. The contractor shall maintain existing services to & in the existing area as required.
4. If necessary, the contractor shall provide temporary services in the existing areas.
5. Any mechanical equipment & devices shown as being removed shall be removed complete including supporting steel and temperature controls.
6. All walls, ceilings, floors, etc., being disturbed by the work shall be returned to finished conditions to match existing by the contractor & he shall do his own cutting & patching as necessary under his contract.
7. Existing equipment and materials shall be turned over to the owner. If not required by owner, the contractor shall remove said equipment and materials from the premises dispose of in a legal manner.
8. Remove all air ceiling devices in area of work unless otherwise noted.
1. IN EVERY INSTANCE OF DEMOLITION AND/OR REMODELING, THE MECHANICAL CONTRACTOR SHALL FIGURE A COMPLETE JOB AS NONE OTHER SHALL BE ACCEPTED.

2. THE DRAWINGS ARE TO BE USED ONLY AS A GUIDELINE FOR DEMOLITION. THE MECHANICAL CONTRACTOR MUST VISIT THE SITE PRIOR TO BIDDING TO VERIFY ALL WORK REQUIRED FOR A COMPLETE JOB AND INCLUDE THE COST OF SUCH WORK IN THEIR BID.

3. THE MECHANICAL CONTRACTOR SHALL MAINTAIN EXISTING SERVICES TO AND IN THE EXISTING AREA AS REQUIRED.

4. IF NECESSARY, THE MECHANICAL CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES IN THE EXISTING AREAS.

5. ANY MECHANICAL EQUIPMENT AND DEVICES SHOWN AS BEING REMOVED SHALL BE REMOVED COMPLETE INCLUDING SUPPORTING STEEL AND TEMPERATURE CONTROLS. ALL EXISTING RECESSED CONTROLS REMOVED SHALL BE REPLACED WITH STEEL COVER PLATE.

6. ALL WALLS, CEILINGS, FLOORS, ETC., BEING DISTURBED BY THE WORK SHALL BE RETURNED TO FINISHED CONDITIONS TO MATCH EXISTING BY THE MECHANICAL CONTRACTOR AND THEY SHALL DO THEIR OWN CUTTING AND PATCHING AS NECESSARY UNDER THEIR CONTRACT.

7. EXISTING EQUIPMENT AND MATERIALS SHALL BE TURNED OVER TO THE UNIVERSITY. IF NOT REQUIRED BY THE UNIVERSITY, THE CONTRACTOR SHALL REMOVE SAID EQUIPMENT AND MATERIALS FROM THE PREMISES AND DISPOSE OF IN A LEGAL MANNER.

8. CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION MANAGER AND OWNER'S REPRESENTATIVE REGARDING TESTING AND ABATEMENT OF ANY HAZARDOUS MATERIAL PRIOR TO STARTING ANY DEMOLITION WORK.

9. CONTRACTOR TO PROTECT ALL EXISTING EQUIPMENT TO REMAIN DURING CONSTRUCTION.

10. REMOVE EXISTING RTU AND CAP EXISTING CURB.

11. REMOVE EXISTING AC AND ASSOCIATED FCU INSIDE. CAP EXISTING PITCH POCKET.
1. IN EVERY INSTANCE OF DEMOLITION AND/OR REMODELING, THE MECHANICAL CONTRACTOR SHALL FIGURE A COMPLETE JOB AS NONE OTHER SHALL BE ACCEPTED.

2. THE DRAWINGS ARE TO BE USED ONLY AS A GUIDELINE FOR DEMOLITION. THE MECHANICAL CONTRACTOR MUST VISIT THE SITE PRIOR TO BIDDING TO VERIFY ALL WORK REQUIRED FOR A COMPLETE JOB AND INCLUDE THE COST OF SUCH WORK IN THEIR BID.

3. THE MECHANICAL CONTRACTOR SHALL MAINTAIN EXISTING SERVICES TO AND IN THE EXISTING AREA AS REQUIRED.

4. IF NECESSARY, THE MECHANICAL CONTRACTOR SHALL PROVIDE TEMPORARY SERVICES IN THE EXISTING AREAS.

5. ANY MECHANICAL EQUIPMENT AND DEVICES SHOWN AS BEING REMOVED SHALL BE REMOVED COMPLETE INCLUDING SUPPORTING STEEL AND TEMPERATURE CONTROLS. ALL EXISTING RECESSED CONTROLS REMOVED SHALL BE REPLACED WITH STEEL COVER PLATE.

6. ALL WALLS, CEILINGS, FLOORS, ETC., BEING DISTURBED BY THE WORK SHALL BE RETURNED TO FINISHED CONDITIONS TO MATCH EXISTING BY THE MECHANICAL CONTRACTOR AND THEY SHALL DO THEIR OWN CUTTING AND PATCHING AS NECESSARY UNDER THEIR CONTRACT.

7. EXISTING EQUIPMENT AND MATERIALS SHALL BE TURNED OVER TO THE UNIVERSITY. IF NOT REQUIRED BY THE UNIVERSITY, THE CONTRACTOR SHALL REMOVE SAID EQUIPMENT AND MATERIALS FROM THE PREMISES AND DISPOSE OF IN A LEGAL MANNER.

8. CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION MANAGER AND OWNER'S REPRESENTATIVE REGARDING TESTING AND ABATEMENT OF ANY HAZARDOUS MATERIAL PRIOR TO STARTING ANY DEMOLITION WORK.

9. CONTRACTOR TO PROTECT ALL EXISTING EQUIPMENT TO REMAIN DURING CONSTRUCTION.
GENERAL HVAC NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS AND FITTINGS WHICH MAY BE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.

2. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.

3. THE CONTRACTOR SHALL COORDINATE FLOOR, WALL AND ROOF PENETRATIONS, LOUVER SIZES, ETC. WITH GENERAL TRADES.

4. THE CONTRACTOR SHALL VERIFY ALL CLEARANCES PRIOR TO FABRICATION OF ANY WORK.

5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF CEILING GRILLES, REGISTERS AND DIFFUSERS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.

6. ALL HOT WATER HEATING SUPPLY AND RETURN BRANCH RUN-OUT PIPING SHALL BE 3/4" UNLESS OTHERWISE NOTED ON DRAWING.

7. DUCTWORK SHALL NOT BE LOCATED OVER THE TOP OF ANY ELECTRICAL PANELS OR EQUIPMENT.

8. THE CONTRACTOR SHALL COORDINATE AND PROVIDE ACCESS DOORS IN HARD CEILINGS FOR ALL EQUIPMENT WHICH REQUIRES ACCESS, SUCH AS: FIRE AND SMOKE DAMPERS, SMOKE DETECTORS, BALANCING DAMPERS, VAV BOXES, ETC.

9. ALL MECHANICAL EQUIPMENT, PIPING, VALVES, DAMPERS, SOME DETECTORS ETC. WHICH REQUIRE ROUTINE MAINTENANCE OR INSPECTION SHALL BE INSTALLED WITHIN 2FT OF THE FINISHED CEILING HEIGHT.

10. INSTALL DUCT IN SAME LOCATION AS EXISTING DUCT. PROVIDE NEW STRAPS FOR SUPPORT.
1. ROUTE 24x18 SUPPLY AIR TO FLOOR LEVEL. CONNECT INTO (2) EXISTING SUPPLY FLOOR PENETRATIONS. PROVIDE ELBOWS WITH TURNING VANES. PROVIDE NEW FIRE DAMPER ACCESS DOOR ON DUCT. PROVIDE NEW 24x18 MOTOR OPERATED DAMPER IN SUPPLY DUCT.

2. CONNECT INTO TOP OF EXISTING 24x18 RETURN AIR DUCT WITH 45° BOOT TAP. 22x16 MOTOR OPERATED DAMPER TO BE LOCATED IN RETURN DUCT.

3. NEW 32x20 SUPPLY DUCT FROM RTU-106 WITH MOTOR OPERATED DAMPER. PROVIDE (3).

DEPARTMENT: HVAC

DATE: 05/19/23

OWNER REVIEW: MATTHAEI CENTER HVAC AND ELECTRICAL UPGRADES

WAYNE STATE UNIVERSITY

SCALE: 1/4" = 1'-0"
1. ROUTE 24x18 SUPPLY AIR TO FLOOR LEVEL. CONNECT INTO (2) EXISTING SUPPLY FLOOR PENETRATIONS. PROVIDE ELBOWS WITH TURNING VANES. PROVIDE NEW FIRE DAMPER ACCESS DOOR ON DUCT. PROVIDE NEW 24x18 MOTOR OPERATED DAMPER IN SUPPLY DUCT.

2. CONNECT INTO TOP OF EXISTING 24x18 RETURN AIR DUCT WITH 45° BOOT TAP. 22x16 MOTOR OPERATED DAMPER TO BE LOCATED IN RETURN DUCT.

3. EXISTING RETURN AIR DUCT DOWN TO FIRST FLOOR.

4. CONNECT NEW 26x26 RETURN DUCT INTO EXISTING HV-8 RETURN DUCT WITH MOTOR OPERATED DAMPER.

5. 26x26 NEW SUPPLY AIR FROM RTU-104 WITH MOTOR OPERATED DAMPER.

6. NEW 32x20 SUPPLY DUCT FROM RTU-107 WITH MOTOR OPERATED DAMPER. PROVIDE (3).

RETURN FAN RF-10 TO BE REPLACED IN-KIND

EXISTING HV-8 RETURN AIR DOWN EXISTING OUTSIDE AIR UNIT

ALL EXISTING DUCTWORK TO REMAIN. TYP
1. These drawings are diagrammatic and indicate the general extent of the work. The contractor shall be responsible for the coordination and proper installation of all mechanical systems. The contractor shall provide all necessary offsets and fittings which may be required due to space constraints or other conditions.

2. The contractor shall provide all miscellaneous supporting steel, etc. for the proper installation of all mechanical systems.

3. The contractor shall coordinate floor, wall and roof penetrations, etc. with general trades.

4. The contractor shall verify all clearances prior to fabrication of any work.

5. The contractor shall coordinate the location of ceiling grilles, registers and diffusers with the architectural reflected ceiling plans.

6. Ductwork shall not be located over the top of any electrical panels or equipment.

7. The contractor shall coordinate and provide access doors in hard ceilings for all equipment which requires access, such as fire and smoke dampers, smoke detectors, balancing dampers, VAV boxes, etc.

8. All mechanical equipment, piping, valves, dampers, smoke detectors, etc. which require routine maintenance or inspection shall be installed within 2 ft of the finished ceiling height.

9. Contractor shall ensure that all materials used in return air plenums are plenum-rated.

10. Duct sizes on the drawings designate the free area dimensions. The actual sheet metal sizes shall be increased to account for lining where required. Refer to details and specifications for lining requirements.

General Notes:

1. All existing supply and exhaust duct from HV-11 to remain.

2. Existing supply air duct up to HV-11 and RTU-16.
1. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION AND PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS AND FITTINGS WHICH MAY BE REQUIRED DUE TO SPACE CONSTRAINTS OR OTHER CONDITIONS.

2. THE CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS SUPPORTING STEEL, ETC. FOR THE PROPER INSTALLATION OF ALL MECHANICAL SYSTEMS.

3. THE CONTRACTOR SHALL COORDINATE FLOOR, WALL AND ROOF PENETRATIONS, ETC. WITH GENERAL TRADES.

4. THE CONTRACTOR SHALL VERIFY ALL CLEARANCES PRIOR TO FABRICATION OF ANY WORK.

5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF CEILING GRILLES, REGISTERS AND DIFFUSERS WITH THE ARCHITECTURAL REFLECTED CEILING PLANS.

6. DUCTWORK SHALL NOT BE LOCATED OVER THE TOP OF ANY ELECTRICAL PANELS OR EQUIPMENT.

7. THE CONTRACTOR SHALL COORDINATE AND PROVIDE ACCESS DOORS IN HARD CEILINGS FOR ALL EQUIPMENT WHICH REQUIRES ACCESS, SUCH AS FIRE AND SMOKE DAMPERS, SMOKE DETECTORS, BALANCING DAMPERS, VAV BOXES, ETC.

8. ALL MECHANICAL EQUIPMENT, PIPING, VALVES, DAMPERS, SMOKE DETECTORS ETC. WHICH REQUIRE ROUTINE MAINTENANCE OR INSPECTION SHALL BE INSTALLED WITHIN 2FT OF THE FINISHED CEILING HEIGHT.

9. CONTRACTOR SHALL ENSURE THAT ALL MATERIALS USED IN RETURN AIR PLENUMS ARE PLENUM-RATED.

10. DUCT SIZES ON THE DRAWINGS DESIGNATE THE FREE AREA DIMENSIONS. THE ACTUAL SHEET METAL SIZES SHALL BE INCREASED TO ACCOUNT FOR LINING WHERE REQUIRED. REFER TO DETAILS AND SPECIFICATIONS FOR LINING REQUIREMENTS.
1. These drawings are diagrammatic and indicate the general extent of the work. The contractor shall be responsible for the coordination and proper installation of all mechanical systems. The contractor shall provide all necessary offsets and fittings which may be required due to space constraints or other conditions.

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9. Contractor shall ensure that all materials used in return air plenums are plenum-rated.

10. Duct sizes on the drawings designate the free area dimensions. The actual sheet metal sizes shall be increased to account for lining where required. Refer to details and specifications for lining requirements.
**FAN HOUSING**

**INTEGRAL BACKDRAFT DAMPER**

**CEILING FLEXIBLE DUCT CONNECTION (TYP)**

**DISCHARGE DUCT - SEE PLAN FOR CONTINUATION**

**BUILDING STRUCTURE:**

SEE ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS

**SPRING/NEOPRENE TYPE VIBRATION HANGER, (TYP)**

**ALL THREAD ROD (TYP)**

**INLET DUCT - SEE PLAN FOR CONTINUATION**

**ADJUSTABLE MOUNTING FLANGES BOTH SIDES**

**NOTES:**

1. UPPER ROD - DOUBLE DEFLECTION EPDM OR NEOPRENE ELEMENT
2. LOWER ROD - SPRING HANGER FRAME
3. WASHER (TYPICAL)
4. NUT
5. SPRING
6. PRECOMPRESSION PLATE

THE SPRING SHALL BE PRE-COMPRESSED SO THAT WHEN PROPERLY INSTALLED AND LOADED, THE SPRING IS ADJUSTED TO THE MIDPOINT OF THE DEFLECTION SCALE.

REFER TO THE SPECIFICATIONS FOR THE DEFLECTION REQUIREMENTS.
## ROOFTOP UNIT SCHEDULE

<table>
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## VRF OUTDOOR UNIT SCHEDULE - DESIGN ALTERNATE 1

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## VRF OUTDOOR UNIT SCHEDULE - DESIGN ALTERNATE 2

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## VAV BOX WITH ELECTRIC REHEAT SCHEDULE

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## FAN-COL SCHEDULE

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## AIR DISTRIBUTION DEVICE SCHEDULE

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### General Electrical Notes

1. ** drawings shall be submitted in a format acceptable to AIA and AASHTO.**
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### Power & Equipment Symbols & Legend

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
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<tbody>
<tr>
<td>H</td>
<td><strong>H</strong> indicates new (N) or relocated (R) conduit, equipment, etc. underground or below grade.</td>
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<tr>
<td>+H</td>
<td><strong>+H</strong> indicates conduit larger than the drawing or larger than indicated.</td>
</tr>
<tr>
<td>-H</td>
<td><strong>-H</strong> indicates conduit smaller than the drawing or smaller than indicated.</td>
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<tr>
<td>E</td>
<td>Equipment symbol</td>
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<tr>
<td>SW</td>
<td>Switch</td>
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<tr>
<td>MCB</td>
<td>Main Circuit Breaker</td>
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<tr>
<td>MCC</td>
<td>Motor Control Center</td>
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<tr>
<td>TP</td>
<td>Circuit Breaker</td>
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<tr>
<td>SD</td>
<td>Service Device</td>
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<tr>
<td>EP</td>
<td>Emergency Power</td>
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1. REMOVE EXISTING FOOTBALL STADIUM LIGHT CONTROLS AND PROVIDE NEW CONTROLS. CONNECT TO EXISTING 120V CONTROL POWER TRANSFORMER.
2. REMOVE EXISTING WIRING. PROVIDE 3#1/0+1#3EG (60A), 3#6+1#4EG (30A) IN EXISTING 3"C.
3. REMOVE EXISTING WIRING. PROVIDE 3#1/0+1#3EG (60A), 3#6+1#4EG (30A) IN EXISTING 3"C. PROVIDE NEW 60A,3P CIRCUIT BREAKER IN LP-FB.
4. PROVIDE 3#4, 1#3EG IN EXISTING 1 1/4"C. FOR NEW IM FIELD LIGHTING.
5. PROVIDE NEW PANEL, CONTACTORS, CONTROL TRANSFORMER AND WIRING FOR IM FIELD LIGHTING.
ALTERNATE #3

Single Luminaire Amperage Draw Chart

Fixture Type Summary

Circuit Summary

Pole / Fixture Summary

EQUIPMENT LIST FOR AREAS SHOWN

4

Control System

Project Information

Circuit Summary

4 b

2 e

2 a

2

6

ID

Multi purpose Field

Touch screen power (receptacle)

Voltag e/Hertz/Phase

B

Refer to Installation Instructions for more details on equipment information and installation requirements.

Control power wiring must be in separate conduit from line or load power wiring. Communication cables must be in separate conduit from any power wiring. Conduit from any power wiring.

Avoid use of in-ground junction/pull boxes when possible. If used, all wire connectors must be UL listed for Wet Locations to confirm all details. See Note 1

If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact Support to confirm all details.

Avoid use of in-ground junction/pull boxes when possible. If used, all wire connectors must be UL listed for Wet Locations.

If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact Support to confirm all details.

ALTERNATE #4

System Requirements - Control System Summary

Project Information

Control System

Circuit Summary

Circuit Summary

Pole / Fixture Summary

EQUIPMENT LIST FOR AREAS SHOWN

4

Control System

Project Information

Circuit Summary

4 b

2 e

2 a

2

6

ID

Multi purpose Field

Touch screen power (receptacle)

Voltag e/Hertz/Phase

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Refer to Installation Instructions for more details on equipment information and installation requirements.

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ALTERNATE #3

Single Luminaire Amperage Draw Chart

Fixture Type Summary

Circuit Summary

Pole / Fixture Summary

EQUIPMENT LIST FOR AREAS SHOWN

4

Control System

Project Information

Circuit Summary

4 b

2 e

2 a

2

6

ID

Multi purpose Field

Touch screen power (receptacle)

Voltag e/Hertz/Phase

B

Refer to Installation Instructions for more details on equipment information and installation requirements.

Control power wiring must be in separate conduit from line or load power wiring. Communication cables must be in separate conduit from any power wiring. Conduit from any power wiring.

Avoid use of in-ground junction/pull boxes when possible. If used, all wire connectors must be UL listed for Wet Locations to confirm all details. See Note 1

If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact Support to confirm all details.

Avoid use of in-ground junction/pull boxes when possible. If used, all wire connectors must be UL listed for Wet Locations.

If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact Support to confirm all details.

ALTERNATE #4

System Requirements - Control System Summary

Project Information

Control System

Circuit Summary

Circuit Summary

Pole / Fixture Summary

EQUIPMENT LIST FOR AREAS SHOWN

4

Control System

Project Information

Circuit Summary

4 b

2 e

2 a

2

6

ID

Multi purpose Field

Touch screen power (receptacle)

Voltag e/Hertz/Phase

B

Refer to Installation Instructions for more details on equipment information and installation requirements.

Control power wiring must be in separate conduit from line or load power wiring. Communication cables must be in separate conduit from any power wiring. Conduit from any power wiring.

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If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact Support to confirm all details.

Avoid use of in-ground junction/pull boxes when possible. If used, all wire connectors must be UL listed for Wet Locations.

If the lighting system will be fed from more than one distribution location, additional equipment may be required. Contact Support to confirm all details.
1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT, ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THEIR RESPECTIVE DISCIPLINE DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.

2. REVIEW AND COORDINATE WITH ALL TRADES' CONTRACT DOCUMENTS AND CONTRACTORS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH THE SPECIFIC TRADE.

3. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE #12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.

4. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.

5. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN (2)#12AWG, (1)#12 EG, IN 3/4" CONDUIT UNLESS OTHERWISE INDICATED.

6. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES.

7. RECEPTACLE BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.

8. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.

9. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
E-101

**ELECTRICAL FIRST FLOOR PLAN**

**KEY NOTES**

1. REFER TO EQUIPMENT ELECTRICAL CONNECTION SCHEDULE ON SHEET E-401 FOR ADDITIONAL INFORMATION.
2. USE TYPICAL ROUTE TO PREPARE CONTRACTS.
3. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY DISCIPLINE DRAWINGS.
4. MATERIAL CONDUIT TO BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT.
5. PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT. OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT.
6. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND RECEPTACLE BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.
7. PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT.
8. MECHANICAL, PLUMBING, KITCHEN, FURNITURE CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL SWITCHES.)
9. LIGHTING TO NEW TOGGLE SWITCHES IN EXISTING PANELS (INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.
10. TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.

**POWER SHEET GENERAL NOTES**

- (E) FACP
- (N) RTU-108
- (ROOF)
- RTU - 103
- www.osborn-eng.com
- VAV-101
- VAV-102
- VAV-103
- FACP-1
- LP-J/10, SOUTH WALL-LP-J/12
- LP-J/13
- LP-J/14
- LP-J/15
- LP-J/16
- LIGHTING
- LIGHTING JUNCTION BOXES
- LIGHTING WALL
- MENS
- JANITOR
- WORKOUT
- NUTRITION
- CORRIDOR
- GA STATION
- CVC WALK
- DETROIT, MI 48208
- UNIVERSITY
1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT, ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THEIR RESPECTIVE DISCIPLINE DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.

2. REVIEW AND COORDINATE WITH ALL TRADES' CONTRACT DOCUMENTS AND CONTRACTORS TO DETERMINE SPECIFIC MOUNTING LOCATIONS FOR EQUIPMENT WITH ELECTRICAL CONNECTIONS. COORDINATE EXACT MOUNTING LOCATIONS WITH THE SPECIFIC TRADE.

3. MINIMUM CONDUCTOR SIZE FOR 277 VOLT BRANCH CIRCUITING SHALL BE #12AWG. FOR 277 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 125 LINEAR FEET A MINIMUM CONDUCTOR SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.

4. MINIMUM CONDUCTOR SIZE FOR 120 VOLT BRANCH CIRCUITS SHALL BE #12AWG. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUNS OVER 75 LINEAR FEET, A MINIMUM WIRE SIZE OF #10AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. FOR 120 VOLT BRANCH CIRCUITS WITH HOMERUN OVER 150 LINEAR FEET, A MINIMUM WIRE SIZE OF #8AWG SHALL BE PROVIDED FROM FIRST JUNCTION BOX TO BRANCH CIRCUIT PANELBOARD. ASSOCIATED EQUIPMENT GROUNDING CONDUCTOR SHALL ALSO BE INCREASED PER N.E.C. ARTICLE 250.122(B) REQUIREMENTS.

5. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN (2)#12AWG, (1)#12 EG, IN 3/4" CONDUIT UNLESS OTHERWISE INDICATED.

6. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES.

7. RECEPTACLE BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.

8. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.

9. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.

KEY NOTES:

1. SUPPLY AND INSTALL NEW DUCT DETECTOR. PROVIDE ADDRESSABLE MODULE FOR EACH DETECTOR, CONNECT TO EXISTING FIRE ALARM SYSTEM AND PROGRAM THIS TO PRODUCE A TROUBLE SIGNAL.

2. NEW 120V CIRCUIT FOR MOTORIZED DAMPERS. SEE MECHANICAL DRAWINGS FOR QUANTITY OF DAMPERS.

POWER SHEET GENERAL NOTES:

1. REFER TO EXISTING SITE DOCUMENTATION FOR SITE SPECIFIC REQUIREMENTS.

2. REFER TO EXISTING SITE DOCUMENTATION FOR SITE SPECIFIC REQUIREMENTS.

3. REFER TO EXISTING SITE DOCUMENTATION FOR SITE SPECIFIC REQUIREMENTS.

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8. REFER TO EXISTING SITE DOCUMENTATION FOR SITE SPECIFIC REQUIREMENTS.

9. REFER TO EXISTING SITE DOCUMENTATION FOR SITE SPECIFIC REQUIREMENTS.

10. REFER TO EXISTING SITE DOCUMENTATION FOR SITE SPECIFIC REQUIREMENTS.
1. Exact location of mechanical, plumbing, kitchen, furniture systems, owner-furnished equipment, etc. that require electrical connections are shown on their respective discipline drawings. Coordinate exact locations with respective contractors and/or vendors prior to any rough-ins.

2. Review and coordinate with all trades’ contract documents and contractors to determine specific mounting locations for equipment with electrical connections. Coordinate exact mounting locations with the specific trade.

3. Minimum conductor size for 277 volt branch circuiting shall be #12 AWG. For 277 volt branch circuits with homeruns over 125 linear feet a minimum conductor size of #10 AWG shall be provided from first junction box to branch circuit panelboard. Associated equipment grounding conductor shall also be increased per NEC Article 250.122(B) requirements.

4. Minimum conductor size for 120 volt branch circuits shall be #12 AWG. For 120 volt branch circuits with homeruns over 75 linear feet, a minimum wire size of #10 AWG shall be provided from first junction box to branch circuit panelboard. For 120 volt branch circuits with homerun over 150 linear feet, a minimum wire size of #8 AWG shall be provided from first junction box to branch circuit panelboard. Associated equipment grounding conductor shall also be increased per NEC Article 250.122(B) requirements.

5. At a minimum all branch circuits shall contain (2) #12 AWG, (1) #12 EG, in 3/4” conduit unless otherwise indicated.

6. All branch circuits shall be run with an individual neutral wire. Branch circuits shall not share neutral wires.

7. Receptacle branch circuits may share equipment ground conductors.

8. All conductors shall be identified by panelboard and circuit number(s) in all cabinets, junction boxes, wiring troughs, enclosures, splice or termination points, etc.

9. A new typed panelboard directory card shall be provided for all panels installed or modified under this contract. New directory cards shall be located on the inside door of associated panels.
1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT, ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THEIR RESPECTIVE DISCIPLINE DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.

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5. AT A MINIMUM ALL BRANCH CIRCUITS SHALL CONTAIN (2)#12AWG, (1)#12 EG, IN 3/4" CONDUIT UNLESS OTHERWISE INDICATED.

6. ALL BRANCH CIRCUITS SHALL BE RUN WITH AN INDIVIDUAL NEUTRAL WIRE. BRANCH CIRCUITS SHALL NOT SHARE NEUTRAL WIRES.

7. RECEPTACLE BRANCH CIRCUITS MAY SHARE EQUIPMENT GROUND CONDUCTORS.

8. ALL CONDUCTORS SHALL BE IDENTIFIED BY PANELBOARD AND CIRCUIT NUMBER(S) IN ALL CABINETS, JUNCTION BOXES, WIRING TROUGHS, ENCLOSURES, SPLICE OR TERMINATION POINTS, ETC.

9. A NEW TYPED PANELBOARD DIRECTORY CARD SHALL BE PROVIDED FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT. NEW DIRECTORY CARDS SHALL BE LOCATED ON THE INSIDE DOOR OF ASSOCIATED PANELS.

POWER SHEET GENERAL NOTES

1. NEW 1X4 VAPOR TIGHT FROSTED POLYCARBONATE LENS SUSPENDED MOUNTED LED STRIP LIGHT. LITHONIA CATALOG NUMBER CVST L48 5000LM MVOLT 40K 80CRI. CONNECT TO EXISTING LIGHTING CIRCUIT.

2. PROVIDE 4"H CONCRETE PAD.

KEY NOTES
WEATHERPROOF ROOFTOP LIGHT/RECEPTACLE DETAIL

INTERIOR CONCRETE PAD DETAIL

TYPICAL PANEL NAMEPLATE DETAIL

EQUIPMENT SUPPORT RACK DETAIL

TYPICAL DUCT DETECTOR MOUNTING DETAIL
STADIUM LIGHTING ONE LINE DIAGRAM

1. REMOVE EXISTING 400AF.400AT MAIN CIRCUIT BREAKER. PROVIDE NEW 100% RATED 400AF/400AT CIRCUIT BREAKER, ECB SPECTRA MET, SGLL3604L4XX, 65 KAIC, LSIG. CONNECT NEW MAIN CIRCUIT BREAKER TO EXISTING SWITCHBOARD AND METERING AS REQUIRED.

2. PROVIDE NEW CIRCUIT BREAKERS IN EXISTING SPACE.

3. PROVIDE LABEL: PANEL IS FED BY AN UPSTREAM 200A BREAKER.

FEEDER SCHEDULE - CU

<table>
<thead>
<tr>
<th>Tag</th>
<th>Type</th>
<th>Phase</th>
<th>Diameter</th>
<th>Material</th>
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<td>3</td>
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<td>1#6</td>
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<tr>
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<td>3</td>
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</tr>
<tr>
<td>350C</td>
<td>1</td>
<td>4</td>
<td>4#500kcmil</td>
<td>1#3</td>
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</tbody>
</table>

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KEYNOTES

1. Removed existing 400AF.400AT main circuit breaker. Provide new 100% rated 400AF/400AT circuit breaker, ECB Spectra Met, SGLL3604L4XX, 65 KAIC, LSIG. Connect new main circuit breaker to existing switchboard and metering as required.

2. Provide new circuit breakers in existing space.

3. Provide label: panel is fed by an upstream 200A breaker.
**Table with Electrical Connection Schedule**

<table>
<thead>
<tr>
<th>Panel</th>
<th>Location</th>
<th>Description</th>
<th>Circuit</th>
<th>Conductors</th>
<th>Size</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>LP-FB</td>
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<td></td>
</tr>
<tr>
<td>LP-J</td>
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<td></td>
<td></td>
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<tr>
<td>LP-ACN</td>
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<tr>
<td>LP-ACS</td>
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</tbody>
</table>

**Notes**
- Project new circuit breaker
- Locate new circuit breaker to new panel
- Provide junction for steel duct

**Diagram Details**
- Panel: LP-FB
- Location: NORTH WL-P
- Description: ELECTRICAL CONNECTION SCHEDULE
- Circuit: LP-J, LP-ACN, LP-ACS
- Conductors: Size

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**Equipment and Electrical Connection Schedule**

<table>
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<tr>
<th>Equipment</th>
<th>Description</th>
<th>Panel</th>
<th>Location</th>
<th>Circuit</th>
<th>Conductors</th>
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</thead>
<tbody>
<tr>
<td>VRF Indoor Unit Pump</td>
<td>0.18 kVA</td>
<td>LP-ACS</td>
<td>FIRST FLOOR WEST</td>
<td>VRF INDOOR UNIT PUMP</td>
<td>2#12, 1#12 EG - 3/4&quot;</td>
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<tr>
<td>VRF Indoor Unit Pump</td>
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<td>LP-J</td>
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<td>VRF Indoor Unit Pump</td>
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<td>LP-J</td>
<td>FIRST FLOOR SOUTH</td>
<td>VRF INDOOR UNIT PUMP</td>
<td>2#12, 1#12 EG - 3/4&quot;</td>
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**Additional Notes**
- Equipment connections updated as per the electrical connection schedule.
- Ensure all connections are confirmed and marked accordingly.
- Verify all circuit breakers are correctly identified and labeled.

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**Contact Information**
- Osborn Engineering
- (313) 915-4014
- Engineering Staff

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**Wayne State University**
- Contract No. 14842
- Project No. 102891

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**E-701**
1. FOR ANY WIRES THAT REMAIN IN JUNCTION BOXES, LABEL THE SOURCE AND CAP WIRES.

2. IN AREAS OF DEMOLITION WHERE EXISTING BRANCH CIRCUITS ARE TO BE RE-USED FOR NEW WORK, CAP ALL DISCONNECTED ELECTRICAL CIRCUITRY IN JUNCTION BOXES ABOVE ACCESSIBLE CEILINGS, WITHIN EXISTING WALLS, ETC. AND MAINTAIN FOR EXTENSION.

3. REFER TO NEW WORK DRAWINGS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

DEMOLITION SHEET GENERAL NOTES
1. CAREFULLY REMOVE ALL EXISTING ELEVATORS. LABEL THE VARIOUS CABLES.
2. THE LOCATION OF EXISTING ELEVATOR DROP WIRES, CABLES, BRAID WIRING, ETC. ARE SHOWN IN THE NEW WORK DRAWINGS, ALONG WITH THE LOCATION OF ALL SUPPLEMENTARY CIRCUITRY CABLES, ELEVATOR DROP WIRES, ETC. WHICH ARE REQUIRED TO COMPLETE THE NEW WORK.
3. REFER TO NEW WORK DRAWINGS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

KEY NOTES
1. REMOVE CONDUIT, WIRING AND WIREWAYS AND REPLACE WITH NEW.
2. REMOVE ISOLATION TRANSFORMER AND REPLACE WITH NEW.
3. CONTRACTOR TO FIELD VERIFY AND MATCH EXISTING TRANSFORMER KVA.
4. REMOVE AND REINSTALL INTERIOR COMPONENTS IN NEW ENCLOSURE.
ENLARGED FIRST FLOOR ELECTRICAL DEMO PLAN

KEY NOTES:
- NORTH
- SCALE: 1/4" = 1'-0"

POWER SHEET GENERAL NOTES:
1. EXACT LOCATION OF MECHANICAL, PLUMBING, KITCHEN, FURNITURE SYSTEMS, OWNER FURNISHED EQUIPMENT, ETC. THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THEIR RESPECTIVE DISCIPLINE DRAWINGS. COORDINATE EXACT LOCATIONS WITH RESPECTIVE CONTRACTORS AND/OR VENDORS PRIOR TO ANY ROUGH-INS.
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KEYNOTES:
- DRAWN BY:
- CHECKED BY:
- OWNER REVIEW:
- 05/19/23
- ENLARGED FIRST FLOOR ELECTRICAL DEMO PLAN