CRANES USED FOR WORK ON AHU 4 SHALL BE PLACED WITHIN THIS ZONE.

CRANES USED FOR WORK ON AHU 11 SHALL BE PLACED WITHIN THIS ZONE. CRANES MAY ONLY BE USED ON SATURDAY OR SUNDAY IN THIS AREA.

CONTRACTOR STAGING AND PARKING LOT

SITE PLAN - CRANE PLACEMENT
1. STRUCTURAL DRAWINGS INCLUDE DESIGN REQUIREMENTS AND DIMENSIONS FOR NON-STRUCTURAL COMPONENTS. STRUCTURAL DRAWINGS ARE DETAILED TO MINIMIZE BENDING IN THE CONNECTION.

2. CONCRETE REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BILLET STEEL (HSS) STEEL. ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH CAST-IN-PLACE CONCRETE.

3. DUTIES OF THE INSPECTION AGENCY PER IBC CHAPTER 17:
- SUPPORTS FOR REINFORCEMENT SHALL HAVE CLASS PROTECTION AS DEFINED IN THE ENS MANUAL OF STANDARD PRACTICE, UNLESS NOTED.
- ALL WELDED REINFORCEMENT (WWR) SHALL BE LAPPED A MINIMUM OF 12 INCHES.
- FITTINGS OF REINFORCEMENT WHICH COMPLETELY ENCLOSED REBAR IS NOT ACCEPTABLE.
- BARS IN CONNECTING STRUCTURES WITHIN THE BUILDING SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS.
- REINFORCEMENT SHALL BE WELDED, UNLESS NOTED.
- WELDS INDICATED WITH A SHOP WELD SYMBOL MAY BE MADE USING THE MATCHING WELDING ELECTRODE OR CORRESPONDING ELECTRODE.

4. CAST-IN-PLACE CONCRETE
- CONCRETE MATERIAL SHALL CONFORM TO:

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>CONCRETE MATERIAL</th>
<th>CONCRETE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical</td>
<td>CORNICE</td>
<td>CORNICE TYPE</td>
</tr>
<tr>
<td>Simulated</td>
<td>CORNICE</td>
<td>CORNICE TYPE</td>
</tr>
<tr>
<td>Concrete</td>
<td>CORNICE</td>
<td>CORNICE TYPE</td>
</tr>
</tbody>
</table>

5. CONCRETE STRENGTH SHALL CONFORM TO:

<table>
<thead>
<tr>
<th>INTENDED USE</th>
<th>28 DAY</th>
<th>MAX W/C</th>
<th>COMPRESSED TOP</th>
<th>A/B</th>
<th>C/LIMB</th>
</tr>
</thead>
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</table>

6. CONCRETE SHALL BE PORTIONED TO HARDEN IN A CUBIC STRENGTH OF 2100 PSI.

7. COVER REINFORCEMENT MECHANICAL AND STRUCTURAL DRAWINGS TO AVOID PROPER SUBMITTAL AND PLACEMENT OF VACUUM BAGS.

8. PLACEMENT OF PLUMBING AND ELECTRICAL PENETRATIONS THROUGH CAST-IN-PLACE CONCRETE SHALL BE PLACED AND SUPPORTED PRIOR TO MIXING CONCRETE.

9. CORE DRILLS AND CONCRETE NOT TO BE VACUUM BAGGED OR AIR-CURED. USE SEALANT TO SEAL WIPED CONCRETE CONNECTIONS.

10. NO AIRPLUGS SHALL BE INSERTED IN THE CONCRETE WORK UNLESS CONTROL TO PREVENT AIR PLUGS IS USED.

11. CONCRETE SHALL NOT BE PERMITTED TO DROP MORE THAN 5 FEET.

12. NOTIFY THE CONTRACTOR AS SOON AS BLEMISHES OCCUR AFTER ALL HARDENING.

13. THE PROJECT AND COMMISSIONING OF FREEZING CONCRETE SHALL BE HAD UNDER CONDITIONS TO PREVENT FREEZING CONCRETE. CONCRETE SHALL BE VACUUM BAGGED OR AIR-CURED TO PREVENT FREEZING.

14. CONCRETE SHALL NOT BE PERMITTED TO FREEZE MORE THAN 5 FEET.

15. NOTIFY THE CONTRACTOR AS SOON AS BLEMISHES OCCUR AFTER ALL HARDENING.

16. THE PROJECT AND COMMISSIONING OF FREEZING CONCRETE SHALL BE HAD UNDER CONDITIONS TO PREVENT FREEZING CONCRETE. CONCRETE SHALL BE VACUUM BAGGED OR AIR-CURED TO PREVENT FREEZING.

17. CONCRETE SHALL NOT BE PERMITTED TO FREEZE MORE THAN 5 FEET.

18. NOTIFY THE CONTRACTOR AS SOON AS BLEMISHES OCCUR AFTER ALL HARDENING.

19. THE PROJECT AND COMMISSIONING OF FREEZING CONCRETE SHALL BE HAD UNDER CONDITIONS TO PREVENT FREEZING CONCRETE. CONCRETE SHALL BE VACUUM BAGGED OR AIR-CURED TO PREVENT FREEZING.

20. CONCRETE SHALL NOT BE PERMITTED TO FREEZE MORE THAN 5 FEET.
1. NEW CONCRETE EQUIPMENT PAD. REF DETAIL 5/S2-00
2. PIPE 6 STANDARD STEEL PIPE POST (6 5/8" OUTER
3. REFER TO 4/S-200 FOR TYPICAL DECK OPENING FRAMING
4. EXISTING 2" COMPOSITE DECK WITH 3 1/2" CONCRETE
5. EXISTING 6" GYPSUM FILL ON 1" FORMBOARD, VIF.
6. ADD TEMPORARY SUPPORTS FOR EXISTING STEEL JOISTS
7. DIMENSIONS MARKED WITH AN ASTERISK (*) SHALL

KEYNOTES:
1. ALL EXPOSED EXTERIOR STEEL, INCLUDING
2. MINIMUM B.O. STEEL EL (+2'-0") ABOVE FINISHED
3. DIMENSIONS MARKED WITH AN ASTERISK (*) SHALL
4. CONTRACTOR TO FIELD VERIFY TOP OF EXISTING
5. EXISTING 6" GYPSUM FILL ON 1" FORMBOARD, VIF.
6. DEMO ALL STEEL AND PATCH ALL ROOFING AS
7. COORDINATE EXACT SIZE AND LOCATION OF NEW
8. 반도어 측에 대한 위치 및 크기 조정을 고려할 수 있습니다.
9. ROOFTOP UNITS WITH MECHANICAL DRAWINGS.

NOTES:
1. ALL EXPOSED EXTERIOR STEEL, INCLUDING
2. CONTRACTOR TO FIELD VERIFY TOP OF EXISTING
3. CONTRACTOR TO VERIFY OPENINGS OCCUR BETWEEN
4. CONTRACTOR TO VERIFY OPENINGS OCCUR BETWEEN
5. COORDINATE LOCATIONS AND EXTENTS WITH MECHANICAL.
6. CENTERLINES BELOW.
7. TO CONFIRM THAT POSTS ALIGN OVER COLUMN
8. TO CONFIRM THAT POSTS ALIGN OVER COLUMN
9. NECESSARY AFTER AHU 11 IS INSTALLED AND
10. MANUFACTURER REQUIREMENTS.
11. ROOFTOP UNITS WITH MECHANICAL DRAWINGS.
12. REQUIREMENTS, AND DUCT PENETRATIONS.
13. BE COORDINATED WITH UNIT SIZE, CONNECTION
14. CONNECTIONS, TO BE HOT DIPPED GALVANIZED.

scale: 1/8" = 1'-0"
WOMEN’S AND CHILDREN’S HOSPITAL - AHU 4 AND 11 UPGRADE

1. USE ABOVE FRAMING AT ALL OPENINGS EXCEEDING 1'-0" UNLESS NOTED OTHERWISE.
2. PROVIDE SHEAR CONNECTIONS AS PER THIS DETAIL AT CURB FOR AHU Curb Support Detail. See Note 2.
3. INSTALL REINFORCEMENT PER THIS DETAIL AT CURB FOR AHU Curb Support Detail. See Note 2.
4. DO NOT PLACE ANY NEW EQUIPMENT OR MATERIALS ON ROOF JOISTS UNTIL DIAGONAL REINFORCING ANGLES ARE SUPPORTED FROM JOIST BRIDGING.

NOTES:

1. CONTRACTOR TO VERIFY EXISTING JOIST DEPTH, CHORD MEMBERS (SIZE AND THICKNESS), WEB MEMBERS THAT OCCUR WITHIN DIMENSION "D" PER STEEL JOIST REINFORCING SCHEDULE.
2. INSTALL REINFORCEMENT PER THIS DETAIL AT CURB FOR AHU Curb Support Detail. See Note 2.
3. BAR JOIST REINFORCEMENT DETAIL (AHU 4)
4. JOIST REINFORCEMENT AT AHU CURB (AHU 4)
5. EQUIPMENT PAD ON EXISTING SLAB ON DECK DETAIL (AHU 11)
6. TYPICAL POST DETAIL (AHU 11-T)
7. TYPICAL SHEAR CONNECTION (AHU 11-T)
8. TYPICAL CAP PLATE WITH POST DETAIL (AHU 11-T)
9. ROOF OPENING AND CURB SUPPORT DETAIL (AHU 4, 11-T)
10. SLAB ON DECK DETAIL (AHU 11)
11. COLUMN CAP PLATE - REF PLAN
12. STEEL POST - REF PLAN

SCALE: 1/8" = 1'
FIRE / SMOKE BARRIER DESIGNATIONS

The line types shown are for the convenience of the contractor. The contractor shall verify ratings with the latest set of architectural plans and furnish all materials required to comply with those ratings. Shown on the floor plans are the following elements:

- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 3-HOUR FIRE BARRIER
- 3-HOUR SMOKE BARRIER


FIRE / SMOKE BARRIER DESIGNATIONS

- 1-HOUR FIRE BARRIER
- 1-HOUR SMOKE BARRIER
- 2-HOUR FIRE BARRIER
- 2-HOUR SMOKE BARRIER
- 3-HOUR FIRE BARRIER
- 3-HOUR SMOKE BARRIER
- 4-HOUR FIRE BARRIER
- 4-HOUR SMOKE BARRIER
- 5-HOUR FIRE BARRIER
- 5-HOUR SMOKE BARRIER
- 6-HOUR FIRE BARRIER
- 6-HOUR SMOKE BARRIER
- 7-HOUR FIRE BARRIER
- 7-HOUR SMOKE BARRIER
- 8-HOUR FIRE BARRIER
- 8-HOUR SMOKE BARRIER

SCALE: 1/8" = 1'-0"
LEVEL 01 - ARCHITECTURAL - INFECTION CONTROL

FOR USE DURING PHASE 1 AND ALL ALTERNATE CONSTRUCTION

RIGID INFECTION CONTROL BARRIER

PROJECT #: C190691

LEVEL 01 - ARCHITECTURAL - INFECTION CONTROL

SCALE: 1/8" = 1'

UNIVERSITY OF MISSOURI
CHILDREN'S HOSPITAL

SAINT LOUIS, MO

WOMENS AND CHILDREN'S HOSPITAL - AHU 4 AND 11 UPGRADE

PH: 314.645.1132

FAX: 314.645.1173

PROFESSIONAL SEAL AGENT APPROVAL

12/18/2019

A-101.1
1. Heavy duty T-bar grid system complying with 2002 ASCE 7 Section NOTS.

NOTES:

- Unattached wall
- Horizontal movement in all oversized to allow 1" suspended ceiling to be secure runner @ ledger, secure runner @ perimeter track.
- Note: All penetrations in wall
- Runners 8" max from wall
- Cross/runner intersections need to be braced with 1" x 4" or 1" x 6" (min) @ each runner connection to perimeter track.
- Secure space grids or other suitable system, such as pop rivets, to keep perimeter components from spiraling apart.

1. LOUVER ELEVATION DETAIL - DEMO
2. LOUVER ELEVATION DETAIL - NEW
3. LOUVER SECTION DETAIL
4. LOUVER SILL DETAIL
5. LOUVER JAMB DETAIL
6. LOUVER HEAD DETAIL
7. SEISMIC CEILING DETAIL
8. TYPICAL CEILING TRANSITION DETAIL

HANGERS
- 4 to 2" Hangers 6" O.C.
- 2" Hanger for 8" Hanger
- 2" x 2" Hanger
- 2" x 2" Hanger System

METAL STUD HEADER
- Metal Stud Header
- Metal Stud Header
- Metal Stud Header

BRICK SILL
- Brick Sill
- Brick Sill
- Brick Sill

Louver
- Louver
- Louver
- Louver

MOISTURE BARRIER
- Moisture Barrier
- Moisture Barrier
- Moisture Barrier

METAL STUD
- Metal Stud
- Metal Stud
- Metal Stud

FLUSHING
- Flushing
- Flushing
- Flushing

4'-0" O.C. MAX
- 4'-0" O.C. MAX
- 4'-0" O.C. MAX

2'-0" O.C.
- 2'-0" O.C.
- 2'-0" O.C.

1'-0"
- 1'-0"
- 1'-0"

EXISTING LOUVER
- Existing Louver
- Existing Louver
- Existing Louver

EXISTING BRICK VENEER
- Existing Brick Veneer
- Existing Brick Veneer
- Existing Brick Veneer

NEW LAY IN
- New Lay In
- New Lay In
- New Lay In

- 3" = 1'-0"
PIPE FLASHING
EXISTING BUILT UP ROOF
STAINLESS STEEL CLAMPING RING
CONTINUOUS BEAD OF SEALANT
ROUND PENETRATION
EXISTING ROOF STRUCTURE
EXISTING ROOF STRUCTURE
TARGET PATCH HEAT FUSED IN PLACE. MEMBRANE MUST BE A MIN. OF 4" (102 mm) LARGER THAN THE DIA. OF THE PIPE FLASHING. TORCH TOP OF TARGET SO THAT THE SURFACE IS GLOSSY BEFORE APPLYING THE PIPE FLASHING
INSTALL TARGET MEMBRANE SO THAT IT EXTENDS A MINIMUM OF 1/2" (13 mm) UP PIPE.
CLEARANCES FOR PIPE ROOF PENETRATIONS:
- PIPE PENETRATIONS MUST BE SPACED WITH 12" MIN. BETWEEN PENETRATIONS.
- PIPE PENETRATIONS MUST BE SET 12" MIN. FROM ANY CANT STRIPS AT WALLS AND CURBS.

UPPER DUCT EXTENDS 3" TO 4" BELOW TOP OF CURB
EXISTING DECK
ROOFING PLIES
BASE FLASHING
CURB
COUNTER FLASHING
LOWER DUCT SECTION
FLASHING RECEIVER
WOOD NAILER
NOMINAL 2X4
SEALANT
UPPER DUCT SECTION
NOT CONTINUOUS THROUGH ROOF

SCALE: 1/8" = 1'
CONTRACTOR TO SUBMIT ALL SPRINKLER TYPES TO BE USED.

10. SPRINKLERS SHALL HAVE A 3mm QUICK RESPONSE BULB.

8. SPRINKLER FOR USE IN DUST-FREE ENVIRONMENTS.

5. TAG NAME IS PRIMARILY FOR IDENTIFYING SPRINKLERS IN SUBMITTALS. IT MAY OR MAY NOT BE FOUND ELSEWHERE ON THE DRAWINGS.

2. SPRINKLER SHALL HAVE COLOR CODED BULB THERMAL ELEMENT.

NOTES:

FIRE SPRINKLER USAGE SCHEDULE

11. SPRINKLERS SPECIFIED WITHIN FIRE SPRINKLER USAGE SCHEDULE ARE STANDARD COVERAGE TYPE. EXTENDED COVERAGE SPRINKLERS ARE NOT SPECIFIED.

ABBR: DESCRIPTION:

DEPARTMENT

AREA TYPE

ABOVE FINISHED FLOOR AFF

SEE PLANS SPR-1 CONCEALED QUICK WHITE 155 VIKING  VK, REL IABLE  G4A,

HAZARD

TAG NAME

TYPE

TEMPERATURE

NO HATCH LIGHT HAZARD

FP

W

TYCO  TY-FRB, VICTAULIC

PRESSURE GAUGE (FURNISHED WITH BALL VALVE) P

AIR PRESSURE MAINTENANCE DEVICE

SPRINKLER A

FLOW SWITCH F

FIRE PROTECTION GENERAL NOTES:

1. THE SYMBOLS AND THE MATERIAL LIST ARE FOR THE CONVENIENCE OF THE CONTRACTOR. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE, BUT ARE GIVEN AS AN AID TO THE CONTRACTOR IN ORDER TO ORDER MATERIAL.

2. CATALOG NUMBERS ARE PROVISED FOR REFERENCE ONLY. THE CONTRACTOR IS NOT REQUIRED TO ORDER OR PURCHASE EQUIPMENT THAT HAS BEEN REMOVED.

3. CONSTRUCTION FIRE ROUTINES ARE BORROWED FOR GENERAL GUIDELINES. DETERMINATION OF THE APPROPRIATE FIRE PROTECTION SYSTEMS AND EQUIPMENT FOR EACH LOCATION IS THE RESPONSIBILITY OF THE CONTRACTOR.

MECHANICAL RENOVATION NOTES:

1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD OBSERVATION, SURVEY AND DOCUMENTATION, SPEED, NOTIFY EXISTING CONDITIONS AND REQUIREMENTS.

2. SETUP IS HANDED OVER TO CONTRACTOR. VERIFY EXISTING CONDITIONS AND REQUIREMENTS.

3. FIELD TELLS THE CONTRACTOR TO SUBMIT FOR EXISTING DUCTWORK AND PIPING, REQUIRED TO INSTALL OR REMOVE.

4. CONTRACTOR SHALL VERIFY ACCESSIBILITY TO THE AREA OF WORK AND CONFIRM ACCESSIBILITY WITH OWNER/EQUIPMENT OWNERS/PATIENTS WHERE APPLICABLE. VERIFY EXISTING CONDITIONS AND INFORMATION.

5. SHEET INFORMATION WILL BE RE-NEEDED TO CONVEY THE LOCATION OF ALL HANGERS AND ACCESSORIES ON THE DRAWINGS.

6. SHEET INFORMATION WILL BE RE-NEEDED TO CONVEY THE LOCATION OF ALL HANGERS AND ACCESSORIES ON THE DRAWINGS.
DEMOLITION SCOPE:
REMOVE AND MODIFY EXISTING SPRINKLER SYSTEM AS REQUIRED FOR THE RENOVATED AREA. REMOVE ALL EXISTING SPRINKLERS, SPRINKLER PIPING, HANGERS, BRACKETS AND ACCESSORIES AS REQUIRED. REMOVED OR ALTERED HEADS SHALL NOT BE REUSED.
COORDINATE ALL WORK WITH MECHANICAL PHASING. ALL FIRE SPRINKLER SYSTEM MODIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE AHJ OR AUTHORIZED REPRESENTATIVE OF THE AHJ AND THE DESIGN TEAM. SYSTEM OUTAGES SHALL BE COORDINATED WITH MHC.
ALTERNATE 1 SCOPE:
PROVIDE NEW PIPING AND SPRINKLERS IN PLACE OF ANY MODIFIED PORTIONS OF THE SYSTEM. ALL SPRINKLER HEADS TO BE UPDATED TO CONCEALED HEADS. ADJUST SPRINKLER BRANCH PIPING, HANGERS, BRACKETS, ACCESSORIES, ETC. AS REQUIRED FOR REPLACEMENT OF THE CEILING. COORDINATE ROUTING WITH OTHER TRADES. PROVIDE ADEQUATE COVERAGE PER NFPA REQUIREMENTS. COORDINATE ALL WORK WITH MECHANICAL PHASING. ALL FIRE SPRINKLER SYSTEM MODIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE AHJ OR AUTHORIZED REPRESENTATIVE OF THE AHJ AND THE DESIGN TEAM. SYSTEM OUTAGES SHALL BE COORDINATED WITH MUHC.
ALTERNATE 2 SCOPE:

PROVIDE NEW PIPING AND SPRINKLERS IN PLACE OF ANY MODIFIED PORTIONS OF THE SYSTEM. ALL SPRINKLER HEADS TO BE UPDATED TO CONCEALED HEADS. ADJUST SPRINKLER BRANCH PIPING, HANGERS, BRACKETS, ACCESSORIES, ETC. AS REQUIRED FOR REPLACEMENT OF THE CEILING. COORDINATE ROUTING WITH OTHER TRADES. PROVIDE ADEQUATE COVERAGE PER NFPA REQUIREMENTS. COORDINATE ALL WORK WITH MECHANICAL PHASING. ALL FIRE SPRINKLER SYSTEM MODIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE AHJ OR AUTHORIZED REPRESENTATIVE OF THE AHJ AND THE DESIGN TEAM. SYSTEM OUTAGES SHALL BE COORDINATED WITH MUHC.
NEW WORK SCOPE:
PROVIDE NEW PIPING AND SPRINKLERS IN PLACE OF ANY MODIFIED PORTIONS OF THE SYSTEM. REMOVED OR ALTERED SPRINKLERS SHALL NOT BE REUSED. SPRINKLER HEADS TO MATCH EXISTING CONSTRUCTION. ADJUST SPRINKLER BRANCH PIPING, HANGERS, BRACKETS, ACCESSORIES, ETC. AS REQUIRED FOR NEW FLOOR PLAN. COORDINATE ROUTING WITH OTHER TRADES. PROVIDE ADEQUATE SPRINKLER COVERAGE PER NFPA REQUIREMENTS. COORDINATE ALL WORK WITH MECHANICAL PHASING. ALL FIRE SPRINKLER SYSTEM MODIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE AHJ OR AUTHORIZED REPRESENTATIVE OF THE AHJ AND THE DESIGN TEAM. SYSTEM OUTAGES SHALL BE COORDINATED WITH MUHC.

ELEVATOR ENCLOSURE SCOPE:
PROVIDE NEW PIPING AND SPRINKLERS FOR NEW ELEVATOR EQUIPMENT ENCLOSURE. PROVIDE ADEQUATE COVERAGE PER NFPA REQUIREMENTS. ALL FIRE SPRINKLER SYSTEM MODIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE AHJ OR AUTHORIZED REPRESENTATIVE OF THE AHJ AND THE DESIGN TEAM. SYSTEM OUTAGES SHALL BE COORDINATED WITH MUHC.
MECHANICAL GENERAL NOTES:

1. PROJECT SHALL BE PERFORMED IN MULTIPLE PHASES AND THROUGHOUT DIFFERENT LOCATIONS WHERE THE ACTUAL MEASUREMENTS WERE TAKEN.

2. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL.

3. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS.

4. TAB CONTRACTOR SHALL PERFORM THE TRAVERSE AT AN ALTERNATE LOCATION. THE CONTRACTOR SHALL SUBMIT A REPORT THAT INCLUDES THE TAB DATA SHEET FROM THE FINAL BALANCING CONTRACTOR.


6. INSTALL TEMPORARY DUCTWORK, PIPING, SHUTOFF VALVES, ETC. AS NECESSARY TO KEEP SYSTEMS ARE INSTALLED.


8. PROVIDE TEMPORARY TIE-INS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS.

9. OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON!

10. TAB REPORT. TAB REPORT. TAB REPORT.

MECHANICAL RENOVATION NOTES:

1. INSTALLATION OF A NEW AHU ON THE ROOF OVER THE KITCHEN. NEW DUCTWORK SHALL BE ROUTED TO THE EXISTING DIFFUSERS.

2. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN, ELECTRICAL, TECHNOLOGY Panelers, Air-handling Unit, Cooling Coil, Heating Coils, Attic Duct, Fire Sprinkler, System, Etc. Before Installation.

3. PROVIDE TEMPORARY TIE-INS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS.

4. PROVIDE TEMPORARY TIE-INS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS.

5. PROVIDE TEMPORARY TIE-INS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS.

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9. PROVIDE TEMPORARY TIE-INS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS.

10. PROVIDE TEMPORARY TIE-INS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS.

MECHANICAL PHASING NOTES:

1. PROJECT SHALL BE PERFORMED IN MULTIPLE PHASES AND THROUGHOUT DIFFERENT LOCATIONS WHERE THE ACTUAL MEASUREMENTS WERE TAKEN.

2. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL.

3. PROVIDE TEMPORARY TIE-INS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS.

4. PROVIDE TEMPORARY TIE-INS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS.

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9. PROVIDE TEMPORARY TIE-INS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS.

10. PROVIDE TEMPORARY TIE-INS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONDITIONS.

MECHANICAL SYMBOLS AND NOTATIONS:

1. DUCTWORK SHOWN TO BE PROVIDED TO PROVIDE TIE INTO EXISTING SYSTEMS OR TO PROVIDE TIE INTO EXISTING SYSTEMS.

2. DUCTWORK SHOWN TO BE PROVIDED TO PROVIDE TIE INTO EXISTING SYSTEMS OR TO PROVIDE TIE INTO EXISTING SYSTEMS.

3. DUCTWORK SHOWN TO BE PROVIDED TO PROVIDE TIE INTO EXISTING SYSTEMS OR TO PROVIDE TIE INTO EXISTING SYSTEMS.

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9. DUCTWORK SHOWN TO BE PROVIDED TO PROVIDE TIE INTO EXISTING SYSTEMS OR TO PROVIDE TIE INTO EXISTING SYSTEMS.

10. DUCTWORK SHOWN TO BE PROVIDED TO PROVIDE TIE INTO EXISTING SYSTEMS OR TO PROVIDE TIE INTO EXISTING SYSTEMS.
LEVEL 01 - MECHANICAL - ALTERNATE 1
LEVEL 01 - MECHANICAL - ALTERNATE 2

AREA B ALTERNATE 2 SCOPE:
MEASURE ALL DIFFUSERS IN
THIS AREA BEFORE WORK
COMMENCES. REPLACE ALL
SUPPLY AND RETURN
DIFFUSERS WITHIN THIS AREA
AND REBALANCE TO MATCH
EXISTING CONDITIONS.

SCALE: 1" = 1'-0"
LEVEL 01 - MECHANICAL AHU11 - PHASE 3
1 LEVEL 02 - MECHANICAL - AHU11 - PHASE 1

1. Once temporary unit is in place and duct traverse to measure supply and return airflow and static pressure prior to ductwork demolition and connection of temporary unit.

Outside air dampers to be closed once existing unit is turned off.
KEYNOTES:

1. TEMPORARY UNIT FOR AHU - 11 SHALL BE PLACED ON TOP OF RAILS ON ROOF TO ALLOW ROOF DRAIN TO CONTINUE TO BE USED. THE CONTRACTOR IS RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF ALL TEMPORARY EQUIPMENT AND SHALL PROVIDE A 24/7 CONTACT IN THE EVENT THE EQUIPMENT FAILS TO OPERATE. THE CONTRACTOR IS NOT RESPONSIBLE TO MAN THE EQUIPMENT 24/7 FOR THE DURATION OF THE PROJECT. THE UNIVERSITY OF MISSOURI WOMEN'S AND CHILDREN'S HOSPITAL WILL USE THE BAS SYSTEM TO MONITOR THE EQUIPMENT. THE CONTRACTOR SHALL RESPOND TO ANY EMERGENCY CALL FROM THE HOSPITAL AND BE ON SITE WITHIN 2 HOURS OF THE FIRST PHONE CALL TO TROUBLESHOOT AND REPAIR ANY TEMPORARY EQUIPMENT THAT FAILS TO OPERATE OR DOES NOT MEET THE UTILITY SYSTEM LOADS AS OUTLINED ABOVE.
LEVEL 02 - MECHANICAL DEMOLITION - AHU11 - PHASE 2
LEVEL 02 - MECHANICAL - AHU11 - PHASE 3

- PRE-OP POST-OP 2102
- PRE-OP POST-OP 2104
- PRE-OP POST-OP 2105
- PRE-OP POST-OP 2107
- STOR 2090
- PRE-OP POST-OP 2089
- PRE-OP POST-OP 2087
- AIR HANDLER UNIT #13
- AIR HANDLER UNIT #11
- CORRIDOR C2101
- FAMILY & VISITOR LOUNGE 2083
- FAMILY & VISITOR LOUNGE 2083C
- STAIR S2002-A
- INTAKE 2083D

- Air Handler Unit #11
- Air Handler Unit #13
- Corridor C2101
- Intake 2083D
- Toilet Pre-Op
- Toilet Post-Op
- Toilet Pre-Op
- Toilet Post-Op
- Complete Duct Traverse
- New Thermostat to Be Installed
- Connect Thermostat to BAS and FCU-1
- Refer to Controls Drawings for Thermostat Control Sequence
- New Siemens Control Panel

- Missouri State Certificate of Authority E-2017008530
- Key Plan
- Agency Approval
- Revisions

- Sheet Information
- Date
- Job Number
- Drawn
- Checked
- Approved

- Sheet Title
- Scale: 1/8" = 1'
- Sheet Number
- Issue

- Project #: CP190691
- Women's and Children's Hospital - AHU 4 and 11 Upgrade
- Scale: 1/4" = 1'-0"

- Site Address
- 15 Sunnen Dr
- Suite 104
- Saint Louis, MO 63143
- Ph: 314.645.1132
- Fax: 314.645.1173
- www.imegcorp.com

- Approver
- Checker
- Author
- 18004255.00 / CP190691
- 12/19/2019
- Bid Set

- Level 02 - Mechanical - AHU11 - Phase 3
INSTALL CONDENSING UNIT FOR FAN COIL UNIT SERVING ELEVATOR EQUIPMENT ROOM.
INSTALL NEW RELIEF FAN ON ROOF FOR NEW AIR HANDLING UNIT.

REFER TO ARCHITECTURAL DRAWINGS FOR THE REPAIR OF THE ROOF PENETRATIONS CAUSED BY THE TEMPORARY RETURN AND SUPPLY DUCTWORK.
BRANCH CONNECTIONS

1. DO NOT CUT CONNECTORS BETWEEN FITTINGS.
2. ALLOW 3" CLEARANCE BETWEEN PRESSURE AND RETURN FLEX DUCTS.
3. ADD DOUBLE SHEET METAL FURNITURE AND CORRUGATED LINING WHEN SPECIFIED.
4. ADD SHEET METAL CONNECTORS FOR ADDITIONAL INFORMATION.

2. LOUVER INSTALLATION DETAIL

1. LOUVERS MUST BE ATTACHED TO INTAKE LEAD IN, WITH DUCT MATERIAL ATTACHED TO LANDING; MOUNT HOUSING AT LEAST 4" OFF GEOMETRY OF BLOWER.
2. SPLICE SHEET METAL CONSTRUCTION AS PER FIGURE 5.

3. TERMINAL AIR BOX DETAIL (WRAPPED MAIN)

1. THE DETAIL APPLIES ONLY TO TAPS OFF WRAPPED DUCTS.
2. THE DETAIL APPLIES TO TAPS OFF WRAPPED DUCTS.
3. EXIT LOUVERS TO THE RIGHT MUST BE STEARED FOR 1/4 DEGREE NO SCALE.

4. ELBOW CONSTRUCTION

1. ADHESIVE TAPSEAL TAPING NOT ALLOWED.
2. ADHESIVE TAPSEAL TAPING NOT ALLOWED.
3. ADHESIVE TAPSEAL TAPING NOT ALLOWED.

NOTES:

- NO SCALE
- BUTT FLANGE ENTRY
- 45 DEGREE BUTT FLANGE ENTRY
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

GASKET (TYP.) MAY BE SUBSTITUTED FOR RE2. DEFAULT ELBOW SHALL BE TYPE "RE1".

REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

M-500

MECHANICAL DETAILS

SLIP FITTING 36" LIT Duct SYSTEM 20" DIA. 1/2" WALL Duct Liner:

- 63143
- 15 SUNNEN DR
- UNIVERSITY OF MISSOURI CURATORS OF THE
- MISSOURI STATE CERTIFICATE OF AUTHORITY E-2017008530

www.imegcorp.com

PH: 314.645.1132
### ALARMS, INTERLOCKS & SAFETIES:

- Below Setpoint.
- Send an alarm to the FMCS Operator Interface if the space temperature is more than 10°F (adj.) above or below setpoint.

### SEQUENCE OF OPERATION

1. **Tab Control w/ Hot Water Reheat - TAB-X**
   - At full cooling, the tab shall be open to maximum CFM position.
   - The reheat coil control valve shall maintain maximum Delta T listed above.

2. Upon a further fall in space temperature, tab shall open to maintain setpoint until tab airflow setpoint is maintained.
3. Maintain space temperature until the supply air temperature is 20°F (adj.) above room temperature.

### Condensing Unit Roof Support

1. Mounting Post (Typ.)
2. Roof Fixing Plate (Typ.)
3. Roofing

### Duct Roof Support Detail (Rectangular)

1. Montage the top of the duct inside the blw and at at Typ. (Typ.:
2. Provide a complete roof support to match units.
3. The roof closings shall be installed properly to support to top of the adjacent support to limit lateral movement.

### Condensing Unit Roof Support

1. Mounting Post (Typ.)
2. Roof Fixing Plate (Typ.)
3. Roofing

### Notes

- Verify DIAMETER of anchor bolts required to fit within mounting post anchor hole.
- Verify Duct Roof Support Detail (Rectangular) with consideration of supports to top of the adjacent support to limit lateral movement.
- Verify DUCT ROOF SUPPORT DETAIL (RECTANGULAR) with consideration of supports to top of the adjacent support to limit lateral movement.

### Other Details

- **Primary Air from Zone:**
  - Duct roof support detail (rectangular)
  - Condensing unit roof support
  - Tab control w/ hot water reheat - TAB-X
### Women's and Children's Hospital - AHU 4 and 11 Upgrade

**WOMEN'S AND CHILDREN'S HOSPITAL - AHU 4 AND 11 UPGRADE**

**18004255.00 / CP190691**

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### Air Handling Schedule

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<tr>
<th>Task/Name</th>
<th>Area Served</th>
<th>CFM</th>
<th>MERV</th>
<th>250</th>
<th>84.0</th>
<th>45</th>
<th>61.0</th>
<th>102.0</th>
<th>8.0</th>
<th>11000</th>
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**Notes:**
1. Provide shaft grounding.
2. Contractor shall determine proper margin style to match ceiling construction.
3. Refer to control drawings for description of control type.
4. Normal operation occurs at 7800 CFM and 4" ESP.
5. Heating coil selection shall be based on a fixed leaving air temperature and variable flow (GPM). Provide final maximum flow rate (GPM) to test & balance temperature controls contractors.
6. Terminal air box schedule - single duct

---

### Radiant Tube Heater Schedule

<table>
<thead>
<tr>
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<th>Area Served</th>
<th>CFM</th>
<th>MERV</th>
<th>250</th>
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</tbody>
</table>

**Notes:**
1. Cooling types: Type 1 - Mill Finish, Type 2 - 204-R1 Satin Anodized, Type 3 - Baked Enamel Finish on Pretreated Paint. Standard color - selection by architect.
2. Louver schedule
3. Volume is shown in the project extent of work.
AHU REPORT GENERATION:

- OUTSIDE AIR DAMPER POSITION [% OPEN]
- RETURN FAN VFD OUTPUT [% FULL SPEED]
- CHILLED WATER VALVE POSITION [% OPEN]
- PRE-RETURN AIR RELATIVE HUMIDITY [%]
- SUPPLY AIR DEWPOINT [°F]
- SUPPLY AIR TEMP SETPOINT [°F]

AHU 4 AND 11 UPGRADE

WHEN OUTSIDE AIR DRY BULB TEMPERATURE IS GREATER THAN THE RETURN AIR DRY BULB TEMPERATURE FOR 10 MINUTES THE FMCS SHALL ENABLE THE STATIC PRESSURE RESET.

WHEN EVER AHU/RTU IS SHUTDOWN THE FOLLOWING SHALL OCCUR:

- ULTRAVIOLET (UV) LIGHTS: (ADJ.) FOR 10 MINUTES (ADJ.) AT WHICH POINT THE ISOLATION STEAM VALVE SHALL FULLY CLOSE.
- HUMIDIFIER CONTROLS: SWITCH BACK (TO PREVENT SHORT CYCLING).
- WHEN THE OUTSIDE AIR DRY BULB TEMPERATURE IS LESS THAN THE RETURN AIR DRY BULB TEMPERATURE THE FMCS SHALL ENABLE ECONOMIZER COIL CONTROLS. WHEN OUTSIDE AIR TEMP RISES ABOVE 54°F (ADJ.). FMCS SHALL MODULATE HEATING WATER CONTROL VALVE AS REQUIRED TO MAINTAIN DISCHARGE AIR TEMPERATURE AT THE SET POINT.

SUPPLY FAN OPERATION:

- WHEN AHU/RTU IS INDEXED TO RUN, THE FOLLOWING SHALL OCCUR:
  - AN ALARM IS INDICATED AT ANY SUPPLY FAN VFD OR RETURN FAN VFD.
  - ISOLATION STEAM VALVE SHALL FULLY CLOSE.
  - CHILLED WATER CONTROL VALVE SHALL FULLY CLOSE.
  - SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF THE DISCHARGE AIR TEMPERATURE IS MORE THAN 5°F (ADJ.) ABOVE OR BELOW SETPOINT.

SUPPLY FAN OPERATION:

- WHEN AHU/RTU IS INDEXED TO RUN, THE FOLLOWING SHALL OCCUR:
  - AN ALARM IS INDICATED AT ANY SUPPLY FAN VFD OR RETURN FAN VFD.
  - ISOLATION STEAM VALVE SHALL FULLY CLOSE.
  - CHILLED WATER CONTROL VALVE SHALL FULLY CLOSE.
  - SEND AN ALARM TO THE FMCS OPERATOR INTERFACE IF THE DISCHARGE AIR TEMPERATURE IS MORE THAN 5°F (ADJ.) ABOVE OR BELOW SETPOINT.
LEVEL 02 - MECHANICAL PIPING - AHU11 - PHASE 3
1. AHU-4 CHILLED WATER FLOW DIAGRAM
   - Control Valve
   - Humidifier (Direct Injection) Piping
   - Differential Pressure Sensor

2. AHU 4 REHEAT WATER FLOW DIAGRAM
   - Control Valve
   - Humidifier (Direct Injection) Piping
   - Differential Pressure Sensor

3. AHU 4 AND 11 PREHEAT COIL DETAIL
   - Control Valve
   - Humidifier (Direct Injection) Piping
   - Differential Pressure Sensor

4. HUMIDIFIER (DIRECT INJECTION) PIPING
   - Control Valve
   - Humidifier
   - Full Size Drain Pan

5. AHU 11 CHILLED WATER FLOW DIAGRAM
   - Control Valve
   - Humidifier (Direct Injection) Piping
   - Differential Pressure Sensor

NOTES:
- The number of coils may vary between manufacturers. Contractors shall size piping to each coil section at not over 4 feet of pressure drop per 100 feet of pipe and provide additional unions, valves, and P/T plugs as shown for coils.
- Pressure gages are to be glycerine filled.
- Cooling coil stacked to valves. (Typ.)
- Extend piping as shown on plan against airflow.
- Discharge dispersion tube shown on plan.
- Full size dirt leg separator.
- Humidifier
- Valve
- Control
- Drip Trap
- Union (Typ.)
- Pooling (Typ.)
- Condensate from cooling coil to HTU.
- Prevent position to horizontal.
- Install strainer in summer shut-off control valve for chilling water flow.
- Drip trap furnished with humidifier.
- Pipe and provide additional unions, valves, and P/T plugs as shown for coils.
- Piping to each coil section at not over 4 feet of pressure drop per 100 feet of pipe and provide additional unions, valves, and P/T plugs as shown for coils.
- Check valve
- Control valve
- Independent pressure

AUTOMATIC BALANCE VALVE

DESATURATION COOLING COIL
STACKED

FLOOR DRAIN.
INDIVIDUALLY TO PIPE DRAIN PANS (Typ.) REQUIRED FOR ACCESS TO VALVES.

UNIVERSITY OF MISSOURI CURATORS OF THE UNIVERSITY OF MISSOURI MISSOURI STATE CERTIFICATE OF AUTHORITY E-2017008530
1. The Contractor is responsible for checking for vehicular and electrical conflicts and removing the same.

2. SHADED LUMINAIRE OR DEVICE INDICATES LUMINAIRE OR DEVICE IS CONNECTED TO AN EMERGENCY CIRCUIT.

3. Field verify the available clearances for cable tray, busway and conduits and shall notify the engineer prior to bidding if other utilities are required service to all areas during all phases of project.

4. Field Conditions.

5. EACH CONTRACTOR SHALL CUT AND PATCH ROOFS, WALLS, AND FLOORS ASSOCIATED WITH HIS/HER WORK.

6. The Contractor is responsible for removal and replacement of ceilings, walls, doors, windows and associated with areas of work by all.

7. INSTALL ALL WALL MOUNTED FIRE ALARM NOTIFICATION DEVICES AT 90" ABOVE Finished CEILING TILES OR TO THE BOTTOM OF THE DEVICE.

8. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL CEILING MOUNTED DEVICES AND SHALL ADJUST RECEPTACLES, OUTLETS, OR CONNECTION LOCATIONS TO ACCOMMODATE EQUIPMENT.

9. CONTRACTOR SHALL VERIFY ALL EQUIPMENT LOCATIONS WITH REVIEWED SHOP INFORMATION.

10. CONTRACTOR SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF MATERIALS.

11. CONTRACTOR SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF MATERIALS.
LEVEL 01 - ELECTRICAL DEMOLITION - AHU4
1. REFER TO ELECTRICAL COVERSHEET E-000 FOR ELECTRICAL SYMBOLS AND NOTES.

KEYNOTES:
1. EXISTING FIRE ALARM SMOKE DETECTION DEVICES SHALL BE DEMOLISHED.
2. EXISTING AHU-11 ELECTRICAL CIRCUIT SHALL REMAIN FOR REUSE WITH THE NEW RF11 AND HWP-AHU11. REFER TO NEW WORK PLANS FOR SCOPE OF WORK.
3. EXISTING HEAT DETECTOR SHALL BE RELOCATED TO NEW ELEVATOR MACHINE ROOM CEILING. REFER TO NEW WORK PLANS FOR SCOPE OF WORK. EXISTING ELEVATOR DISCONNECT AND FIRE ALARM DEVICES SHALL REMAIN IN PLACE.
4. ELEVATOR DISCONNECT SHALL BE REPLACED WITH ELEVATOR SHUNT TRIP DISCONNECT. REFER TO NEW WORK PLANS FOR SCOPE OF WORK.
1 ROOF - ELECTRICAL DEMOLITION - AHU11 - PHASE 3
GENERAL SHEET NOTES:

1. REFER TO ELECTRICAL COVERSHEET E-000 FOR ELECTRICAL SYMBOLS AND NOTES.

KEYNOTES:

1. CIRCUIT TO VFD-AHU-4A IN ELECTRICAL ROOM 1084A. REFER TO SHEET E-101A.1 FOR VFD-AHU-4A LOCATION AND CONDUCTOR/CONDUIT REQUIREMENTS.

2. CIRCUIT TO SPARE 20A/1P CIRCUIT BREAKER IN EXISTING PANEL 'KEN' USING 2#12 & 1#12 GND IN 3/4" C.

3. CIRCUIT TO VFD-AHU-4B IN ELECTRICAL ROOM 1084A. REFER TO SHEET E-101A.1 FOR VFD-AHU-4B LOCATION AND CONDUCTOR/CONDUIT REQUIREMENTS.

4. REMOVE THREE (3) EXISTING SPARE 20A/1P CIRCUIT BREAKERS AND ADD ONE (1) 15A/3P CIRCUIT BREAKER IN EXISTING PANEL 'KEN'. CIRCUIT HEATING WATER PUMP HWP-AHU4 TO NEW 15A/3P CIRCUIT BREAKER USING 3#12 & 1#12 GND IN 3/4" C.
GENERAL SHEET NOTES:

1. REFER TO ELECTRICAL COVERSHEET E-000 FOR ELECTRICAL SYMBOLS AND NOTES.

KEYNOTES:

1. TEMPORARILY CIRCUIT AHU-11T TO 100A, 3-PHASE FEEDER FROM SPARE 100A/3P CIRCUIT BREAKER IN PANEL 1EA1 USING 3#3 & 1#8 GND IN 1/4" C. REFER TO SHEET E-102B.3 FOR ADDITIONAL FEEDER REQUIREMENTS. CIRCUIT TO AHU-11T MANUFACTURER PROVIDED DISCONNECT.

2. PROVIDE TEMPORARY DUCT SMOKE DETECTORS FOR TEMPORARY UNIT. SEAL ALL DUCT PENETRATIONS AIR TIGHT. PROGRAM DUCT SMOKE DETECTORS TO SHUT DOWN RESPECTIVE FAN. PROGRAM DUCT SMOKE DETECTOR TO PROVIDE A SUPERVISORY WARNING AT THE FIRE ALARM PANEL. PROVIDE ADDRESSABLE RELAY FOR FAN SHUTDOWN.
GENERAL SHEET NOTES:

1. REFER TO ELECTRICAL COVERSHEET E-000 FOR ELECTRICAL SYMBOLS AND NOTES.

KEYNOTES:

1. CIRCUIT TO VFD - RF-11 IN MECHANICAL ROOM BELOW. REFER TO SHEET E-102B.3 FOR VFD - RF-11 LOCATION AND CONDUCTOR/CONDUIT REQUIREMENTS.

2. REMOVE TWO (2) STACKED SPARE 20A/1P CIRCUIT BREAKERS IN EXISTING PANEL 2E2 AND PROVIDE ONE (1) 30A/2P CIRCUIT BREAKER AND CIRCUIT THE OUTDOOR CONDENSING UNIT CU-1 USING 2#10 & 1#10 GND IN 3/4" C. REFER TO SHEET E-102B.3 FOR PANEL 2E2 LOCATION.

3. PROVIDE 3#14 AND 1#14 GND IN 3/4"C. FOR POWER CONNECTION TO INDOOR UNIT SS-1. REFER TO SHEET E-102B.3 FOR INDOOR UNIT SS-1 LOCATION.
**LUMINAIRE SCHEDULE**

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<tr>
<th>Model</th>
<th>Description</th>
<th>Manufacturer</th>
<th>Type</th>
<th>Finish</th>
<th>Luminous Flux</th>
<th>Color Temp</th>
<th>Color CRI</th>
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<tr>
<td>F1</td>
<td>RECESSED FLAT PANEL</td>
<td>Eaton</td>
<td>LED</td>
<td>RS</td>
<td>120000</td>
<td>3500°K</td>
<td>90</td>
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</table>

**ITEM DESCRIPTION**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>MANUFACTURER</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>RECESSED FLAT PANEL 4'-0&quot; 2'-0&quot; 4 1/2&quot; RE LED 1 120 V MV</td>
<td>Eaton</td>
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</tbody>
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**CSA - FINISH SELECTION BY ARCHITECT**

- HL - HIGH / LOW LEVEL BALLAST
- D - PARABOLIC
- F - FRESNEL
- H - WALL WASHER
- G - TEMPERED GLASS
- UC - UNDER CABINET
- LED - LIGHT EMITTING DIODE
- CL - CEILING SURFACE
- SP - SUSPENDED
- CF - COMPACT FLUORESCENT
- RE - RECESSED FL - FLUORESCENT
- A - .125 ACRYLIC

**PL - POLE**

- MH - METAL HALIDE
- H - WALL WASHER
- CV - COVE
- UC - UNDER CABINET
- LED - LIGHT EMITTING DIODE
- F - FRESNEL
- CL - CEILING SURFACE
- SP - SUSPENDED
- CF - COMPACT FLUORESCENT
- RE - RECESSED FL - FLUORESCENT
- A - .125 ACRYLIC

**ML - MULTI-LEVEL SWITCHING**

- MV - MULTI-VOLTAGE ELECTRONIC 120V-277V

**EM - EMERGENCY BATTERY**

- K - KSH12 .125" ACRYLIC

**FINISH:**

- RS - REGRESSED STEEL
- RA - REGRESSED ALUMINUM
- XLP - EXTENDED LIFE & OUTPUT
- R - HIGH IMPACT OR ACRYLIC
- FA - FLAT ALUMINUM
- XL - EXTENDED LIFE
- N - NONE

**DOOR:**

- O - OTHER (SEE DESCRIPTION)
- PSMH - PULSE START METAL HALIDE
- K - KSH12 .125" ACRYLIC
- FR - FLANGED RECESSED
- SMH - SUPER METAL HALIDE
- P - POLYCARBONATE
- PL - POLE

**BALLAST:**

- EB - ELECTRONIC BALLAST
- DIM07 - LINE DIMMING BALLAST
- (TYPE) BALLAST:
  - O - OTHER (SEE DESCRIPTION)
  - CMH - CERAMIC METAL HALIDE
  - K19 - KSH19 .156" ACRYLIC
  - L - LOW IRIDESCENT SPECULAR ALUMINUM

**LAMPS**

- Equivalent or Approved

**MTG**

- HP - HIGH PERFORMANCE
- LBF PRS - ELECTRONIC PROGRAM RAPID START BALLAST

**TYPE**

- L - LOW

**SCALE:**

- 1/8" = 1'-0"
FRONT VIEW
SIDE VIEW
EXTEND 3/4" PLYWOOD
6" WIDER THAN VFD ON BOTH SIDES
SIZE FOR MOTOR LOAD POWER REQUIREMENTS
3/4" PLYWOOD PAINT BOTH SIDES & ENDS MACHINE GRAY
FLOOR
1-1/2" UNISTRUT CHANNEL (2)
EXTEND 3/4" PLYWOOD 1" BELOW BOTTOM OF VFD SIZE FOR VFD POWER REQUIREMENTS
EXTEND 3/4" PLYWOOD 3" ABOVE TOP OF VFD
6" x 6" WIRE TROUGH 3/4" (MIN)
FLOOR
EXP. ANCHORS (TYPICAL)
1-1/2" UNISTRUT CHANNEL (2)
VFD WALL
3'-6" TYPICAL
8" (MIN)
VFD
VFD DISCONNECT
TO POWER
DO NOT PLACE ISO BELOW VFD
POST BASE (2)
BRACE FITTING (2)
FLOOR MOUNT
NOTES:
1. VARIABLE FREQUENCY DRIVE (VFD) IS PROVIDED AND INSTALLED BY CONTRACTOR.
2. KEEP ALL LOW VOLTAGE CONTROL WIRING (UNDER 25V) AND HIGH VOLTAGE POWER WIRING (OVER 25V) SEPARATED. (RUN IN SEPARATE CONDUIT).
3. PLYWOOD SIZE IS BASED ON ONE VFD IN EACH LOCATION. FOR MULTIPLE VFD'S, COORDINATE WITH OWNER'S REPRESENTATIVE.
4. POWER TO DRIVE AND LEADS TO MOTOR MUST BE IN SEPARATE CONDUIT.
5. INSTALL ISO TRANSFORMER IF REQUIRED.
6. DO NOT PLACE ISO TRANSFORMER BELOW VFD.
7. IF REMOTE SERVICE DISCONNECT IS REQUIRED IT MUST BE HARDWIRED TO VFD.
8. SAFETY CIRCUIT TO SHUT DOWN DRIVE IF DISCONNECT IS OPENED.
**ONE LINE DIAGRAM**

**NOTES**
- Footing point, line and diagram for hospital.
- General note: See Plan for locations and distances.
- Coordination with mechanical and architectural is required to ensure proper layout.
- Refer to floor plans for specific requirements.

**SCALE:** 1/8" = 1'

**SHEET TITLE:** TEMPERATURE 1250KW GENERATOR

**TEMPORARY 1250KW GENERATOR**

**DEMOLED**

**REMARKS**
- Utilize spare 100AF breaker in MEDPA for ATS-17 feeder.
- Timer to transfer to the emergency generator to >30 seconds.
- Transfer to construction notes. Refer to SHEET E0.2 for electrical general notes, REMARKS.
- Provide Kirk key interlock for existing generator output breaker.
- Existing active breaker becomes spare in final condition.
- Refer to phasing plans for planned outage details.
- Existed breakers to be connected to QDP2 as indicated. QDP3 shall be temporarily connected to MCC/E.
- After installation of QDP2, feeder shall be connected to MCC/E.
- Exist active breakers to be connected to MCC/E.
- Existing suites for CAM-LOCK cabinet. Reference phasing sequence for planned outage details.
- Retrofit new breaker into panel MEDPA (S2).
- Provide Kirk key interlock for existing generator output breaker.
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- Exist active breakers to be connected to MCC/E.
- Existing suites for CAM-LOCK cabinet. Reference phasing sequence for planned outage details.
- Retrofit new breaker into panel MEDPA (S2).

**SCALE:** 1/8" = 1'

**SHEET TITLE:** TEMPERATURE 1250KW GENERATOR

**DEMOLED**

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- Existing active breaker becomes spare in final condition.
- Refer to phasing plans for planned outage details.
- Existed breakers to be connected to QDP2 as indicated. QDP3 shall be temporarily connected to MCC/E.
- After installation of QDP2, feeder shall be connected to MCC/E.
- Exist active breakers to be connected to MCC/E.
- Existing suites for CAM-LOCK cabinet. Reference phasing sequence for planned outage details.
- Retrofit new breaker into panel MEDPA (S2).

**SCALE:** 1/8" = 1'

**SHEET TITLE:** TEMPERATURE 1250KW GENERATOR

**DEMOLED**

**REMARKS**
- Utilize spare 100AF breaker in MEDPA for ATS-17 feeder.
- Timer to transfer to the emergency generator to >30 seconds.
- Transfer to construction notes. Refer to SHEET E0.2 for electrical general notes, REMARKS.
- Provide Kirk key interlock for existing generator output breaker.
- Existing active breaker becomes spare in final condition.
- Refer to phasing plans for planned outage details.
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<table>
<thead>
<tr>
<th>ITEM</th>
<th>DISC.</th>
<th>LINE</th>
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</thead>
<tbody>
<tr>
<td>EDS</td>
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<td>420</td>
</tr>
</tbody>
</table>

**Equipment Served**
- AHU-11
- AHU-4
- RF-11

**Starter Type**
- SA - Standard Accessories (Includes * Items)

**Remarks**
- 120V

**Specifications**
- ABB ACH 550 Series
- YASKAWA Z1000
- TOSHIBA Q9 Series
- SIEMENS CLASS 17
- GENERAL ELECTRIC CR308
- EATON Type ECN
- SQUARE D 8538 SCG34
- LITTLEFUSE LPS6T48R2
- CUTLER-HAMMER ES2T48R2
- MERSEN ES6T48R2
- BUSSMANN PS6T48R2
- SIEMENS Type HF
- GENERAL ELECTRIC Type TH
- EATON Type DH
- SQUARE D 3110 H361
- SIEMENS Type HNF
- GENERAL ELECTRIC Type TH
- EATON Type DH
- SQUARE D 3110 H362

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**Variable Frequency Drive Schedule**

**Disconnect and Starter Schedule**

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**Electrical Schedule**

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**Unlockable Access**

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