DEMONSTRATION:
1. A separate demonstration plan has been prepared to remove asphalt, curbs and gutters, sewers, underground utilities and related infrastructure. Refer to the demonstration package for required removal procedures.

2. Removal of existing storm drainage structures shall be coordinated with the construction of the new building pad. Existing storm drainage infrastructure shall remain in place and functioning without the exception of those removed to accommodate new buildings. Existing storm drainage remaining shall be required to convey stormwater into the existing outfalls. Work shall be performed in accordance with applicable standards and specifications.

3. Contractor shall protect all utility manholes and other underground structures not shown for removal with steel plates that extend a minimum of 2 feet beyond the outside of the structure and a depth of at least 24 inches thick. Contractor shall protect all associated utilities and shall repair any damage at his expense.

CONSTRUCTION:
1. The contractor shall install erosion and sediment control measures before beginning site utility relocation and/or site grading and shall comply with the Tennessee Department of Environment & Conservation requirements.

2. The contractor shall conduct all work in accordance with the requirements of applicable local, state, and federal regulations.

3. The contractor shall install erosion and sediment control measures in accordance with Tennessee Department of Environment & Conservation requirements.

4. All trees, bushes, and other vegetation within grading limits shall be removed prior to site construction. If the vegetation is left in place, the grading limits shall be protected. See site plans for caution fencing.

5. All existing foundations, fences, slabs, pavements, and below-grade structures shall be removed from the area to be graded. Remove organic material and soft or otherwise unsuitable material from the area to be graded.

6. Topsoil, if present, shall be stripped and stockpiled from all areas with suitable topsoil. The quantity of topsoil stripped and stockpiled shall be sufficient to provide a minimum of 2 inches of topsoil over all areas to be seeded.

7. All storm water basins, impoundments, or shallow stormwater wells shall be backfilled to a depth of 12 inches. Any rock excavated shall be backfilled in layers of compacted soil. The compaction of the soil shall be made in accordance with applicable specifications.

8. The subgrade of all areas to be paved or have structure constructed shall be compacted using a dump truck measuring at least 25 tons. Areas that are to be seeded shall be compacted with suitable compacted soil to a depth of 12 inches. All grading and compacting shall be in accordance with the specifications and recommendations in the geotechnical report.

9. After final grading and immediately prior to the preparation of an area for seeding, the contractor shall spread a minimum of 4 inches of topsoil on the area to be seeded.

NOTES:
1. sanitary sewer gravity line shall be pvc pipe. sewer manholes shall be 6 ft diameter, eccentric, reinforced concrete manholes with a minimum of 48 inches. all existing sanitary sewer gravity lines (including manholes) shall be installed to comply with current state and federal requirements.

2. construct sewer lines, service lines, cleanouts, manholes, backfill, engagement, all applicableapparatuses per standard specifications and details.

3. any manhole with a sewer line entering at an elevation of greater than the outlet shall be connected with a "drop connection" meeting tdec and local utility requirements. manholes, curb cuts, channels, and connections shall be made for tdec requirements and standard drainages.

4. sanitary sewer crossings with potable water lines shall be accomplished in accordance with tdec requirements and project specifications.

5. all utility trenches shall be backfilled to a minimum of 4 inches above the finished grade and will be compacted to a minimum of 95% maximum density. backfill and backfilling shall be performed by the contractor, and the project engineer.

6. refer to the electrical site plans for information and locations of relocated underground electric and communication lines.

7. refer to mechanical and plumbing drawings for information and locations of relocated hot/chilled water lines.

CALL BEFORE YOU DIG!

The existing utilities shown herein have been located from a field survey. The engineer makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The engineer does certify that they are located as accurately as possible from the information available. The engineer has not physically located the underground utilities. The contractor is responsible for locating any and all utilities prior to any construction.

UTILITY NOTE:

The existing utilities shown herein have been located from a field survey. The engineer makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The engineer does certify that they are located as accurately as possible from the information available. The engineer has not physically located the underground utilities. The contractor is responsible for locating any and all utilities prior to any construction.

NOTE

NOTE

NOTES AND...
RELOCATED SANITARY SEWER "LINE-A" PROFILE

STA. 0+00 - STA. 5+26.60

SCALE 1 inch = 20 feet Horiz.
1 inch = 2 feet Vert.

14038
PROPOSED FIRE PROTECTION PROFILE

STA. 0+00 - STA. 2+56.74

SCALE 1 inch = 30 feet Horiz.
1 inch = 5 feet Vert.
PROPOSED FIRE HYDRANT SERVICE LINE

STA. 0+00 - STA. 0+85.69
SCALE 1 inch = 30 feet Horiz.
1 inch = 5 feet Vert.
GENERAL EROSION CONTROL NOTES:

- Erosion control measures shall be monitored by the Contractor who shall provide appropriate protection for the existing structures and finished surfaces from the effects of construction activities.
- No erosion control measures shall be implemented until the Contractor has been approved by the Architect.
- All erosion control materials shall be installed in accordance with the applicable industry standards and specifications.
- The Contractor shall be responsible for maintaining the erosion control measures until the project is turned over to the owner.
- The Contractor shall prepare a detailed erosion control plan that includes the type of erosion control measures to be used, the procedures for installation, and the schedule for implementation.

EROSION CONTROL DETAILS:

- Erosion control measures shall be designed to prevent soil loss and stabilize the area.
- The Contractor shall be responsible for ensuring that the erosion control measures meet the requirements of the project specifications and the applicable codes.
- The Contractor shall be responsible for providing written documentation of the erosion control measures installed and the dates of installation.

SBC NO.: 166/005-09-2017CM

ASSOCIATES

Architecture/Planning
511 TUSCULUM BOULEVARD
GREENEVILLE, TENNESSEE 37745
PH 423.823.0100
EMAIL JOHN@JOHNFISHERARCHITECT.COM
SITE PLAN ENLARGEMENT - ELECTRICAL EQUIPMENT LAYOUT

NEW 120/208 SWITCHBOARD, REF. ELECTRICAL DWGS.
EXISTING PRIMARY POWER VAULT TO REMAIN, REF. ELECTRICAL DWGS.
NEW GENERATOR, REF. ELECTRICAL DWGS.
NEW CLOSER IN SWITCHBOARD, REF. ELECTRICAL DWGS.
EXISTING TRANSFORMER, REMAIN, REF. ELECTRICAL DWGS.
EXISTING RETAINING WALL TO REMAIN
CONCRETE PAVING NOTES:
1. ALL WALKS TO HAVE 1% MIN. - 2% MAX CROSS SLOPE
2. REF. PLANS FOR WALK WIDTH, JOINTING AND ADJACENT CONDITIONS
3. RUNNING SLOPES NOT TO EXCEED 5% UNLESS OTHERWISE NOTED ON PLANS. REF. CIVIL DRAWINGS FOR FINISH GRADES

TYPICAL EXPANSION JOINT
3/8 " RUBBER EXPANSION JOINT; CAULK TO MATCH CONCRETE COLOR

(C-1) CONCRETE PAVING PROVIDE STEEL DOWEL IN SLEEVE @ EXP. JOINTS AT 18" O.C.
4" COMPACTED AGGREGATE BASE @ 95% PROCTOR
COMPACTED SUBGRADE
6" x 6" - W2.9 x W2.9 WWM CONT. (SET ON METAL CHAIRS PRIOR TO POURING SLAB)

(C-1) CONCRETE PAVING @ 3500 PSI; SEE L100 SERIES FOR FINISH
1 4" WIDE, 1 3" DEPTH OF CONCRETE CONTROL JOINT; TYP.

TYPICAL CONCRETE PAVING AND EXP. JOINT - SECTIONS
6" TURN DOWN AT EDGES

TYPICAL BRICK VENEER WALL - SECTION
#4'S AT EACH NOSE, TYP.
3/8 " RUBBER EXPANSION JOINT; CAULK TO MATCH CONCRETE, TYP.
(M-1) PAINTED ALUMINUM HANDRAIL; REF. DETAIL 4/L4.00
CORE DRILL STAINLESS STEEL POST 12" INTO CONCRETE STEM. FILL WITH NON-SHRINKING GROUT. COLOR TO MATCH CAP, SUBMIT SAMPLE TO LANDSCAPE ARCHITECT FOR APPROVAL.
ESCUTCHEON PLATE TO COVER CORE DRILL AND GROUT; TYP.

TYPICAL CONCRETE STAIRS - SECTION
TREADS TYP. 1'-0" MIN.
HANDRAILS TO MEET ALL LOCAL, STATE AND FEDERAL CODES. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL HANDRAILS

NOTE:
- TOP OF FENCE SHALL FOLLOW SLOPE OF EXISTING GRADE.
- PRIME POSTS WITH PORTER PAINTS ALKYD METAL PRIMER - RED
- PAINT POSTS WITH PORTER PAINTS BLACK ALKYD ENAMEL - GLOSS BLACK
2" TOP RAIL - JULIUS BLUM #4441
1" X 1 1/2" TUBE
6'-0" MAX.
3'-6" 1'-6"

FINISH GRADE
3500 PSI CONCRETE FOOTING
8" 1" 1 1/2" SQUARE POST - 12 GAUGE TUBULAR STEEL
WHERE FENCE IS TO BE INSTALLED IN EXISTING PAVING OR WALLS, IMBED A MINIMUM OF 8".

TOP-OF-STAIR, REF. CIVIL AND REF. L3.00 GRADING PLAN
BOTTOM-OF-STAIR, REF. CIVIL AND REF. L3.00 GRADING PLAN

HANDRAIL
TOP OF FENCE SHALL FOLLOW SLOPE OF EXISTING GRADE.
REPAIR ALL DISTURBED AREAS WITH SOD.

EXISTING BOXWOOD SHRUB TO REMAIN

EXISTING (2) LARGE BOXWOODS TO BE MOVED TO THESE LOCATIONS

EXISTING PARKING TO REMAIN

NEW PROWENADE (N.L.C.)
<table>
<thead>
<tr>
<th>Room No</th>
<th>Room Name</th>
<th>Zone</th>
<th>Load Class</th>
<th>Size (SF)</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>006e</td>
<td>JAN</td>
<td>36.3</td>
<td>S 300</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>381e</td>
<td>STORAGE</td>
<td>20.8</td>
<td>S 300</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>007e</td>
<td>WOMEN</td>
<td>96.9</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>389</td>
<td>OFFICE</td>
<td>104.1</td>
<td>B 100</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>249</td>
<td>STAIR</td>
<td>148.6</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>114e</td>
<td>SUPPLY</td>
<td>209.5</td>
<td>S 300</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>260</td>
<td>VESTIBULE</td>
<td>54.2</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>117</td>
<td>SIMULATION</td>
<td>195.3</td>
<td>E-V 50</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>432</td>
<td>OFFICE</td>
<td>289</td>
<td>S 300</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>271</td>
<td>EXIST. STAIR</td>
<td>162.1</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>126</td>
<td>CORRIDOR</td>
<td>36.6</td>
<td>B 100</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>286</td>
<td>CORRIDOR</td>
<td>48.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>151</td>
<td>OFFICE</td>
<td>139.9</td>
<td>B 100</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>153</td>
<td>OFFICE</td>
<td>167.4</td>
<td>B 100</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>320</td>
<td>ELEV.</td>
<td>62.7</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>155</td>
<td>STAIR</td>
<td>199.1</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>450</td>
<td>OFFICE</td>
<td>107.3</td>
<td>B 100</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>452</td>
<td>OFFICE</td>
<td>109.8</td>
<td>B 100</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>455</td>
<td>OFFICE</td>
<td>95.4</td>
<td>B 100</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>456</td>
<td>OFFICE</td>
<td>93.5</td>
<td>B 100</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>334</td>
<td>VESTIBULE</td>
<td>84.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>477</td>
<td>BREAK/WORK ROOM</td>
<td>162.2</td>
<td>B 100</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>173</td>
<td>OFFICE</td>
<td>112.8</td>
<td>B 100</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>183</td>
<td>OFFICE</td>
<td>126.5</td>
<td>B 100</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>158</td>
<td>OFFICE</td>
<td>136.2</td>
<td>B 100</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>484</td>
<td>FAC. OFFICE</td>
<td>96</td>
<td>B 100</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>485</td>
<td>OFFICE</td>
<td>93.5</td>
<td>B 100</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>355</td>
<td>CORRIDOR</td>
<td>498.4</td>
<td>N/A</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
EXTERIOR DEMOLITION NOTES

1. Exterior work area must be designated, and exterior work area must be protected from the weather.
2. Exterior work area must be cleaned before and after demolition.
3. Exterior work area must be monitored for safety and security.
4. Exterior work area must be only for the purpose of demolition.
5. Exterior work area must be monitored by a qualified professional.

INTERIOR DEMOLITION NOTES

1. Interior work area must be designated, and interior work area must be protected from the weather.
2. Interior work area must be cleaned before and after demolition.
3. Interior work area must be monitored for safety and security.
4. Interior work area must be only for the purpose of demolition.
5. Interior work area must be monitored by a qualified professional.

DEMOLITION PLAN - GROUND LEVEL

DEMOLITION LEGEND

DEMOLITION ACTIVITY

DM - DEMOLISHED

S - EXISTING CONSTRUCTION TO REMAIN

PE - EXISTING CONSTRUCTION TO REPAIR

EP - EXISTING CONSTRUCTION TO ENHANCE

AB - NEW CONSTRUCTION

UN - UNDERGROUND

FG - FUTURISTIC

DE - DECOY

NOTE: This plan is for reference purposes only and does not represent the final design. Final plans will be submitted for approval before construction begins.
REFLECTED CEILING PLAN LEGEND

GENERAL
- CRL: Ceiling Reference Line
- CB: Ceiling Base
- CD: Ceiling Data

CEILING TYPES
- M+F: Mechanical & Fire Protection

THE CONTRACTOR SHALL CAREFULLY STUDY AND COMPARE THE REFLECTED CEILING PLAN WITH THE ELECTRICAL PLAN, MECHANICAL PLAN, AND FIRE PROTECTION PLAN. GENERATE A REPORT TO THE ARCHITECT ANY FITS AND CEILING HEIGHTS INDICATED SHALL BE MEASURED FROM THE TOP OF THE FINISH MATERIAL TO THEzug OF THE CEILING TILES OR SURFACE MATERIALS IN AREAS WHERE APPROPRIATE.

ACCESSIBLE CEILING TYPES
- A2: Accessible Ceilings
- A1: Accessible Ceilings

ACCESSIBLE TYPE AREAS WHERE ACCESS, SERVICE AND ADJUSTMENT ARE RECOMMENDED.

CEILING HEIGHT AFF
- 3: 4'-0" C2" 24" x 24" Acoustical Ceiling Tile Grid
- 4: 4'-0" C2" 24" x 48" Acoustical Ceiling Tile Grid

ACCESSIBLE CEILING TYPES
- A2: Accessible Ceilings
- A1: Accessible Ceilings

ACCESSIBLE TYPE AREAS WHERE ACCESS, SERVICE AND ADJUSTMENT ARE RECOMMENDED.

ACCESSIBLE CEILING TYPES
- A2: Accessible Ceilings
- A1: Accessible Ceilings

ACCESSIBLE TYPE AREAS WHERE ACCESS, SERVICE AND ADJUSTMENT ARE RECOMMENDED.

ACCESSIBLE CEILING TYPES
- A2: Accessible Ceilings
- A1: Accessible Ceilings

ACCESSIBLE TYPE AREAS WHERE ACCESS, SERVICE AND ADJUSTMENT ARE RECOMMENDED.

ACCESSIBLE CEILING TYPES
- A2: Accessible Ceilings
- A1: Accessible Ceilings

ACCESSIBLE TYPE AREAS WHERE ACCESS, SERVICE AND ADJUSTMENT ARE RECOMMENDED.

ACCESSIBLE CEILING TYPES
- A2: Accessible Ceilings
- A1: Accessible Ceilings

ACCESSIBLE TYPE AREAS WHERE ACCESS, SERVICE AND ADJUSTMENT ARE RECOMMENDED.

ACCESSIBLE CEILING TYPES
- A2: Accessible Ceilings
- A1: Accessible Ceilings

ACCESSIBLE TYPE AREAS WHERE ACCESS, SERVICE AND ADJUSTMENT ARE RECOMMENDED.

ACCESSIBLE CEILING TYPES
- A2: Accessible Ceilings
- A1: Accessible Ceilings

ACCESSIBLE TYPE AREAS WHERE ACCESS, SERVICE AND ADJUSTMENT ARE RECOMMENDED.

ACCESSIBLE CEILING TYPES
- A2: Accessible Ceilings
- A1: Accessible Ceilings

ACCESSIBLE TYPE AREAS WHERE ACCESS, SERVICE AND ADJUSTMENT ARE RECOMMENDED.

ACCESSIBLE CEILING TYPES
- A2: Accessible Ceilings
- A1: Accessible Ceilings

ACCESSIBLE TYPE AREAS WHERE ACCESS, SERVICE AND ADJUSTMENT ARE RECOMMENDED.

ACCESSIBLE CEILING TYPES
- A2: Accessible Ceilings
- A1: Accessible Ceilings

ACCESSIBLE TYPE AREAS WHERE ACCESS, SERVICE AND ADJUSTMENT ARE RECOMMENDED.
THE CONTRACTOR CAREFULLY STUDIED AND COMPARE THE REFLECTED CEILING PLAN WITH THE ELECTRICAL LIGHTING PLAN AND CEILING HEIGHT AFF Revised Date

1. The reflected ceiling plan should be reviewed carefully and compared with the electrical lighting and ceiling height plans to ensure proper integration and compatibility.

2. The reflected ceiling plan should reflect the ceiling heights as specified in the ceiling height plan.

3. The reflected ceiling plan should show the ceiling grids and specific areas where access may be required.

4. The reflected ceiling plan should indicate areas where access to electrical items may be required and be fire-rated to the same rating as the ceiling or ceiling assembly.

5. The reflected ceiling plan should show the location of access panels.

6. The reflected ceiling plan should indicate the type of exit lighting used.

7. See electrical plans and circuit diagrams for the location of ceiling lights used.

24" x 24" Acoustical Ceiling Tile Grid

24" x 48" Acoustical Ceiling Tile Grid

Gypsum Board Ceiling

Office

Research AB

"A" - Recessed Downlight (Square)

"G" - Lecture Recessed Light

"H" - 1x4 Utility Wrap

"K" - Wall-Mtd Direct/Indirect

"L" - Classroom Direct/Indirect

M1 Interior Lighting Fixture Type

1. Recessed Downlight (Square)

2. Decorative Pendant

3. Recessed 600 Surface Mounted Corridor Light Fixture

5. Surface Mount (Halogen)

6. Surface Mount (LED)

7. Recessed Cove Light Fixture

8. Lecture Recessed Light

9. Hallway Strip Light

10. Recessed 4" Downlight

11. Wall w/ Down-Landing

12. Hallway Direct/Indirect

13. Classroom Direct/Indirect

Physical & Fire Protection

Exit Sign, Shared Courtney Indicator, Smoke Detector, Sprinkler Head, Condenser Unit

Combination Exit Sign (Directional Arrow & On-Off Switch)

Heat Link (Omnidirectional Smoke Detector)

Commercial Fire Sprinkler

Sprinkler Head, Center in Ceiling Tile Grid

Sprinkler Head, Center in Ceiling Tile Grid - TL

Hand Ceiling Supply

Hand Ceiling Return

Hand Ceiling Return
### Reflected Ceiling Plan Legend

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Gypsum Board</td>
</tr>
<tr>
<td>D</td>
<td>Acoustical Tile</td>
</tr>
<tr>
<td>E</td>
<td>Butt Glazing Head</td>
</tr>
<tr>
<td>F</td>
<td>Ceiling Plane Below Window Head</td>
</tr>
<tr>
<td>G</td>
<td>Light Fixture</td>
</tr>
<tr>
<td>H</td>
<td>HVAC System</td>
</tr>
<tr>
<td>I</td>
<td>Electrical System</td>
</tr>
<tr>
<td>J</td>
<td>Mechanical System</td>
</tr>
</tbody>
</table>

---

### Reflected Ceiling Plan Notes

1. **Light Fixtures**: All light fixtures shall be listed and labeled as required.
2. **HVAC Systems**: HVAC systems shall be designed and installed as required by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE).
3. **Electrical Systems**: Electrical systems shall be designed and installed in accordance with the National Electrical Code (NEC).
4. **Mechanical Systems**: Mechanical systems shall be designed and installed in accordance with the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE).
5. **Gypsum Board**: Gypsum board shall be installed in accordance with the manufacturer's instructions.
6. **Acoustical Tile**: Acoustical tile shall be installed in accordance with the manufacturer's instructions.
7. **Butt Glazing Head**: Butt glazing heads shall be installed in accordance with the manufacturer's instructions.
8. **Ceiling Plane Below Window Head**: Ceiling planes below window heads shall be installed in accordance with the manufacturer's instructions.

---

### Contact Information

Email: john@johnfisherarchitect.com
Phone: 423.823.0100
Address: 511 Tuscum Boulevard, Johnson City, Tennessee
<table>
<thead>
<tr>
<th>Object</th>
<th>Location</th>
<th>Dimensions</th>
<th>Material</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Door 1</td>
<td>6'0&quot; x 7'0&quot;</td>
<td>3'-4&quot;</td>
<td>Steel</td>
<td></td>
</tr>
</tbody>
</table>
### Finish Legend

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>ARR.</th>
<th>DESCRIPTION</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WALL FINISHES</th>
<th>MILLWORK</th>
<th>WALL FINISHES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ROOM INFORMATION</th>
<th>ROOM INFORMATION</th>
<th>WALL FINISHES</th>
<th>MILLWORK</th>
<th>WALL FINISHES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOTE COLUMN NO.</th>
<th>NAME</th>
<th>NORTH</th>
<th>EAST</th>
<th>SOUTH</th>
<th>WEST</th>
<th>FIN.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FINISH SCHEDULE &amp; LEGEND</th>
<th>FINISH SCHEDULE &amp; LEGEND</th>
<th>WALL FINISHES</th>
<th>MILLWORK</th>
<th>WALL FINISHES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**East Tennessee State University**

**Lamar Hall Renovation**

SBC NO.: 166/005-09-2017CM

A900

Email: john@johnfisherarchitect.com
1. All interior finishes shall comply with Chapter 8 of the 2012 International Building Code and ANSI A117.3, 2013.
2. All interior wall & ceiling materials shall be Class A.
3. All carpet shall be Class 1.
4. Refer to elevations before all finish designations, including but not limited to floor patterns, accent wall, paint, wallcovering, and concrete curing instructions.
5. U.E. to install all finishes according to finish manufacturer's recommendations.
6. Prepare all floor surfaces as required to receive flooring materials - patch & level all openings, depressions, high spots, etc.
7. All finishes shall be installed prior to electrical, plumbing, air conditioners, HVAC, or other finishes.
8. Solid granite slabs shall be installed with 1/8" or 1/4" spacers, unless otherwise noted.
9. Except as noted in schedule or finish plans, all exposed walls to be painted in 1.
10. Refer to reflected ceiling plans for ceiling details, suspended ceiling areas, and headers.

### Floor Plan

<table>
<thead>
<tr>
<th>Room</th>
<th>Location</th>
<th>Use</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entrance</td>
<td>1st Floor</td>
<td>Lobby</td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>1st Floor</td>
<td>Administrative</td>
<td></td>
</tr>
<tr>
<td>Classroom</td>
<td>2nd Floor</td>
<td>General</td>
<td></td>
</tr>
<tr>
<td>Laboratory</td>
<td>2nd Floor</td>
<td>Research</td>
<td></td>
</tr>
<tr>
<td>Bathroom</td>
<td>2nd Floor</td>
<td>Toilet</td>
<td></td>
</tr>
<tr>
<td>Office</td>
<td>3rd Floor</td>
<td>President</td>
<td></td>
</tr>
<tr>
<td>Conference</td>
<td>3rd Floor</td>
<td>Meeting Room</td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>3rd Floor</td>
<td>Supplies</td>
<td></td>
</tr>
<tr>
<td>Auditorium</td>
<td>4th Floor</td>
<td>Lecture Theatre</td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td>4th Floor</td>
<td>Kitchen</td>
<td></td>
</tr>
<tr>
<td>Restrooms</td>
<td>4th Floor</td>
<td>Bathroom</td>
<td></td>
</tr>
</tbody>
</table>

**Finish Schedule & Notes**

- All interior finishes shall comply with Chapter 8 of the 2012 International Building Code and ANSI A117.3, 2013.
- All interior wall & ceiling materials shall be Class A.
- All carpet shall be Class 1.
- Refer to elevations before all finish designations, including but not limited to floor patterns, accent wall, paint, wallcovering, and concrete curing instructions.
- U.E. to install all finishes according to finish manufacturer's recommendations.
- Prepare all floor surfaces as required to receive flooring materials - patch & level all openings, depressions, high spots, etc.
- All finishes shall be installed prior to electrical, plumbing, air conditioners, HVAC, or other finishes.
- Solid granite slabs shall be installed with 1/8" or 1/4" spacers, unless otherwise noted.
- Except as noted in schedule or finish plans, all exposed walls to be painted in 1.

---

**Contact Information**

FISHER + ASSOCIATES
Architecture + Planning

EAST TENNESSEE STATE UNIVERSITY
LAMB HALL RENOVATION
JOHNSON CITY, TENNESSEE

Job No.: 166/005-09-2017CM

A901
Sheet: Roof Framing Plan

Note: Top of Steel/Elevations (TOS) same as Finished Level Elevation.
1. Before beginning work, Contractor shall provide signed release of lien/endorsement in writing with all existing bedding/unbalanced conditions and vertical dimensions.

2. All concrete test and break-backs. Foundation dimensions shall be deemed unbalanced and subject to design for service.

3. Re-estimating shall be in accordance with ACI 318, Sec. 3.11.1.1.

4. Steel to be in accordance with ACI 318.

5. Floor slab shall be designed as a monolithic element. All plan loads shown on drawings are based on ASD.

6. Ceiling slab shall be designed as a monolithic element. All plan loads shown on drawings are based on ASD.

7. All work shall be performed in accordance with ACI 301 and 117.

8. Test or submit, all required reports.

9. Floor slabs shall be designed to resist wind loads as per ASCE 7.

10. Steel framing shall be fabricated and designed to resist seismic forces as per ASCE 7.

11. All material shall be designed and fabricated to resist wind loads as per ASCE 7.

12. Steel framing shall be fabricated and designed to resist seismic forces as per ASCE 7.

13. All work shall be performed in accordance with ACI 301 and 117.

14. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.

15. All work shall be performed in accordance with ACI 301 and 117.

16. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.

17. Fabrication shall be in accordance with ASME A308.

18. Steel framing shall be fabricated and designed to resist seismic forces as per ASCE 7.

19. All work shall be performed in accordance with ACI 301 and 117.

20. Steel framing shall be fabricated and designed to resist seismic forces as per ASCE 7.

21. All work shall be performed in accordance with ACI 301 and 117.

22. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.

23. All work shall be performed in accordance with ACI 301 and 117.

24. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.

25. All work shall be performed in accordance with ACI 301 and 117.

26. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.

27. All work shall be performed in accordance with ACI 301 and 117.

28. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.

29. All work shall be performed in accordance with ACI 301 and 117.

30. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.

31. All work shall be performed in accordance with ACI 301 and 117.

32. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.

33. All work shall be performed in accordance with ACI 301 and 117.

34. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.

35. All work shall be performed in accordance with ACI 301 and 117.

36. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.

37. All work shall be performed in accordance with ACI 301 and 117.

38. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.

39. All work shall be performed in accordance with ACI 301 and 117.

40. Steel framing shall be designed and fabricated to resist seismic forces as per ASCE 7.
### Column Schedule

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>01/29/21</td>
<td>14038</td>
<td>LAMB HALL RENOVATION</td>
<td>EAST TENNESSEE STATE UNIVERSITY</td>
<td>SBC NO.: 166/005-09-2017CM</td>
<td>01/29/21</td>
<td>S2.2</td>
<td>Engineering Consulting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### TYPICAL ELEVATIONS

- **Main Floor A**
  - **Height:** 98' - 6" (30.0 m)
  - **Location:** S2.2
  - **Description:** 1/8" = 1'-0"

- **Second Floor**
  - **Height:** 109' - 6" (33.3 m)
  - **Location:** S2.2
  - **Description:** 1/8" = 1'-0"

- **Third Floor**
  - **Height:** 120' - 6" (36.6 m)
  - **Location:** S2.2
  - **Description:** 1/8" = 1'-0"

- **Fourth Floor**
  - **Height:** 131' - 6" (40.0 m)
  - **Location:** S2.2
  - **Description:** 1/8" = 1'-0"

- **West Entrance Roof**
  - **Height:** 142' - 2" (43.2 m)
  - **Location:** S2.2
  - **Description:** 1/8" = 1'-0"

- **T.O. Parapet**
  - **Height:** 144' - 6 7/8" (43.9 m)
  - **Location:** S2.2
  - **Description:** 1/8" = 1'-0"

### Column Locations

<table>
<thead>
<tr>
<th>Column</th>
<th>Location</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>nA-201</td>
<td>A-201</td>
<td>144' - 6 7/8&quot;</td>
</tr>
<tr>
<td>nB-201</td>
<td>B-201</td>
<td>144' - 6 7/8&quot;</td>
</tr>
<tr>
<td>nS-100</td>
<td>S-100</td>
<td>147' - 9 3/8&quot;</td>
</tr>
<tr>
<td>nT-100</td>
<td>T-100</td>
<td>147' - 9 3/8&quot;</td>
</tr>
<tr>
<td>nV-100</td>
<td>V-100</td>
<td>147' - 9 3/8&quot;</td>
</tr>
<tr>
<td>nU-100</td>
<td>U-100</td>
<td>147' - 9 3/8&quot;</td>
</tr>
<tr>
<td>nX-100</td>
<td>X-100</td>
<td>147' - 9 3/8&quot;</td>
</tr>
<tr>
<td>nX-101</td>
<td>X-101</td>
<td>147' - 9 3/8&quot;</td>
</tr>
<tr>
<td>nX-102</td>
<td>X-102</td>
<td>147' - 9 3/8&quot;</td>
</tr>
</tbody>
</table>

#### Column Dimensions

<table>
<thead>
<tr>
<th>Column</th>
<th>Size</th>
<th>Splice</th>
<th>Column Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>W16X67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W10X49</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W10X33</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W10X54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W21X50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Structural Details

- **Bracing**
  - XBracing at nS_100-102
  - XBracing at 100_nU-nT

- **Steel Grades**
  - HSS5X5X1/4
  - W16X26
  - W14X22
  - W10X54
  - W21X50
  - W10X49

### Notes

- **LIGHTS**
  - T=99.9K
  - T=50.3K
  - T=9.7K
  - T=79.4K
  - T=66.8K
  - T=12.6K
  - T=54.8K
  - T=49K
  - T=82.4K

- **Additional Information**
  - 511 Tusculum Boulevard
  - Greeneville, Tennessee
  - 423.787.7828
  - www.jljengineering.com
  - john@johnfisherarchitect.com
NOTES:

1. Installation steps:
   a. Mount channels on wall, with thin-loba.
   b. Remove block from below channels.
   c. Weld bottom plate to channels.
2. All structural steel shapes and plates shall be ASTM A-36 steel.
3. Shop prime steel with one coat alkyd primer.

FILE SHEET TITLE:

EAST TENNESSEE STATE UNIVERSITY
LAMB HALL RENOVATION

REV. # 1

Rev. Date
Rev. Description

01/29/21

14038
### CENTRAL STATION AIR HANDLING UNIT SCHEDULE

<table>
<thead>
<tr>
<th><strong>Model No.</strong></th>
<th><strong>Type</strong></th>
<th><strong>Input kW</strong></th>
<th><strong>Output kW</strong></th>
<th><strong>Efficiency</strong></th>
<th><strong>Start Up Lockout</strong></th>
<th><strong>Start Up Delay</strong></th>
<th><strong>Pressure Drop</strong></th>
<th><strong>Water Flow</strong></th>
<th><strong>Air Flow</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>RTU-1, RTU-3, RTU-4</td>
<td>Hot Gas Reheat</td>
<td>1800</td>
<td>960</td>
<td>80%</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>790-50</td>
<td>230</td>
</tr>
<tr>
<td>RTU-1, RTU-3, RTU-4</td>
<td>Hot Gas Reheat</td>
<td>1800</td>
<td>960</td>
<td>80%</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>790-35</td>
<td>230</td>
</tr>
<tr>
<td>RTU-1, RTU-3, RTU-4</td>
<td>Hot Gas Reheat</td>
<td>1800</td>
<td>960</td>
<td>80%</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>790-35</td>
<td>230</td>
</tr>
<tr>
<td>RTU-1, RTU-3, RTU-4</td>
<td>Hot Gas Reheat</td>
<td>1800</td>
<td>960</td>
<td>80%</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>790-35</td>
<td>230</td>
</tr>
<tr>
<td>RTU-1, RTU-3, RTU-4</td>
<td>Hot Gas Reheat</td>
<td>1800</td>
<td>960</td>
<td>80%</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>790-35</td>
<td>230</td>
</tr>
<tr>
<td>RTU-1, RTU-3, RTU-4</td>
<td>Hot Gas Reheat</td>
<td>1800</td>
<td>960</td>
<td>80%</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>790-35</td>
<td>230</td>
</tr>
</tbody>
</table>

### PUMP SCHEDULE

<table>
<thead>
<tr>
<th><strong>Model No.</strong></th>
<th><strong>Type</strong></th>
<th><strong>Flow Rate (GPM)</strong></th>
<th><strong>Head (ft.)</strong></th>
<th><strong>Pump HP</strong></th>
<th><strong>Volts</strong></th>
<th><strong>Phases</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>HWP-1, HWP-2</td>
<td>Centrifugal</td>
<td>790-50</td>
<td>+4 PSI</td>
<td>50</td>
<td>3</td>
<td>50</td>
</tr>
<tr>
<td>HWP-1, HWP-2</td>
<td>Centrifugal</td>
<td>790-35</td>
<td>+4 PSI</td>
<td>50</td>
<td>3</td>
<td>50</td>
</tr>
</tbody>
</table>

### ACCESSORIES AND FEATURES:

- PROVIDE ELEVATED UNIT.
- PROVIDE INLET BASKET STRAINER.
- PROVIDE STAINLESS STEEL FLOAT.

### FOOTNOTES:

1. PROVIDE ELEVATED UNIT.
2. PROVIDE INLET BASKET STRAINER.
3. PROVIDE STAINLESS STEEL FLOAT.

### DRAWING NO.: 166/005-09-2017CM

---

**NOTES:**

- PROVIDE RTU-1, RTU-3, RTU-4, WITH HOT GAS REHEAT.
- PROVIDE EACH UNIT WITH LOW AMBIENT CONTROLS, AND ANTI-SHORT CYCLE TIMER.
- PROVIDE MANUFACTURER'S ROOF CURB. INSTALL SMOKE DETECTORS WITH AUTOMATIC SHUT DOWN IN THE SUPPLY AND RETURN DUCTS, FURNISHED BY ELECTRICAL.
- PROVIDE RTU-1, RTU-3, RTU-4, WITH HOT GAS REHEAT.
<table>
<thead>
<tr>
<th>MODEL #</th>
<th>IN. WG.</th>
<th>FT. WG.</th>
<th>JCI 250</th>
<th>.39</th>
<th>7,890</th>
<th>1 TSS-WC</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAV 3-27</td>
<td>150</td>
<td>6&quot;</td>
<td>285</td>
<td>570</td>
<td>400</td>
<td>VAV 3-26</td>
</tr>
<tr>
<td>VAV 3-26</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-21</td>
</tr>
<tr>
<td>VAV 3-21</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-20</td>
</tr>
<tr>
<td>VAV 3-20</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-19</td>
</tr>
<tr>
<td>VAV 3-19</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-18</td>
</tr>
<tr>
<td>VAV 3-18</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-17</td>
</tr>
<tr>
<td>VAV 3-17</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-16</td>
</tr>
<tr>
<td>VAV 3-16</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-15</td>
</tr>
<tr>
<td>VAV 3-15</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-14</td>
</tr>
<tr>
<td>VAV 3-14</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-13</td>
</tr>
<tr>
<td>VAV 3-13</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-12</td>
</tr>
<tr>
<td>VAV 3-12</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-11</td>
</tr>
<tr>
<td>VAV 3-11</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-10</td>
</tr>
<tr>
<td>VAV 3-10</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-09</td>
</tr>
<tr>
<td>VAV 3-09</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-08</td>
</tr>
<tr>
<td>VAV 3-08</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-07</td>
</tr>
<tr>
<td>VAV 3-07</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-06</td>
</tr>
<tr>
<td>VAV 3-06</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-05</td>
</tr>
<tr>
<td>VAV 3-05</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-04</td>
</tr>
<tr>
<td>VAV 3-04</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-03</td>
</tr>
<tr>
<td>VAV 3-03</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-02</td>
</tr>
<tr>
<td>VAV 3-02</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-01</td>
</tr>
<tr>
<td>VAV 3-01</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 3-00</td>
</tr>
<tr>
<td>VAV 3-00</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-28</td>
</tr>
<tr>
<td>VAV 29-28</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-27</td>
</tr>
<tr>
<td>VAV 29-27</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-26</td>
</tr>
<tr>
<td>VAV 29-26</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-25</td>
</tr>
<tr>
<td>VAV 29-25</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-24</td>
</tr>
<tr>
<td>VAV 29-24</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-23</td>
</tr>
<tr>
<td>VAV 29-23</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-22</td>
</tr>
<tr>
<td>VAV 29-22</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-21</td>
</tr>
<tr>
<td>VAV 29-21</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-20</td>
</tr>
<tr>
<td>VAV 29-20</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-19</td>
</tr>
<tr>
<td>VAV 29-19</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-18</td>
</tr>
<tr>
<td>VAV 29-18</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-17</td>
</tr>
<tr>
<td>VAV 29-17</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-16</td>
</tr>
<tr>
<td>VAV 29-16</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-15</td>
</tr>
<tr>
<td>VAV 29-15</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-14</td>
</tr>
<tr>
<td>VAV 29-14</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-13</td>
</tr>
<tr>
<td>VAV 29-13</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-12</td>
</tr>
<tr>
<td>VAV 29-12</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-11</td>
</tr>
<tr>
<td>VAV 29-11</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-10</td>
</tr>
<tr>
<td>VAV 29-10</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-09</td>
</tr>
<tr>
<td>VAV 29-09</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-08</td>
</tr>
<tr>
<td>VAV 29-08</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-07</td>
</tr>
<tr>
<td>VAV 29-07</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-06</td>
</tr>
<tr>
<td>VAV 29-06</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-05</td>
</tr>
<tr>
<td>VAV 29-05</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-04</td>
</tr>
<tr>
<td>VAV 29-04</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-03</td>
</tr>
<tr>
<td>VAV 29-03</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-02</td>
</tr>
<tr>
<td>VAV 29-02</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-01</td>
</tr>
<tr>
<td>VAV 29-01</td>
<td>130</td>
<td>6&quot;</td>
<td>330</td>
<td>650</td>
<td>400</td>
<td>VAV 29-00</td>
</tr>
</tbody>
</table>

SCHEDULES

01/29/2021

MECHANICAL SCHEDULES

SRC NO.: 16605/09-2017CM
**Air Handling Unit Cooling Coil Connection Detail**

- **Steam to Hot Water Heat Exchanger Detail**
- **Steam Pressure Reducing Station Detail**

### Description

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Steam To Hot Water Heat Exchanger</td>
</tr>
<tr>
<td>1</td>
<td>Steam Pressure Reducing Station</td>
</tr>
<tr>
<td>1</td>
<td>Air Handling Unit Cooling Coil Connection</td>
</tr>
</tbody>
</table>

**Sheet Title:**

- EAST TENNESSEE STATE UNIVERSITY
- LAMB HALL RENOVATION
- JOHNSON CITY, TENNESSEE

**SBC No.:** 166/005-09-2017CM

**Job No.:** 14038

**MECHANICAL DETAILS**

**Wall Legend:**

- 01/29/2021
- EXISTING PARTITION
- EXISTING PARTITION TO BE DEMOLISHED

**Globe Valve**

- Size: 1" 2.5"
- Type: Full Port

**Pressure Gauges**

- B&G Circuit Setter
- No Scale

**Drain Valves**

- Type: Manual Air Vent
- Size: 1" 2.5"
- Material: Stainless Steel

**Y-Strainers**

- Size: 1-1/4" NPT
- Part No.: 405009

**Steam Flow Meter**

- Equal to Dynasonics, Ultrasonic Style Meter Shall Be Capable of BAS Connectivity

**Heating Coil**

- Heat Exchanger: SU64-4
- Vacuum Breaker: #62
- Steam Regulator: 2100/1/2"/FP
- Spring Pressure Pilot: SPS-30 2-30

**Temperature Pilot**

- Type: STPA-200
- Range: 50 - 200

**Drip Traps**

- Type: FT125C-5
- PSIG: 125

**Circulating Pumps**

- Base Flashing
- Built-Up Roof

**Air Handler Pre & Re-Heating Coil Connection Detail**

- Steam to Hot Water Heat Exchanger
- Refrigerant Line - Route and Size as Required by Manufacture
- Liquid Line - Size as Required by Manufacture
- Vapor Line - Size as Required by Manufacture
- AC Unit Blower, Coil, and Filter - See Schedule
- Drip Trap
- Condensate Drain - See Plumbing Plans
- Supply and Return Air at Face of Unit

**Mini-Split Ductless Cooling Unit Detail**

- RUSKIN BV100 OR GREENHECK BVE Extruded Aluminum Brick Vent
- LOUVER SIZE
- MINIMUM 0.10" THICK BLADES
- CLEAR ANODIZED ALUMINUM FINISH
- MAX AIRFLOW (CFM)
- WATER STOP
- INSULATION FOAM GLASS SHIELD
- "H" Plus 1/4"

**Backdraft Damper**

- Ball Valve (Typ.)
- Size: 1" Air Vent Line
- Material: Stainless Steel
- Locking Nut

**Support Nut**

- Insulation Foam Glass Shield
- "H" Plus 1/4"

**Hanger Rod, Size Per Spec**

- 1" Air Vent Line
- Material: Stainless Steel

**Insect Screen**

- Minimum 0.10" Thick Blades
- Clear Anodized Aluminum Finish
- Dimensions: 1.5"

**Metal Stud**

- Minimum 0.10" Thick Blades
- Clear Anodized Aluminum Finish
- Dimensions: 1.5"
STEAM/WATER HEAT EXCHANGER POINTS LIST

<table>
<thead>
<tr>
<th>Heat Exchanger Leaving Temperature AI</th>
<th>Heating Exchanger Entering Temperature AI</th>
<th>Steam Valves AO</th>
<th>HW Supply Temperature</th>
<th>HW Return Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

HOT WATER SUPPLY SETPOINT SHALL BE RESET BASED UPON OUTSIDE AIR CONDITIONS. HOT WATER SUPPLY TEMPERATURE SHALL INITIALLY BE BASED ON THE RESET SCHEDULE BELOW (ALL SETPOINTS ADJ.).

The steam valve shall be interlocked so that it cannot operate unless either the lead or lag hot water pump is in operation. Upon failure of one pump, an alarm shall be generated and the other pump shall start and operate. The lead pump and lag (standby) pumps shall alternate runtime every 30 days (adj.).
CHILLED WATER SEQUENCE OF OPERATION:

Chilled water supplied from the main campus, district cooling with primary and secondary pumps. The chilled water system control shall be enabled by the DDC system and the lead tertiary pump shall start. The lead pump and lag (standby) tertiary selection shall be based on run time. The CW DP transmitter shall vary the speed of the respective pump to maintain differential pressure setpoint. Upon failure of lead tertiary CW pump, the lag or standby tertiary CW pump shall start and an alarm shall be generated. The lead tertiary CW pump selection shall be based on run time. The CW DP sensor/transmitter shall vary the speed of the respective pump to maintain differential pressure setpoint.

CHILLED WATER SYSTEM POINTS LIST

<table>
<thead>
<tr>
<th>Points Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWS - Temp (T1)</td>
<td>AI</td>
</tr>
<tr>
<td>Tertiary Chilled Water Pump #1 Remote Start/Stop</td>
<td>DO</td>
</tr>
<tr>
<td>Tertiary Chilled Water Pump #1 Status</td>
<td>AI</td>
</tr>
<tr>
<td>Tertiary Chilled Water Pump #1 Speed Setpoint</td>
<td>AO</td>
</tr>
<tr>
<td>Tertiary Chilled Water Pump #2 Speed</td>
<td>DO</td>
</tr>
<tr>
<td>Tertiary Chilled Water Pump #2 Failure Alarm</td>
<td>AI</td>
</tr>
<tr>
<td>Chilled Water Return Temp.</td>
<td>AI</td>
</tr>
<tr>
<td>Chilled Water Differential Pressure Sensor (located at entrance to original building)</td>
<td>AI</td>
</tr>
</tbody>
</table>

EAST TENNESSEE STATE UNIVERSITY
LAMB HALL RENOVATION
JOHNSON CITY, TENNESSEE

FISHER + ASSOCIATES
Architecture/Planning
511 TUSCULUM BOULEVARD
GREENEVILLE, TENNESSEE 37745
PH 423.823.0100
EMAIL JOHN@JOHNFISHERARCHITECT.COM

CHILLED WATER SEQUENCE OF OPERATION:

Chilled water supplied from the main campus, district cooling with primary and secondary pumps. The chilled water system control shall be enabled by the DDC system and the lead tertiary pump shall start. The lead pump and lag (standby) tertiary selection shall be based on run time. The CW DP transmitter shall vary the speed of the respective pump to maintain differential pressure setpoint. Upon failure of lead tertiary CW pump, the lag or standby tertiary CW pump shall start and an alarm shall be generated. The lead tertiary CW pump selection shall be based on run time. The CW DP sensor/transmitter shall vary the speed of the respective pump to maintain differential pressure setpoint.

CHILLED WATER SYSTEM POINTS LIST

<table>
<thead>
<tr>
<th>Points Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWS - Temp (T1)</td>
<td>AI</td>
</tr>
<tr>
<td>Tertiary Chilled Water Pump #1 Remote Start/Stop</td>
<td>DO</td>
</tr>
<tr>
<td>Tertiary Chilled Water Pump #1 Status</td>
<td>AI</td>
</tr>
<tr>
<td>Tertiary Chilled Water Pump #1 Speed Setpoint</td>
<td>AO</td>
</tr>
<tr>
<td>Tertiary Chilled Water Pump #2 Speed</td>
<td>DO</td>
</tr>
<tr>
<td>Tertiary Chilled Water Pump #2 Failure Alarm</td>
<td>AI</td>
</tr>
<tr>
<td>Chilled Water Return Temp.</td>
<td>AI</td>
</tr>
<tr>
<td>Chilled Water Differential Pressure Sensor (located at entrance to original building)</td>
<td>AI</td>
</tr>
</tbody>
</table>
**AHU-2,3 SEQUENCE OF OPERATION - VAV:**

1. **SUPPLY FAN START/STOP RELIEF AIR DAMPER COMMAND DISCHARGE (SUPPLY) AIR TEMPERATURE (SAT) DISCHARGE (SUPPLY) AIR FLOW RATE COOLING COIL DISCHARGE AIR TEMPERATURE PRE HEAT AIR TEMPERATURE MIXED AIR TEMPERATURE (MAT)**

2. **RETURN AIR FLOW RATE**

3. **THE PREHEAT TEMPERATURE SENSOR SHALL MODULATE THE PREHEAT VALVE TO MAINTAIN TEMPERATURE SETPOINT OF 55° F (ADJUSTABLE).**

4. **THE DISCHARGE AIR TEMPERATURE SENSOR SHALL MODULATE THE CHILLED WATER COIL VALVE (N.C.) TO MAINTAIN DISCHARGE AIR TEMPERATURE SETPOINT.**


6. **AIR FLOW MEASURING STATIONS (IN FAN INLETS) SHALL MEASURE THE SUPPLY AND RETURN AIR CFM. THE RETURN FAN SHALL TRACK THE SUPPLY FAN PROVIDING DIFFERENTIAL (SUPPLY AIR FLOW - MIN. O.A. + DIFF.) EQUAL TO THE MINIMUM O.A. SCHEDULED ON THE DRAWINGS. AIR FLOW MEASURING STATIONS SHALL MEASURE THE OUTDOOR AIR CFM.**

7. **THE DUCT STATIC PRESSURE SENSOR SHALL MODULATE THE SUPPLY AIR FAN VFD TO MAINTAIN SETPOINT. UPON FAN AIRFLOW REDUCING TO 60%, (ADJ.) PRESSURE SETPOINT SHALL BE ADJUSTED TO 75% (ADJ.) BALANCED VALUE UNTIL SUCH TIME ANY ZONE CANNOT MAINTAIN ZONE SETPOINT WITHIN 4 DEGREES (ADJ.). A STATIC PRESSURE HIGH LIMIT SENSOR DOWNSTREAM OF THE SUPPLY AIR FAN AND UPSTREAM OF THE SMOKE DAMPER SHALL SHUT THE UNIT DOWN IF A PRESSURE ABOVE 5-IN. W.C. (ADJUSTABLE) IS SENSED.**


10. **ACTIVATION OF SMOKE OR COMBINATION FIRE/SMOKE DAMPERS SHALL CAUSE UNIT TO SHUT DOWN VIA ALARM RELAY FROM FIRE ALARM SYSTEM. UNIT SHALL NOT OPERATE UNTIL ALARM CONDITION IS REMOVED AND SHALL BE E-STARTED ONLY WHEN MANUALLY INITIATED (OR THROUGH B.A.S.).**
EXHAUST FANS SHALL BE STARTED BY THE BAS AND RUN CONTINUOUSLY DURING OCCUPIED HOURS. PROVIDE OPERATION SCHEDULE FOR FAN THAT IS ADJUSTABLE THROUGH THE BAS SYSTEM.

VAV SEQUENCE OF OPERATION:

THE SPACE THERMOSTAT SHALL MODULATE THE VAV DAMPER (FROM MAXIMUM TO MINIMUM POSITION AS INDICATED ON MONITOR SUPPLY AIR FLOW CFM, LEAVING AIR TEMPERATURE, DAMPER CONTROL, HW VALVE POSITION, SPACE TEMPERATURE.

VARIABLE VOLUME TERMINAL UNITS (ALL) POINTS LIST

- SPACE TEMP AI
- HOT WATER CONTROL VALVE AO
- TERMINAL DAMPER AO
- LEAVING AIR TEMPERATURE AI

EXHAUST FANS POINTS LIST

- REMOTE START/STOP DO
- STATUS DI
- ALARM DI

SPLIT SYSTEM A.C. UNIT - IT COMM. POINTS LIST

- FAN STATUS DI
- SPACE HUMIDITY AI
- SPACE TEMP AI
- STATUS DI
- ALARM DI

VARIABLE FREQUENCY DRIVES (VFD) (ALL)

- SPEED AO
- FAULT INTEGRATION
- REMOTE START/STOP DO
- KW INTEGRATION

SPLIT SYSTEM CONTROL (COOLING ONLY) AC1-11

- COOLING SHALL BE ENERGIZED ANYTIME ROOM TEMPERATURE EXCEEDS LOCAL ROOM TEMPERATURE SET POINT.
- ONCE ROOM TEMPERATURE RETURNS TO SET POINT MINUS A DIFFERENTIAL, COOLING SHALL BE DE-ENERGIZED.
- SUPPLY FAN MODE SHALL BE SELECTABLE BY OWNER FOR EITHER "AUTO" OR "ON". DURING THE "AUTO" MODE, SUPPLY FAN SHALL CYCLE WITH CALL FOR COOLING. DURING THE "ON" MODE, SUPPLY FAN SHALL OPERATE CONTINUOUSLY.
PACKAGED UNIT SEQUENCE OF OPERATION (RTU-1 THROUGH RTU-8):

1. CHILLED WATER/HOT WATER FAN COIL UNIT POINTS LIST

<table>
<thead>
<tr>
<th>ROOM TEMPERATURE</th>
<th>DISCHARGE AIR TEMPERATURE</th>
<th>AI</th>
<th>AI</th>
<th>AI</th>
<th>AI</th>
<th>BI</th>
<th>BI</th>
<th>BI</th>
<th>BI</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMPERATURE SETPOINT</td>
<td>RETURN AIR TEMPERATURE</td>
<td>SUPPLY FAN STATUS</td>
<td>COOLING STATUS</td>
<td>HEATING STATUS</td>
<td>LOW TEMPERATURE ALARM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUPPLY FAN COMMAND:

SUPPLY FAN CONTROL:
The units shall be energized by a hand-off-auto switch and shall be energized by the BAS system in the "auto" position and manual by indexing the HOA switch to the "hand" position. The unit shall operate continuously or as scheduled by the BAS.

SUPPLY FAN SPEED SHALL VARY IN DIRECT RELATION TO THE COOLING COMMAND, DOWN TO 60%.

FAN COIL UNIT SEQUENCE OF OPERATION

CHILLED WATER COOLING TEMPERATURE CONTROL:
In order to maintain desired space temperature set point during occupied mode, the BAS shall generate an alarm if the space temperature rises/falls 3° F from the active zone temperature set point.

HOT WATER HEATING TEMPERATURE CONTROL:
In order to maintain desired space temperature set point during occupied mode, the BAS shall generate an alarm if the space temperature rises/falls 3° F from the active zone temperature set point.

CONDENSATE PAN ALARM:
The auxiliary drain pan shall be equipped with float switch to shut unit off upon detection of condensate overflow. The BAS system shall generate an alarm.

CHILLED WATER/HOT WATER FAN COIL UNIT POINTS LIST

<table>
<thead>
<tr>
<th>ROOM TEMPERATURE</th>
<th>DISCHARGE AIR TEMPERATURE</th>
<th>AI</th>
<th>AI</th>
<th>AI</th>
<th>AI</th>
<th>BI</th>
<th>BI</th>
<th>BI</th>
<th>BI</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMPERATURE SETPOINT</td>
<td>RETURN AIR TEMPERATURE</td>
<td>SUPPLY FAN STATUS</td>
<td>COOLING STATUS</td>
<td>HEATING STATUS</td>
<td>LOW TEMPERATURE ALARM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUPPLY FAN COMMAND:

SUPPLY FAN CONTROL:
The units shall be energized by a hand-off-auto switch and shall be energized by the BAS system in the "auto" position and manual by indexing the HOA switch to the "hand" position. The unit shall operate continuously or as scheduled by the BAS.

SUPPLY FAN SPEED SHALL VARY IN DIRECT RELATION TO THE COOLING COMMAND, DOWN TO 60%.

FAN COIL UNIT SEQUENCE OF OPERATION

CHILLED WATER COOLING TEMPERATURE CONTROL:
In order to maintain desired space temperature set point during occupied mode, the BAS shall generate an alarm if the space temperature rises/falls 3° F from the active zone temperature set point.

HOT WATER HEATING TEMPERATURE CONTROL:
In order to maintain desired space temperature set point during occupied mode, the BAS shall generate an alarm if the space temperature rises/falls 3° F from the active zone temperature set point.

CONDENSATE PAN ALARM:
The auxiliary drain pan shall be equipped with float switch to shut unit off upon detection of condensate overflow. The BAS system shall generate an alarm.

CHILLED WATER/HOT WATER FAN COIL UNIT POINTS LIST

<table>
<thead>
<tr>
<th>ROOM TEMPERATURE</th>
<th>DISCHARGE AIR TEMPERATURE</th>
<th>AI</th>
<th>AI</th>
<th>AI</th>
<th>AI</th>
<th>BI</th>
<th>BI</th>
<th>BI</th>
<th>BI</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMPERATURE SETPOINT</td>
<td>RETURN AIR TEMPERATURE</td>
<td>SUPPLY FAN STATUS</td>
<td>COOLING STATUS</td>
<td>HEATING STATUS</td>
<td>LOW TEMPERATURE ALARM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SUPPLY FAN COMMAND:

SUPPLY FAN CONTROL:
The units shall be energized by a hand-off-auto switch and shall be energized by the BAS system in the "auto" position and manual by indexing the HOA switch to the "hand" position. The unit shall operate continuously or as scheduled by the BAS.

SUPPLY FAN SPEED SHALL VARY IN DIRECT RELATION TO THE COOLING COMMAND, DOWN TO 60%.

FAN COIL UNIT SEQUENCE OF OPERATION

CHILLED WATER COOLING TEMPERATURE CONTROL:
In order to maintain desired space temperature set point during occupied mode, the BAS shall generate an alarm if the space temperature rises/falls 3° F from the active zone temperature set point.

HOT WATER HEATING TEMPERATURE CONTROL:
In order to maintain desired space temperature set point during occupied mode, the BAS shall generate an alarm if the space temperature rises/falls 3° F from the active zone temperature set point.

CONDENSATE PAN ALARM:
The auxiliary drain pan shall be equipped with float switch to shut unit off upon detection of condensate overflow. The BAS system shall generate an alarm.

CHILLED WATER/HOT WATER FAN COIL UNIT POINTS LIST

<table>
<thead>
<tr>
<th>ROOM TEMPERATURE</th>
<th>DISCHARGE AIR TEMPERATURE</th>
<th>AI</th>
<th>AI</th>
<th>AI</th>
<th>AI</th>
<th>BI</th>
<th>BI</th>
<th>BI</th>
<th>BI</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMPERATURE SETPOINT</td>
<td>RETURN AIR TEMPERATURE</td>
<td>SUPPLY FAN STATUS</td>
<td>COOLING STATUS</td>
<td>HEATING STATUS</td>
<td>LOW TEMPERATURE ALARM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
DEMOLITION KEY NOTES:

1. REMOVE EXISTING DUCTLESS MINI SPLIT SYSTEM.
2. EXISTING FLOOR MOUNTED FAN COIL AND THERMOSTAT TO BE REMOVED.
3. EXISTING FLOOR MOUNTED FAN COIL TO BE REMOVED. CAP PIPING CONCEALED ABOVE CEILING.
4. EXISTING VENTILATION SUPPLY AIR DUCTWORK AND GRILLES TO REMAIN, UNLESS OTHERWISE INDICATED.
5. REMOVE EXISTING SUSPENDED FAN COIL AND ASSOCIATED CONTROLS. CAP ALL PIPING CONCEALED ABOVE CEILING.
6. EXISTING EXHAUST DUCT TO REMAIN.
7. REFER TO SHEET M116 FOR DEMOLITION WORK IN THIS ROOM.
8. REMOVE EXISTING EXHAUST GRILLE.
EXISTING CHILLED WATER/HOT WATER SUSPENDED FAN COIL TO REMAIN.

EXISTING CHILLED WATER/HOT WATER SUSPENDED FAN COIL TO BE REMOVED.

EXISTING DUCTWORK DISTRIBUTION, GRILLES, AND CONTROLS TO REMAIN IN

EXISTING FLOOR MOUNTED FAN COIL TO BE REPLACED. TEMPORARILY CAP HYDRONIC PIPING IN

REMOVE EXISTING WALL MOUNTED EXHAUST FAN.

MAIN LEVEL MECHANICAL FLOOR PLAN

REMOVE EXISTING AIR HANDLER AND ALL ASSOCIATED HYDRONIC PIPING.

EXISTING EXHAUST HOOD AND ASSOCIATED FAN TO REMAIN.

REMOVE ALL EXISTING MECHANICAL SYSTEMS IN ORIGINAL BUILDING UNLESS NOTED

2021-01-29

FILE

SHEET DATE

M011

EAST TENNESSEE STATE UNIVERSITY
LAMB HALL RENOVATION
JOHNSON CITY, TENNESSEE
SBC NO.: 16-005-00-2017CM

1/8" = 1'-0"

MECHANICAL

DEMOLITION

FILE

01/29/2021

SHEET TITLE:

- DEMOLITION
- MAIN LEVEL MECHANICAL FLOOR PLAN - DEMOLITION
EXISTING FLOOR MOUNTED CHILLED WATER/HOT WATER FAN COIL TO REMOVE ALL EXISTING SUPPLY DUCTWORK, GRILLES, AND CONTROLS IN 9

REMOVE EXISTING SPLIT SYSTEM AIR HANDLER AND ALL ASSOCIATED REMOVE EXISTING AIR HANDLER. CAP HYDRONIC PIPING BACK AT MAIN

REMOVE ALL EXISTING EXHAUST DUCTWORK AND GRILLES IN THIS AREA.

EXISTING FLOOR MOUNTED CHILLED WATER/HOT WATER FAN COIL TO BE DEMOLITION

EXISTING FLOOR MOUNTED FAN COIL TO BE REPLACED. REMOVE FAN COIL EXISTING VENTILATION SUPPLY DUCTWORK AND GRILLES TO REMAIN.

SECOND LEVEL MECHANICAL FLOOR PLAN
EXISTING CHILLED WATER/HOT WATER FLOOR MOUNTED FAN COIL TO BE REPLACED.

EXISTING CHILLED WATER/HOT WATER SUSPENDED FAN COIL TO BE REMOVED AND EXISTING CHILLED WATER/HOT WATER SUSPENDED FAN COIL TO BE REPLACED. EXISTING FAN COIL TO REMAIN.

REMOVE EXISTING EXHAUST DUCTWORK AND RISER UP TO ROOF.

REMOVE ALL EXISTING DUCTWORK, DIFFUSERS, HANGERS, HYDRONIC PIPING IN THIS FOURTH LEVEL MECHANICAL FLOOR PLAN.

EXISTING CHILLED WATER/HOT WATER FLOOR MOUNTED FAN COIL TO BE REMOVED. EXISTING EXHAUST HOOD AND ASSOCIATED TO REMAIN.

DEMOLITION EXISTING CHILLED WATER/HOT WATER SUSPENDED FAN COIL, RELOCATED FROM WALL LEGEND.

REV. DESCRIPTION

FILE NO.: 160806-00-207CM

SBC NO.: 166/005-09-2017CM
REMOVE EXISTING HYDRONIC PUMPS AND ASSOCIATED PIPING.
EXISTING EXHAUST FAN TO REMAIN
REMOVE EXISTING ROOF MOUNTED EXHAUST FAN AND ASSOCIATED PIPING.
EXISTING CHILLED WATER/HOT WATER SUSPENDED FAN COIL TO REMAIN.
EXISTING FLOOR MOUNTED FAN COIL TO REMAIN.
REMOVE EXISTING AIR HANDLER AND ALL ASSOCIATED PIPING.
DEMOLITION
EXISTING INCINERATOR AND ASSOCIATED EXHAUST FAN TO REMAIN.
EXISTING EXHAUST FAN TO BE REMOVED.

EAST TENNESSEE STATE UNIVERSITY
LAMB HALL RENOVATION
JOHNSON CITY, TENNESSEE
SBC NO.: 166/005-09-2017CM

PENTHOUSE MECHANICAL PLANT - DEMOLITION

DEMOLITION
EXISTING INCINERATOR AND ASSOCIATED EXHAUST FAN TO REMAIN.
EXISTING EXHAUST FAN TO BE REMOVED.

EXISTING HEAT EXCHANGER AND ALL ASSOCIATED STEAM PIPING.
EXISTING EXHAUST GRILLE. PATCH ROOF AND CEILING AS REQUIRED.
EXISTING LOUVER TO REMAIN.
EXISTING LOUVER TO REMAIN.
EXISTING CONDENSING UNIT TO REMAIN.
EXISTING EXHAUST FAN AND ASSOCIATED DUCTWORK TO BE REMOVED.
EXISTING LOUVER TO BE BLANKED OFF IN PLACE.

NEW FAN COIL IN EXISTING LOCATION. CONNECT TO 16
EXISTING FAN COIL TO REMAIN.

EXISTING VENTILATION SUPPLY TO REMAIN, 100 CFM.

TO ROOF VIA CHASE AS SHOWN.
EXISTING VENTILATION AIR SYSTEM AND DUCTWORK TO REMAIN.

SECOND LEVEL MECHANICAL FLOOR PLAN

EXISTING PARTITION TO BE DEMOLISHED

MECHANICAL

CONNECT NEW 6" Ø DUCT TO EXISTING VENTILATION AIR SUPPLY TO REMAIN, 300 CFM.

CONTINUE DOWN TO FLOOR BELOW.

DUCT MOUNTED SMOKE DETECTOR.
TFCU CONNECT NEW 1" CHWS/CHWR AND 1" HWS/HWR AND 3/4" CONDENSATE FROM EXITING PIPING IN THIS LOCATION.

CONNECT NEW 3/4" CHWS/CHWR AND 3/4" HWS/HWR AND 3/4" CONDENSATE FROM EXITING PIPING IN EXISTING 3/4" CHILLED WATER SUPPLY/RETURN AND 3/4" HOT WATER SUPPLY/RETURN UP TO SERVE NEW FAN COIL IN EXISTING LOCATION. CONNECT TO EXISTING 3/4" CHWS, CHWR AND CONDENSATE IN THIS LOCATION.

CAP HYDRONIC PIPING BACK AT MAINS.

2 HR PARTITION (ASSEMBLY VARIES)
1 HR PARTITION (ASSEMBLY VARIES)
NEW PARTITION (ASSEMBLY VARIES)
EXISTING PARTITION
EXISTING PARTITION TO BE DEMOLISHED

NEW FAN COIL IN EXISTING LOCATION. CONNECT TO EXISTING 3/4" CHWS, CHWR AND CONDENSATE IN THIS LOCATION.

(E) 3/4" CHWS, CHWR, HWS, HWR UP TO ABOVE

(E) 3/4" CONDENSATE AT THIS LOCATION.

(E) 6" CHILLED WATER SUPPLY UP
(E) 6" CHILLED WATER RETURN UP
(E) 6" HOT WATER SUPPLY UP
(E) 6" CONDENSER WATER SUPPLY UP
(E) 6" CONDENSER WATER RETURN UP

CARDIOPULMONARY MECHANICAL

HANDLER TO CORRIDOR REMAIN

STAIR/ CORRIDOR STAIR/ CORRIDOR STAIR/ CORRIDOR STAIR/ CORRIDOR

T-23

ISOLATION/ TESTING LAB TESTING LAB TESTING LAB TESTING LAB

HYDRONIC FLOOR PLAN

1/8" = 1'

KEY NOTES:

1

7

3/4" CONDENSATE AT THIS LOCATION.

REMAIN.
EXISTING FLOOR MOUNTED FAN COIL AND ASSOCIATED HYDRONIC PIPING TO REMAIN.

CONNECT NEW 3/4" HWS/HWR AND NEW 3/4" CHWS/CHWR PIPING TO NEW FAN COIL IN THIS LOCATION.

NEW 5" HWS/HWR PIPING UP TO FLOOR ABOVE.

CONNECT NEW 1" CHWS/CHWR AND 3/4" HWS/HWR PIPING TO NEW FAN COIL.

CONNECT NEW 1 1/2" CHWS/CHWR AND 1" HWS/HWR TO NEW FAN COIL. CONNECT TO EXISTING

SECOND LEVEL HYDRONIC FLOOR PLAN

EMAIL JOHN@JOHNFISHERARCHITECT.COM
PH 423.823.0100
GREENEVILLE, TENNESSEE 37745
CONNECT NEW FAN COIL TO EXISTING 1" CHWS/CHWR IN THIS LOCATION.
EXISTING 3/4" CHWS/CHWR, 3/4" HWS/HWR UP TO SERVE FAN COIL ABOVE.

THIRD LEVEL HYDRONIC FLOOR PLAN
CONNECT NEW FAN COIL TO 1" CHWS/CHWR AND 3/4" HWS/HWR.

EXISTING PARTITION
EXISTING PARTITION TO BE DEMOLISHED
EXISTING FAN COIL TO REMAIN.

4" CHWS/CHWR DOWN FROM PENTHOUSE. 2 1/2" CHWS/CHWR DOWN TO FLOOR BELOW.

CONNECT NEW 1" CHWS/CHWR AND 3/4" HWS/HWR TO NEW FAN COIL.

CONNECT NEW 3/4" CHWS/CHWR AND 3/4" HWS/HWR TO NEW FAN COIL.

3" HWS/HWR DOWN FROM PENTHOUSE. 2 1/2" HWS/HWR DOWN TO FLOOR BELOW.
CONNECT NEW PLUMBING FIXTURES TO EXISTING SANITARY SEWER & VENT PIPING FROM PLUMBING FIXTURES BEING DEMOLISHED.

DEMOLISH UNUSED SANITARY AND VENT BACK TO FLOOR/WALL/CEILING, CAP AND SEAL WATERTIGHT.

4"AW(EX) FROM ABOVE TO BELOW FLOOR

ROUTE AND CONNECT 3"SS TO EXISTING 6"SS

VACUUM SYSTEM "B" (EXISTING TO REMAIN)
VACUUM SYSTEM "A" (EXISTING TO REMAIN)

NEW COMPRESSED AIR DRYER, INGERSOL RAND D170IT
EXISTING COMPRESSED AIR TANK

NEW AIR COMPRESSOR, INGERSOL RAND W22ie, (30 HP 91 CFM)
EXISTING VACUUM SERVICE TO REMAIN

CONTRACTOR TO VERIFY EXISTING DRAIN IN PIT. IF DRAIN EXISTS, VERIFY FUNCTIONALITY AND RECTIFY ANY ISSUES WITH DRAINAGE.

EXISTING PARTITION TO BE DEMOLISHED
EXISTING PARTITION
1 HR PARTITION (ASSEMBLY VARIES)
2 HR PARTITION (ASSEMBLY VARIES)

WALL LEGEND

FISHER + ASSOCIATES
Architecture/Planning
511 TUSCULUM BOULEVARD
GREENEVILLE, TENNESSEE 37745
PH 423.823.0100
EMAIL JOHN@JOHNFISHERARCHITECT.COM

EAST TENNESSEE STATE UNIVERSITY
LAMB HALL RENOVATION
SBC NO.: 166/005-09-2017CM

SHEET DATE: 1/29/2021
1/4" = 1'
1/2" DOMESTIC WATER PIPING UP EXISTING 4" CW ENTRANCE

EXISTING VAC & COMPRESSED AIR UP TO DENTAL AREA

3" NG (EX) GAS METER RELOCATED, CONNECT NEW 3" NG TO EXISTING 3" NG

3" NG FROM ABOVE

VACUUM SYSTEM "B" (EXISTING TO REMAIN)

VACUUM SYSTEM "A" (EXISTING TO REMAIN)

EXISTING VACUUM SERVICES TO REMAIN

3" CW

DEMOLISH PLUMBING TO DARK ROOM SINK. CAP AND SEAL CW/HW BACK TO CEILING.

KEYED NOTES:
ROUTE AND CONNECT 1/2" CW/HW TO EXISTING. REFER TO SHEET P211 FOR CONTINUATION.
ROUTE AND CONNECT 1/2" COMPRESSED AIR TO EXISTING. REFER TO SHEET P211 FOR CONTINUATION.
ROUTE AND CONNECT 1 1/2" VAC TO EXISTING. REFER TO SHEET P211 FOR CONTINUATION.
ROUTE AND CONNECT 2" VAC TO EXISTING. REFER TO SHEET P211 FOR CONTINUATION.

1/2" O2, VAC & COMPRESSED AIR TO MEDICAL HEADER.

PROVIDE ACCESSIBLE ISOLATION VALVES FOR SERVICE PRIOR TO HEADER. (TYP.)

EXISTING PARTITION TO BE DEMOLISHED

EXISTING PARTITION

1 HR PARTITION (ASSEMBLY VARIES)

2 HR PARTITION (ASSEMBLY VARIES)

NEW PARTITION (ASSEMBLY VARIES)

EXISTING COMPRESSED AIR TANK TO REMAIN

WATER FILTRATION (TO REMAIN)

NEW AIR COMPRESSOR, INGERSOL RAND W22ie, (30 HP 91 CFM)

NEW COMPRESSED AIR DRYER, INGERSOL RAND D170IT

PROVIDE ONICON F-5500 THERMAL MASS FLOW METER TO NATURAL GAS MAIN IN BUILDING.

PROVIDE ONICON F-5500 THERMAL MASS FLOW METER.
TOTAL CONNECTED LOAD OF 3,167 MBTU, LONGEST RUN OF 200'.

GAS REGULATOR 2PSI TO 10" W.G. 3" NG

133

171

3/4" AIR

GRAD STUDENTS

117

A

DN

1" AIR

5

STORAGE

COORDINATE WITH OWNER

SUPPLIED EQUIPMENT (TYP. 6)

A(EX)

VAC(EX)

COMPRESSED AIR, VACUUM, NATURAL GAS & DOMESTIC WATER SERVICES THROUGHOUT CORRIDOR

RAY

VAC(EX)

MAINTAIN CURRENT SERVICES FOR THIS AREA.

EXISTING CW & HW PIPING FROM PLUMBING

122e

113e

WC2

WC2

RESTROOM

RESTROOM

L2

L2

G(EX)

A(EX)

VAC(EX)

OFFICE 5

CORRIDOR

VAC(EX)

OFFICE 2

CORRIDOR

1/2" HWR

WC1

WC1

DEPARTMENT

EXISTING SERVICES IN THIS AREA TO REMAIN UNLESS OTHERWISE NOTED

JOHNSON CITY, TENNESSEE SBC NO.: 166/005-09-2017CM
CONNECTED LOAD 120 MBTU.
PROVIDE REGULATOR (2 PSI TO 10" - 14" W.G.) PRIOR TO CONNECTION

CONNECTED LOAD 180 MBTU.
PROVIDE REGULATOR (2 PSI TO 10" - 14" W.G.) PRIOR TO CONNECTION

EXISTING 1 1/2" NG, 1 1/2" CW, 1" HW & 1/2" HWR UP FROM BELOW, ROUTED BELOW ABOVE 4TH FLOOR CEILING

EXISTING 1" DISTILLED WATER DOWN TO BELOW

EXISTING PARTITION TO BE DEMOLISHED

WALL LEGEND

NEW PARTITION (ASSEMBLY VARIES)

1 HR PARTITION (ASSEMBLY VARIES)

2 HR PARTITION (ASSEMBLY VARIES)
NEW DOMESTIC WATER BFP/PRV, REFER TO DETAIL ON SHEET P000

L2
L2
WC1
WC1
MECHANICAL
ELEV.
ELEV.
EQUIP.
EQUIP.
JAN
MEN
WOMEN
CONNECT NEW PLUMBING FIXTURES TO EXISTING DOMESTIC WATER PIPING FROM PLUMBING FIXTURES BEING DEMOLISHED.

VACUUM SYSTEM "B" (EXISTING TO REMAIN)
VACUUM SYSTEM "A" (EXISTING TO REMAIN)

NEW COMPRESSED AIR DRYER, INGERSOL RAND D170IT
EXISTING COMPRESSED AIR TANK TO REMAIN

WATER FILTRATION (TO REMAIN)
LIQUID NITROGEN GENERATOR (TO BE REMOVED)
REFER TO FIRE PROTECTION DRAWING FOR FIRE PUMP LOCATION.

DOMESTIC HOT WATER HEAT EXCHANGER, REFER TO DETAIL ON SHEET P001

CONDENSATE COLLECTION SYSTEM TO HVAC HOT WATER SYSTEM

DOMESTIC HW EXPANSION TANKS

NEW AIR COMPRESSOR, INGERSOL RAND W22ie, (30 HP 91 CFM)
2"AIR(EX), 1 1/2"NG(EX), 2 1/2"CW(EX), 1 1/2"HW(EX) & 3/4"HWR(EX). REFER TO SHEET P211 FOR CONTINUATION

EXISTING VACUUM SERVICE TO REMAIN

HW RECIRC PUMP

NEW 1 1/2"HW BYPASS FROM PLANT (FIELD CONNECT IN TUNNEL +/- 25 FT.)
NEW 1"HWR BYPASS FROM PLANT (FIELD CONNECT IN TUNNEL +/- 25 FT.)

EXISTING 4"CW SERVICE HB1
HOSE BIBB TO BE REPLACED

G(EX)
3"NG (EX)
G(EX)
1/2" CW
G(EX)
3/4" O2
G(EX)
1/2" HW
G(EX)
3/4"AIR(EX), 3"NG(EX), 3"CW(EX), 2"HW(EX) & 1"HWR(EX) UP TO ABOVE.

ROUTE 1/2"CW/HW TO NEAREST CW/HW OF EQUAL SIZE OR GREATER AT RESTROOMS

OXYGEN TANK STORAGE, CONTRACTOR TO PROVIDE MANIFOLD, TANKS BY OWNER'S SUPPLIER.

3/4"AIR(EX), 3"NG(EX), 3"CW(EX), 2"HW(EX) & 1"HWR(EX) UP TO ABOVE.

BFP, FOR MECH. MAKE UP WATER PROVIDE ONICON F -5500 THERMAL MASS FLOW METER TO MAKEUP WATER PIPING FOLLOWING BFP.

PROVIDE ONICON F -5500 THERMAL MASS FLOW METER TO MAIN CW PIPING FOLLOWING BFP.

EXISTING PARTITION TO BE DEMOLISHED
EXISTING PARTITION
1 HR PARTITION (ASSEMBLY VARIES)
2 HR PARTITION (ASSEMBLY VARIES)
WALL LEGEND
NEW PARTITION (ASSEMBLY VARIES)
## Fire Sprinkler System Notes:

1. INSTALL A WET SPRINKLER SYSTEM throughout the building. These drawings are schematic for design intent only and the design flow test data.

2. Finish including sleeve: rough chrome.

3. Vertical rise loss/gain 32.46 PSI. Design area (square footage) 1500 sq. ft.

4. Pipe C factor (Ductile Iron C-100) 100.

5. Joint type, with cement mortar lining and seal coat according to AWWA C104. Include clapper for each hose.

6. Design density (NFPA 13 or supplied by insurance company) 0.1.


8. Residual @ 60 PSI - 1138 GPM.

9. Square footage spacing x density = GPM sprinkler head (Q) 22.5 gpm.

10. K-factor of sprinkler head (K) 5.6 (K).

11. Backflow preventer loss 7 PSI.

12. Pressure at highest point 73.99 PSI.


15. Pipe C factor (Ductile Iron C-100) 100.

16. Design density (NFPA 13 or supplied by insurance company) 0.1.

17. Backflow preventer loss 7 PSI.

18. Pressure at highest point 73.99 PSI.

### Design Data Sheet

#### Flow Test Data

- **Flow (GPM):** 1138 gpm
- **Vertical Rise Loss/Gain:** 32.46 PSI
- **Design Area (Square footage):** 1500 sq. ft.
- **Pipe C factor:** Ductile Iron C-100 100
- **Distance:**
  - Riser to farthest point distance 280 ft
  - Hydrant to base of riser 8 in
  - Elevation difference from test hydrant to base of riser x .433 -10 ft
  - Vertical rise loss/gain 32.46 PSI
  - Pressure at highest point 73.99 PSI
  - Estimated friction drop thru fire line 4.94 psi/ft

#### Design Calculations

- **Design Density (NFPA 13 or supplied by insurance company):** 0.1
- **Available Pressure:** 3000 psi
- **K-factor of sprinkler head (K):** 5.6 (K)
- **Backflow preventer loss:** 7 PSI
- **Pressure at highest point:** 73.99 PSI
- **Flow (GPM):** 1138 gpm
- **Square footage spacing x density = GPM sprinkler head (Q):** 22.5 gpm
- **K-factor of sprinkler head (K):** 5.6 (K)
- **Backflow preventer loss:** 7 PSI
- **Pressure at highest point:** 73.99 PSI
- **Flow (GPM):** 1138 gpm

#### Standard Sprinkler System

- **Sprinkler head compliant with NFPA 13:**
  - Quick response 5.6 155° upright
  - Quick response, dry 5.6 155° pendent
  - Quick response, extended coverage 175 V3416
  - Quick response, extended coverage, dry 175 TY3338
  - Wall quick response, extended coverage, dry 175 V3416
  - Wall quick response, extended coverage 175 V3418

#### Fire Protection Notes & Legends

- **120V Electric Alarm Bell**
- **VICTAULIC VICTAULIC**
- **WATER GUARD**
- **BACKFLOW PREVENTOR**
- **FLEXIBLE COUPLING LATERAL BRACE LONGITUDINAL BRACE 4-WAY BRACE**
- **SWIVEL SWAY BRACE FITTING**
- **VINYL HOSE**
- **STEEL PIPE: ERW OR CW SCHEDULE 10 OR 40. ALL FITTINGS SHALL COMPLY WITH NFPA 13.**

#### Table: Standpipe Design Req.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Requirement</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

#### Table: Preliminary Sprinkler Calculation Sheet

- **Flow (GPM):** 1138 gpm
- **Vertical Rise Loss/Gain:** 32.46 PSI
- **Design Area (Square footage):** 1500 sq. ft.
- **Pipe C factor:** Ductile Iron C-100 100
- **Distance:**
  - Riser to farthest point distance 280 ft
  - Hydrant to base of riser 8 in
  - Elevation difference from test hydrant to base of riser x .433 -10 ft
  - Vertical rise loss/gain 32.46 PSI
  - Pressure at highest point 73.99 PSI
  - Estimated friction drop thru fire line 4.94 psi/ft

#### Flow Test Data

- **Flow (GPM):** 1138 gpm
- **Vertical Rise Loss/Gain:** 32.46 PSI
- **Design Area (Square footage):** 1500 sq. ft.
- **Pipe C factor:** Ductile Iron C-100 100
- **Distance:**
  - Riser to farthest point distance 280 ft
  - Hydrant to base of riser 8 in
  - Elevation difference from test hydrant to base of riser x .433 -10 ft
  - Vertical rise loss/gain 32.46 PSI
  - Pressure at highest point 73.99 PSI
  - Estimated friction drop thru fire line 4.94 psi/ft

#### Design Calculations

- **Design Density (NFPA 13 or supplied by insurance company):** 0.1
- **Available Pressure:** 3000 psi
- **K-factor of sprinkler head (K):** 5.6 (K)
- **Backflow preventer loss:** 7 PSI
- **Pressure at highest point:** 73.99 PSI
- **Flow (GPM):** 1138 gpm
- **Square footage spacing x density = GPM sprinkler head (Q):** 22.5 gpm
- **K-factor of sprinkler head (K):** 5.6 (K)
- **Backflow preventer loss:** 7 PSI
- **Pressure at highest point:** 73.99 PSI
- **Flow (GPM):** 1138 gpm
### Fire Protection Details & Standpipe Sections

#### Sheet Title: Fire Pump Detail

#### Sheet Date: 1/29/2021

<table>
<thead>
<tr>
<th>Item</th>
<th>Description &amp; Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Provide drilled flanges for pressure gauges.</td>
</tr>
<tr>
<td>B.</td>
<td>Do not select pump for impeller diameter greater than 80% of maximum.</td>
</tr>
<tr>
<td>C.</td>
<td>Do not support piping with pump.</td>
</tr>
<tr>
<td>D.</td>
<td>Provide soft start.</td>
</tr>
<tr>
<td>E.</td>
<td>Components included: jockey pump.</td>
</tr>
</tbody>
</table>

#### Accessory & Features:

- **Suction and Discharge Gauges**
- **Check Valve(s)**
- **Line Size Test Tee**
- **Casing Relief Valve**
- **Sensing Line(s)**
- **Bypass Line**

#### Pump Schedule:

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description &amp; Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP001</td>
<td>Fire Pump, 8x8x18F with motor, 182'-6.72&quot; (182'-6.72&quot;) DIA. (INCHES)</td>
</tr>
<tr>
<td></td>
<td>17.2 3550 100 95 psi 1,000 8&quot; 8&quot; 460/3/60 Bell &amp; Gossett</td>
</tr>
</tbody>
</table>

#### Notes:

- Components included:
  - Jockey pump
  - Check valve(s)
  - Line size test tee
  - Casing relief valve
  - Sensing line(s)
  - Bypass line

- Fire protection details & standpipe sections.
3B
SECTION A-A

TOP VIEW

1. Wall Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600 - 2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete.

2. Through Penetrants - One nonmetallic pipe or conduit to be centered within opening with a nominal 1/4 in. (6 mm) annular space between pipe or conduit and periphery of opening. Pipe or conduit to be:
   - A. Polyvinyl Chloride (PVC) Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 40 solid core or cellular core PVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   - B. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Nom 4 in. (102 mm) diam (or smaller) SDR13.5 CPVC pipe.
   - C. Chlorinated Polyvinyl Chloride (CPVC) Pipe - Nom 2 in. (51 mm) diam (or smaller) SDR11 or Nom 4 in. (102 mm) diam (or smaller) SDR11, OR Nom 4 in. (102 mm) diam (or smaller) SDR11.
   - D. Polyvinylidene Fluoride (PVDF) Pipe - Nom 2 in. (51 mm) diam (or smaller) SDR 11, or Nom 4 in. (102 mm) diam (or smaller) SDR 11.
   - E. Copper - Tubing Nom 6 in. (or smaller) Type L (or heavier) copper tube.

3. Packing Material - Polyethylene backer rod or Nom 1 in. thickness of tightly-packed mineral wool. If metallic pipes, the packing material shall be installed on both sides of the wall. Any metallic pipes shall be wrapped in a metal collar with the edges butted against the surface of the wall.

4. Fill, Void or Cavity Materials - Wrap strip - Nom 1/4 in. (6 mm) thick intumescent elastomeric material faced on one side with the edges butted against the surface of the wall. Sufficient layers of wrap strip shall be installed.

5. Fill, Void or Cavity Materials - Sealant (optional, not shown) - For floor assemblies, a minimum 1/2 in. to Nom 2 in. diam pipes, a minimum of one layer of wrap strip is required. For Nom 2-1/2 in. diam pipes, a minimum of three layers of wrap strip is required. Each layer of wrap strip to be installed with a minimum 3/4 in. (19 mm) long tabs to retain wrap strip layers. Coils of precut 0.016 in. (0.41 mm) thick (No. 30 28 gauge) galvanized sheet metal available from wrap strip manufacturer. Steel collar, with anchor tabs bent outward 90 degrees, wrapped tightly around the pipe to lock wrap strip layers into position.

6. Fill, Void or Cavity Materials - Compress collar around wrap strip layers using a minimum 1/2 in. (13 mm) wide by 0.028 in. (0.71 mm) thick stainless steel band. Wrapping shall be installed around the periphery of the wrap strip layers.

7. Fill, Void or Cavity Materials - Firestop Device - (Not shown) - As an alternate to Item A and B when Nom 1-1/2, 2, 3 or 4 in. metallic pipes are used, a firestop device consisting of a sheet-steel split collar lined with a 3M Company - Type CP 25WB+, IC 15WB+, FD-150+ CAULK, FB-3000 WT SEALANT OR MP+ STIX PUTTY.

8. Fill, Void or Cavity Materials - Firestop Device - As an alternate to Item A and B when Nom 1-1/2, 2, 3 or 4 in. metallic pipes are used, a firestop device consisting of a sheet-steel split collar lined with a 3M Company - Type CP 25WB+, IC 15WB+, FD-150+ CAULK, FB-3000 WT SEALANT OR MP+ STIX PUTTY.

9. Fill, Void or Cavity Materials - Firestop Device - As an alternate to Item A and B when Nom 1-1/2, 2, 3 or 4 in. metallic pipes are used, a firestop device consisting of a sheet-steel split collar lined with a 3M Company - Type CP 25WB+, IC 15WB+, FD-150+ CAULK, FB-3000 WT SEALANT OR MP+ STIX PUTTY.

10. Fill, Void or Cavity Materials - Firestop Device - As an alternate to Item A and B when Nom 1-1/2, 2, 3 or 4 in. metallic pipes are used, a firestop device consisting of a sheet-steel split collar lined with a 3M Company - Type CP 25WB+, IC 15WB+, FD-150+ CAULK, FB-3000 WT SEALANT OR MP+ STIX PUTTY.

11. Fill, Void or Cavity Materials - Firestop Device - As an alternate to Item A and B when Nom 1-1/2, 2, 3 or 4 in. metallic pipes are used, a firestop device consisting of a sheet-steel split collar lined with a 3M Company - Type CP 25WB+, IC 15WB+, FD-150+ CAULK, FB-3000 WT SEALANT OR MP+ STIX PUTTY.

12. Fill, Void or Cavity Materials - Firestop Device - As an alternate to Item A and B when Nom 1-1/2, 2, 3 or 4 in. metallic pipes are used, a firestop device consisting of a sheet-steel split collar lined with a 3M Company - Type CP 25WB+, IC 15WB+, FD-150+ CAULK, FB-3000 WT SEALANT OR MP+ STIX PUTTY.

13. Fill, Void or Cavity Materials - Firestop Device - As an alternate to Item A and B when Nom 1-1/2, 2, 3 or 4 in. metallic pipes are used, a firestop device consisting of a sheet-steel split collar lined with a 3M Company - Type CP 25WB+, IC 15WB+, FD-150+ CAULK, FB-3000 WT SEALANT OR MP+ STIX PUTTY.

14. Fill, Void or Cavity Materials - Firestop Device - As an alternate to Item A and B when Nom 1-1/2, 2, 3 or 4 in. metallic pipes are used, a firestop device consisting of a sheet-steel split collar lined with a 3M Company - Type CP 25WB+, IC 15WB+, FD-150+ CAULK, FB-3000 WT SEALANT OR MP+ STIX PUTTY.

15. Fill, Void or Cavity Materials - Firestop Device - As an alternate to Item A and B when Nom 1-1/2, 2, 3 or 4 in. metallic pipes are used, a firestop device consisting of a sheet-steel split collar lined with a 3M Company - Type CP 25WB+, IC 15WB+, FD-150+ CAULK, FB-3000 WT SEALANT OR MP+ STIX PUTTY.
LIGHTING NOTES:

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL LIGHT FIXTURES.

2. STAIRarker in required paths of egress shall be unsweechned night lights. This shall include nighttime lighting circuits as indicated on drawings.

3. "EM" BY FIXTURE INDICATES FIXTURE TO BE EQUIPPED WITH BUILT-IN BATTERY PACKS, AND EXTERIOR EMERGENCY LIGHTS SHALL BE CONNECTED TO LOCAL UNMETERED, UNSWITCHED NIGHT LIGHTING SYSTEMS.

4. "LH" BY J. BOX INDICATES LIGHTING CONTROL SYSTEM "HUB" UNIT, LUTRON VIVE SERIES.

5. PROGRAM LIGHTING CONTROL SYSTEM FOR AUTOMATIC TIME CLOCK ON/OFF OPERATION OF CORRIDORS.

LIGHTING DEMOLITION NOTE:

- PROVIDE ALL NEW WIRING AS INDICATED.
- WHERE PRACTICAL TO ACHIEVE NEW LAYOUT SHOWN. OTHERWISE, LIGHTING IS INDICATED. EXISTING CONDUIT AND BOXES MAY BE REUSED.

FILE

DATE

SHEET TITLE:

JOB

SBC NO.

FISHER + ASSOCIATES

511 TUSCULUM BOULEVARD

JOHNSON CITY, TENNESSEE 37614

EMAIL JOHN@JOHNFISHERARCHITECT.COM

Vreeland Engineers Inc.

KNOXVILLE, TN 37939

PH: (865) 637-8000

BRO. 4451

FILE DATE

SHEET TITLE

JOB

SBC NO.

FISHER + ASSOCIATES

511 TUSCULUM BOULEVARD

JOHNSON CITY, TENNESSEE 37614

EMAIL JOHN@JOHNFISHERARCHITECT.COM

Vreeland Engineers Inc.

KNOXVILLE, TN 37939

PH: (865) 637-8000

BRO. 4451
CONTRACTOR SHALL REMOVE ALL WIRING SERVING HVAC/PLUMBING EQUIPMENT EXCEPT INDOOR DUCTLESS SPLIT SYSTEM UNIT NOTED. WIRING TO BE POWERED FROM TRUE NORTH OF OFFICE.

NOTE#5 - SIMULATION STAIR.

6. CONFIRM WIRING ROUTING TO PULLSTATION ON PLAN WITH G.C. AND ARCHITECT.

3. PROVIDE DKNM APPROVED BY AHJ.

2. INSPECT AND CONNECTION REQUIREMENTS WITH COMM. RM.

1. CONTRACTOR SHALL MAINTAIN EXISTING FIRE ALARM SYSTEM AND WIRING IN ALL BUILDINGS TO BE INCLUDED IN THE WORK.
CONTRACTOR SHALL REMOVE ALL EXISTING FIRE ALARM WIRING, DEVICES, AND HVAC/PLUMBING EQUIPMENT. UNTIL NEW FIRE ALARM SYSTEM IS COMPLETELY INSTALLED, TESTED, AND IN SERVICE. ELECTRICAL CONTRACTOR SHALL CALL ANY PROBLEMS FOR CORRECT LOCATION FOR ALL HVAC/PLUMBING EQUIPMENT.
FIRE ALARM NAC
S
DIRECTOR
SLP OFFICE
RECESSED OUTLET BOXES ON OPPOSITE SIDES OF FIRE RATED PARTITIONS
THIRD FLOOR
PRIOR TO BEGINNING CONDUIT INSTALLATION FOR HVAC/PLUMBING EQUIPMENT
INDOOR DUCTLESS SPLIT UNIT NOTED SHALL BE POWERED FROM
CONTRACTOR SHALL REMOVE ALL EXISTING FIRE ALARM WIRING, DEVICES,
FIRE ALARM/HVAC WIRING NOTES:

- PROVIDE NEW BRANCH WIRING FOR MECHANICAL/PLUMBING DEMOLITION WORK. REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXTENT OF WORK.
- PROVIDE NEW BRANCH WIRING FOR MECHANICAL/PLUMBING EQUIPMENT AND REPLACE WITH COMPLETE NEW SYSTEM AS SET FORTH IN CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL MAINTAIN EXSITING FIRE ALARM SYSTEM IN PLACE IN OPERATION THROUGHOUT CONSTRUCTION PROJECT.
- CONTRACTOR THE VOLTAGES FOR ALL HVAC/PLUMBING EQUIPMENT REQUIRING 120/1 VAC TO BE DETERMINED BY A MECHANICAL ENGINEER OR AS NEEDED.
- CONTRACTOR SHALL CONFIRM WITH MECHANICAL/PLUMBING CONTRACTOR TO THE ATTENTION OF ALARM SYSTEM IN PLACE IN OPERATION THROUGHOUT CONSTRUCTION PROJECT.

APPROVED BY AHJ.
FIRE ALARM/HVAC WIRING NOTES:

1. CONNECT CONTROLS FOR 1" 3#6, 1#10G 43.3MCA
2. CONNECT CONTROLS FOR 1/4" 3#3, 1#8G 30.9MCA
3. CONNECT CONTROLS FOR 1/2" 3#8, 1#8G 27.6MCA

DISCREPANCIES BETWEEN ELECTRICAL DRAWINGS AND VOLTAGE INFORMATION SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF AT LEAST 24 INCHES.
Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of

B. Fill, Void or Cavity Material*

accommodate the required thickness of fill material.

Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m³) mineral wool batt insulation firmly packed into opening as a

— A. Packing Material

— Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT).

— Nom 6 in. (152 mm) diam (or smaller) steel conduit.

— Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.

— Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

— Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.

with continuous point contact. Penetrant to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic

annular space between penetrant and periphery of opening shall be min 0 in. (point contact) to max 1-7/8 in. (48 mm). Penetrant may be installed

One metallic pipe, tube or conduit to be installed either concentrically or eccentrically within the firestop system. The

surface of the concrete floor.

sleeve is to be cast in place and may extend a max of 4 in. (102 mm) below the bottom of the deck and a max of 1 in. (25 mm) above the top

surface of the concrete floor.

the sleeve at approx mid-height, or flush with bottom of sleeve in floors, and sized to be a min of 2 in. (51 mm) larger than the sleeve diam. The

2. Metallic Sleeve

Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) concrete. Wall

— 3

— 2

— 1

— 3

— 3

FTH Rating

4 CFM/sq ft

3 Hr

FH Rating

0 Hr

FT Rating

0 Hr

to UL 1479 and CAN/ULC-S115

3 Hr

3 Hr

— 3 Hr

— 3 Hr

1/8 in. thick (CP 617) or min 0.2 in. (CFS-P PA) thick moldable putty pads are to be installed to completely cover the exterior surfaces of the

Nonmetallic Outlet Boxes in framed wall assemblies as specified below. When protective material is used on outlet boxes on both sides of

installation, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.

FS-One Sealant or FS-ONE MAX Intumescent Sealant

pipe wall interface on both surfaces of wall.

The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.

UL Listed Non-Metallic Outlet

Power Cable

Boxes in framed wall assemblies as specified below. When protective material is used on outlet boxes on both sides of the wall as directed,

HILTI Firestop Box Insert, for use with flush device UL Listed Metallic Outlet Boxes installed with steel mud rings or UL Listed Nonmetallic Outlet

back-to-back (unless otherwise indicated). Installation shall comply with the National Electrical Code (NFPA 70).

Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in.

1 or 2-Hr. Gypsum

Wood Stud (Not Shown)

5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of

features:

in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction

to UL 263 and CAN/ULC-S101

L Rating at Ambient

— 0 Hr

— 0 Hr

— 1 and 2 Hr (See Items 1 and 3)

Leanboard 

F Ratings
REFER TO ENLARGED TELECOMMUNICATIONS ROOM PLANS ON DRAWING T2.1

"RP" BY WI A2S

IN AREAS NOTED, REMOVE EXISTING TELECOMMUNICATIONS WIRING AND CONFERENCE STORING.

FOR ADDITIONAL INFORMATION REPLACE WITH NEW TELECOMMUNICATIONS WIRING INDICATED.

THE CONSTRUCTION CONTRACTOR SHALL INSPECT EXISTING WIRING OTHER RENOVATION WORK WILL BE OCCURRING IN THIS AREA. THIS SHALL ROOM 133 1" TO COMM.

NOTE#2

NOTE#4

ROOM 138

ROOM 133

LABELING ALL EXISTING TO REMAIN DATA OUTLETS (WALL JACKS, 2"

STAIRS

TV (1)

WOMEN

STORAGE

OFFICE 3

OFFICE 2

WOMEN

STORAGE

OFFICE 1

OFFICE 6

NOTE#2
PROVIDE 1 "C" BY OUTLET INDICATES CEILING MOUNTED OUTLET FOR OWNER

REFER TO ENLARGED TELECOMMUNICATIONS ROOM PLANS ON DRAWING T2.1

ARRANGE WITH G.C. TO PAINT ANY EXPOSED TELECOMMUNICATIONS CONDUIT

NOTE#2

NOTE#1

TRUE NORTH

NOTE#1

NOTE#3

NOTE#2

NOTE#5
TELECOMMUNICATIONS RISER DIAGRAM