

# DUNELAND SCHOOL CORPORATION

## 2020 MECHANICAL RENOVATIONS AT:

CHESTERTON HIGH SCHOOL, 2125 SOUTH 11TH STREET, CHESTERTON, INDIANA 46304

TRIA PROJECT#: 19-059.1

ARCHITECT:

### TRIA ARCHITECTURE, INC.

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Burr Ridge, Illinois 60521

South Suburban Office: 1820 Ridge Road, Suite 209  
Homewood, Illinois 60430

Indiana Office: 436 Sand Creek Drive N, Suite 105  
Chesterton, Indiana 46304

Company Main: 630.455.4500 Fax: 630.455.4040  
www.TriaArchitecture.com

M.E.P. CONSULTANT:

### OAS, LLC.

769 Heartland Dr., Unit A  
Sugar Grove, Illinois 60554

Phone: 630.538.1996

www.oasllc.net

### GENERAL BUILDING CODE REQUIREMENTS

**BUILDING CODES REFERENCED:**

2012 INTERNATIONAL BUILDING CODE WITH 2014 INDIANA AMENDMENTS

2006 INTERNATIONAL PLUMBING CODE 2ND EDITION AMENDED INDIANA 2012

2008 NATIONAL ELECTRICAL CODE WITH 2009 INDIANA AMENDMENTS

2012 INTERNATIONAL MECHANICAL CODE WITH 2014 INDIANA AMENDMENTS

INDIANA ENERGY CONSERVATION CODE 2010

2012 INTERNATIONAL FIRE CODE WITH 2014 INDIANA AMENDMENTS

2012 INTERNATIONAL FUEL GAS CODE 2ND EDITION WITH 2014 INDIANA AMENDMENTS

**OCCUPANCY CLASSIFICATION:**

EDUCATIONAL GROUP E

**DESIGN FIRM REGISTRATION:**

THOMAS R. SZURGOT

INDIANA LICENSE NUMBER: \*A10800173

### DRAWING INDEX

T1.00 TITLE SHEET, SITE LOCATION MAP, INDEX, AND GENERAL BUILDING CODE REQUIREMENTS

**ARCHITECTURAL:**

A0.00 OVERALL SITE PLAN - FOR REFERENCE ONLY

A0.10 EXISTING PARTIAL SITE PLAN

A0.10 PARTIAL SITE PLAN

**MECHANICAL:**

M0.10 EXISTING FLOOR PLANS - MECHANICAL

M0.10A EXISTING FLOOR PLANS - MECHANICAL - ALTERNATE

M0.11 EXISTING EQUIPMENT YARD - MECHANICAL

M0.11A EXISTING EQUIPMENT YARD - MECHANICAL - ALTERNATE

M1.10 FLOOR PLANS - MECHANICAL

M1.10A FLOOR PLANS - MECHANICAL - ALTERNATE

M1.11 EQUIPMENT YARD - MECHANICAL

M1.11A EQUIPMENT YARD - MECHANICAL - ALTERNATE

M3.00 SCHEDULES - MECHANICAL

M4.00 DETAILS - MECHANICAL

M4.10 DETAILS - MECHANICAL

M5.00 GENERAL NOTES, SYMBOLS AND ABBREVIATIONS - MECHANICAL

**ELECTRICAL:**

E0.10 EXISTING FLOOR PLANS - ELECTRICAL

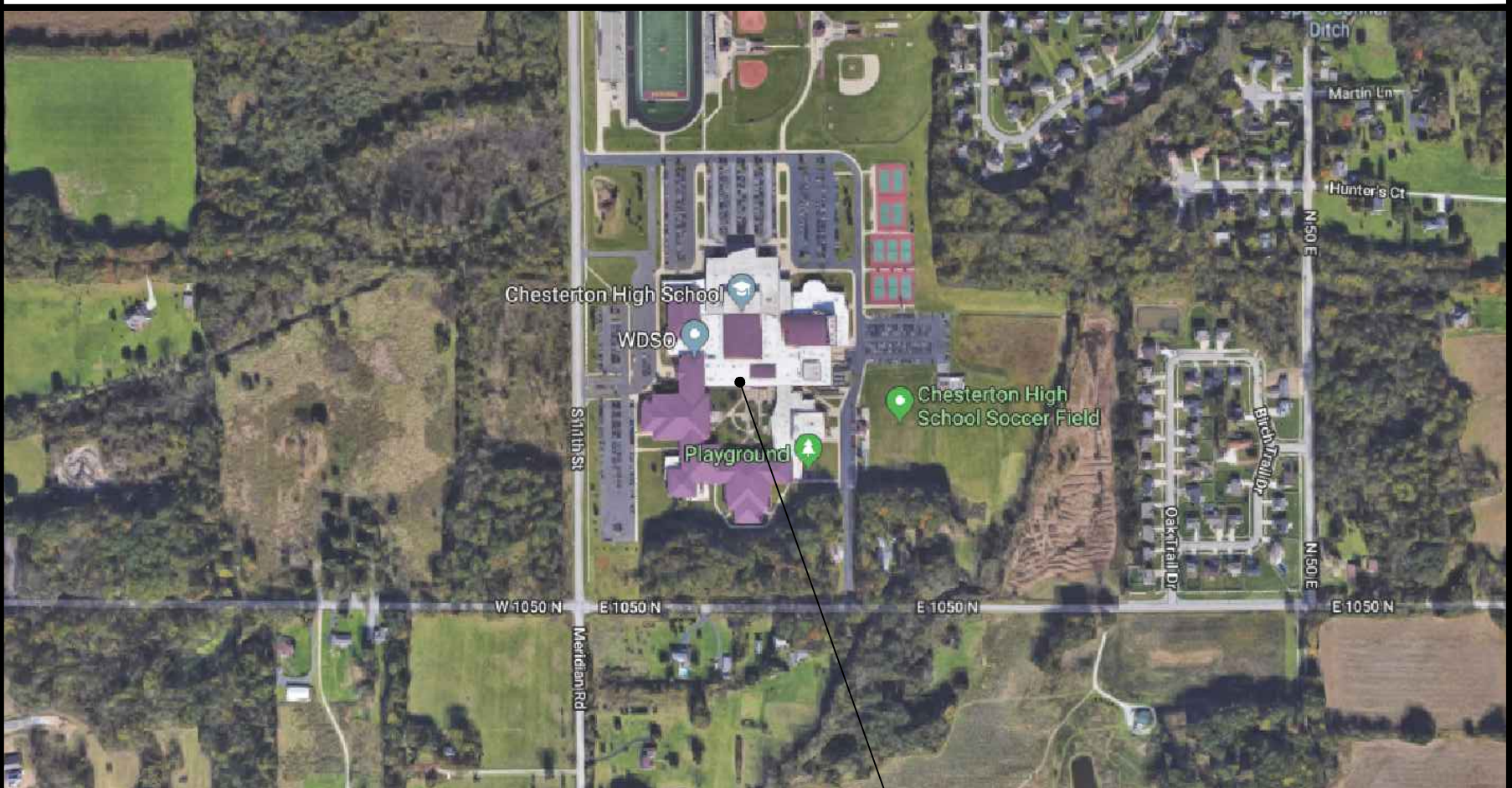
E1.10 FLOOR PLANS - ELECTRICAL

E2.10 DETAILS - ELECTRICAL

### SCHOOL BOARD

BOARD PRESIDENT	BRANDON KROFT
BOARD VICE PRESIDENT	KRISTIN KROEGER
BOARD SECRETARY	RONALD STONE
BOARD MEMBER	JOHN MARSHALL
BOARD MEMBER	ALAYNA LIGHTFOOT POL
SUPERINTENDENT	DR. CHIP PETTIT

### SITE LOCATION MAP



CHESTERTON HIGH SCHOOL

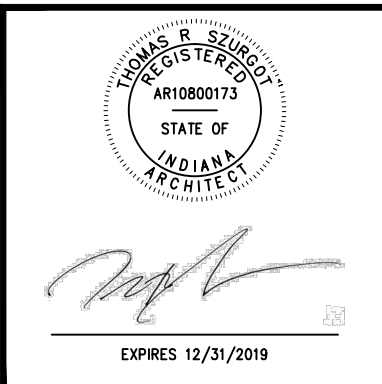


### ISSUED FOR BID:

12/13/2019

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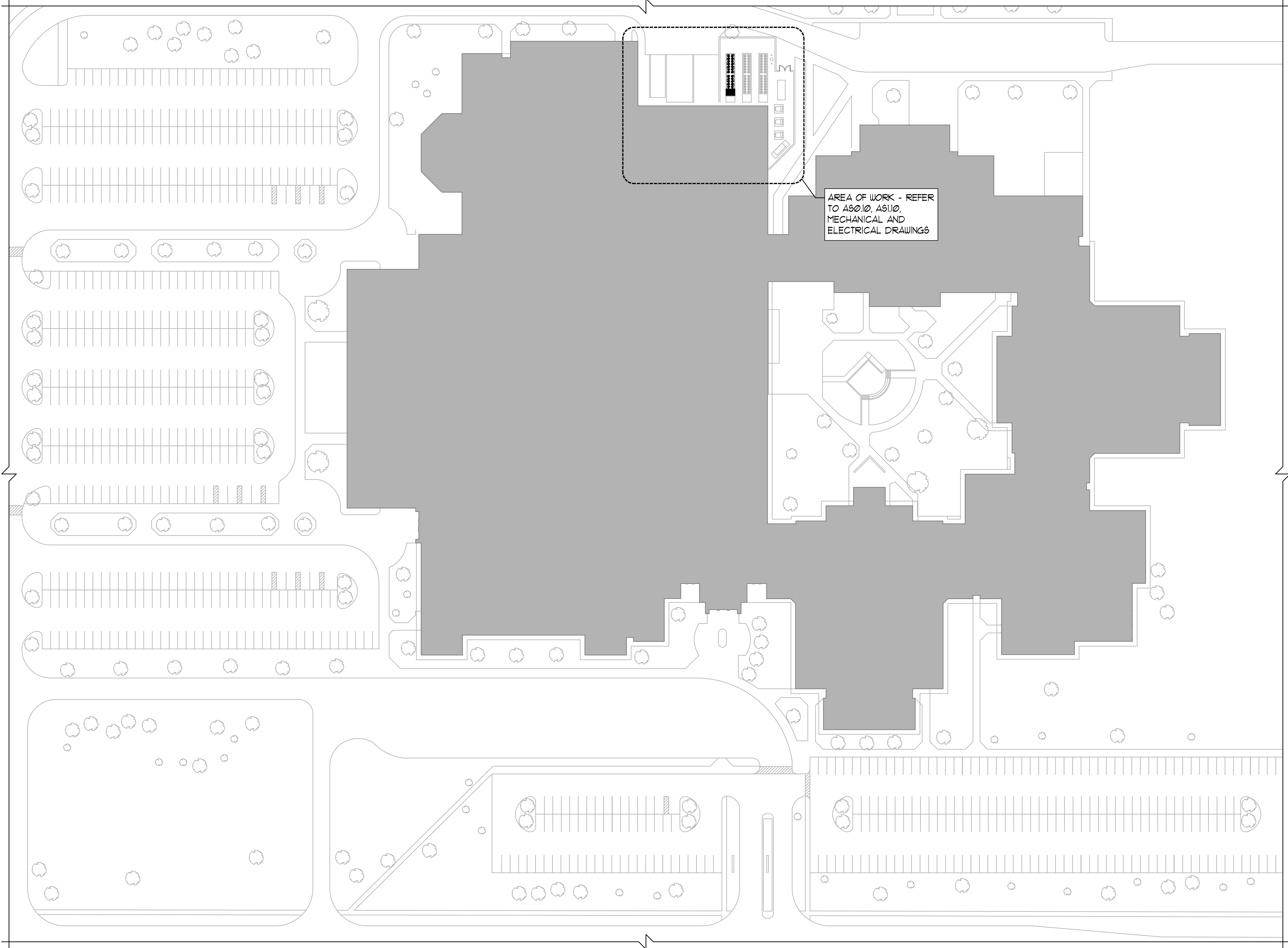
COPYRIGHT 2019 TRIA ARCHITECTURE, INC.



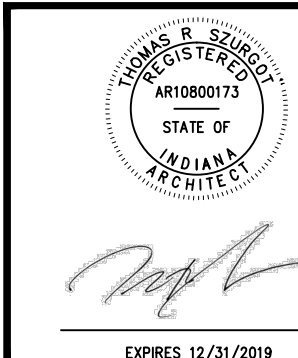
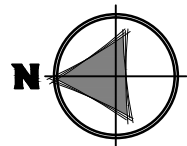
REVISIONS:

T1.00



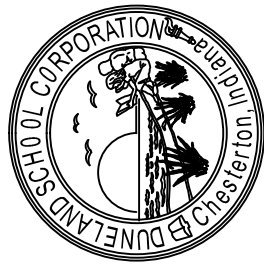


1 OVERALL SITE PLAN - FOR REFERENCE ONLY  
NTS



AS0.00

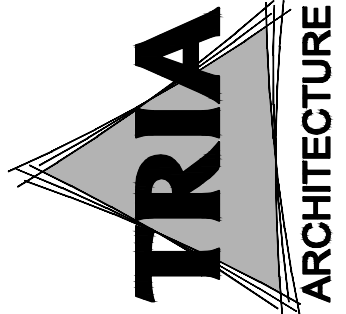
PROJECT NUMBER: 18-0251	REVISION:
PROJECT MANAGER: NO	1
DRAWN BY: GT	2
USED FOR BID: 01/01/08	3
OVERALL SITE PLAN - FOR REFERENCE ONLY	

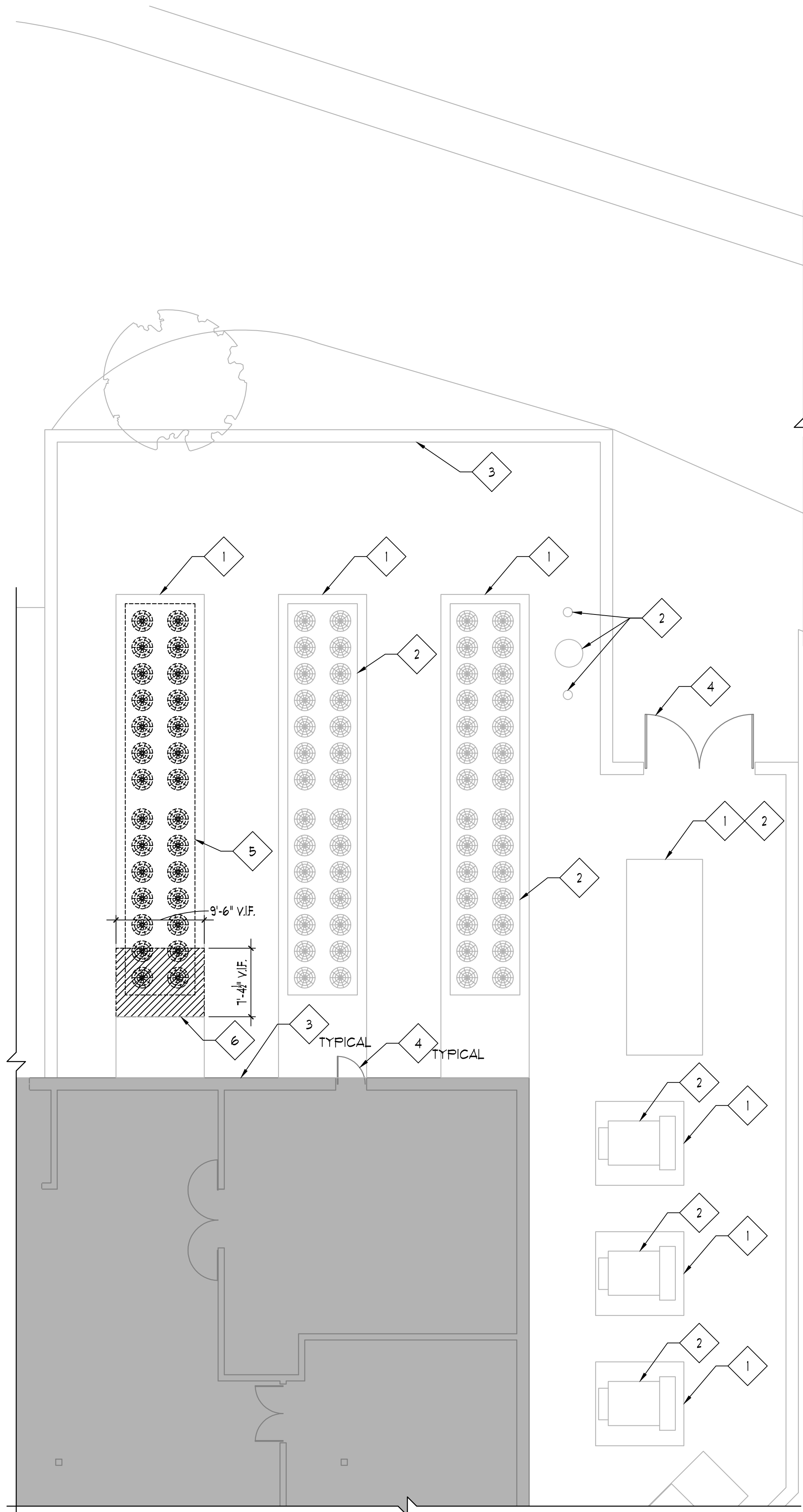


**DUNELAND SCHOOL CORPORATION**  
2020 MECHANICAL RENOVATIONS AT:  
CHESTERTON HIGH SCHOOL  
2125 SOUTH 11TH STREET, CHESTERTON, IN 46304

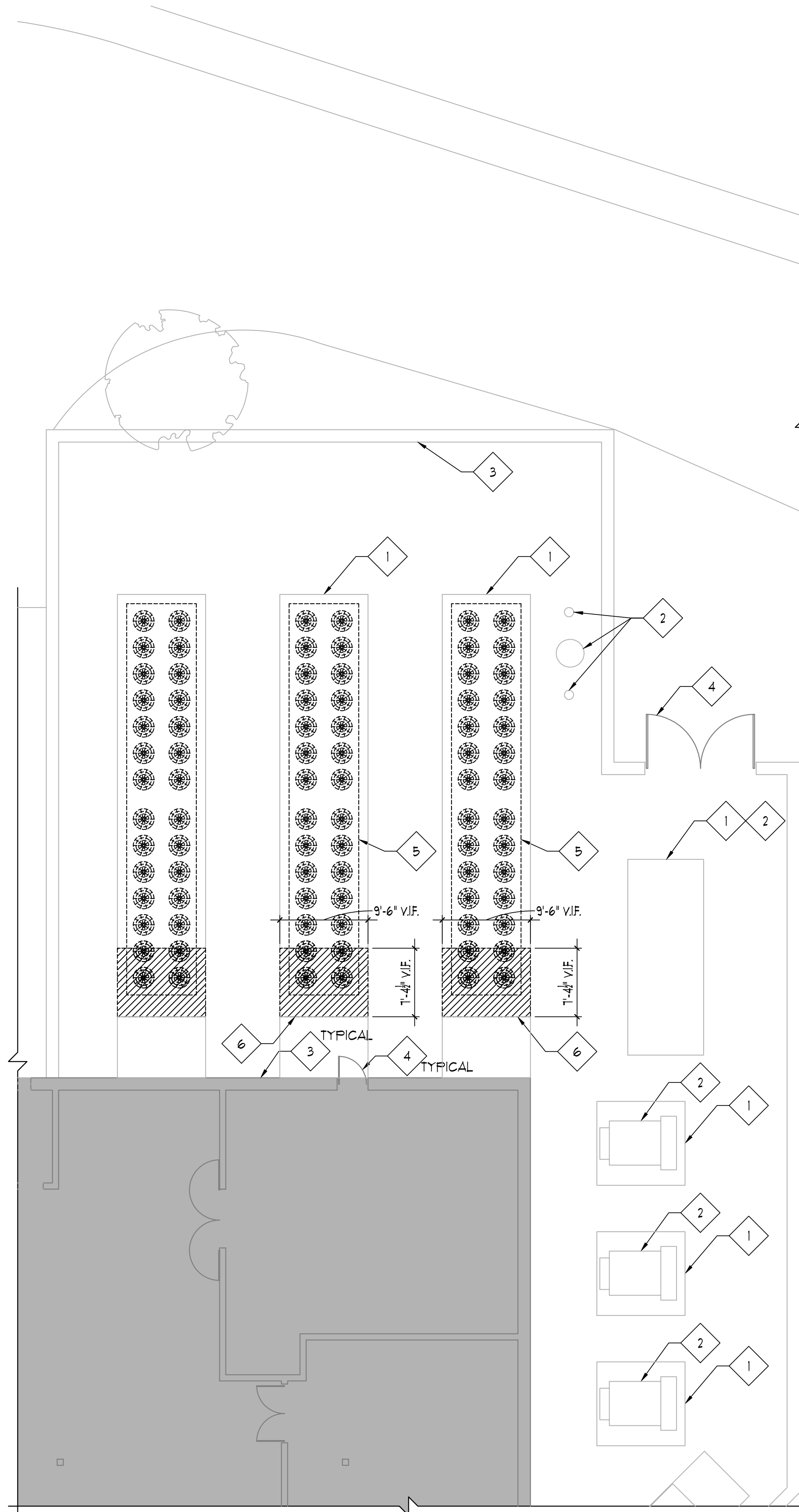
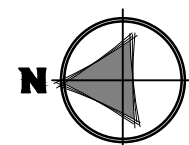


NEFF: CONSULTANT  
(P) 630533156  
700 WESTLARK BLVD., SUITE 200, ELKHART, IN 46516

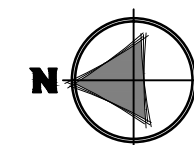




1 EXISTING PARTIAL SITE PLAN - BASE BID  
1/8" = 1'-0"



2 EXISTING PARTIAL SITE PLAN - ALTERNATE BID  
1/8" = 1'-0"



## EXISTING SITE PLAN GENERAL NOTES

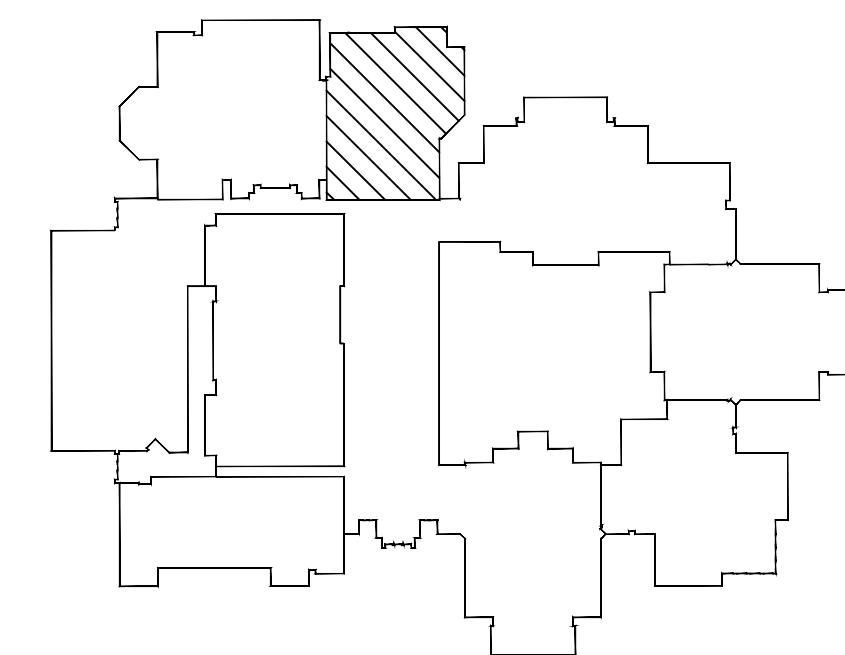
1. REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.
2. SITE PLAN DIMENSIONS AND INFORMATION SHOWN ARE DERIVED FROM EXISTING PROJECT DRAWINGS. CONTRACTOR TO FIELD VERIFY ACCURACY OF ALL DIMENSIONS AND INFORMATION. CONTRACTOR IS TO NOTIFY OWNER AND ARCHITECT IN WRITING OF ANY DISCREPANCIES AS SOON AS DISCOVERED.
3. FIELD VERIFY ALL EXISTING CONDITIONS. IN THE EVENT THAT AN ITEM NOT SHOWN ON THE DRAWINGS CONFLICTS WITH WORK UNDER THIS CONTRACT, IMMEDIATELY CONTACT THE ARCHITECT. ITEMS SHOWN ARE INDICATED TO GIVE A GENERAL SCOPE OF WORK. ANY ITEMS REQUIRED TO PROPERLY PERFORM CONTRACT WORK BUT NOT SPECIFICALLY SHOWN, SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.
4. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORING, CUTTING, PATCHING, INFILLING, REPAIRING, REFINISHING, AND REMOVAL/REPLACEMENT OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OR REMOVAL OF THEIR WORK. ALL PATCHING, REPAIRING, AND REFINISHING SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE ADJACENT CONSTRUCTION.
5. PROTECT ALL EXISTING, EQUIPMENT, AND ADJACENT WORK, INCLUDING GRASS AREAS AND LANDSCAPING, SCHEDULED TO REMAIN FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGED, EQUIPMENT, OR ADJACENT SURFACES SHALL BE REPAIRED OR REPLACED BY CONTRACTOR AT NO ADDITIONAL COST TO OWNER. AT ALL EXISTING GRASS AREAS, LANDSCAPING ITEMS AND CONCRETE/ASPHALT SURFACES TO REMAIN - REPAIR ANY AREAS DAMAGED OR OTHERWISE AFFECTED DURING CONSTRUCTION BACK TO PRE-CONSTRUCTION CONDITION.
6. AT ALL TIMES TO BE REMOVED FILL HOLES LEVEL AND PATCH SURFACES TO BE FLUSH TO MATCH ADJACENT SURFACES.

## EXISTING SITE PLAN REFERENCED NOTES

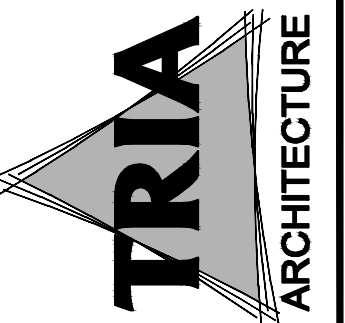
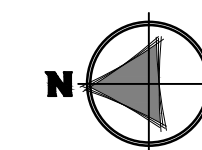
1. EXISTING CONCRETE PAD TO REMAIN - PROTECT DURING CONSTRUCTION
2. EXISTING EQUIPMENT TO REMAIN - PROTECT DURING CONSTRUCTION
3. EXISTING MASONRY WALL CONSTRUCTION TO REMAIN - PROTECT DURING CONSTRUCTION
4. EXISTING DOOR AND FRAME TO REMAIN - PROTECT DURING CONSTRUCTION
5. EXISTING MECHANICAL UNIT TO BE REMOVED IN ITS ENTIRETY - REFER TO ELECTRICAL AND MECHANICAL DRAWINGS.
6. EXISTING CONCRETE PAD TO BE REMOVED AS REQUIRED TO PROVIDE WORK INDICATED - REFER TO ELECTRICAL DRAWINGS

## LEGEND

- EXISTING BUILDING
- EXISTING CONSTRUCTION TO BE REMOVED / DEMO
- EXISTING CONSTRUCTION TO REMAIN



KEY PLAN  
NOT TO SCALE

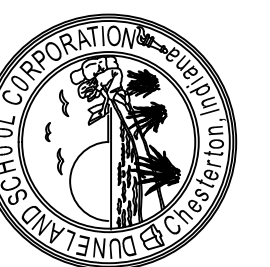


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TAMPA, FL 33617  
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DAVID A. SMITH  
12345  
FLORIDA

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2020 MECHANICAL RENOVATIONS AT:  
CHESTERTON HIGH SCHOOL  
2125 SOUTH 11TH STREET, CHESTERTON, IN 46304



PROJECT NUMBER: 18-001  
PROJECT MANAGER: NO  
DRAWN BY: GT  
ISSUED FOR BID: 10/01/2019  
EXISTING PARTIAL SITE PLAN



DAVID A. SMITH  
12345  
INDIANA  
EXPIRES 12/31/2019

AS0.10

## SITE PLAN GENERAL NOTES

1. REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION.
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## SITE PLAN REFERENCED NOTES

1. EXISTING CONCRETE PAD.
2. EXISTING EQUIPMENT.
3. EXISTING MASONRY WALL CONSTRUCTION.
4. EXISTING DOOR AND FRAME.
5. MECHANICAL EQUIPMENT - REFER TO MECHANICAL AND ELECTRICAL DRAWINGS.
6. PATCH EXISTING CONCRETE PAD - MATCH ADJACENT SLAB IN CONSTRUCTION (MINIMUM 6" THICK) - PROVIDE 12" #4 DOWELS AT 12" ON CENTER - EMBED DOWELS 6" INTO EXISTING SLAB - WRAP ONE END IN BOND BREAK PAPER.

### LEGEND

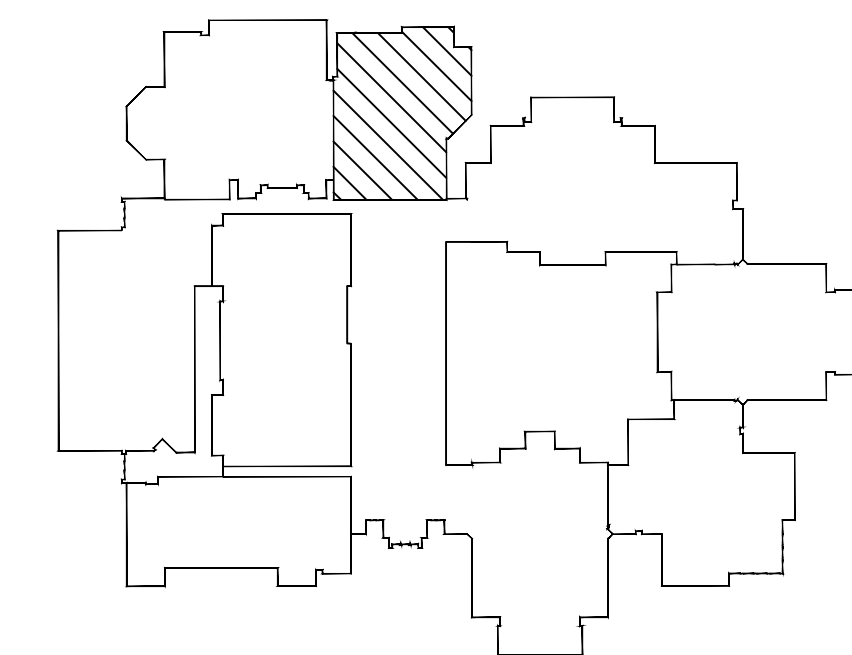


EXISTING BUILDING

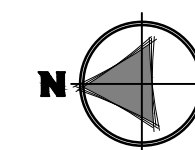


CONCRETE PAD

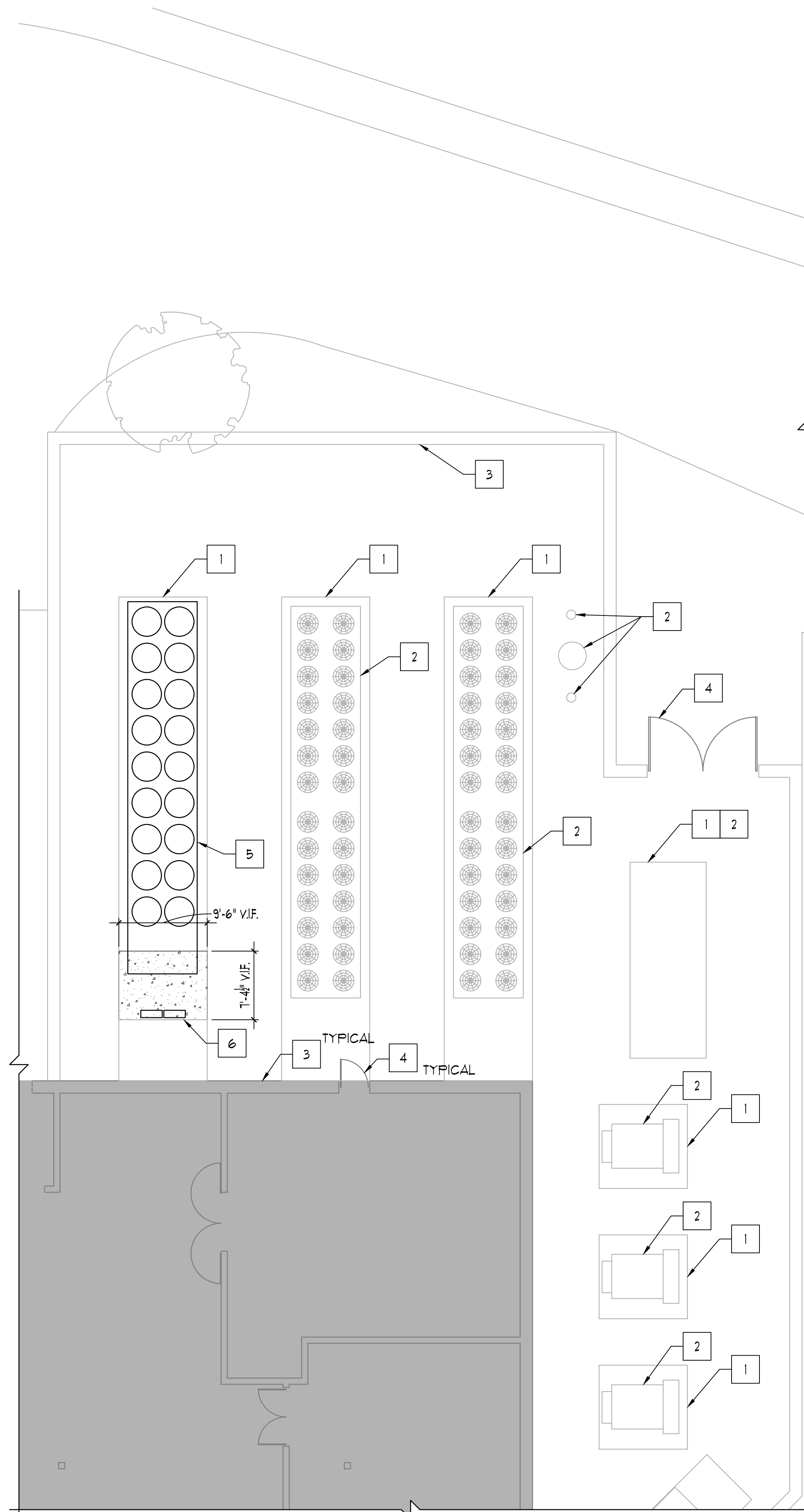
EXISTING CONSTRUCTION TO REMAIN



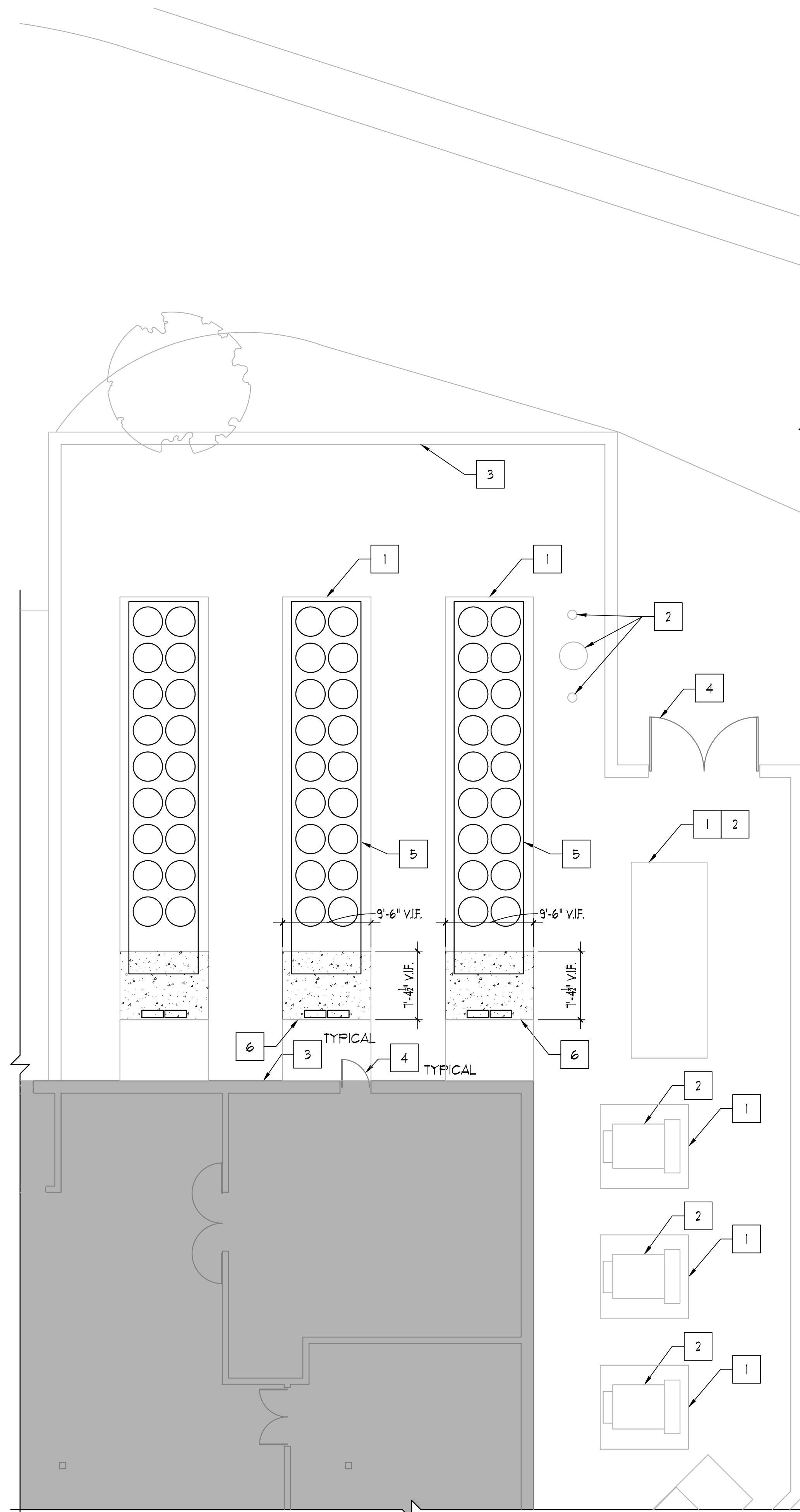
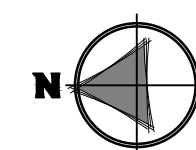
KEY PLAN  
NOT TO SCALE



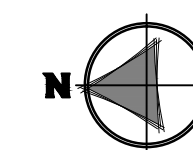
EXPIRES 12/31/2019



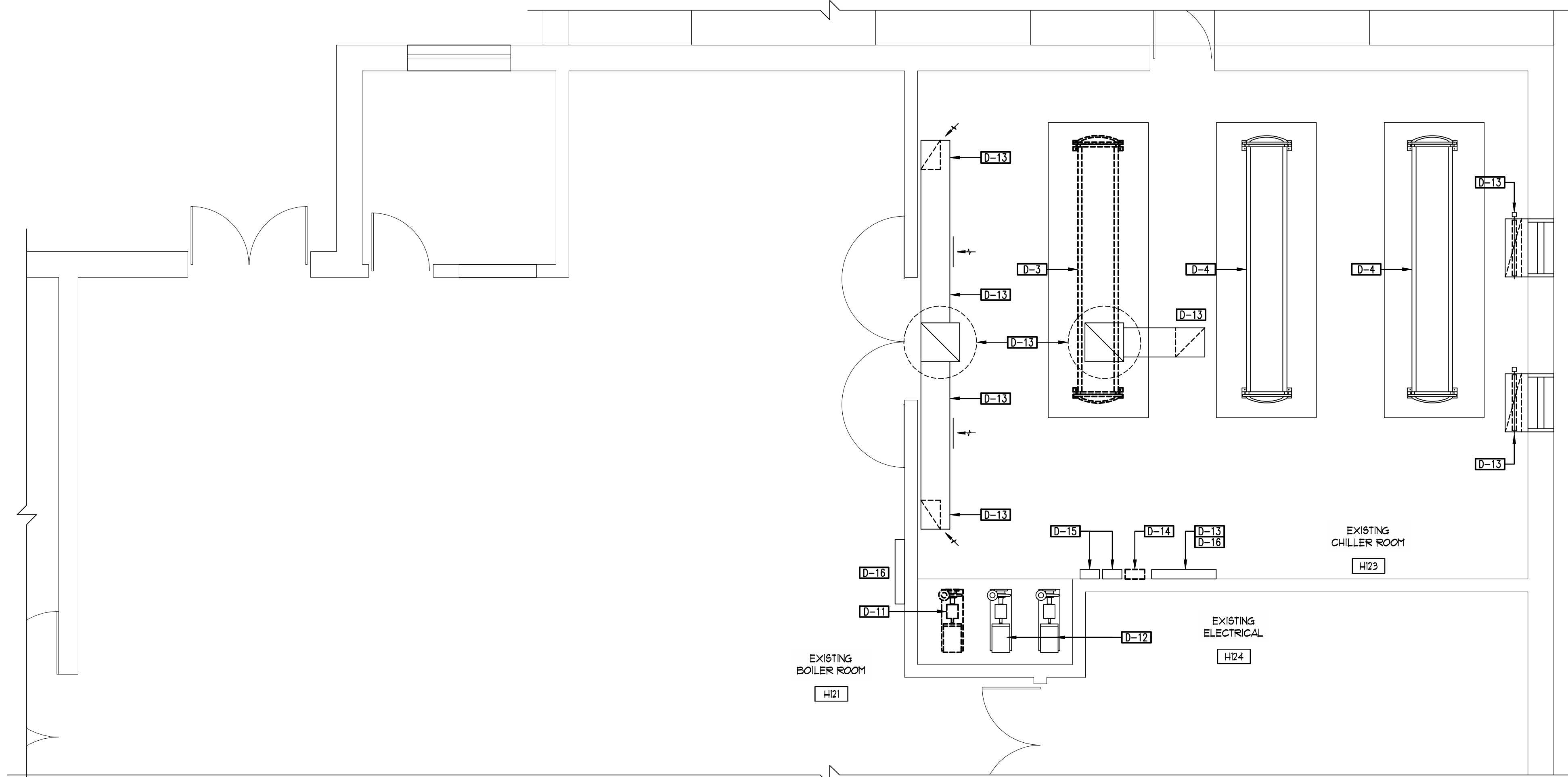
1 PARTIAL SITE PLAN - BASE BID  
1/8" = 1'-0"



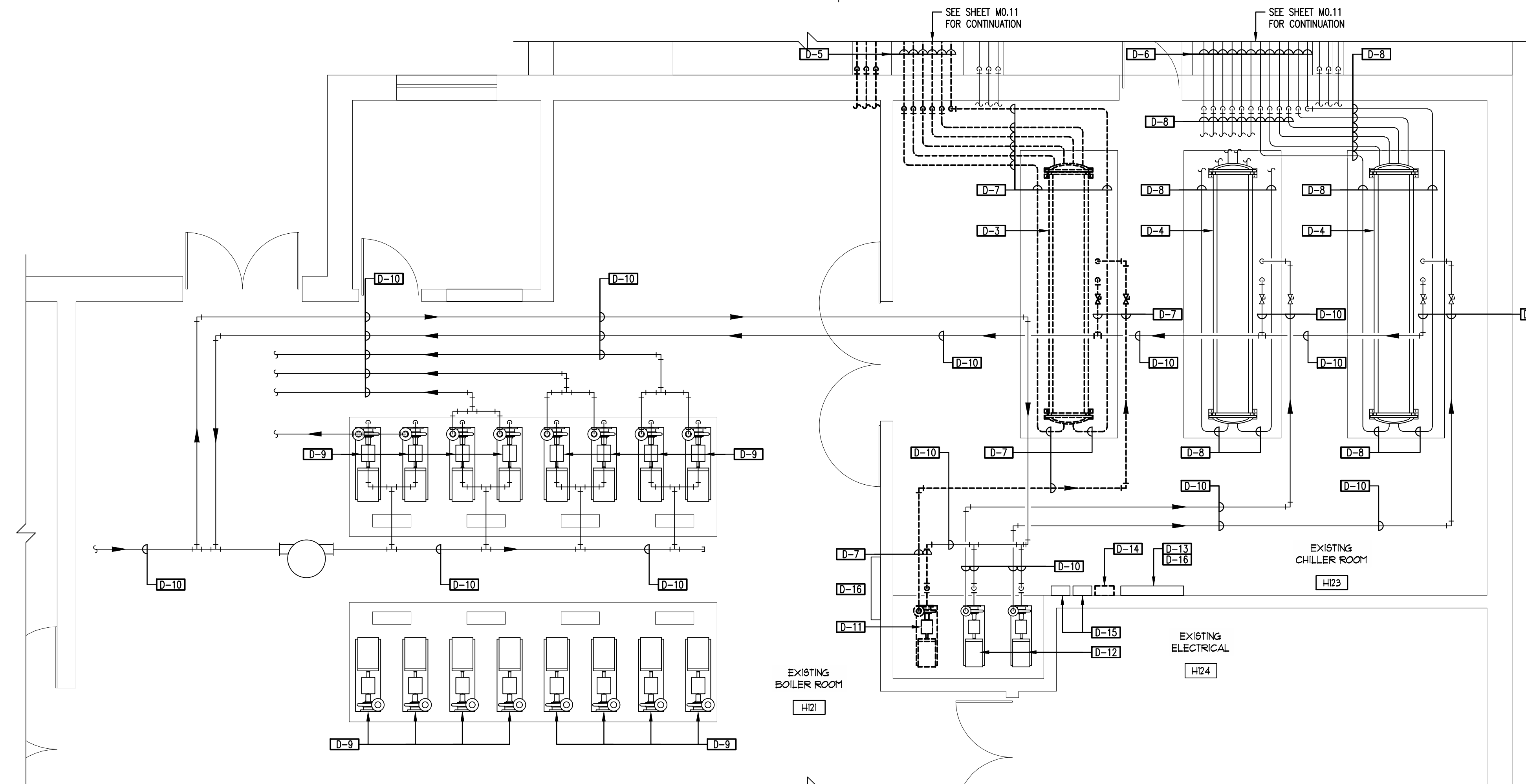
2 PARTIAL SITE PLAN - ALTERNATE BID  
1/8" = 1'-0"







1 EXISTING FLOOR PLAN - VENTILATION - BASE BID  
1/4" = 1'-0"



2 EXISTING FLOOR PLAN - PIPING - BASE BID  
1/4" = 1'-0"

## MECHANICAL (HVAC) DEMOLITION NOTES

### I. DRAWINGS

- D-1** REMOVE CHILLER COMPLETELY INCLUDING REFRIGERANT PIPING, CONTROLS, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. EXISTING BASE TO REMAIN. DELIVER ALL RECLAIMED REFRIGERANT IN APPROVED CONTAINERS. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO REMOVAL.
- D-2** EXISTING CHILLER AND CONCRETE BASE TO REMAIN.
- D-3** REMOVE EVAPORATOR COMPLETELY INCLUDING REFRIGERANT PIPING, CHILLED WATER PIPING, VALVES, INSULATION, SUPPORTS, ANCHORS, HANGERS, ETC. EXISTING CONCRETE BASE TO REMAIN. PATCH CONCRETE BASE, WALL/FLOOR AS STATED UNDER GENERAL DEMOLITION NOTES. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO REMOVAL.
- D-4** EXISTING EVAPORATOR AND CONCRETE BASE TO REMAIN.
- D-5** EXISTING PIPE TRENCH AND GRATING TO REMAIN. REMOVE REFRIGERANT PIPING, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. FROM TRENCH. REMOVE DEBRIS AND CLEAN TRENCH AND CLEAR DRAIN(S). REINSTALL GRATE AFTER INSTALLATION OF NEW WORK. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-6** EXISTING PIPE TRENCH, GRATING AND ALL REFRIGERANT PIPING TO CHILLERS TO REMAIN.
- D-7** REMOVE REFRIGERANT PIPING, CHILLED WATER PIPING, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. PATCH WALL/FLOOR AS STATED UNDER GENERAL DEMOLITION NOTES. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-8** EXISTING REFRIGERANT PIPING, CHILLED WATER PIPING, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. TO REMAIN.
- D-9** EXISTING BASE MOUNTED PUMPS AND ASSOCIATED PIPING TO REMAIN.
- D-10** EXISTING CHILLED WATER PIPING TO REMAIN. SEE NEW WORK DRAWINGS.
- D-11** REMOVE BASE MOUNTED PUMP COMPLETELY INCLUDING PIPING, VALVES, SUPPORTS, ANCHORS, HANGERS, ETC. EXISTING CONCRETE BASE TO REMAIN. PATCH CONCRETE BASE AS STATED UNDER GENERAL DEMOLITION NOTES. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO REMOVAL. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-12** EXISTING BASE MOUNTED PUMP TO REMAIN.
- D-13** EXISTING REFRIGERANT EXHAUST SYSTEM CONTROLS TO REMAIN. VERIFY OPERATION OF CONTROLLER(S), ROOF EXHAUST FAN, INTAKE HOOD, DAMPERS, ETC. PROVIDE ADDITIONAL SENSOR TO MATCH NEW CHILLER REFRIGERANT. REMOVE R-22 SENSOR IF ALTERNATE BID IS ACCEPTED. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS. PROVIDE NEW CONTROLLERS AS REQUIRED BY SPECIFICATIONS AND NEW WORK DRAWINGS.
- D-14** PUMP STARTER TO BE REMOVED AND NEW VFD PROVIDED. FIELD VERIFY STARTER LOCATION. SEE NEW WORK DRAWINGS AND ELECTRICAL DRAWINGS.
- D-15** EXISTING PUMP STARTER TO REMAIN.
- D-16** EXISTING CONTROL PANEL AND CONTROLS TO REMAIN.
- D-17** EXISTING CONTROL WIRING TO/FROM CHILLER TO REMAIN.
- D-18** REMOVE CONTROL WIRING TO/FROM CHILLER. PATCH WALL AS STATED UNDER GENERAL DEMOLITION NOTES.

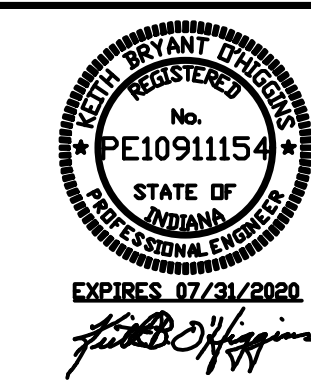
### II. GENERAL

- A. ALL DEMOLITION OF THE HVAC SYSTEM AS CALLED FOR ON THE DEMOLITION DRAWINGS SHALL BE UNDER THIS CONTRACTOR'S WORK.
- B. CONTRACTOR SHALL VISIT SCHOOL BUILDING, BEFORE SUBMITTING HIS BID, TO VERIFY THE EXISTING CONDITIONS WHICH WILL AFFECT HIS WORK.
- C. BEFORE STARTING ANY DEMOLITION ON HVAC EQUIPMENT WHICH HAS AN ELECTRICAL CONNECTION, THE MECHANICAL CONTRACTOR SHALL MEET WITH THE ELECTRICAL CONTRACTOR TO IDENTIFY ALL SUCH EQUIPMENT. THE ELECTRICAL CONTRACTOR WILL DISCONNECT THE POWER TO EACH UNIT, REMOVE CONDUIT, WIRING, DISCONNECT SWITCHES, AND STARTERS UNDER HIS CONTRACT. MECHANICAL CONTRACTOR WILL REMOVE ALL EQUIPMENT AND ELECTRIC TEMPERATURE CONTROL WIRING AND CONDUIT UNDER THIS CONTRACT.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN CLEAN-UP THROUGHOUT THE COURSE OF THE DEMOLITION WORK. IN THE EVENT HE FAILS TO PROVIDE SUCH CLEAN-UP THE ARCHITECT/ENGINEER WILL DIRECT THE CLEAN-UP, TO BE PERFORMED BY ANOTHER CONTRACTOR, AND THE CONTRACTOR WILL BE BACK-CHARGED AS DETERMINED APPROPRIATE BY ARCHITECT/ENGINEER.
- E. ALL EQUIPMENT, MATERIAL, ETC. THAT IS BEING DEMOLISHED OWNER SHALL HAVE FIRST RIGHT OF REFUSAL. THE REMAINING DEMOLISHED ITEMS WILL BECOME THE PROPERTY OF THE CONTRACTOR. ALL SUCH ITEMS WILL BE REMOVED FROM THE BUILDING SITE BY THE CONTRACTOR. NO ITEM WHICH IS BEING REMOVED UNDER THE DEMOLITION CONTRACT MAY BE REUSED UNDER THE NEW WORK CONTRACT. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT REMOVED.
- F. SEQUENCE OF ALL DEMOLITION WORK SHALL BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND/OR AS DIRECTED BY ARCHITECT/ENGINEER.
- G. THE CONTRACTOR PERFORMING THE DEMOLITION WORK SHALL REMOVE NO MORE THAN 8" OF BUILDING MATERIAL AROUND EACH DEVICE BEING DEMOLISHED.
- H. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL LABOR AND MATERIAL REQUIRED TO PATCH ALL OPENINGS IN EXISTING WALLS AND FIRE SEPARATIONS CREATED BY THE REMOVAL OF THIS TRADES MATERIAL AND EQUIPMENT WHERE THESE OPENINGS ARE NOT TO BE REUSED. PATCHING OF ALL EXISTING FLOOR AND ROOF OPENINGS IS THE RESPONSIBILITY OF THIS CONTRACTOR.

## PROJECT PHASING

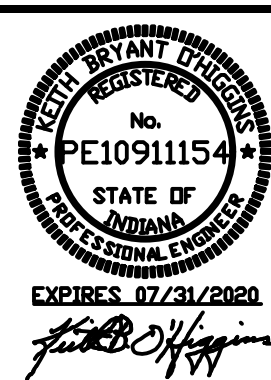
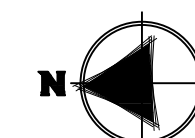
UNDER ALTERNATE BID THE CONTRACTOR(S) TO REPLACE EACH ADDITIONAL CHILLER, CHILLER BUNDLE (EVAPORATOR), ECONOMIZER, PUMP, ETC. SEPARATELY. THE BUILDING NEEDS TO HAVE TWO CHILLERS FULLY OPERATIONAL AT ALL TIMES.

KEY PLAN  
NOT TO SCALE





KEY PLAN  
NOT TO SCALE

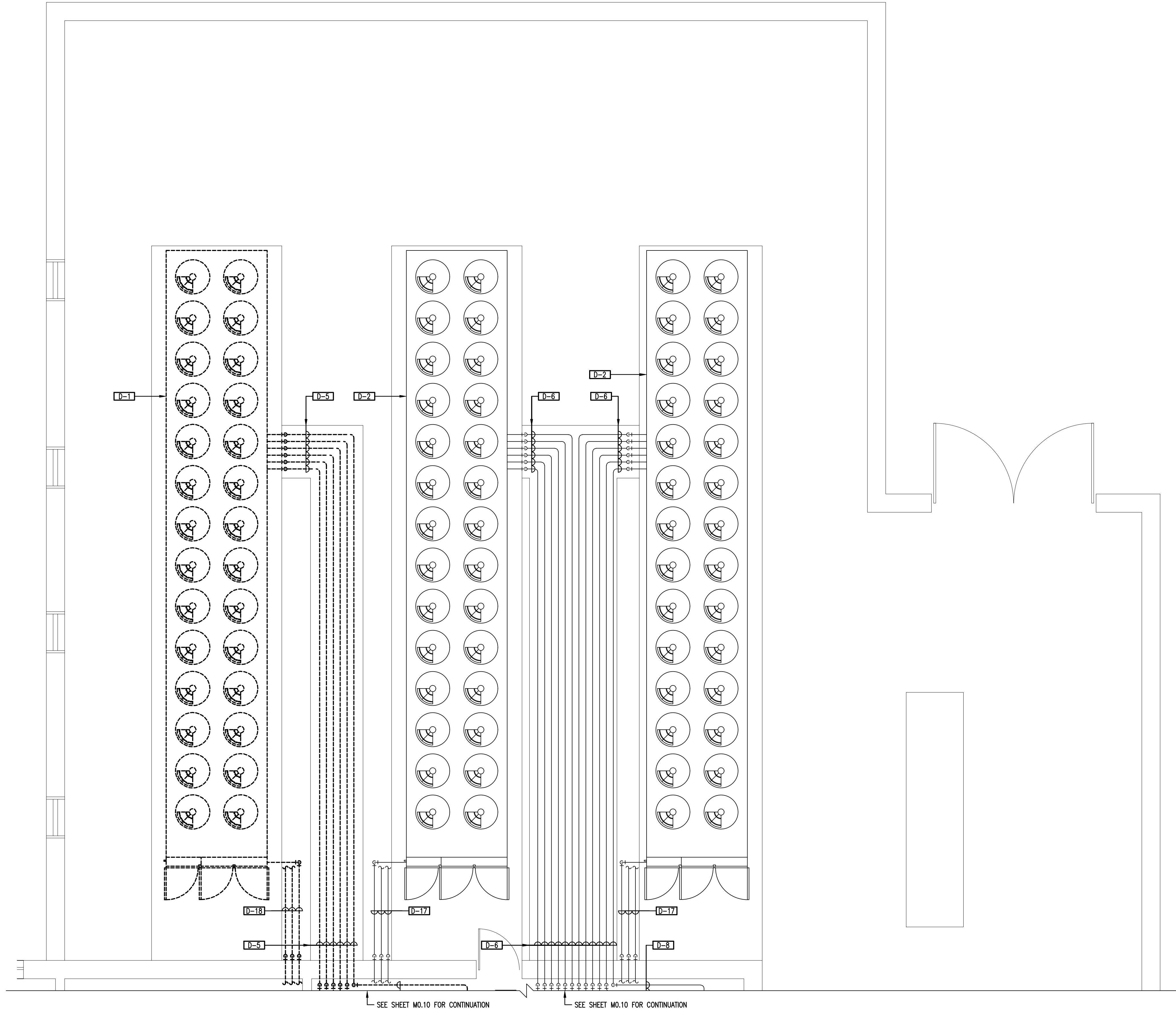


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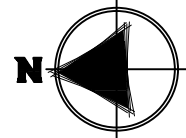
PROJECT NUMBER: 16	1
DRAWN BY: 045	2
	3
	4
	5
ISSUED FOR BID: 02/2009	
EXISTING FLOOR PLANS - MECHANICAL - ALTERNATE	



DATE PLOTTED: 12/12/2019 9:30 AM FILE PATH AND NAME: P:\139-1-3 Duneland School District - Chesterton & Westchester IS Chiller Replacements\139-1-3 M0.11 CHS  
PLOTTED BY: LARRY ARNOLD  
BASE Mechanical Demolition



1 EXISTING EQUIPMENT YARD - MECHANICAL - BASE BID  
1/4" = 1'-0"



### MECHANICAL (HVAC) DEMOLITION NOTES

#### I. DRAWINGS

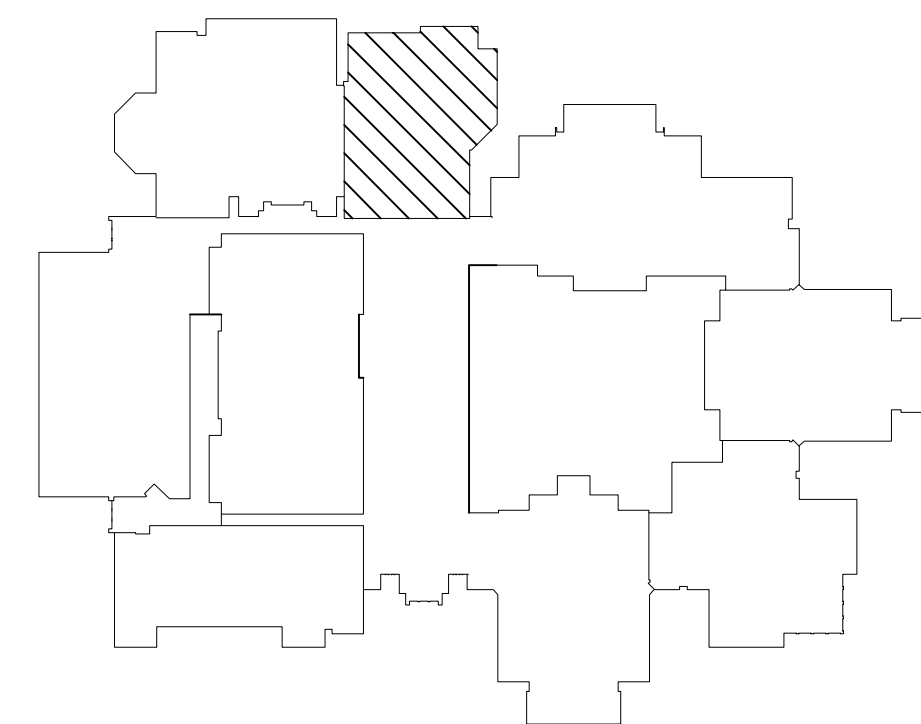
- D-1 REMOVE CHILLER COMPLETELY INCLUDING REFRIGERANT PIPING, CONTROLS, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. EXISTING BASE TO REMAIN. DELIVER ALL RECLAIMED REFRIGERANT IN APPROVED CONTAINERS. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO REMOVAL.
- D-2 EXISTING CHILLER AND CONCRETE BASE TO REMAIN.
- D-3 REMOVE EVAPORATOR COMPLETELY INCLUDING REFRIGERANT PIPING, CHILLED WATER PIPING, VALVES, INSULATION, SUPPORTS, ANCHORS, HANGERS, ETC. EXISTING CONCRETE BASE TO REMAIN. PATCH CONCRETE BASE, WALL/FLOOR AS STATED UNDER GENERAL DEMOLITION NOTES. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO REMOVAL.
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- D-5 EXISTING PIPE TRENCH AND GRATING TO REMAIN. REMOVE REFRIGERANT PIPING, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. FROM TRENCH. REMOVE DEBRIS AND CLEAN TRENCH AND CLEAR DRAIN(S). REINSTALL GRATE AFTER INSTALLATION OF NEW WORK. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-6 EXISTING PIPE TRENCH, GRATING AND ALL REFRIGERANT PIPING TO CHILLERS TO REMAIN.
- D-7 REMOVE REFRIGERANT PIPING, CHILLED WATER PIPING, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. PATCH WALL/FLOOR AS STATED UNDER GENERAL DEMOLITION NOTES. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-8 EXISTING REFRIGERANT PIPING, CHILLED WATER PIPING, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. TO REMAIN.
- D-9 EXISTING BASE MOUNTED PUMPS AND ASSOCIATED PIPING TO REMAIN.
- D-10 EXISTING CHILLED WATER PIPING TO REMAIN. SEE NEW WORK DRAWINGS.
- D-11 REMOVE BASE MOUNTED PUMP COMPLETELY INCLUDING PIPING, VALVES, SUPPORTS, ANCHORS, HANGERS, ETC. EXISTING CONCRETE BASE TO REMAIN. PATCH CONCRETE BASE AS STATED UNDER GENERAL DEMOLITION NOTES. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO REMOVAL. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- D-12 EXISTING BASE MOUNTED PUMP TO REMAIN.
- D-13 EXISTING REFRIGERANT EXHAUST SYSTEM CONTROLS TO REMAIN. VERIFY OPERATION OF CONTROLLER(S), ROOF EXHAUST FAN, INTAKE HOOD, DAMPERS, ETC. PROVIDE ADDITIONAL SENSOR TO MATCH NEW CHILLER REFRIGERANT. REMOVE R-22 SENSOR IF ALTERNATE BID IS ACCEPTED. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS. PROVIDE NEW CONTROLLERS AS REQUIRED BY SPECIFICATIONS AND NEW WORK DRAWINGS.
- D-14 PUMP STARTER TO BE REMOVED AND NEW VFD PROVIDED. FIELD VERIFY STARTER LOCATION. SEE NEW WORK DRAWINGS AND ELECTRICAL DRAWINGS.
- D-15 EXISTING PUMP STARTER TO REMAIN.
- D-16 EXISTING CONTROL PANEL AND CONTROLS TO REMAIN.
- D-17 EXISTING CONTROL WIRING TO/FROM CHILLER TO REMAIN.
- D-18 REMOVE CONTROL WIRING TO/FROM CHILLER. PATCH WALL AS STATED UNDER GENERAL DEMOLITION NOTES.

#### II. GENERAL

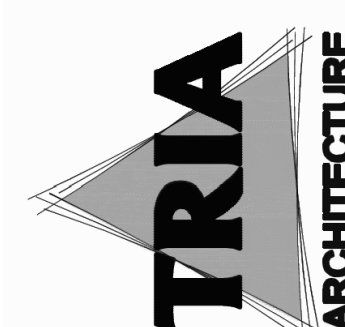
- A. ALL DEMOLITION OF THE HVAC SYSTEM AS CALLED FOR ON THE DEMOLITION DRAWINGS SHALL BE UNDER THIS CONTRACTOR'S WORK.
- B. CONTRACTOR SHALL VISIT SCHOOL BUILDING, BEFORE SUBMITTING HIS BID, TO VERIFY THE EXISTING CONDITIONS WHICH WILL AFFECT HIS WORK.
- C. BEFORE STARTING ANY DEMOLITION ON HVAC EQUIPMENT WHICH HAS AN ELECTRICAL CONNECTION, THE MECHANICAL CONTRACTOR SHALL MEET WITH THE ELECTRICAL CONTRACTOR TO IDENTIFY ALL SUCH EQUIPMENT. THE ELECTRICAL CONTRACTOR WILL DISCONNECT THE POWER TO EACH UNIT, REMOVE CONDUIT, WIRING, DISCONNECT SWITCHES, AND STARTERS UNDER HIS CONTRACT. MECHANICAL CONTRACTOR WILL REMOVE ALL EQUIPMENT AND ELECTRIC TEMPERATURE CONTROL WIRING AND CONDUIT UNDER THIS CONTRACT.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN CLEAN-UP THROUGHOUT THE COURSE OF THE DEMOLITION WORK. IN THE EVENT HE FAILS TO PROVIDE SUCH CLEAN-UP THE ARCHITECT/ENGINEER WILL DIRECT THE CLEAN-UP, TO BE PERFORMED BY ANOTHER CONTRACTOR, AND THE CONTRACTOR WILL BE BACK-CHARGED AS DETERMINED APPROPRIATE BY ARCHITECT/ENGINEER.
- E. ALL EQUIPMENT, MATERIAL, ETC. THAT IS BEING DEMOLISHED OWNER SHALL HAVE FIRST RIGHT OF REFUSAL. THE REMAINING DEMOLISHED ITEMS WILL BECOME THE PROPERTY OF THE CONTRACTOR. ALL SUCH ITEMS WILL BE REMOVED FROM THE BUILDING SITE BY THE CONTRACTOR. NO ITEM WHICH IS BEING REMOVED UNDER THE DEMOLITION CONTRACT MAY BE REUSED UNDER THE NEW WORK CONTRACT. THE OWNER HAS FIRST RIGHT OF REFUSAL FOR ANY MATERIAL OR EQUIPMENT REMOVED.
- F. SEQUENCE OF ALL DEMOLITION WORK SHALL BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND/OR AS DIRECTED BY ARCHITECT/ENGINEER.
- G. THE CONTRACTOR PERFORMING THE DEMOLITION WORK SHALL REMOVE NO MORE THAN 8" OF BUILDING MATERIAL AROUND EACH DEVICE BEING DEMOLISHED.
- H. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL LABOR AND MATERIAL REQUIRED TO PATCH ALL OPENINGS IN EXISTING WALLS AND FIRE SEPARATIONS CREATED BY THE REMOVAL OF THIS TRADES MATERIAL AND EQUIPMENT WHERE THESE OPENINGS ARE NOT TO BE REUSED. PATCHING OF ALL EXISTING FLOOR AND ROOF OPENINGS IS THE RESPONSIBILITY OF THIS CONTRACTOR.

### PROJECT PHASING

UNDER ALTERNATE BID THE CONTRACTOR(S) TO REPLACE EACH ADDITIONAL CHILLER, CHILLER BUNDLE (EVAPORATOR), ECONOMIZER, PUMP, ETC. SEPARATELY. THE BUILDING NEEDS TO HAVE TWO CHILLERS FULLY OPERATIONAL AT ALL TIMES.



KEY PLAN  
NOT TO SCALE

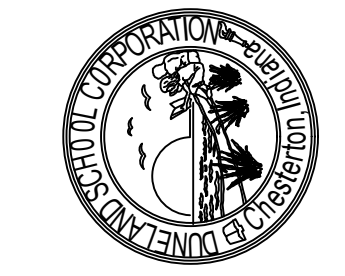


MEP/PF CONSULTANT  
(P) 63033856



700 N. KIRKLAND DR., SUITE 100, CHICAGO, IL 60610

**DUNELAND SCHOOL CORPORATION**  
**2020 MECHANICAL RENOVATIONS AT:**  
**CHESTERTON HIGH SCHOOL**  
**2125 SOUTH 11TH STREET, CHESTERTON, IN 46304**

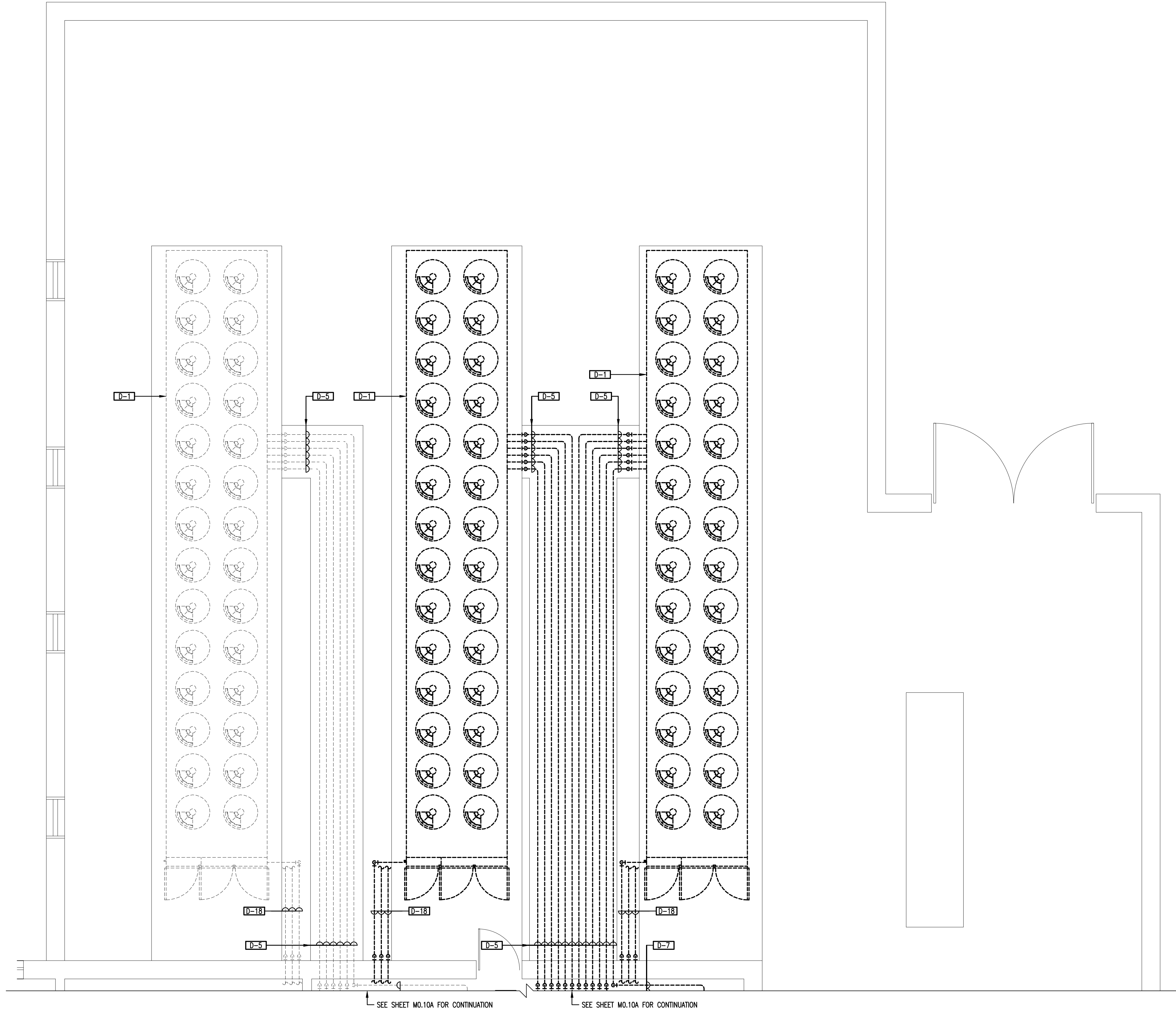


PROJECT NUMBER: 139-1-3	SECTION: 1
PROJECT CHARGER: YES	2
DRAIN BY: OAS	3
ISSUED FOR BID: 1/10/2020	4
EXISTING EQUIPMENT YARD - MECHANICAL	5

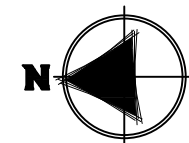
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DATE PLOTTED: 12/12/2019 9:30 AM FILE PATH AND NAME: P:\139-1-3 Duneland School District - Chesterton & Westchester IS Chiller Replacements\MA\SCH\139-1-3 M0.11A.dwg

PLOTTED BY: LARRY ARNOLD  
AD Mechanical Demolition



1 EXISTING EQUIPMENT YARD - MECHANICAL - ALTERNATE BID  
1/4" = 1'-0"



### MECHANICAL (HVAC) DEMOLITION NOTES

#### I. DRAWINGS

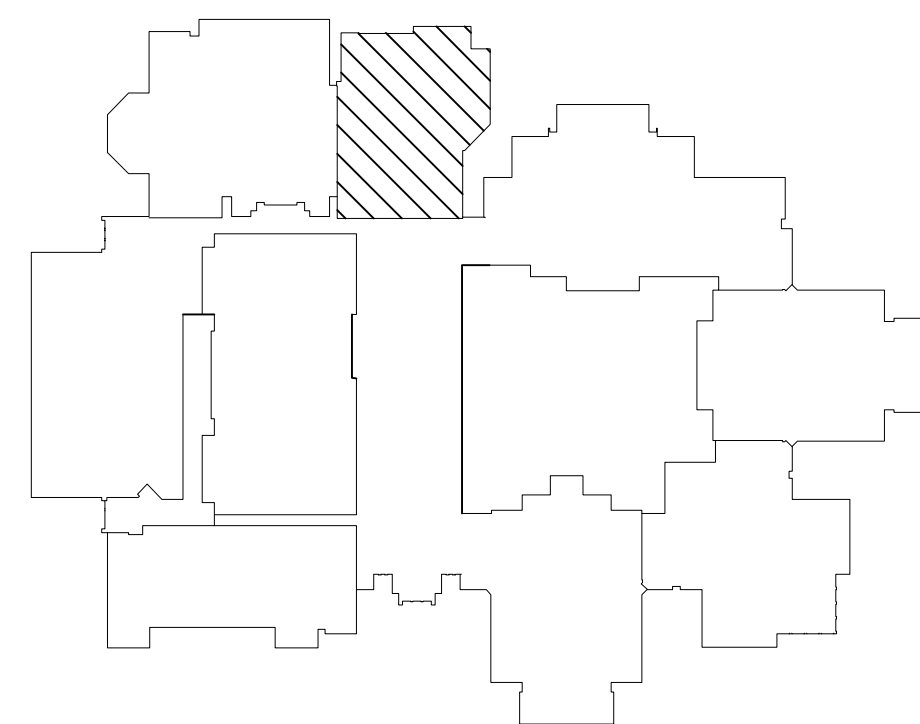
- D-1** REMOVE CHILLER COMPLETELY INCLUDING REFRIGERANT PIPING, CONTROLS, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. EXISTING BASE TO REMAIN. DELIVER ALL RECLAIMED REFRIGERANT IN APPROVED CONTAINERS. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO REMOVAL.
- D-2** EXISTING CHILLER AND CONCRETE BASE TO REMAIN.
- D-3** REMOVE EVAPORATOR COMPLETELY INCLUDING REFRIGERANT PIPING, CHILLED WATER PIPING, VALVES, INSULATION, SUPPORTS, ANCHORS, HANGERS, ETC. EXISTING CONCRETE BASE TO REMAIN. PATCH CONCRETE BASE, WALL/FLOOR AS STATED UNDER GENERAL DEMOLITION NOTES. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO REMOVAL.
- D-4** EXISTING EVAPORATOR AND CONCRETE BASE TO REMAIN.
- D-5** EXISTING PIPE TRENCH AND GRATING TO REMAIN. REMOVE REFRIGERANT PIPING, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. FROM TRENCH. REMOVE DEBRIS AND CLEAN TRENCH AND CLEAR DRAIN(S). REINSTALL GRATE AFTER INSTALLATION OF NEW WORK. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
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- D-9** EXISTING BASE MOUNTED PUMPS AND ASSOCIATED PIPING TO REMAIN.
- D-10** EXISTING CHILLED WATER PIPING TO REMAIN. SEE NEW WORK DRAWINGS.
- D-11** REMOVE BASE MOUNTED PUMP COMPLETELY INCLUDING PIPING, VALVES, SUPPORTS, ANCHORS, HANGERS, ETC. EXISTING CONCRETE BASE TO REMAIN. PATCH CONCRETE BASE AS STATED UNDER GENERAL DEMOLITION NOTES. COORDINATE ALL DISCONNECT REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO REMOVAL. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS.
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- D-13** EXISTING REFRIGERANT EXHAUST SYSTEM CONTROLS TO REMAIN. VERIFY OPERATION OF CONTROLLER(S), ROOF EXHAUST FAN, INTAKE HOOD, DAMPERS, ETC. PROVIDE ADDITIONAL SENSOR TO MATCH NEW CHILLER REFRIGERANT. REMOVE R-22 SENSOR IF ALTERNATE BID IS ACCEPTED. SEE NEW WORK DRAWINGS FOR ADDITIONAL REQUIREMENTS. PROVIDE NEW CONTROLLERS AS REQUIRED BY SPECIFICATIONS AND NEW WORK DRAWINGS.
- D-14** PUMP STARTER TO BE REMOVED AND NEW VFD PROVIDED. FIELD VERIFY STARTER LOCATION. SEE NEW WORK DRAWINGS AND ELECTRICAL DRAWINGS.
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- D-16** EXISTING CONTROL PANEL AND CONTROLS TO REMAIN.
- D-17** EXISTING CONTROL WIRING TO/FROM CHILLER TO REMAIN.
- D-18** REMOVE CONTROL WIRING TO/FROM CHILLER. PATCH WALL AS STATED UNDER GENERAL DEMOLITION NOTES.

#### II. GENERAL

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- F. SEQUENCE OF ALL DEMOLITION WORK SHALL BE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS, DRAWINGS, AND/OR AS DIRECTED BY ARCHITECT/ENGINEER.
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### PROJECT PHASING

UNDER ALTERNATE BID THE CONTRACTOR(S) TO REPLACE EACH ADDITIONAL CHILLER, CHILLER BUNDLE (EVAPORATOR), ECONOMIZER, PUMP, ETC. SEPARATELY. THE BUILDING NEEDS TO HAVE TWO CHILLERS FULLY OPERATIONAL AT ALL TIMES.

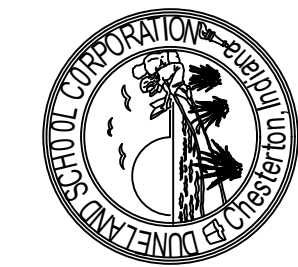


KEY PLAN  
NOT TO SCALE



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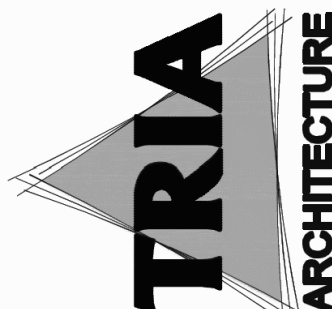
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PROJECT CHARGER: YES  
DRAIN BY: OAS  
USED FOR BID: 12/02/2019  
EXISTING EQUIPMENT YARD -  
MECHANICAL -  
ALTERNATE



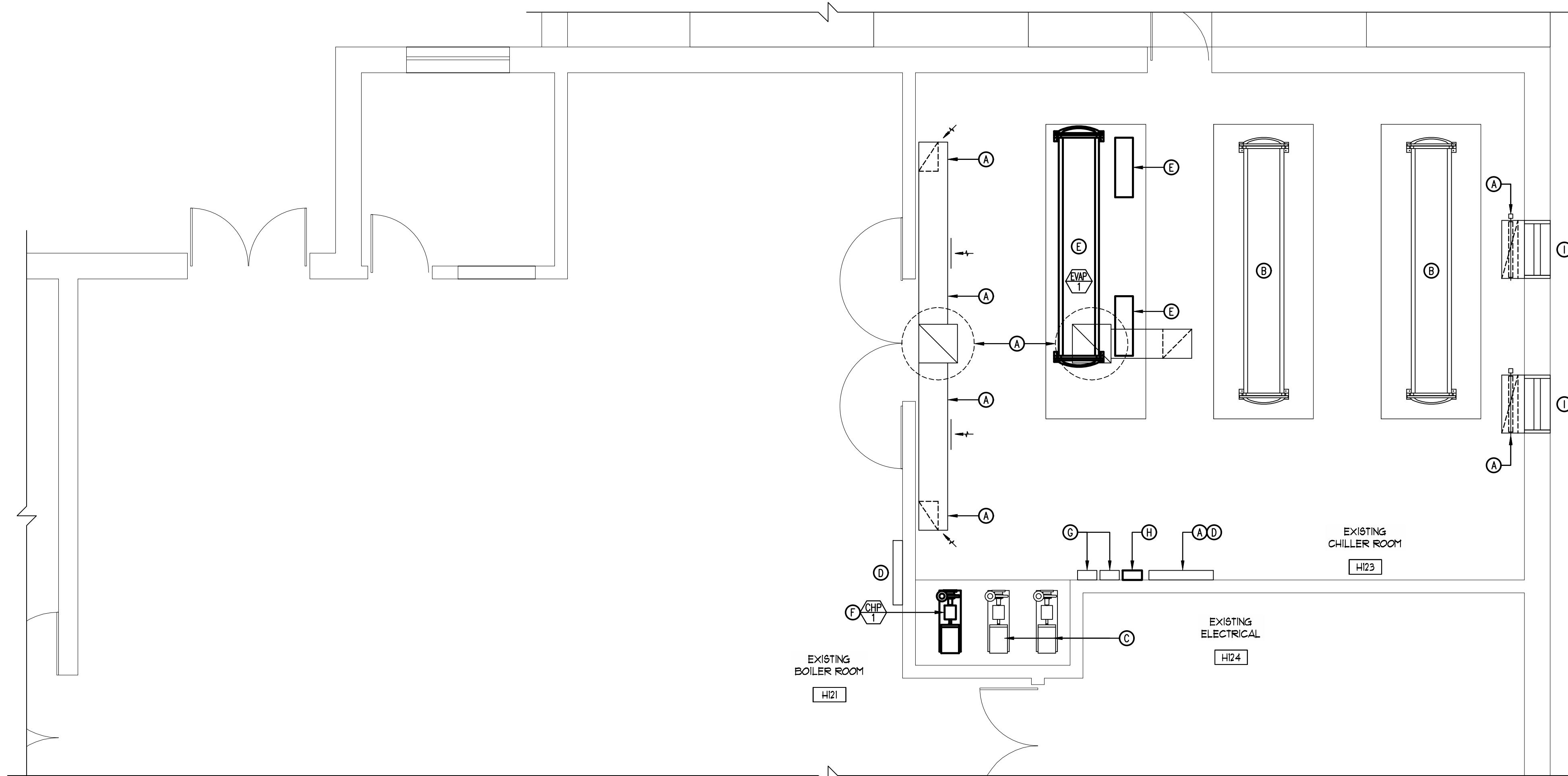
**DUNELAND SCHOOL CORPORATION**  
2020 MECHANICAL RENOVATIONS AT:  
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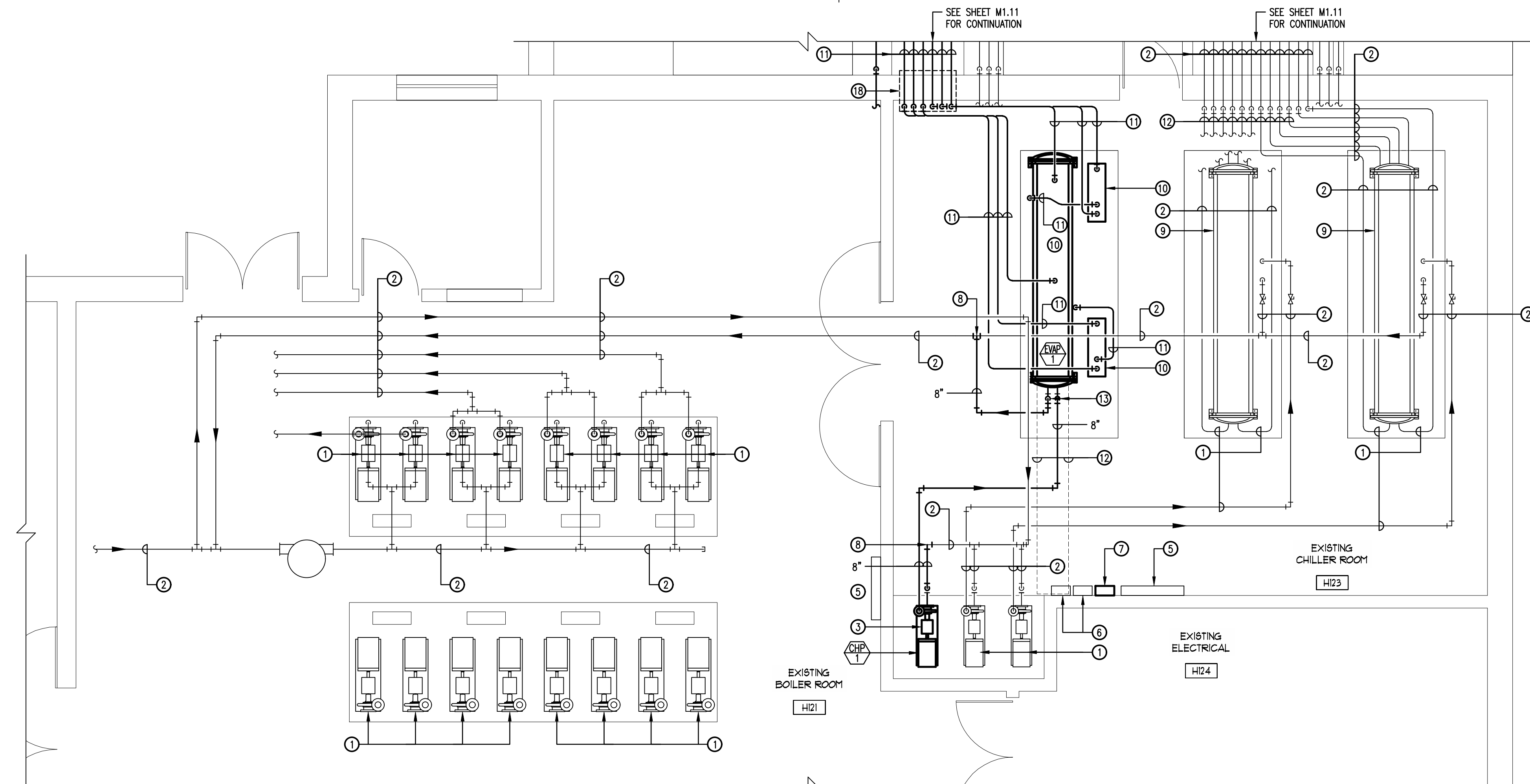
MEP/PF CONSULTANT  
(P) 63033856







1 FLOOR PLAN - VENTILATION - BASE BID  
1/4" = 1'-0"



2 FLOOR PLAN - PIPING - BASE BID  
1/4" = 1'-0"

### MECHANICAL VENTILATION NEW WORK NOTES

- A EXISTING REFRIGERANT EXHAUST SYSTEM AND SYSTEM CONTROLS TO REMAIN. VERIFY OPERATION OF ROOF EXHAUST FAN, INTAKE HOOD, DAMPERS, ETC. PROVIDE ADDITIONAL SENSOR TO MATCH NEW CHILLER REFRIGERANT. REMOVE R-22 SENSOR IF ALTERNATE BID IS ACCEPTED. PROVIDE NEW CONTROLLERS AS REQUIRED BY SPECIFICATIONS AND NEW WORK DRAWINGS.
- B EXISTING CHILLER EVAPORATOR BUNDLE. SEE PIPING PLANS.
- C EXISTING BASE MOUNT CHILLER PUMP(S). SEE PIPING PLANS.
- D EXISTING CONTROL PANEL AND CONTROLS TO REMAIN. PROVIDE ADDITIONAL CONTROLS PER THE SPECIFICATIONS.
- E NEW CHILLER EVAPORATOR BUNDLE AND ECONOMIZER. MOUNT ON ISOLATORS. SEE PIPING PLANS FOR ADDITIONAL REQUIREMENTS.
- F NEW BASE MOUNTED CHILLER PUMP. ANCHOR TO EXISTING CONCRETE BASE. SEE PIPING PLANS FOR ADDITIONAL REQUIREMENTS.
- G EXISTING PUMP STARTER TO REMAIN.
- H NEW PUMP VARIABLE FREQUENCY DRIVE. SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- I EXISTING WALL LOUVER TO REMAIN.

### PROJECT PHASING

UNDER ALTERNATE BID THE CONTRACTOR(S) TO REPLACE EACH ADDITIONAL CHILLER, CHILLER BUNDLE (EVAPORATOR), ECONOMIZER, PUMP, ETC. SEPARATELY. THE BUILDING NEEDS TO HAVE TWO CHILLERS FULLY OPERATIONAL AT ALL TIMES.

### MECHANICAL PIPING NEW WORK NOTES

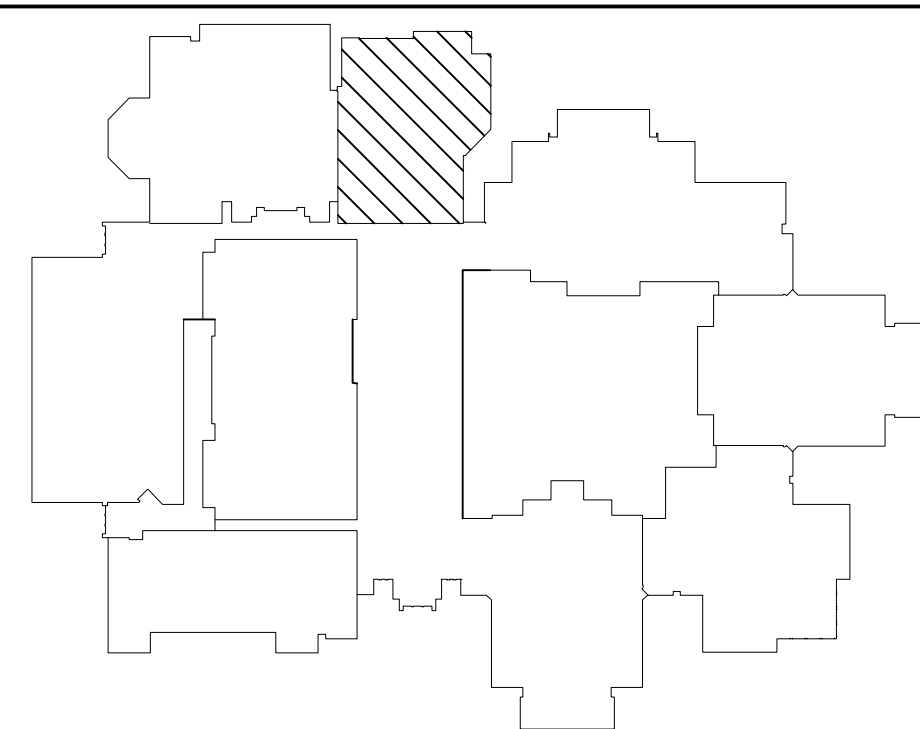
- 1 EXISTING BASE MOUNTED PUMP(S), ASSOCIATED PIPING AND CONCRETE BASE TO REMAIN.
- 2 EXISTING CHILLED WATER AND/OR REFRIGERANT PIPING TO REMAIN.
- 3 NEW BASE MOUNTED PUMP ON EXISTING CONCRETE BASE. ANCHOR TO EXISTING CONCRETE BASE. SEE LARGE SCALE DETAILS 2/M4.10, 3/M4.10, 7/M4.10 AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- 4 EXISTING BASE MOUNTED PUMP TO REMAIN. VERIFY OPERATION OF PUMP WITH EXISTING CHILLER.
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- 11 NEW REFRIGERANT PIPING TO RUN TO/FROM OUTDOOR AIR COOLED COMPRESSOR(S) AND/OR CHILLER/ECONOMIZER. FIELD VERIFY ROUTING AND PIPING SIZE WITH MANUFACTURER. INSULATED PIPING PER THE SPECIFICATIONS AND DETAILS. PROVIDE ALUMINUM JACKET FOR ALL EXTERIOR PIPING.
- 12 EVAPORATOR BUNDLE ACCESS/SERVICE AREA.
- 13 SEE LARGE SCALE DETAILS 1/M4.10, 8/M4.10 AND SPECIFICATIONS FOR ADDITIONAL PIPING AND VALVING REQUIREMENTS.
- 14 EXISTING CHILLER TO REMAIN. VERIFY OPERATION OF CHILLER WITH EXISTING CONTROLS.
- 15 INSTALL NEW CHILLER ON EXISTING CONCRETE BASE. MOUNT ON ISOLATORS. LARGE SCALE DETAILS 1/M4.10, 8/4.10 AND SPECIFICATIONS FOR PIPING AND INSTALLATION REQUIREMENTS. CONTRACTOR TO REMOVE ECONOMIZER FROM UNIT AND INSTALL IN CHILLER ROOM ON THE EXISTING CONCRETE BASE. VERIFY REMOVAL REQUIREMENTS WITH MANUFACTURER.
- 16 REROUTE REFRIGERATION PIPING WITHIN CHILLER TO ALLOW NEW REFRIGERANT PIPING TO RUN IN EXISTING PIPE TRENCH.
- 17 EXISTING PIPE TRENCH AND GRATING. REMOVE GRATING AS REQUIRED TO REPLACE PIPING. REMOVE DEBRIS AND CLEAN TRENCH AND CLEAR DRAIN(S). REINSTALL GRATING.
- 18 PROVIDE LOOSE GRANULAR FILL INSULATION AT WALL PENETRATION, BELOW GRADE, AROUND WALL REFRIGERANT PIPE PENETRATIONS. INSULATION TO SEAL EXTERIOR FROM INTERIOR WEATHER TIGHT.
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- 20 NEW UNDERGROUND CONTROL CONDUIT AND WIRING. SEE SPECIFICATIONS.

### PROJECT PHASING

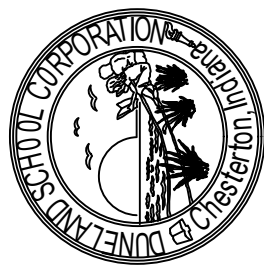
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### GENERAL NOTE

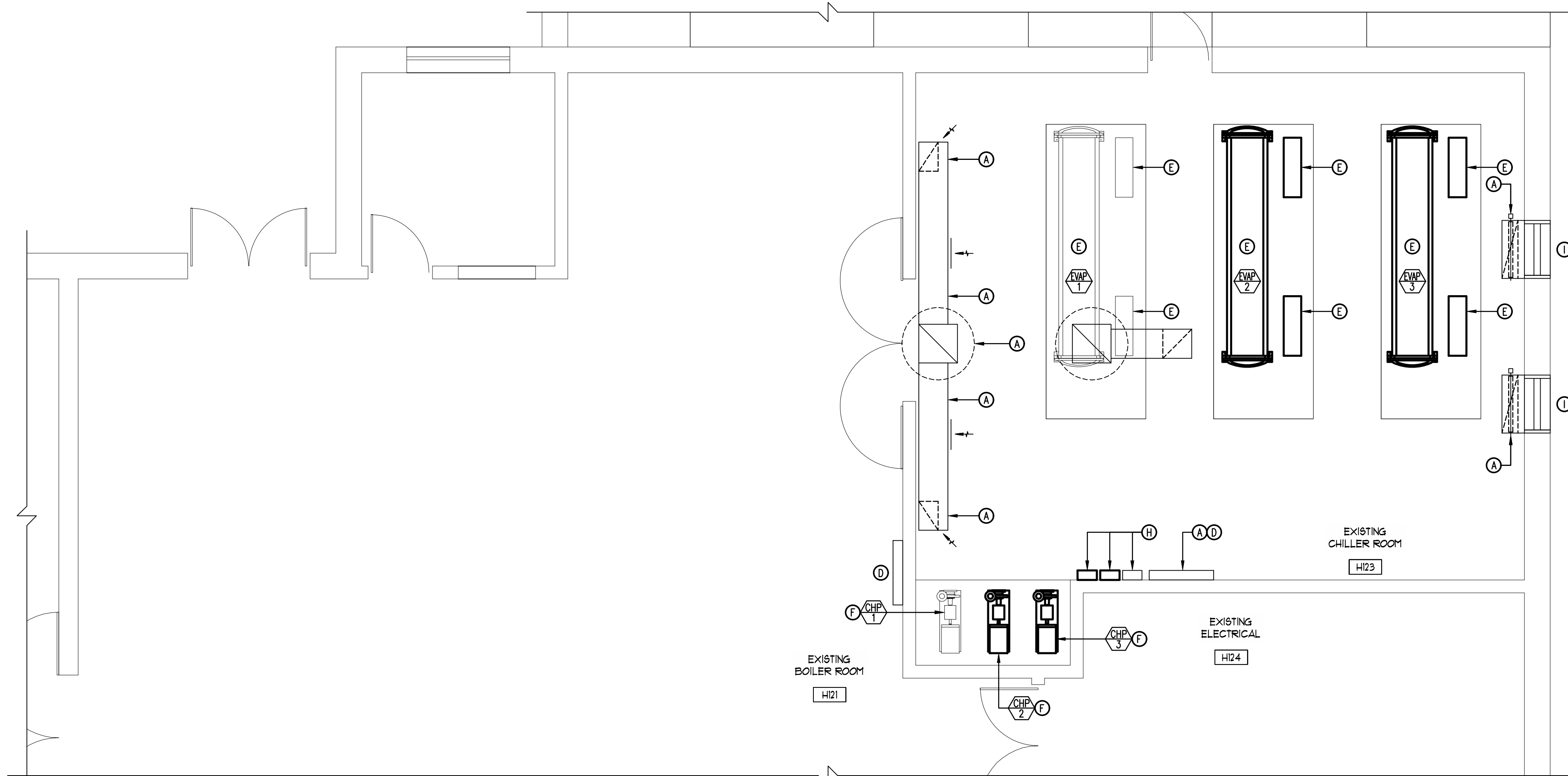
CONTRACTOR SHALL SIZE ALL REFRIGERANT PIPING PER THE MANUFACTURERS REQUIREMENTS AND PREPARE PIPING SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION.



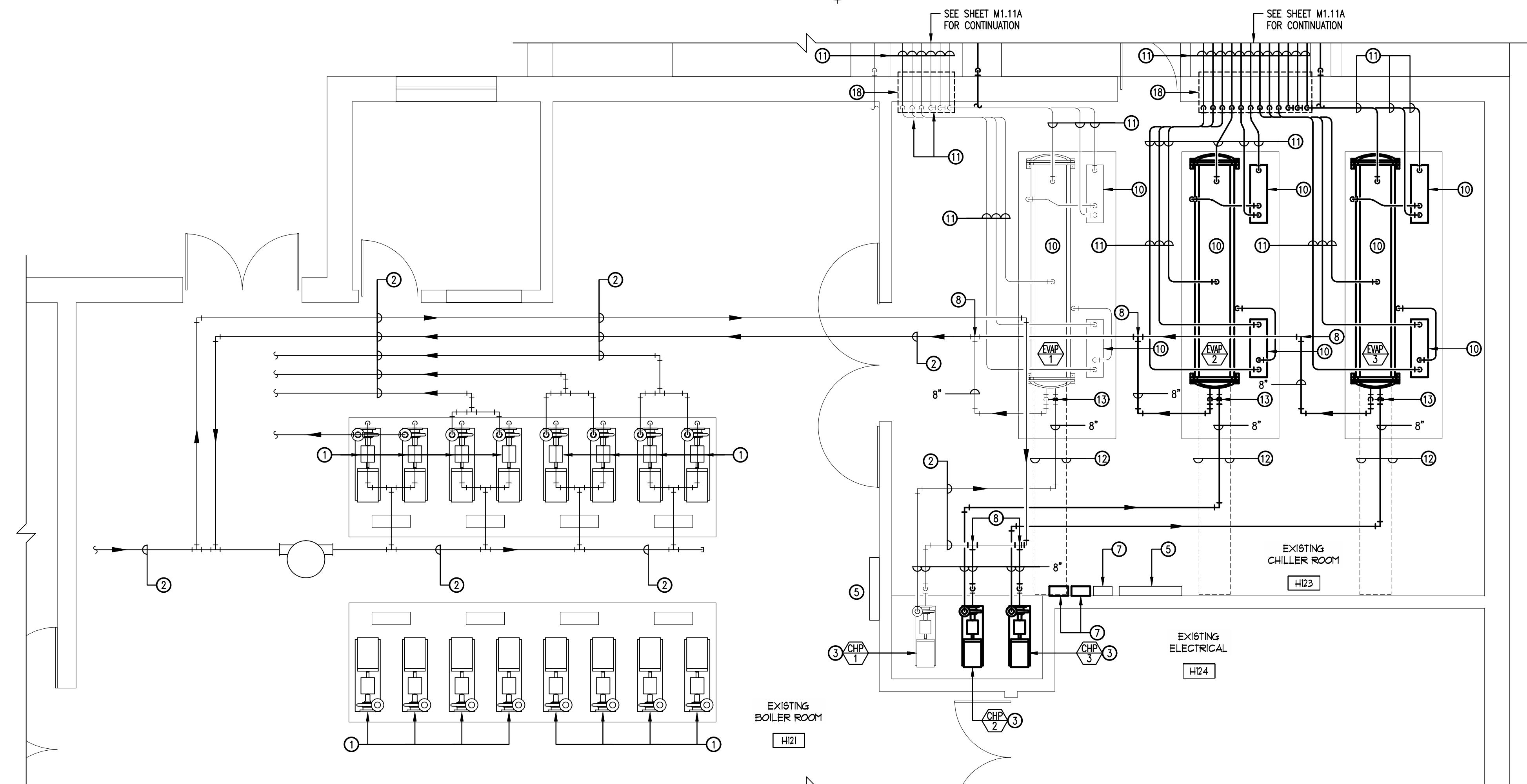
KEY PLAN  
NOT TO SCALE



PLOTTED BY: LARRY ARNOLD  
 DATE PLOTTED: 12/12/2019 9:31 AM  
 FILE PATH AND NAME: P:\139-1-3 Duneland School District - Chesterton & Westchester IS Chiller Replacements\139-1-3 M1.10A.dwg  
 All Mechanical



1 FLOOR PLAN - VENTILATION - ALTERNATE BID  
 1/4" = 1'-0"



2 FLOOR PLAN - PIPING - ALTERNATE BID  
 1/4" = 1'-0"

### MECHANICAL VENTILATION NEW WORK NOTES

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### MECHANICAL PIPING NEW WORK NOTES

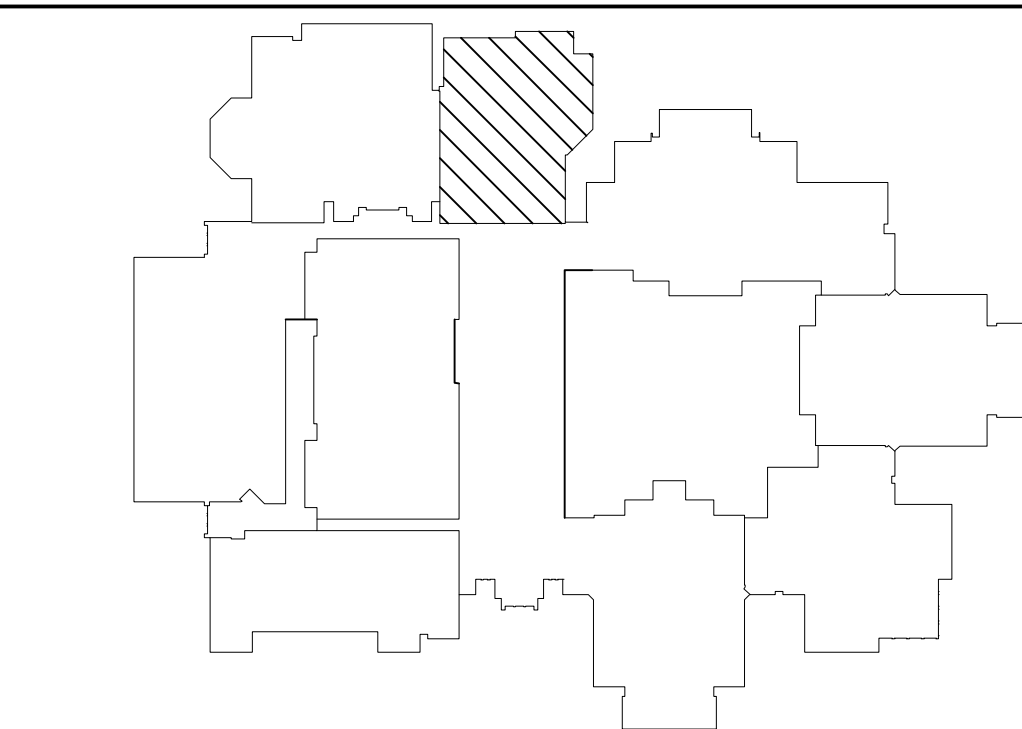
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- 20 NEW UNDERGROUND CONTROL CONDUIT AND WIRING. SEE SPECIFICATIONS.

### PROJECT PHASING

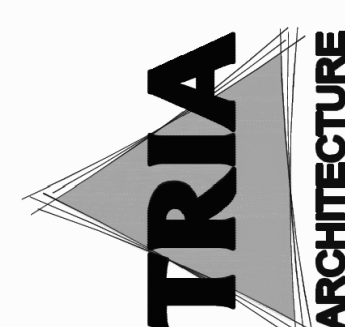
UNDER ALTERNATE BID THE CONTRACTOR(S) TO REPLACE EACH ADDITIONAL CHILLER, CHILLER BUNDLE (EVAPORATOR), ECONOMIZER, PUMP, ETC. SEPARATELY. THE BUILDING NEEDS TO HAVE TWO CHILLERS FULLY OPERATIONAL AT ALL TIMES.

### GENERAL NOTE

CONTRACTOR SHALL SIZE ALL REFRIGERANT PIPING PER THE MANUFACTURERS REQUIREMENTS AND PREPARE PIPING SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION.



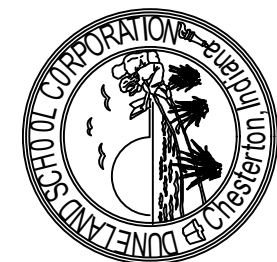
KEY PLAN  
 NOT TO SCALE



HEPF CONSULTANT  
 (P) 63033856

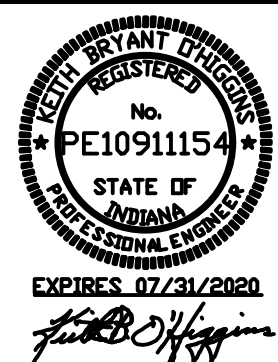


DUNELAND SCHOOL CORPORATION  
 2020 MECHANICAL RENOVATIONS AT:  
 CHESTERTON HIGH SCHOOL  
 2125 SOUTH 11TH STREET, CHESTERTON, IN 46304



PROJECT NUMBER: 18-0251  
 PROJECT PHASE: 10  
 DRAWN BY: OAS

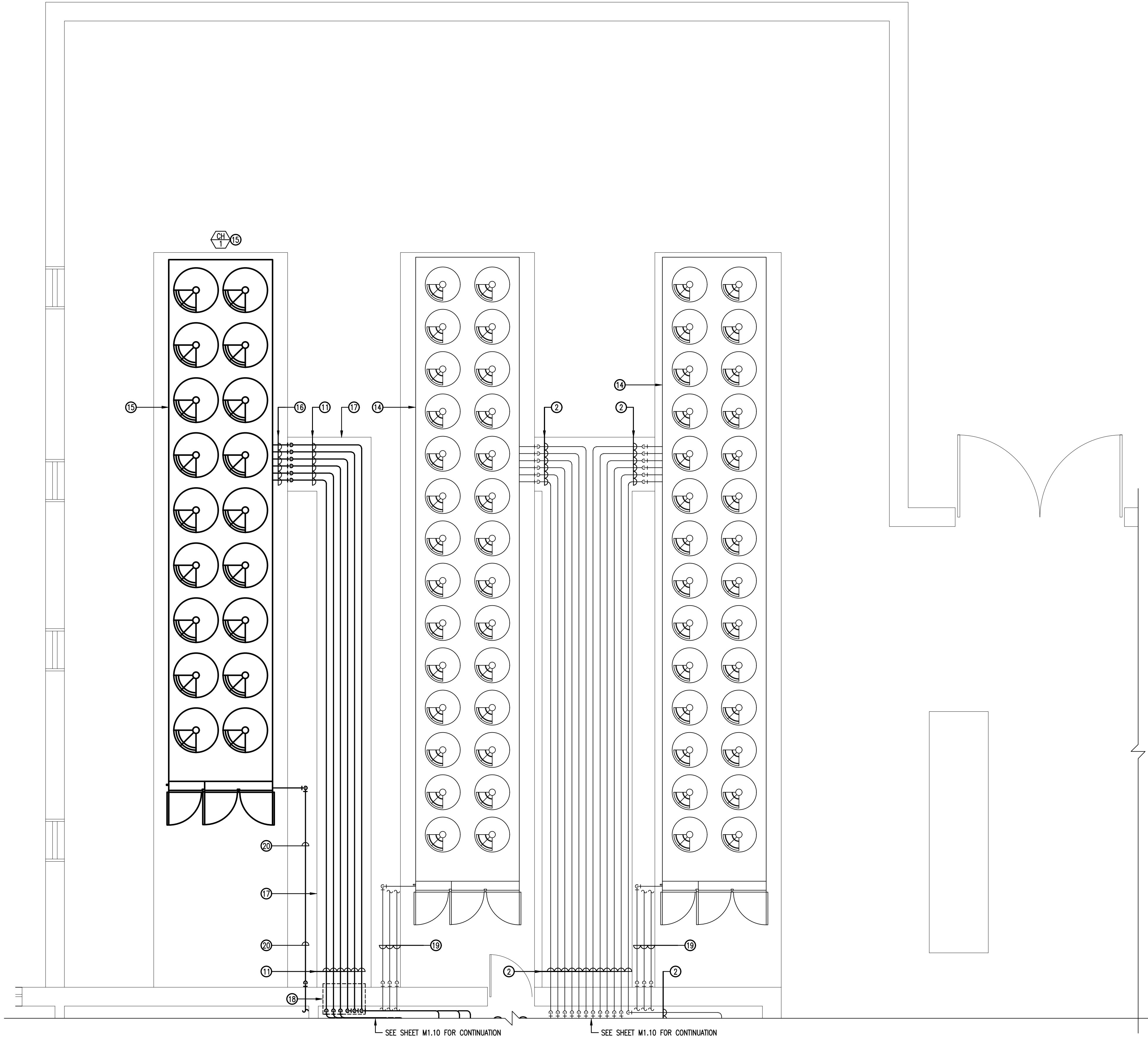
ISSUED FOR BID: 11/01/2019  
 FLOOR PLANS -  
 MECHANICAL -  
 ALTERNATE



M1.10A



PLOTTED BY: LARRY ARNOLD  
 DATE PLOTTED: 12/12/2019 9:31 AM  
 FILE PATH AND NAME: P:\139-1-3 Duneland School District - Chesterton & Westchester IS Chiller Replacements\139-1-3 M1.11 CHS



1 EQUIPMENT YARD - MECHANICAL - BASE BID  
 1/4" = 1'-0"

- ### MECHANICAL VENTILATION NEW WORK NOTES
- EXISTING REFRIGERANT EXHAUST SYSTEM AND SYSTEM CONTROLS TO REMAIN. VERIFY OPERATION OF ROOF EXHAUST FAN, INTAKE HOOD, DAMPERS, ETC. PROVIDE ADDITIONAL SENSOR TO MATCH NEW CHILLER REFRIGERANT. REMOVE R-22 SENSOR IF ALTERNATE BID IS ACCEPTED. PROVIDE NEW CONTROLLERS AS REQUIRED BY SPECIFICATIONS AND NEW WORK DRAWINGS.
  - EXISTING CHILLER EVAPORATOR BUNDLE. SEE PIPING PLANS.
  - EXISTING BASE MOUNT CHILLER PUMP(S). SEE PIPING PLANS.
  - EXISTING CONTROL PANEL AND CONTROLS TO REMAIN. PROVIDE ADDITIONAL CONTROLS PER THE SPECIFICATIONS.
  - NEW CHILLER EVAPORATOR BUNDLE AND ECONOMIZER. MOUNT ON ISOLATORS. SEE PIPING PLANS FOR ADDITIONAL REQUIREMENTS.
  - NEW BASE MOUNTED CHILLER PUMP. ANCHOR TO EXISTING CONCRETE BASE. SEE PIPING PLANS FOR ADDITIONAL REQUIREMENTS.
  - EXISTING PUMP STARTER TO REMAIN.
  - NEW PUMP VARIABLE FREQUENCY DRIVE. SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
  - EXISTING WALL LOUVER TO REMAIN.

### PROJECT PHASING

UNDER ALTERNATE BID THE CONTRACTOR(S) TO REPLACE EACH ADDITIONAL CHILLER, CHILLER BUNDLE (EVAPORATOR), ECONOMIZER, PUMP, ETC. SEPARATELY. THE BUILDING NEEDS TO HAVE TWO CHILLERS FULLY OPERATIONAL AT ALL TIMES.

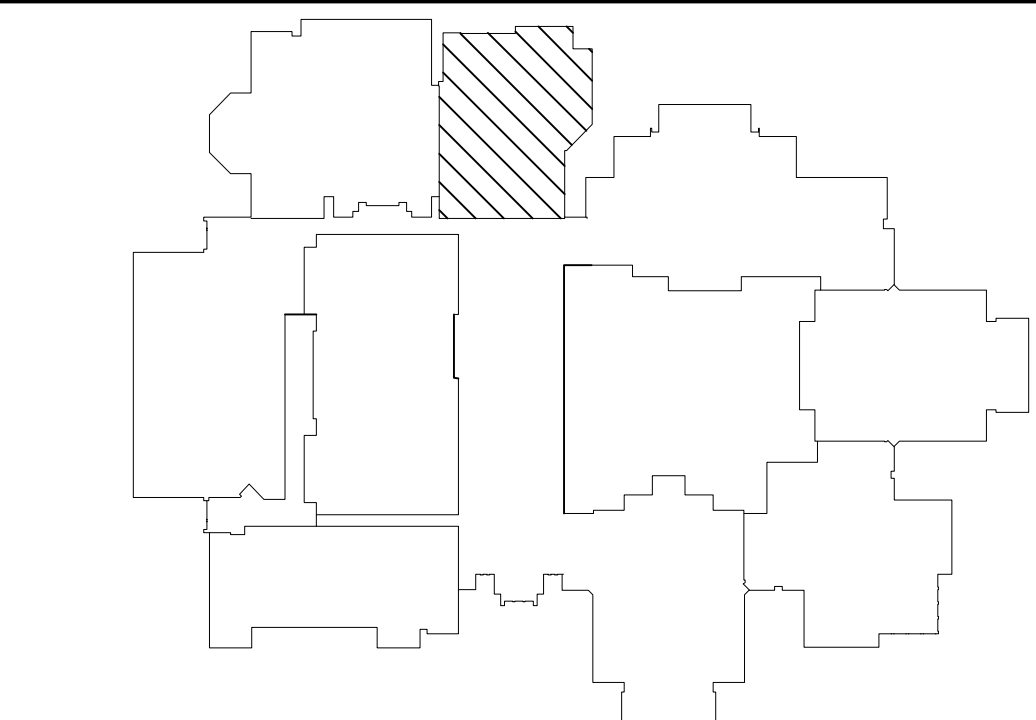
- ### MECHANICAL PIPING NEW WORK NOTES
- EXISTING BASE MOUNTED PUMP(S), ASSOCIATED PIPING AND CONCRETE BASE TO REMAIN.
  - EXISTING CHILLED WATER AND/OR REFRIGERANT PIPING TO REMAIN.
  - NEW BASE MOUNTED PUMP ON EXISTING CONCRETE BASE. ANCHOR TO EXISTING CONCRETE BASE. SEE LARGE SCALE DETAILS 2/M4.10, 3/M4.10, 7/M4.10 AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
  - EXISTING BASE MOUNTED PUMP TO REMAIN. VERIFY OPERATION OF PUMP WITH EXISTING CHILLER.
  - EXISTING CONTROL PANEL AND CONTROLS TO REMAIN. PROVIDE ADDITIONAL CONTROLS AS REQUIRED BY THE SPECIFICATIONS AND NEW WORK DRAWINGS.
  - EXISTING PUMP STARTER TO REMAIN.
  - VARIABLE FREQUENCY DRIVE FOR NEW PUMP.
  - NEW CONNECTION.
  - EXISTING EVAPORATOR BUNDLE INCLUDING REFRIGERANT PIPING, CHILLED WATER PIPING, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. AND CONCRETE BASE TO REMAIN.
  - PROVIDE NEW EVAPORATOR BUNDLE AND ECONOMIZER INCLUDING REFRIGERANT PIPING, CHILLED WATER PIPING, VALVES, INSULATION, SUPPORTS, HANGERS, ETC. ON EXISTING CONCRETE BASE. SEE LARGE SCALE DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
  - NEW REFRIGERANT PIPING TO RUN TO/FROM OUTDOOR AIR COOLED COMPRESSOR(S) AND/OR CHILLER/ECONOMIZER. FIELD VERIFY ROUTING AND PIPING SIZE WITH MANUFACTURER. INSULATED PIPING PER THE SPECIFICATIONS AND DETAILS. PROVIDE ALUMINUM JACKET FOR ALL EXTERIOR PIPING.
  - EVAPORATOR BUNDLE ACCESS/SERVICE AREA.
  - SEE LARGE SCALE DETAILS 1/M4.10, 8/M4.10 AND SPECIFICATIONS FOR ADDITIONAL PIPING AND VALVING REQUIREMENTS.
  - EXISTING CHILLER TO REMAIN. VERIFY OPERATION OF CHILLER WITH EXISTING CONTROLS.
  - INSTALL NEW CHILLER ON EXISTING CONCRETE BASE. MOUNT ON ISOLATORS. LARGE SCALE DETAILS 1/M4.10, 8/4.10 AND SPECIFICATIONS FOR PIPING AND INSTALLATION REQUIREMENTS. CONTRACTOR TO REMOVE ECONOMIZER FROM UNIT AND INSTALL IN CHILLER ROOM ON THE EXISTING CONCRETE BASE. VERIFY REMOVAL REQUIREMENTS WITH MANUFACTURER.
  - REROUTE REFRIGERATION PIPING WITHIN CHILLER TO ALLOW NEW REFRIGERANT PIPING TO RUN IN EXISTING PIPE TRENCH.
  - EXISTING PIPE TRENCH AND GRATING. REMOVE REMOVE GRATING AS REQUIRED TO REPLACE PIPING. REMOVE DEBRIS AND CLEAN TRENCH AND CLEAR DRAIN(S). REINSTALL GRATING.
  - PROVIDE LOOSE GRANULAR FILL INSULATION AT WALL PENETRATION, BELOW GRADE, AROUND WALL REFRIGERANT PIPE PENETRATIONS. INSULATION TO SEAL EXTERIOR FROM INTERIOR WEATHER TIGHT.
  - EXISTING UNDERGROUND CONTROL CONDUIT AND WIRING TO REMAIN.
  - NEW UNDERGROUND CONTROL CONDUIT AND WIRING. SEE SPECIFICATIONS.

### PROJECT PHASING

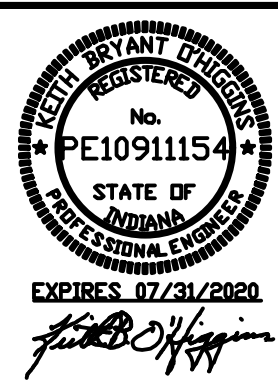
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### GENERAL NOTE

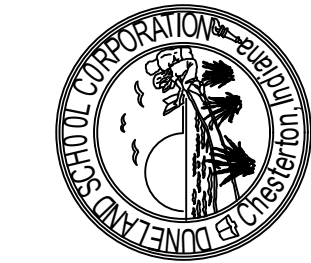
CONTRACTOR SHALL SIZE ALL REFRIGERANT PIPING PER THE MANUFACTURERS REQUIREMENTS AND PREPARE PIPING SHOP DRAWINGS FOR REVIEW PRIOR TO INSTALLATION.



KEY PLAN  
 NOT TO SCALE



**DUNELAND SCHOOL CORPORATION**  
**2020 MECHANICAL RENOVATIONS AT:**  
**CHESTERTON HIGH SCHOOL**  
**2125 SOUTH 11TH STREET, CHESTERTON, IN 46304**



PROJECT NUMBER: 139-1-3	SECTION:
PROJECT HANGER: YES	PROJECT HANGER: YES
DRAWN BY: CHS	DRAWN BY: CHS
USED FOR BID: 1/10/2020	USED FOR BID: 1/10/2020
EQUIPMENT YARD - MECHANICAL	EQUIPMENT YARD - MECHANICAL

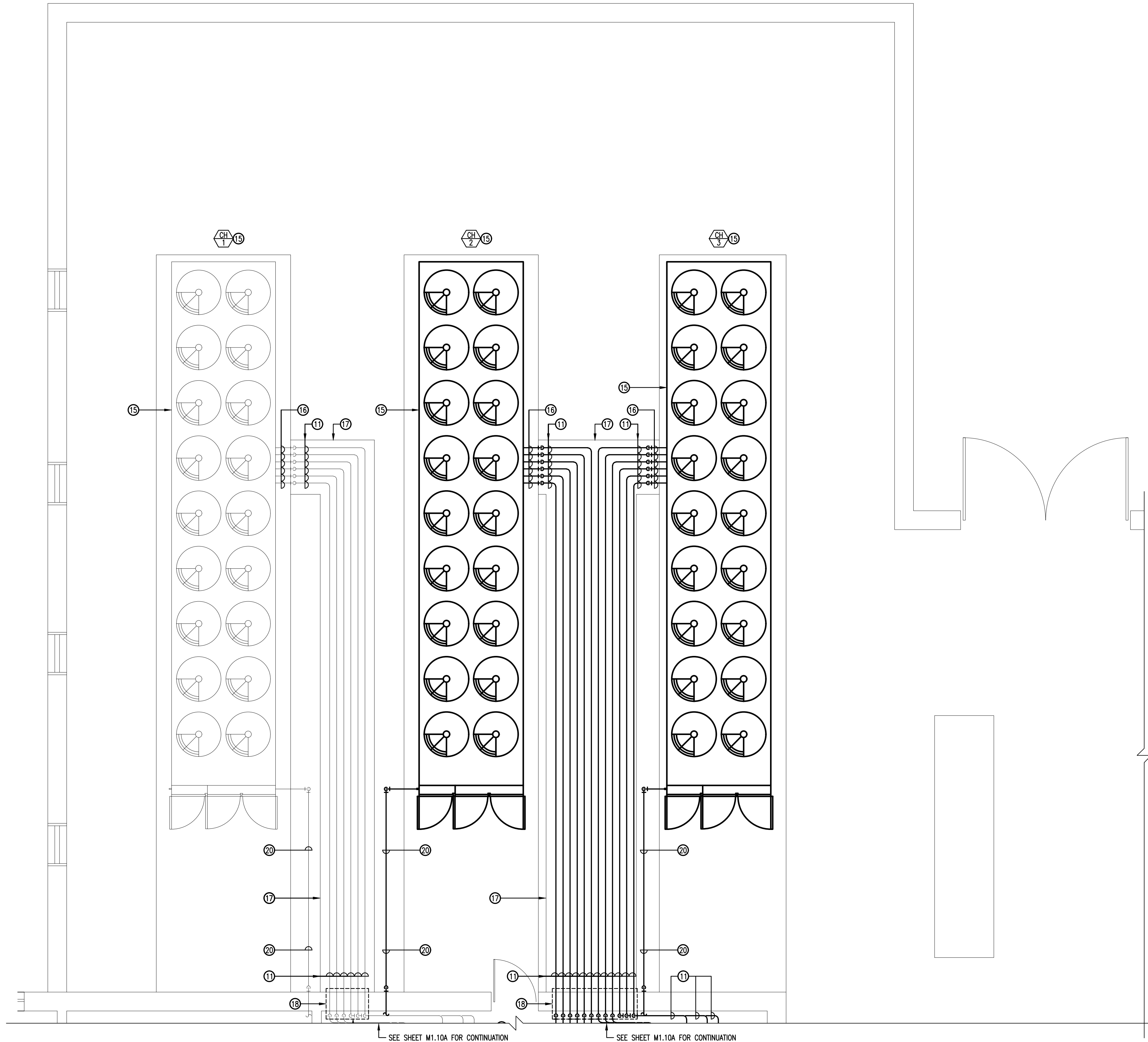


HEPF CONSULTING  
 10101 N. STATE ROAD 139  
 SUITE 100  
 CHESTERTON, IN 46304  
 (765) 928-3556

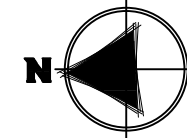
M1.11

DATE PLOTTED: 12/12/2019 9:32 AM FILE PATH AND NAME: P:\139-1-3 Duneland School District - Chesterton & Westchester IS Chiller Replacements\139-1-3 M1.11A.dwg

PLOTTED BY: LARRY ARNOLD  
ADJ Mechanical



1 EQUIPMENT YARD - MECHANICAL - ALTERNATE BID  
1/4" = 1'-0"



#### MECHANICAL VENTILATION NEW WORK NOTES

- (A) EXISTING REFRIGERANT EXHAUST SYSTEM AND SYSTEM CONTROLS TO REMAIN. VERIFY OPERATION OF ROOF EXHAUST FAN, INTAKE HOOD, DAMPERS, ETC. PROVIDE ADDITIONAL SENSOR TO MATCH NEW CHILLER REFRIGERANT. REMOVE R-22 SENSOR IF ALTERNATE BID IS ACCEPTED. PROVIDE NEW CONTROLLERS AS REQUIRED BY SPECIFICATIONS AND NEW WORK DRAWINGS.
- (B) EXISTING CHILLER EVAPORATOR BUNDLE. SEE PIPING PLANS.
- (C) EXISTING BASE MOUNT CHILLER PUMP(S). SEE PIPING PLANS.
- (D) EXISTING CONTROL PANEL AND CONTROLS TO REMAIN. PROVIDE ADDITIONAL CONTROLS PER THE SPECIFICATIONS.
- (E) NEW CHILLER EVAPORATOR BUNDLE AND ECONOMIZER. MOUNT ON ISOLATORS. SEE PIPING PLANS FOR ADDITIONAL REQUIREMENTS.
- (F) NEW BASE MOUNTED CHILLER PUMP. ANCHOR TO EXISTING CONCRETE BASE. SEE PIPING PLANS FOR ADDITIONAL REQUIREMENTS.
- (G) EXISTING PUMP STARTER TO REMAIN.
- (H) NEW PUMP VARIABLE FREQUENCY DRIVE. SEE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- (I) EXISTING WALL LOUVER TO REMAIN.

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#### MECHANICAL PIPING NEW WORK NOTES

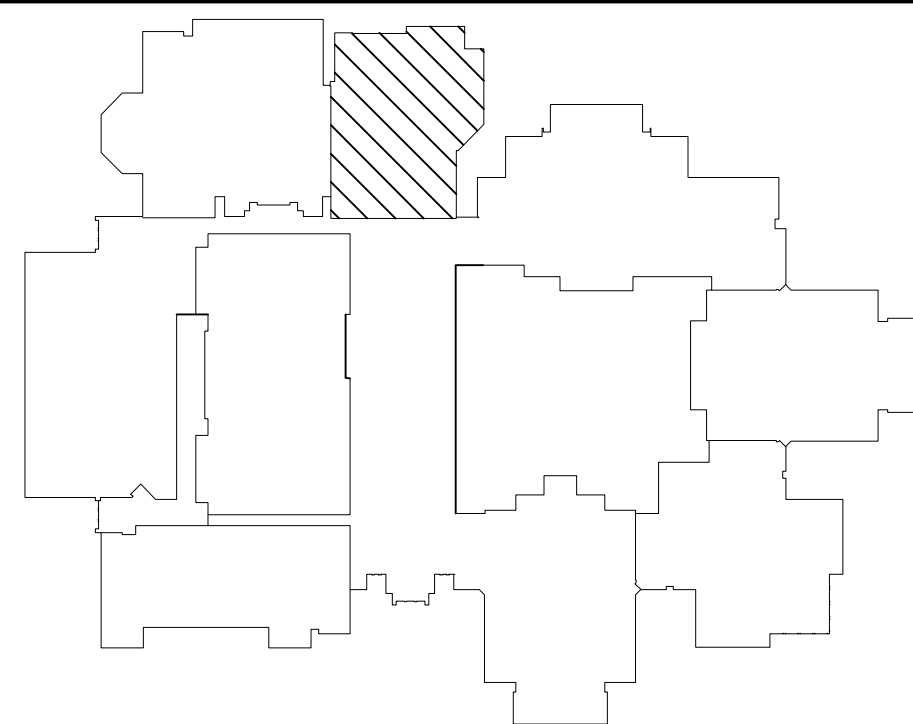
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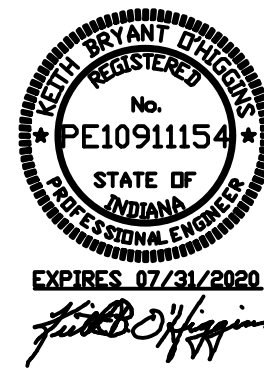
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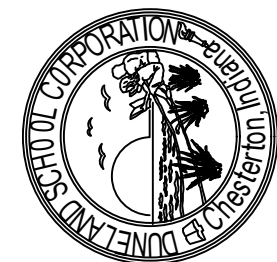


KEY PLAN  
NOT TO SCALE



M1.11A

**DUNELAND SCHOOL CORPORATION**  
2020 MECHANICAL RENOVATIONS AT:  
**CHESTERTON HIGH SCHOOL**  
2125 SOUTH 11TH STREET, CHESTERTON, IN 46304



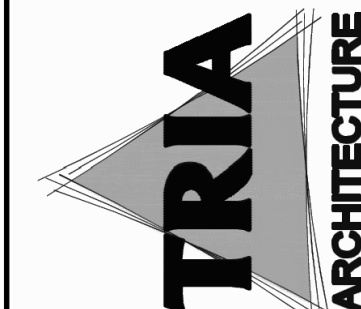
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PROJECT CHARGER: YS  
DRAWN BY: OAS  
ISSUED FOR BID: 11/01/2019  
EQUIPMENT YARD -  
MECHANICAL -  
ALTERNATE

MEP/PF CONSULTANT:








(P) 63033856

700 W. HARRISON BL., SUITE 1, SALEM, INDIANA 46784



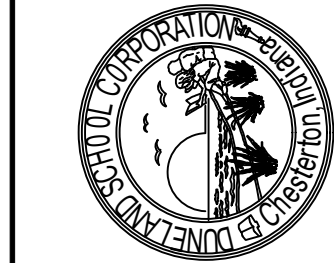


CHILLER SCHEDULE																																				
OUTDOOR AIR COOLED CHILLER																INDOOR EVAPORATOR												PERFORMANCE								
EQUIPMENT TAG	LOCATION	MANUFACTURE	MODEL (TYPE)	DESIGN CAPACITY (TON)	REFRIGERANT TYPE	DIMENSIONS (LxWxH)	WEIGHT (LBS.)	COMPRESSORS				CONDENSER FANS			ELECTRICAL				EQUIPMENT TAG	LOCATION	UNIT SERVED	MANUFACTURE	DIMENSIONS (LxWxH)	EWT (°F)	LWT (°F)	GPM	PD (FT W.G.)	DIMENSIONS (LxWxH)	WEIGHT (LBS.)	INTEGRATED PART LOAD VALUE					COP-FL	NOTES
								CIRCUIT	QUANTITY	TONS EACH	HEAT REJECTED (TONS)	EAT(°F)	QUANTITY	HP	VOLT/PH	MINIMUM CIRC. AMPS	MAXIMUM OCP. AMPS	REC. FUSE SIZE (AMPS)												OVERALL (BTU/Wh)	100% (BTU/Wh)	75% (BTU/Wh)	50% (BTU/Wh)	25% (BTU/Wh)		
CH 1	EQUIPMENT YARD	CARRIER	30XV400 (VFD SCREW)	400	R134A	453"x88"x99"	24,300	1	1	200	198.1	95.0	18	----	460/3	405.7	600	500	EVAP 1	EXISTING CHILLER ROOM H123	CH 1	CARRIER	150"x31"x31"	55.0	45.0	960.0	22.6	137"x34"x34"	2,900	18.15	9.81	14.51	20.18	24.00	2.90	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,22
								2	1	200	198.1					397.5	600	500																		
CH 2	EQUIPMENT YARD	CARRIER	30XV400 (VFD SCREW)	400	R134A	453"x88"x99"	24,300	1	1	200	198.1	95.0	18	----	460/3	405.7	600	500	EVAP 2	EXISTING CHILLER ROOM H123	CH 2	CARRIER	150"x31"x31"	55.0	45.0	960.0	22.6	137"x34"x34"	2,900	18.15	9.81	14.51	20.18	24.00	2.90	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,21,22
								2	1	200	198.1					397.5	600	500																		
CH 3	EQUIPMENT YARD	CARRIER	30XV400 (VFD SCREW)	400	R134A	453"x88"x99"	24,300	1	1	200	198.1	95.0	18	----	460/3	405.7	600	500	EVAP 3	EXISTING CHILLER ROOM H123	CH 3	CARRIER	150"x31"x31"	55.0	45.0	960.0	22.6	137"x34"x34"	2,900	18.15	9.81	14.51	20.18	24.00	2.90	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,21,22
								2	1	200	198.1					397.5	600	500																		
NOTES: 1. FACTORY DUAL POINT ELECTRICAL SUPPLY CONNECTION WITH VFD'S. 2. DISCONNECT(S) PROVIDED BY ELECTRICAL CONTRACTOR. 3. FACTORY PHASE, GROUND FAULT AND UNDER/OVER VOLTAGE PROTECTION. 4. CONTROL TRANSFORMER BY CHILLER MFG. INSTALLED BY BAS CONTRACTOR. 5. FLOW SWITCH BY CHILLER MFG. INSTALLED BY MECHANICAL CONTRACTOR.. 6. FACTORY GROOVED END PIPE CONNECTIONS ON EVAPORATOR. 7. FACTORY INSULATED EVAPORATOR. 8. FACTORY MOUNTED SUCTION AND DISCHARGE ISOLATION VALVES PER CIRCUIT. 9. FACTORY HOT GAS BY-PASS. 10. PROVIDE CHILLER WITH A BACNET CONTROLLER. 11. FLOODED EVAPORATOR, 2 PASS, WITH HEATER. 12. VARIABLE SPEED CONDENSER FANS WITH LOW SOUND KIT. 13. MECHANICAL CONTRACTOR TO PROVIDE VIBRATION ISOLATORS FOR INDOOR AND OUTDOOR UNIT. 14. MECHANICAL CONTRACTOR TO PROVIDE REFRIGERANT. VERIFY QUANTITY WITH CHILLER MANUFACTURER. 15. COIL TRIM PANELS. 16. BAS CONTRACTOR TO INTERLOCK CHILLER AND EVAPORATOR. 17. MECHANICAL CONTRACTOR TO FIELD INSULATE BUNDLE HEADS. 18. PROVIDE LOW AMBIENT HEAD PRESSURE CONTROL. 19. CONTRACTOR TO REMOVE ECONOMIZER FROM OUTDOOR UNIT AND INSTALL INDOORS. 20. BASE BID. 21. ALTERNATE BID. 22. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.																																				

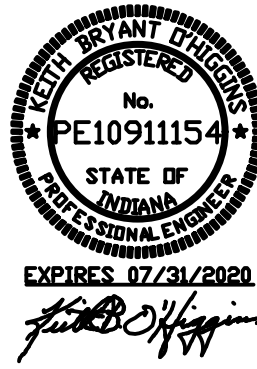
PUMP SCHEDULE 														
TAG	LOCATION	SERVICE	MANUFACTURER	MODEL NUMBER	TYPE	GPM	HP	VOLT/PH	HEAD (FT.)	IMP. DIA. (IN.)	RPM	EFFICIENCY	TRIPLE DUTY VALVE	NOTES
	EXISTING CHILLER H123	CHILLER/EVAP NO. 1	BELL & GOSSETT	1510 5BD	BASE MOUNTED	960	15.0	480/3	40.0	8.25	1750	80.6	YES	1,2,3
	EXISTING CHILLER H123	CHILLER/EVAP NO. 2	BELL & GOSSETT	1510 5BD	BASE MOUNTED	960	15.0	480/3	40.0	8.25	1750	80.6	YES	1,2,4
	EXISTING CHILLER H123	CHILLER/EVAP NO. 3	BELL & GOSSETT	1510 5BD	BASE MOUNTED	960	15.0	480/3	40.0	8.25	1750	80.6	YES	1,2,4
PUMP TYPES														
 CHILLER PUMP														
NOTES:														
1. FURNISH WITH HIGH EFFICIENCY MOTORS AND INTEGRAL THERMAL OVERLOADS.														
2. PROVIDE VFD WITH BYPASS. SEE SECTION 17150 FOR MANUFACTURER AND VFD REQUIREMENTS.														
3. BASE BID.														
4. ALTERNATE BID.														

MECHANICAL/ELECTRICAL COORDINATION SCHEDULE										
NOTES: <div>             1. DEVICES TO BE FURNISHED BY THE ELECTRICAL CONTRACTOR (MARKED "E"), OR MECHANICAL CONTRACTOR (MARKED "M")              2. ALL CONDUIT AND WIRING FOR TEMPERATURE CONTROL AND EQUIPMENT INTERLOCK SHALL BE BY BAS CONTRACTOR. OTHER CONTROLS AND CONTROL CONDUIT/WIRING BY TRADE FURNISHING RESPECTIVE EQUIPMENT.              3. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE AND REVIEW THE ELECTRICAL CHARACTERISTICS, AMPACITY AND OTHER REQUIREMENTS OF COMPONENTS BEFORE INSTALLATION OF WORK. ALL OTHER CONTRACTORS SHALL ADVISE ELECTRICAL CONTRACTOR OF ANY MOTOR/DEVICE CHANGES.              4. ALL LOOSE STARTERS SHALL INCLUDE HOA SWITCH, CONTROL TRANSFORMER, AND ONE N.O. AND ONE N.C. AUXILIARY CONTACTS. ALL SINGLE PHASE EXHAUST FAN CONTROL SWITCHES SHALL HAVE IDENTIFICATION NAMEPLATE AND PILOT LIGHT.              5. SEE SPECIFICATIONS AND DRAWINGS FOR TYPES AND LOCATIONS OF DEVICES SCHEDULED BELOW.           </div>										
EQUIP. TAG	EQUIPMENT DESCRIPTION	UNIT MOUNTED DEVICES				REMOTE OR LOOSE DEVICES				REMARKS
		STARTER	DISCONNECT	OVERCURRENT PROTECTION	SINGLE POINT CONNECTION	STARTER	DISCONNECT	VFD	OVERCURRENT PROTECTION	
<span>CH</span> 1	CHILLER	M	-	-	YES	-	E	-	E	
<span>CHP</span> 1	CHILLER PUMP	-	-	-	-	-	-	M	E	VFD WITH BYPASS PROVIDED BY MECHANICAL CONTRACTOR INSTALLED/WIRED BY ELECTRICAL CONTRACTOR.
NOTES: 1. VERIFY FINAL LOADS AND REQUIREMENTS OF ALL EQUIPMENT WITH FINAL MECHANICAL DRAWINGS.										

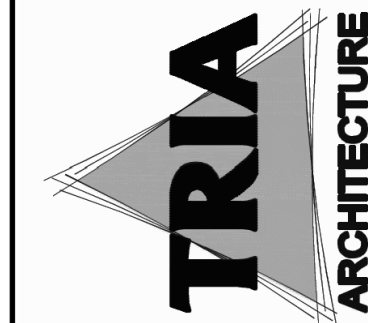
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 2125 SOUTH 11TH STREET, CHESTERTON, IN 46304



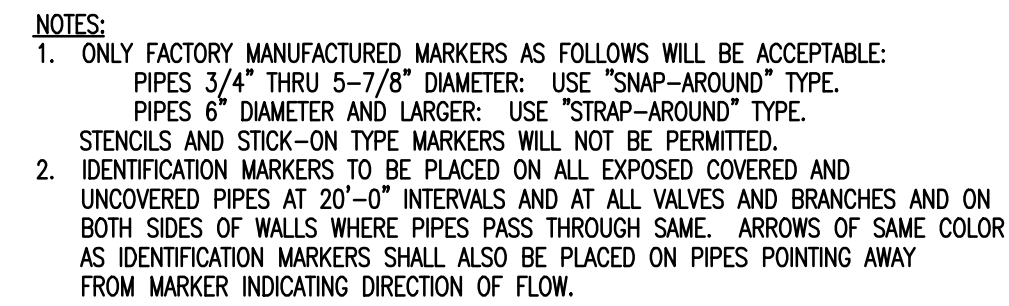
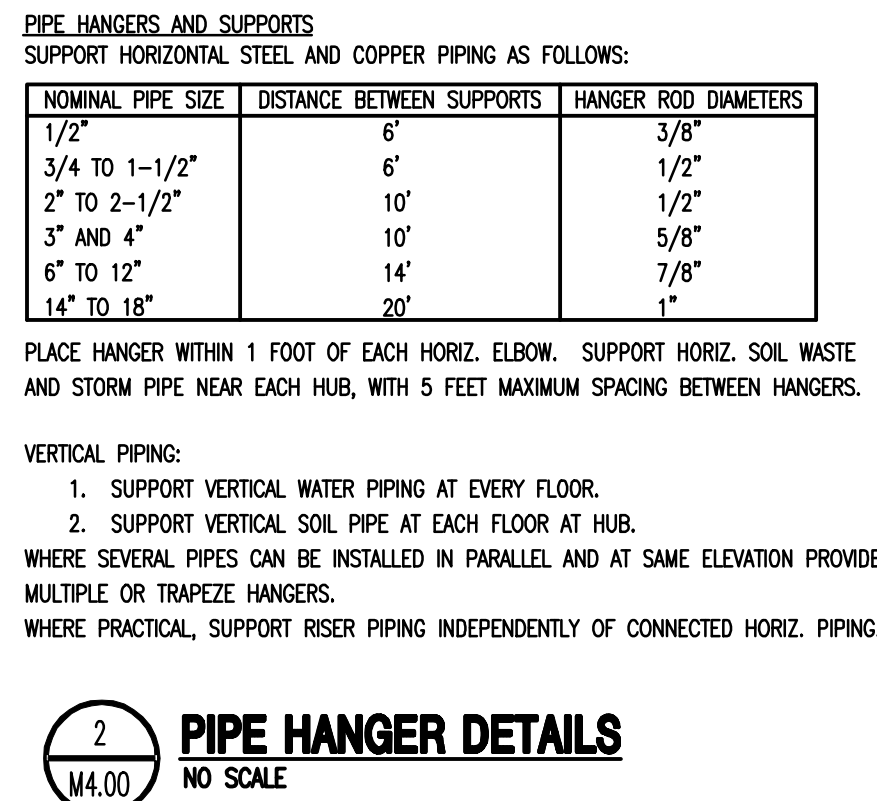
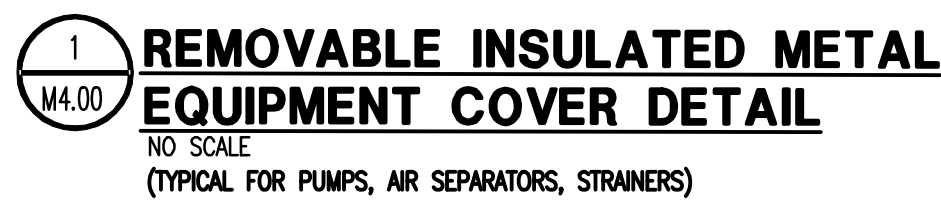
PROJECT NUMBER: 18-0631	REVISIONS:
PROJECT MANAGER: YG	1
DRAWN BY: OAS	2
	3
ISSUED FOR BID: 01/29/2019	4
SCHEDULES MECHANICAL	



M3.00

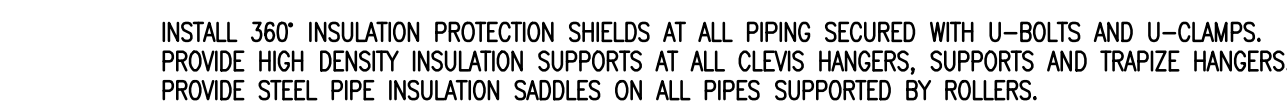


HEPF: ONLINE  
 IDAS  
 700 N. HARRISON ST., SUITE 1000, CHICAGO, IL 60610



PLAN TAG	SERVICE	IDENTIFICATION MARKER
BWS	BOILER WATER SUPPLY	BLACK LETTERING ON YELLOW BACKGROUND
BWR	BOILER WATER RETURN	BLACK LETTERING ON YELLOW BACKGROUND
HWS	HOT WATER HEATING SUPPLY	BLACK LETTERING ON YELLOW BACKGROUND
HWR	HOT WATER HEATING RETURN	BLACK LETTERING ON YELLOW BACKGROUND
G	NATURAL GAS	BLACK LETTERING ON YELLOW BACKGROUND
MU	MAKE-UP WATER (H.W. TANK)	WHITE LETTERING ON GREEN BACKGROUND
HCWS	CHILLED/HOT WATER SUPPLY	BLACK LETTERING ON YELLOW BACKGROUND
HCWR	CHILLED/HOT WATER RETURN	BLACK LETTERING ON YELLOW BACKGROUND
CHWS	CHILLED WATER SUPPLY	WHITE LETTERING ON GREEN BACKGROUND
CHWR	CHILLED WATER RETURN	WHITE LETTERING ON GREEN BACKGROUND
C	CONDENSATE	BLACK LETTERING ON YELLOW BACKGROUND

**4 TYPICAL PIPE IDENTIFICATION MARKERS**

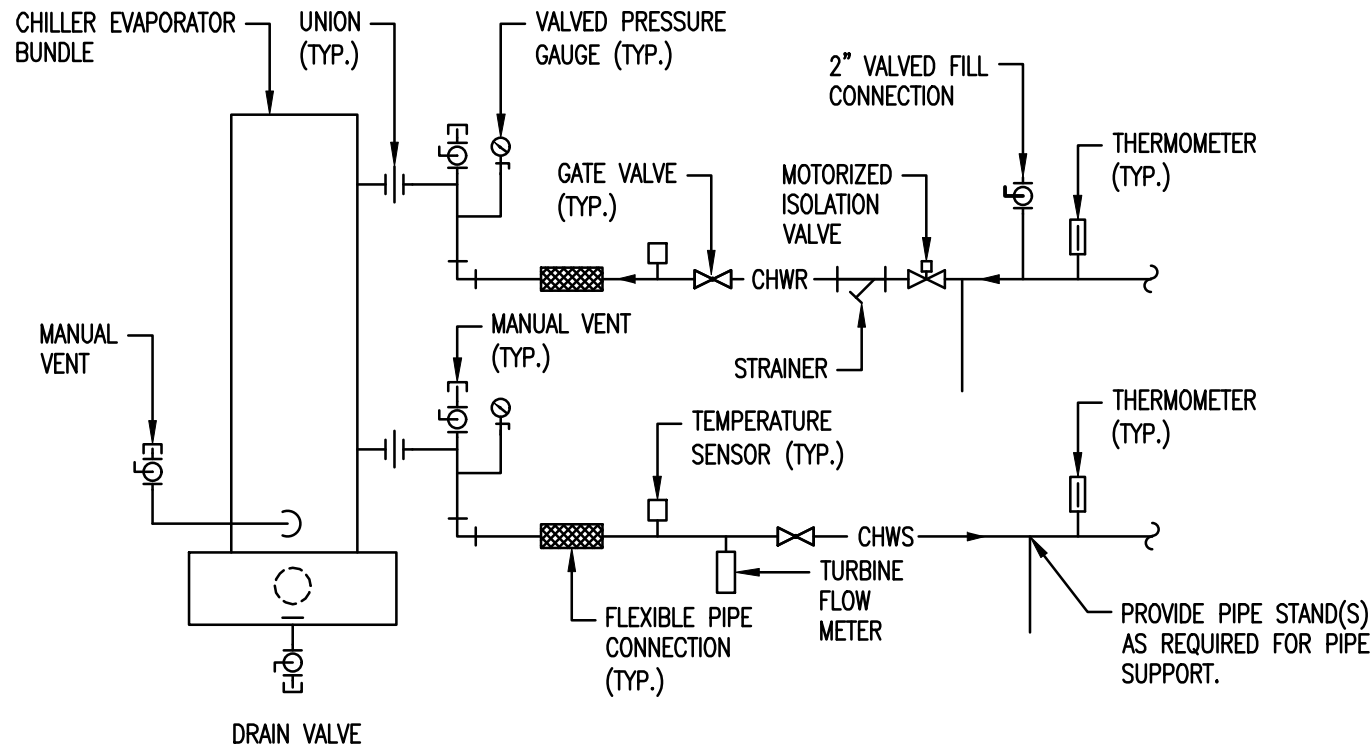


6  
M4.00

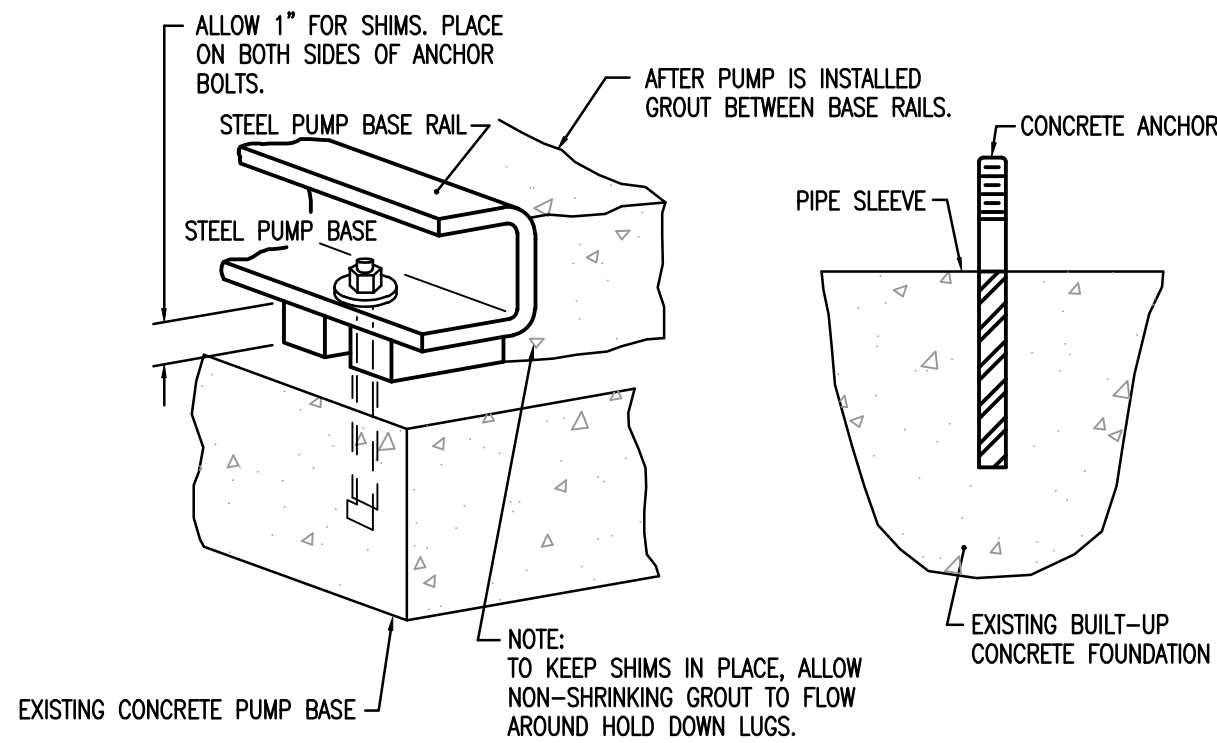
**TRAPEZE PIPE HANGER DETAIL**  
NO SCALE



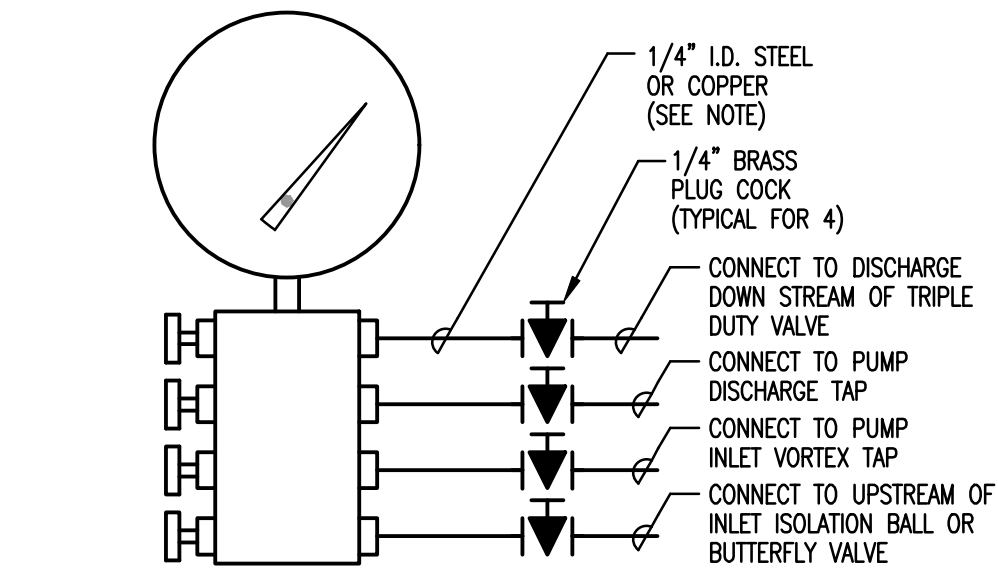
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 DATE PLOTTED: 12/12/2019 9:06 AM  
 FILE PATH AND NAME: P:\139-1-3 Duneland School District - Chesterton & Westchester IS Chiller Replacements\MA CHS\139-1-3 M4.10 CHS



1  
 M4.10  
**CHILLER EVAPORATOR CHILLED WATER PIPING CONNECTION DIAGRAM**  
 NO SCALE

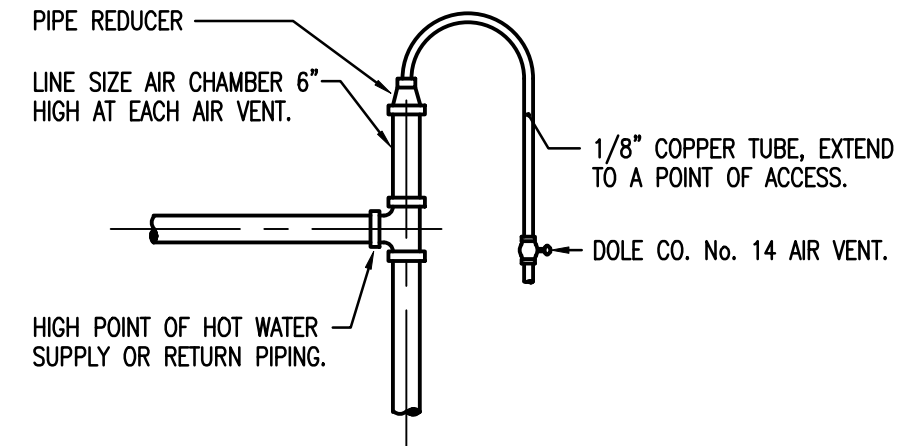


2  
 M4.10  
**PUMP BASE INSTALLATION DETAIL**  
 NO SCALE

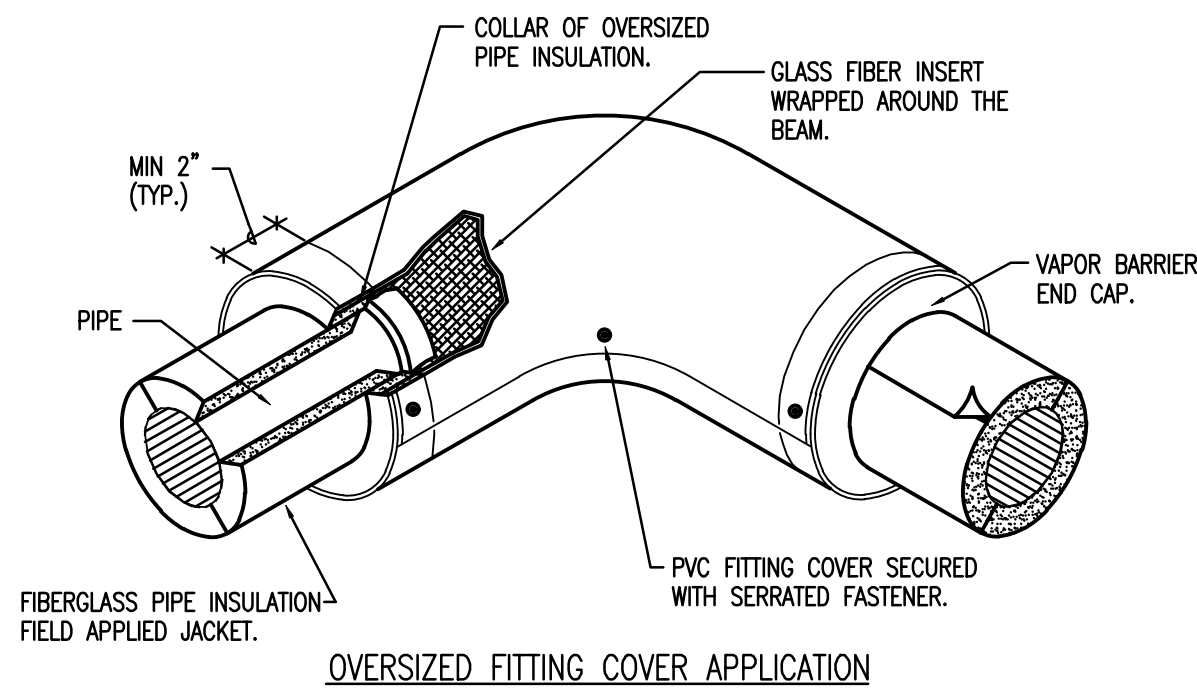


3  
 M4.10  
**TYPICAL HYDRONIC INDICATOR DETAIL**  
 NO SCALE

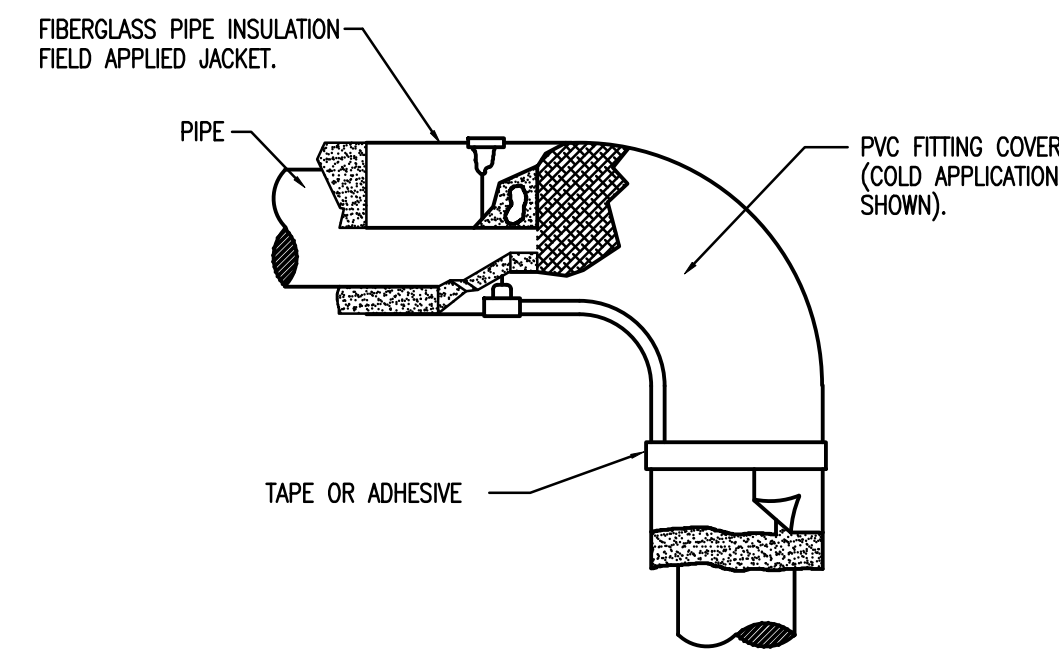
NOTE:  
 1. FLEXIBLE COPPER TO BE USED, IT MUST BE SUPPORTED RIGIDLY EVERY 18" (MAXIMUM) AND PROTECTED FROM DAMAGE.  
 2. REFER TO INDIVIDUAL PIPING DETAILS FOR EXACT CONNECTION LOCATION OF TUBING.



4  
 M4.10  
**MANUAL AIR VENT DETAIL**  
 NO SCALE

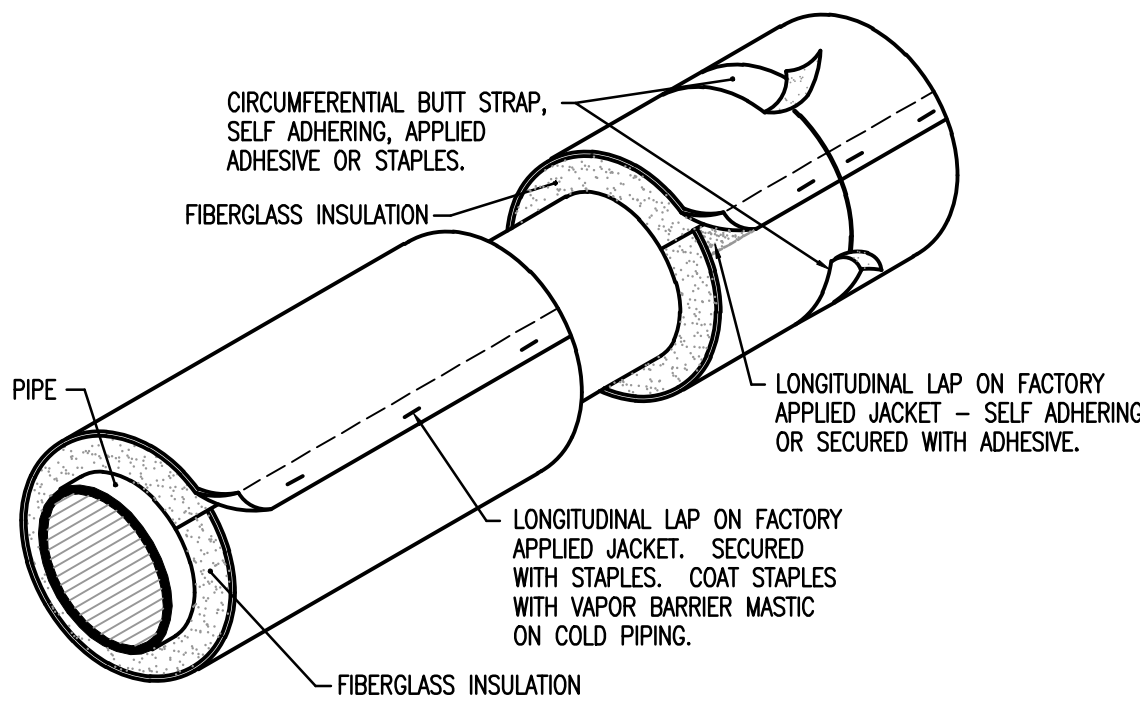


OVERSIZED FITTING COVER APPLICATION



SAME SIZE FITTING COVER APPLICATION

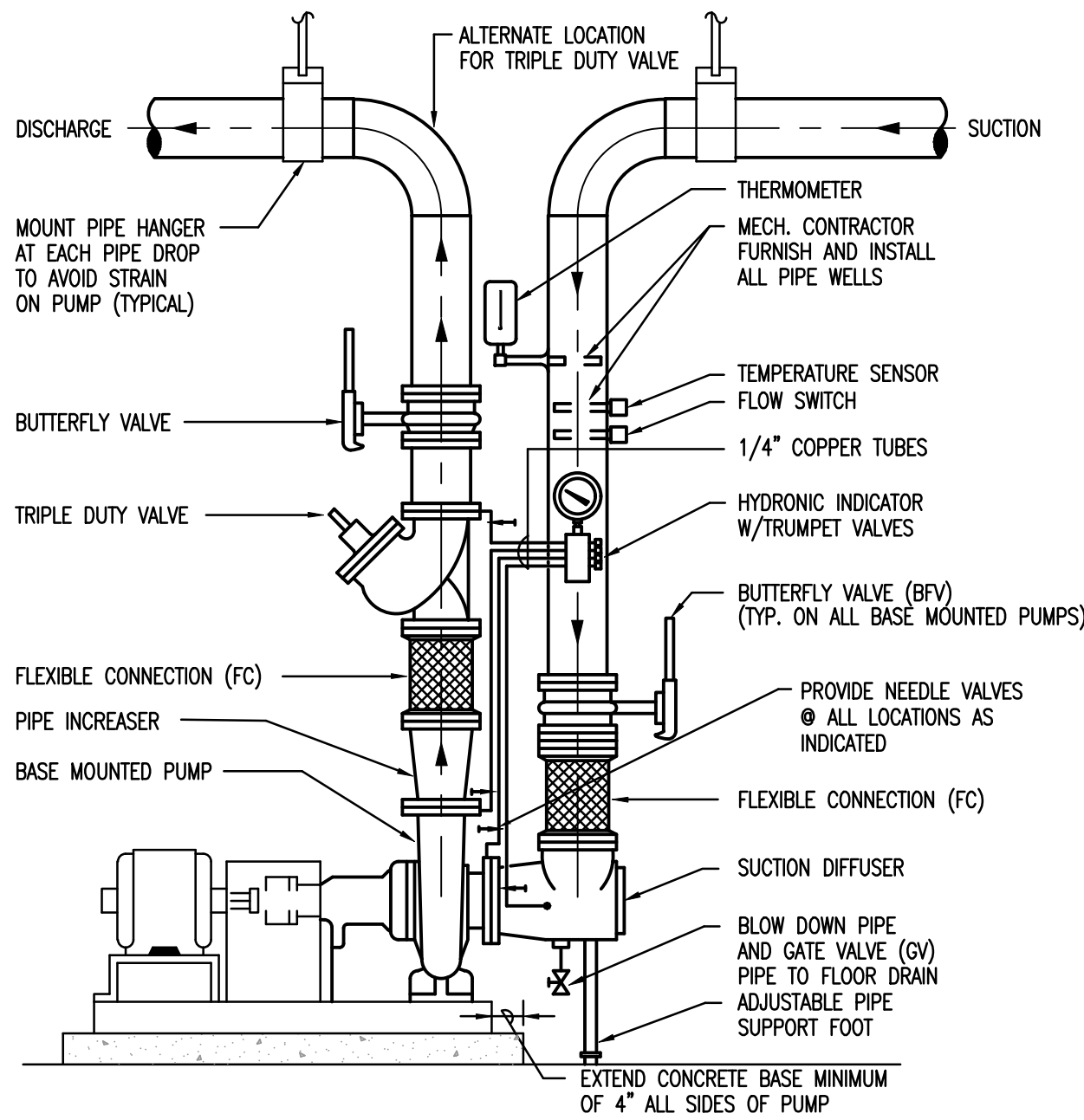
5  
 M4.10  
**PVC/GLASS FIBER ELBOW INSULATION SYSTEM DETAIL**  
 NO SCALE



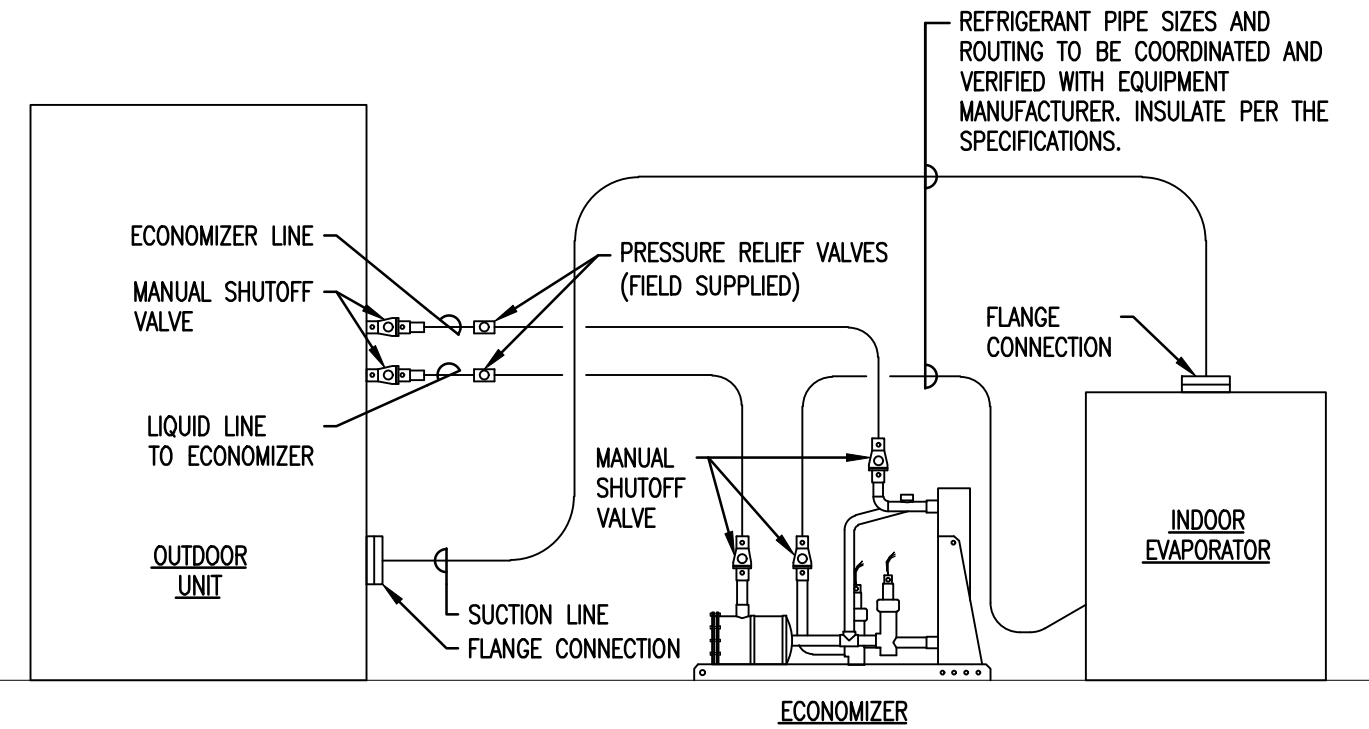
6  
 M4.10  
**FACTORY-APPLIED NON-METAL JACKETING**  
 NO SCALE

NOTE:  
 FLOW SWITCHES & TEMPERATURE SENSORS PROVIDED BY BAS CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR.

NOTE:  
 MECH. CONTRACTOR SHALL PROVIDE & INSTALL ALL COPPER TUBING, MOUNTING HARDWARE & NEEDLE VALVES REQUIRED FOR A COMPLETE INSTALLATION OF THE TRUMPET VALVE ASSEMBLY



7  
 M4.10  
**BASE MOUNTED PUMP DETAIL**  
 NO SCALE



8  
 M4.10  
**CHILLER/EVAPORATOR/ECONOMIZER REFRIGERANT PIPING CONNECTIONS DIAGRAM (PER CIRCUIT)**  
 NO SCALE



GENERAL NOTES FOR MECHANICAL WORK

- DRAWINGS ARE GENERALLY DIAGRAMMATIC. ROUTING OF PIPING AND DUCTWORK AS SHOWN, DOES NOT INTEND TO SHOW EVERY RISE, DROP, OFFSET, FITTING NOR EVERY STRUCTURAL ELEMENT THAT MAY BE ENCOUNTERED DURING THE INSTALLATION OF THIS WORK. EACH CONTRACTOR SHALL MAKE ANY REQUIRED CHANGES FROM THE GENERAL ROUTING SHOWN ON THESE DRAWINGS, SUCH AS OFFSETS, BENDS OR CHANGES IN ELEVATION DUE TO COORDINATION WITH THE WORK OF OTHER TRADES AND BUILDING CONSTRUCTION. ALL CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY IN COMPLETION DATE OF THE PROJECT.
- IT IS INTENDED THAT EQUIPMENT SHALL BE LOCATED SYMMETRICALLY WITH THE ARCHITECTURAL ELEMENTS OF THE BUILDING, NOTWITHSTANDING THE FACT THAT LOCATIONS INDICATED BY THESE DRAWINGS MAY BE DISTORTED FOR CLARNESS OF PRESENTATION.
- CONTRACTOR SHALL CHECK DRAWINGS OF OTHER TRADES TO VERIFY THAT SPACES IN WHICH THEIR WORK WILL BE INSTALLED ARE CLEAR OF OBSTRUCTIONS. WORK SHALL BE INSTALLED TO MAINTAIN MAXIMUM HEADROOM AND SPACE CONDITION AT ALL POINTS IN THE BUILDING. WHERE HEADROOM OR SPACE CONDITIONS APPEAR INADEQUATE, CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE INSTALLATION OF THEIR WORK.
- CONTRACTOR SHALL FURNISH OTHER TRADES ADVANCE INFORMATION AND/OR SHOP DRAWINGS ON LOCATIONS AND SIZES OF PIPING, DUCTWORK, EQUIPMENT, FRAMES, BOXES, SLEEVES AND OPENINGS, ETC. NEEDED FOR THEIR WORK TO PERMIT OTHER TRADES AFFECTED TO INSTALL THEIR WORK PROPERLY AND WITHOUT DELAY.
- WHERE THERE IS EVIDENCE THAT WORK OF ONE TRADE WILL INTERFERE WITH WORK OF OTHER TRADES, ALL TRADES SHALL MEET ON JOB SITE TO WORK OUT SPACE CONDITIONS AND MAKE SATISFACTORY ADJUSTMENTS TO INSTALLATION OF THE NEW WORK. CONTRACTOR SHALL BE RESPONSIBLE, AT THEIR OWN EXPENSE, FOR THE REMOVAL AND REINSTALLATION OF ANY PART OF THEIR WORK IF SAME WAS INSTALLED WITHOUT CONSULTING WITH OTHER TRADES BEFORE INSTALLING THEIR WORK.
- CONTRACTOR SHALL PROVIDE SLEEVES IN FLOORS AND WALLS AS SHOWN ON THE DRAWINGS, AS REQUIRED BY JOB SITE CONDITIONS, AND/OR AS SPECIFIED, WHEN INSTALLING THEIR WORK.
- THE SEQUENCE FOR THE INSTALLATION OF ALL WORK SHALL BE COORDINATED BETWEEN ALL CONTRACTORS ON THE PROJECT AND IN STRICT ACCORDANCE WITH ARCHITECT/ENGINEER AND OWNERS STIPULATION AS CALLED FOR IN THE SPECIFICATION AND/OR AS DIRECTED.
- CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND STRUCTURAL CONTRACT DRAWINGS (BEFORE SUBMITTING THEIR BIDS) TO FAMILIARIZE THEMSELVES WITH THE EXTENT OF THE OTHER TRADES CONTRACTORS WORK, CEILING HEIGHTS AND CLEARANCE FOR INSTALLING THEIR WORK.
- CONTRACTOR SHALL BE RESPONSIBLE AND PAY FOR ALL CORING, CUTTING, PATCHING, REPAIRING AND REFINISHING OF BUILDING CONSTRUCTION REQUIRED TO ACCOMMODATE THE INSTALLATION OF THEIR WORK. ALL PATCHING, REPAIRING AND REFINISHING WORK SHALL BE PERFORMED BY THOSE REGULARLY INVOLVED IN THAT TRADE AND SHALL MATCH THE NEW CONSTRUCTION AS CLOSELY AS POSSIBLE. CARE SHALL BE TAKEN SO AS NOT TO DAMAGE ANY EXISTING BUILDING CONSTRUCTION OR ITEMS THAT ARE TO REMAIN. ANY EXISTING FINISHES THAT ARE DAMAGED DURING THE INSTALLATION OF NEW WORK SHALL BE REPAIRED, REPLACED AND PAID FOR BY THE INSTALLING CONTRACTOR, TO THE SATISFACTION OF THE ARCHITECT AND OWNER. REFER TO ARCHITECTURAL DRAWINGS FOR EXISTING BUILDING CONSTRUCTION THAT IS TO REMAIN AND, THEREFORE, SUBJECT TO PATCHING, REPAIRING, AND REFINISHING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR OWN CLEAN-UP DURING CONSTRUCTION. IF CONTRACTOR FAILS TO PROVIDE SUCH CLEAN-UP, THE ARCHITECT/ENGINEER WILL DIRECT ANOTHER CONTRACTOR TO PERFORM THE CLEAN-UP AND THE NEGLIGENT CONTRACTOR SHALL PAY THE ASSOCIATED BACK-CHARGES AS DEEMED APPROPRIATE BY THE ARCHITECT/ENGINEER.
- CONTRACTOR SHALL INSTALL ALL AUXILIARY SUPPORTING STEEL AS REQUIRED FOR THE SUPPORTING OF THEIR PIPING, DUCTWORK, CONDUIT, TANKS, EQUIPMENT, ETC. ALL SUPPORTING STEEL FOR ITEMS ABOVE A SUSPENDED CEILING SHALL BE FROM BUILDING STRUCTURAL MEMBERS ONLY.
- ALL PIPING SHALL BE SUSPENDED WITH CLEVIS AND/OR TRAPEZE PIPE HANGERS. INSULATED PIPING SHALL REST ON STEEL OR WOOD (CHILLED WATER PIPING) PIPE COVERING PROTECTION SADDLES OR SHEET METAL INSULATION SHIELDS AS CALLED FOR IN THE SPECIFICATIONS AND/OR DETAILED ON THE DRAWINGS.
- ALL WATER SUPPLY AND RETURN PIPING SHALL BE INSULATED, INCLUDING ALL PIPING ABOVE CEILINGS, INSIDE EQUIPMENT, CABINETS, PIPE CHASES AND IN WALLS. SEE SPECIFICATIONS FOR TYPE AND THICKNESS OF INSULATION.
- ALL HOT WATER SUPPLY/RETURNS PIPING SHALL BE INSTALLED TO COMPENSATE FOR EXPANSION OF THE PIPE BY INSTALLING PIPE ANCHORS, GUIDES, EXPANSION JOINTS OR LOOPS AND PIPE OFFSETS AS REQUIRED BY FIELD CONDITIONS OR AS SHOWN ON THE DRAWINGS.
- PITCH ALL SUPPLY AND RETURN WATER LINES TO DRAIN COMPLETELY THROUGH LOWER EQUIPMENT, UNIONS, OR DRAIN VALVES. INSTALL A 1/2" DRAIN VALVE WITH 3/4" HOSE THREAD OUTLET IN ALL MAIN PIPING RUNS WHICH WOULD NOT BE ABLE TO DRAIN THRU A LOWER PIECE OF EQUIPMENT. ALL DRAIN VALVES TO BE BALL VALVES.
- UNLESS INDICATED OTHERWISE, THE ARCHITECT/ENGINEER MAKES NO REPRESENTATION AS TO WHETHER OR NOT ANY HAZARDOUS OR CONTAMINATED MATERIALS (INCLUDING BUT NOT LIMITED TO ASBESTOS, PCB'S, CONTAMINATED SOILS, ETC.) ARE PRESENT WITHIN THE EXISTING BUILDING OR ON THE SITE. WORK SHOWN ON THE DRAWINGS AND/OR INDICATED IN THE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CALL FOR CONTACT WITH ANY OF THESE MATERIALS. IF THESE MATERIALS ARE ENCOUNTERED OR SUSPECTED, THE CONTRACTOR SHALL NOT DISTURB THEM AND SHALL CONTACT THE ARCHITECT/ENGINEER IMMEDIATELY.
- CONTRACTOR SHALL STORE ALL MATERIALS AND EQUIPMENT SHIPPED TO THE SITE IN A PROTECTED AREA. IF MATERIAL IS STORED OUTSIDE OF THE BUILDING, IT MUST BE STORED OFF THE GROUND A MINIMUM OF SIX INCHES (6") SET ON 6 X 6 PLANKS AND/ OR WOOD PALLETS. ALL MATERIAL AND EQUIPMENT MUST BE COMPLETELY COVERED WITH WATERPROOF TARP'S OR VISQUIN. ALL PIPING AND DUCTWORK WILL HAVE THE ENDS CLOSED TO KEEP OUT DIRT AND OTHER DEBRIS. NO EQUIPMENT WILL BE ALLOWED TO BE STORED ON THE SITE UNLESS IT IS SITTING ON WOOD PLANKS AND COMPLETELY PROTECTED WITH WEATHERPROOF COVERS.
- SEE LARGE SCALE DRAWINGS (DETAILS) FOR ALL REQUIRED VALVES, FITTINGS, GAUGES, VENTS, THERMOMETERS WHICH ARE CONNECTED TO FINED TUBE RADIATION (FTR), AIR HANDLING UNITS (AHU), CABINET UNIT HEATERS (CUH), SUSPENDED UNIT HEATERS (SUH), HOT AND CHILLED WATER COILS, EXPANSION TANKS (ET), AIR SEPARATORS (AS), PUMPS, ETC. ALL WORK SHOWN ON DETAILS SHALL BE BY INSTALLING CONTRACTOR UNLESS OTHERWISE NOTED.
- MECHANICAL CONTRACTOR SHALL PROVIDE ON SITE SCHOOLING OF OWNERS OPERATING PERSONNEL FOR ALL SYSTEMS AND EQUIPMENT INSTALLED UNDER HIS CONTRACT.
- BEFORE STARTING ANY SYSTEM INSTALLING CONTRACTOR SHALL CONTACT EQUIPMENT MANUFACTURER TO VERIFY THAT EACH PIECE OF EQUIPMENT OR SYSTEM HAS BEEN CHECKED FOR PROPER LUBRICATION, DRIVE ROTATION, BELT TENSION, CONTROL SEQUENCE OR OTHER CONDITIONS WHICH MAY CAUSE DAMAGE TO THE EQUIPMENT OR SYSTEM.
- MECHANICAL CONTRACTOR SHALL INSTALL ALL WELLS IN PIPING FOR MOUNTING OF BUILDING AUTOMATION SYSTEM CONTROLS AND MECHANICAL CONTRACTOR'S THERMOMETERS AND GAUGES. MECHANICAL CONTRACTOR WILL COORDINATE THE EXACT LOCATION OF BUILDING AUTOMATION SYSTEM CONTRACTOR'S CONTROLS WITH HIM PRIOR TO INSTALLING WELLS.
- ALL PIPE PASSING THRU WALLS SHALL HAVE A GALVANIZED SHEET METAL OR SCHEDULE 40 STEEL PIPE SLEEVE INSTALLED AROUND THE PIPE AND PIPE INSULATION. SEE SLEEVE DETAILS THESE DRAWINGS.
- WHEN INSTALLING EXPANSION JOINTS, CONTRACTOR SHALL INSTALL A PIPE ANCHOR AT EACH END OF RUN AND PIPE GUIDES A MINIMUM OF EVERY TWENTY-FIVE (25) FEET OR AS CALLED FOR ON THE DRAWINGS. MOUNT THE FIRST PIPE GUIDE LOCATED ON EACH SIDE OF THE EXPANSION JOINT A MINIMUM OF FOUR (4) PIPE DIAMETERS FROM THE EXPANSION JOINT.
- THE DRAWINGS, SCHEDULES AND SPECIFICATIONS HAVE BEEN PREPARED USING ONE MANUFACTURER FOR EACH PIECE OF EQUIPMENT AS THE BASIS FOR DIMENSIONAL DESIGN. IF THE CONTRACTOR PURCHASES EQUIPMENT LISTED AS A SPECIFIED ACCEPTABLE MANUFACTURER BUT IS NOT THE SCHEDULED MANUFACTURER USED FOR THE BASE DESIGN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING ALL THE DIMENSIONS OF THE EQUIPMENT TO VERIFY THAT IT WILL FIT IN THE SPACE SHOWN ON THE DRAWINGS. MINOR DEVIATIONS IN DIMENSIONS WILL BE PERMITTED, PROVIDED THE RATINGS MEET THOSE SHOWN ON THE DRAWINGS AND EQUIPMENT WILL PHYSICALLY FIT INTO THE SPACE ALLOCATED WITH SUITABLE ACCESS AROUND EQUIPMENT FOR OPERATION AND MAINTENANCE ON THE EQUIPMENT.
- CONTRACTOR AND/OR MANUFACTURER SHALL VERIFY THAT THE CHARACTERISTICS OF THE EQUIPMENT HE SUBMITS FOR REVIEW MEETS THE CAPACITY AND DUTY SPECIFIED.
- WHEN EQUIPMENT IS SUBMITTED FOR REVIEW AND DOES NOT MEET THE PHYSICAL SIZE OR ARRANGEMENT OF THAT SCHEDULED AND SPECIFIED, CONTRACTOR SHALL PAY FOR ALL ALTERATIONS REQUIRED TO ACCOMMODATE SUCH EQUIPMENT AT NO ADDITIONAL COST TO OWNER. CONTRACTOR WILL ALSO PAY ALL COSTS FOR ADDITIONAL WORK REQUIRED BY OTHER CONTRACTORS, OWNER, ARCHITECT OR ENGINEER TO MAKE CHANGES WHICH WOULD ALLOW THE EQUIPMENT TO FIT IN THE SPACE AND FUNCTION AS INTENDED.

MECHANICAL SYSTEM (HVAC) SYMBOLS

	NEW PIPING		2 WAY CONTROL VALVE
	EXISTING TO REMAIN PIPING		TRIPLE DUTY VALVE
	EXISTING TO BE REMOVED PIPING		CIRCUIT BALANCING VALVE W/BALANCING PORTS
	CHILLED WATER SUPPLY		AUTOMATIC FLOW DEVICE
	CHILLED WATER RETURN		SQUARE HEAD COCK
	LINE ARROW INDICATES DIRECTION OF FLOW OR PITCH		SOLENOID VALVE
	PIPE ELBOW (TURNED UP)		PRESSURE REDUCING VALVE
	PIPE ELBOW (TURNED DOWN)		DRAIN VALVE WITH 3/4" HOSE THREADED OUTLET
	PIPE TEE DOWN (DROP)		PRESSURE RELIEF VALVE (PIPE TO FLOOR DRAIN)
	PIPE TEE UP		BACKFLOW PREVENTER
	PIPE TEE UP OR ANGLE		NEEDLE VALVE
	PIPE TEE DOWN OR ANGLE		STRAINER
	PIPE TEE HORIZONTAL		AUTOMATIC BUTTERFLY VALVE
	90° ELBOW IN HORIZONTAL PIPE RUN		PIPE FLEXIBLE CONNECTION
	ANGLE ELBOW IN HORIZONTAL PIPE RUN		PIPE SLEEVE
	NEW CONNECTION		PIPE UNION (OR FLANGES IF 2 1/2" OR LARGER PIPE)
	GATE VALVE		PRESSURE SWITCH (WITH THREAD OR WELD-O-LET)
	CHECK VALVE		PRESSURE GAUGE AND NEEDLE VALVE
	BUTTERFLY VALVE		FLOW SWITCH (WITH THREAD OR WELD-O-LET)
	BALL VALVE		THERMOMETER (WITH PIPE WELL)
	3 WAY CONTROL VALVE		SENSOR WELL

GENERAL NOTES - BAS.

- GENERAL
 

THE CONTROLS CONTRACTOR SHALL BE THE CONTROLS ENGINEER FOR THIS PROJECT: RESPONSIBLE FOR DESIGN AND ENGINEERING OF ALL CONTROL SYSTEMS TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION, TO CONFORM WITH THE GOVERNING BUILDING CODES AND OPERATE IN A MANNER CONSISTENT WITH KNOWN GOOD CONTROLS ENGINEERING PRACTICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL IDENTIFY ANY POTENTIAL CONDITIONS THAT COULD BE CONSTRUED TO DEVATE FROM GOOD CONTROLS ENGINEERING PRACTICE PRIOR TO BIDDING AND INCLUDE ALL ENGINEERING AND INSTALLATION WORK REQUIRED TO MAKE ALL HVAC SYSTEMS COMPLETE AND OPERATIONAL, IN CONFORMANCE WITH GOOD CONTROLS ENGINEERING PRACTICE: PRIOR TO SUBMITTING HIS BID.

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL COMPONENTS, WIRING, INTERLOCKS, ELECTRICAL POWER AND ALL OTHER DEVICES REQUIRED TO MAKE ALL HVAC EQUIPMENT INSTALLED UNDER THIS PROJECT COMPLETE AND FULLY OPERATIONAL PER THE SEQUENCE OF OPERATION AND AS REQUIRED FOR SAFE AND ACCURATE CONTROL.

THE BAS CONTRACTOR SHALL PROVIDE ALL CONTROL VALVES AND ACTUATORS TO THE MECHANICAL CONTRACTOR FOR INSTALLATION. THE BAS CONTRACTOR SHALL DIRECT THE MECHANICAL CONTRACTOR AS TO THE PROPER LOCATION AND ORIENTATION OF ALL DEVICES TO ACHIEVE A PROPER AND CORRECT CONTROL SEQUENCE.

THE BAS CONTRACTOR SHALL INCLUDE ADEQUATE TIME IN HIS BID FOR COMPLETE COMMISSIONING OF THE MECHANICAL SYSTEMS, ON SITE IN COORDINATION WITH THE MECHANICAL CONTRACTOR AND OTHER TRADES AS REQUIRED TO MAKE ALL EQUIPMENT COMPLETE AND FULLY OPERATIONAL.

IN THE EVENT THAT ANY PART OF THE MECHANICAL DRAWINGS, SPECIFICATIONS OR NOTES CONFLICT WITH ANY OTHER: THE MOST STRINGENT REQUIREMENT SHALL APPLY, PROVIDING THE GREATEST SAFETY AND/OR AT THE HIGHEST COST OF THE CONFLICTING OPTIONS.
- ELECTRICAL
 

THE BAS CONTRACTOR SHALL PROVIDE EMERGENCY POWER FOR ALL ELECTRICAL POWER AND CONTROL WIRING, CONDUIT, JUNCTION BOXES, RACEWAY, TRANSFORMERS, RELAYS AND ALL OTHER ELECTRICAL APPURTENANCES REQUIRED FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM. THIS INCLUDES ALL POWER WIRING FROM SPARE CIRCUIT BREAKERS PROVIDED IN BUILDING EMERGENCY POWER PANELS FOR POWERING OF CONTROLS AND CONTROL PANELS AND ALL OTHER CONTROL SYSTEM COMPONENTS. ALL HVAC EQUIPMENT, I.E AIR HANDLING UNITS, EXHAUST FANS, PUMPS, BOILERS, ETC. ARE TO HAVE THEIR CONTROLS POWERED FROM EMERGENCY POWER PANELS. SEE ELECTRICAL DRAWINGS FOR PANEL LOCATION.

ALL ELECTRICAL WORK SHALL BE IN CONFORMANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE AND APPLICABLE STATE AND LOCAL AMENDMENTS.

THE BAS CONTRACTOR SHALL PROVIDE AND INSTALL ALL HARDWIRED INTERLOCKS BETWEEN STARTERS AS REQUIRED TO ACHIEVE THE SEQUENCE OF OPERATION AND PROPER SYSTEM CONTROLS. PROVIDE RELAYS AS REQUIRED FOR AUTOMATIC START/STOP OF ALL SINGLE PHASE EXHAUST FANS AND INTERLOCK OF AUTOMATIC DAMPERS.
- CONTROL VALVES
 

ALL CONTROL VALVES SHALL SPRING RETURN TO A FAIL SAFE POSITION. ALL HEATING CONTROL VALVES SHALL FAIL OPEN BY SPRING RETURN TO HEATING AND ALL COOLING CONTROL VALVES SHALL FAIL CLOSED BY SPRING RETURN.

ALL CONTROL VALVES USED FOR POSITIVE SHUT-OFF ISOLATION, SUCH AS HOT/CHILLED WATER ISOLATION OR CHANGEOVER IN A TWO-PIPE SYSTEM, SHALL BE QUARTER TURN TYPE BUTTERFLY OR BALL VALVES RATED FOR 300 PSI, BUBBLE TIGHT SHUT-OFF SERVICE.

THE CONTROLS CONTRACTOR/ENGINEER SHALL SIZE ALL MODULATING TEMPERATURE CONTROL VALVES WITH A CY AND PRESSURE DROP SUCH THAT THERE IS LINEAR CONTROL OF WATER FLOW THROUGHOUT THE ENTIRE STROKE OF THE VALVE. COORDINATE WITH THE MECHANICAL CONTRACTOR TO PROVIDE REDUCERS AS REQUIRED FOR MODULATING VALVES THAT ARE NOT LINE SIZE.
- THERMOSTAT
 

THE BAS CONTRACTOR SHALL PROVIDE THERMOSTATS FOR ALL CONTROLLED EQUIPMENT TO OPERATE AS DESCRIBED IN THE SEQUENCE OF OPERATION AND/OR PER MANUFACTURER'S REQUIREMENTS AND KNOWN STANDARDS OF GOOD CONTROL PRACTICE. INCLUDE ALL THERMOSTATS AS REQUIRED FOR EQUIPMENT TO BE COMPLETE AND FULLY OPERATIONAL WHETHER SHOWN SPECIFICALLY ON THE PLANS OR NOT.

THE CONTROLS CONTRACTOR/ENGINEER SHALL SELECT ALL PRESSURE AND TEMPERATURE SENSORS WITH AN APPROPRIATE SPAN AND RANGE FOR THE APPLICATION.

ALL OUTDOOR AIR SENSORS SHALL BE INSTALLED WITH SUN SHIELD AND IN A LOCATION WHERE THEY CANNOT BE WASHED BY EXHAUST AIR OR OTHER SOURCES OF FALSE READINGS.

ALL TEMPERATURE AND PRESSURE SENSORS SHALL BE INSTALLED IN LOCATIONS SUCH THAT THEY DO NOT MAKE FALSE READINGS. BAS CONTRACTOR/ENGINEER SHALL REVIEW THE PLANS AND IDENTIFY ANY SUCH POTENTIAL CAUSES FOR FALSE READINGS AND NOTIFY THE ENGINEER IN WRITING THAT THESE SHOULD BE RELOCATED PRIOR TO ROUGH IN AND CONTROLS INSTALLATION. THE BAS CONTROLS CONTRACTOR SHALL RELOCATE ANY SENSORS INSTALLED IN IMPROPER LOCATIONS AND OWNNG FALSE READINGS AT HIS OWN EXPENSE. CONDITIONS TO BE AWARE OF SHALL INCLUDE BUT ARE NOT LIMITED TO LOCATIONS OF THERMOSTATS BEHIND DOORS, OUTDOOR AIR SENSORS NEAR EXHAUST OPENINGS, STATIC PRESSURE SENSORS IN TURBULENT LOCATIONS, THERMOSTATS INSTALLED ADJACENT TO HEAT SOURCES SUCH AS COFFEE POTS, COMPUTERS, VENDING MACHINES AND OTHER APPLIANCES, ETC.
- SAFETY DEVICES
 

THE BAS CONTRACTOR/ENGINEER SHALL FURNISH AND INSTALL MANUAL RESET SAFETY DEVICES FOR ANY AND ALL CONDITIONS THAT COULD DAMAGE THE EQUIPMENT AND/OR REPRESENT A THREAT TO HUMAN SAFETY.

WATER CHILLERS SHALL BE INTERLOCKED SUCH THAT THEY CAN NOT START UNTIL FLOW IS PROVED THROUGH CHILLED WATER BUNDLERS.
- PUMP CONTROL
 

CHILLER PUMPS SHALL HAVE A LOCAL CONTROL FOR PROOF OF FLOW.
- RELAYS
 

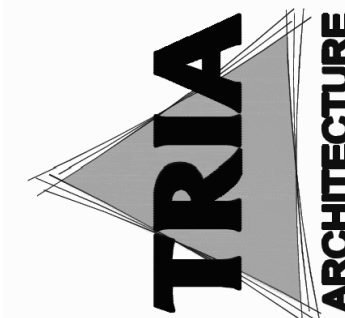
PROVIDE ALL RELAYS AS REQUIRED BY SITE CONDITIONS TO CONTROL ALL PUMPS, FANS, ETC. PROVIDE DEFINITE PURPOSE CONTRACTOR IF POWER REQUIREMENTS EXCEED RELAY CAPACITY.
- TAGGING
 

SEE EQUIPMENT SCHEDULES FOR EQUIPMENT TAGGING. ALL EQUIPMENT TO BE LABELED AND/OR REFERENCED ON BAS PER THE EQUIPMENT SCHEDULES.

MECHANICAL ABBREVIATIONS LIST

ACV	AUTOMATIC CONTROL VALVE	EW	ENTERING WATER TEMPERATURE	N.C.	NORMALLY CLOSED
AFD	AUTOMATIC FLOW DEVICE	F	FAHRENHEIT	N.I.C.	NOT IN CONTRACT
BHP	BRAKE HORSE POWER	FC	FLEXIBLE CONNECTION	N.O.	NORMALLY OPEN
BTU	BRITISH THERMAL UNIT	FPF	FINS PER FOOT	PD	PRESSURE DROP
BTUH	BRITISH THERMAL UNIT PER HOUR	GPM	GALLONS PER MINUTE	PH	PHASE
BV	BALL VALVE	GV	GATE VALVE	PS	PIPE SLEEVE
CH	CHILLER	HP	HORSEPOWER	PSI	POUNDS PER SQUARE INCH
CV	CHECK VALVE	LAT	LEAVING AIR TEMPERATURE	RPM	REVOLUTIONS PER MINUTE
CWP	CHILLED WATER PUMP	LWT	LEAVING WATER TEMPERATURE	STR	STRAINER
CHWR	CHILLED WATER RETURN	MOD	MOTOR OPERATED DAMPER	WB	WET BULB
CHWS	CHILLED WATER SUPPLY	NC	NEW CONNECTION	WC	WATER COLUMN
				WG	WATER GAUGE

DUNELAND SCHOOL CORPORATION  
 2020 MECHANICAL RENOVATIONS AT:  
 CHESTERTON HIGH SCHOOL  
 2125 SOUTH 11TH STREET, CHESTERTON, IN 46304



HEPF: CONSULTING  
 (P) 630338786



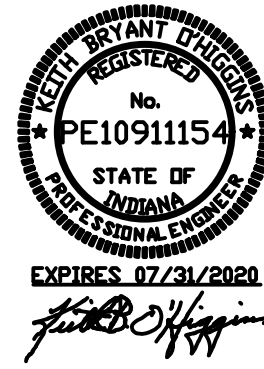
THE MECHANICAL UNIT, 139--1-3 M5.00 CHS

PROJECT NUMBER: 18-0631  
 PROJECT MANAGER: YG  
 DRAWN BY: OAS

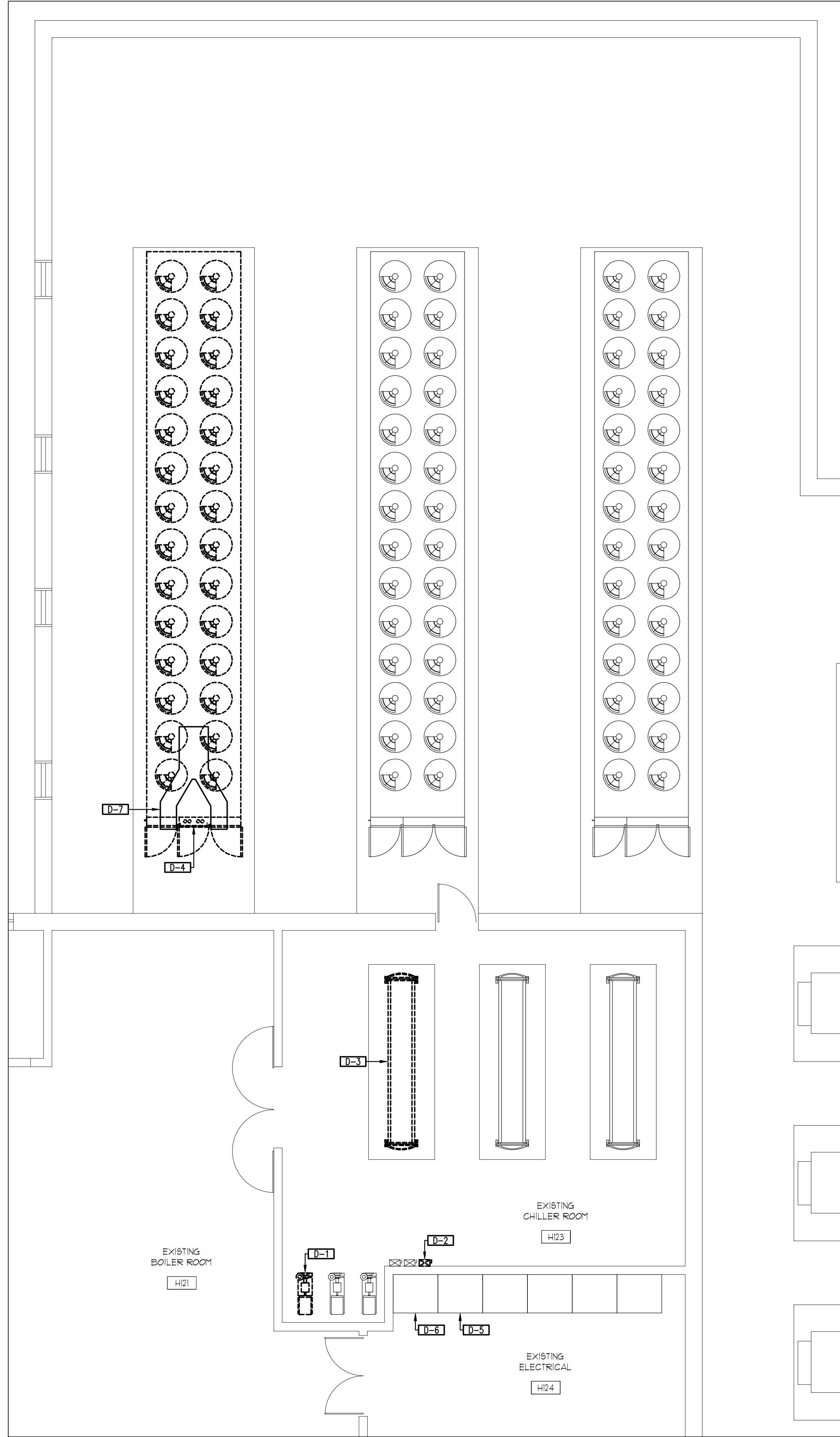
ISSUED FOR BID: 07/31/2018

GENERAL NOTES SYMBOLS AND ABBREVIATIONS

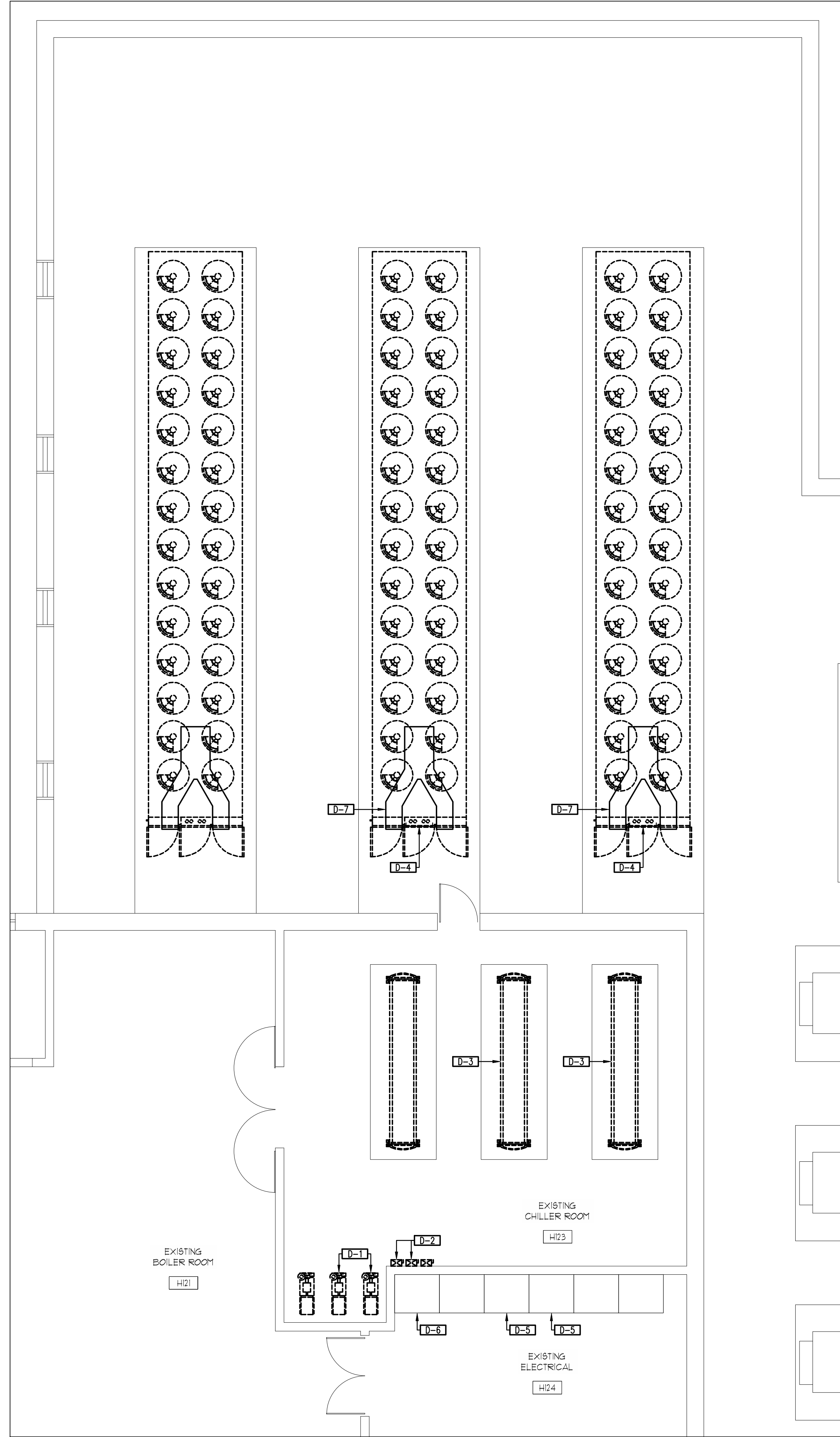
MECHANICAL



M5.00

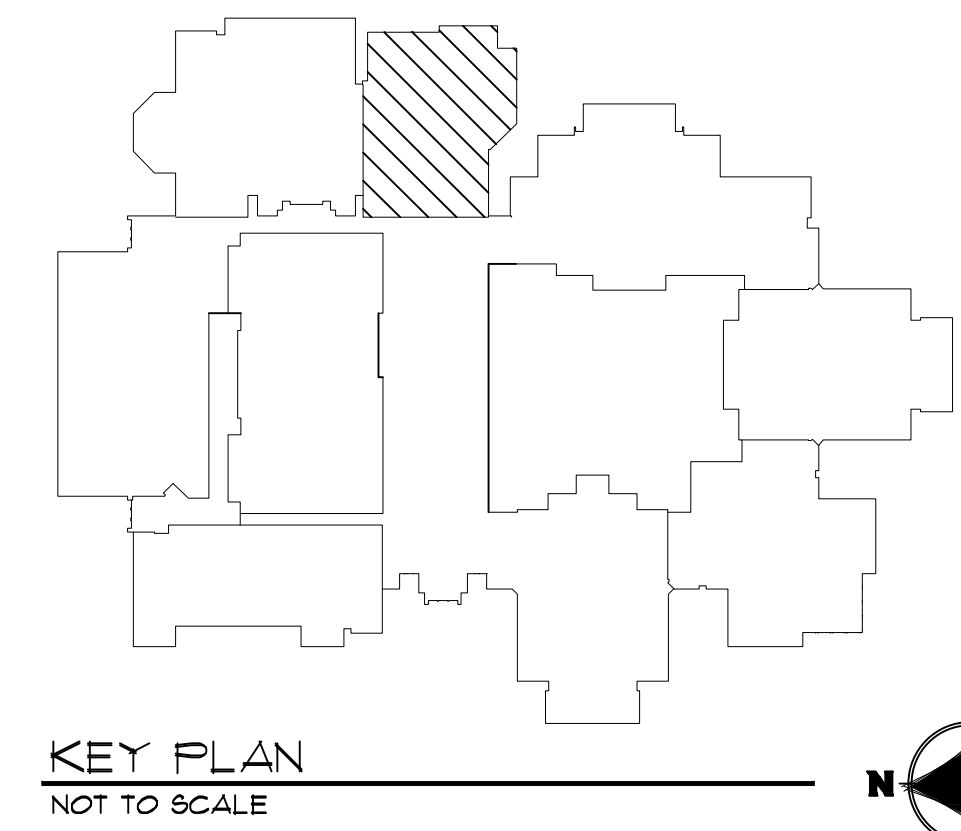


1 EXISTING FLOOR PLAN - ELECTRICAL - BASE BID  
 3/16" = 1'-0"

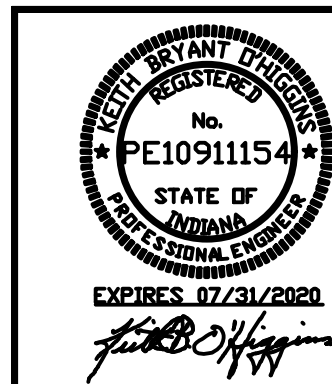


2 EXISTING FLOOR PLAN - ELECTRICAL - ALTERNATE BID  
 3/16" = 1'-0"

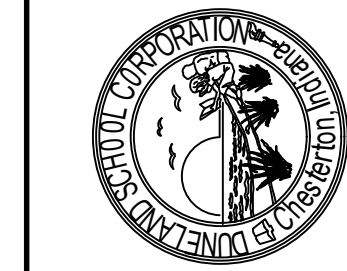
- ELECTRICAL DEMOLITION NOTES:**
- D-1** DISCONNECT AND REMOVE ELECTRICAL CONNECTION FROM CHILLER PUMP. REMOVE WIRING BACK TO EXISTING STARTER. EXISTING METAL CONDUIT MAY BE REUSED, BUT REMOVE ALL FLEXIBLE CONDUIT. PREPARE EXISTING CONDUIT FOR RECONNECTION TO NEW PUMP.
  - D-2** DISCONNECT AND REMOVE EXISTING STARTER FOR CHILLER PUMP. EXISTING CONDUIT MAY BE REUSED. EXISTING WIRING FROM WIRE TAP TO STARTER MAY BE REUSED. PREPARE EXISTING CONDUIT FOR RECONNECTION TO NEW STARTER.
  - D-3** EXISTING CHILLER EVAPORATOR TO BE REMOVED. ELECTRICAL CONNECTIONS ARE BY CONTROLS CONTRACTOR. REMOVE ANY CONDUIT AND JUNCTION BOXES NOT REMOVED BY CONTROLS CONTRACTOR.
  - D-4** DISCONNECT AND REMOVE ELECTRICAL CONNECTIONS FROM EXISTING CHILLER OUTDOOR UNIT. PREPARE WIRING AND CONDUIT FOR RECONNECTION TO NEW DISCONNECT SWITCHES, AS INDICATED IN NEW WORK DRAWINGS. LOCATIONS OF CONDUIT PENETRATIONS SHOWN FOR REFERENCE ONLY. FIELD VERIFY EXACT LOCATIONS AND ADJUST WORK AS MAY BE REQUIRED TO ACCOMMODATE ACTUAL LOCATIONS.
  - D-5** EXISTING 600A 3P FUSED SWITCHES WITH 500A FUSES TO REMAIN FOR RECONNECTION TO NEW CHILLER OUTDOOR UNIT. TURN SWITCHES OFF AND LOCK OUT WHILE WORKING ON CHILLER UNITS.
  - D-6** EXISTING 70A 3P FUSED SWITCH FEEDING PUMPS "P-23", "P-24", AND "P-25" TO REMAIN. TURN SWITCH OFF AND LOCK OUT WHILE WORKING ON PUMPS.
  - D-7** SAW CUT CONCRETE SLAB AS REQUIRED TO ACCOMMODATE NEW UNDERGROUND FEEDERS AS INDICATED IN NEW WORK DRAWINGS. TRENCH AS REQUIRED TO ACCOMMODATE A MIN. OF 24" DEPTH BELOW GRADE FOR NEW FEEDERS.



KEY PLAN  
 NOT TO SCALE

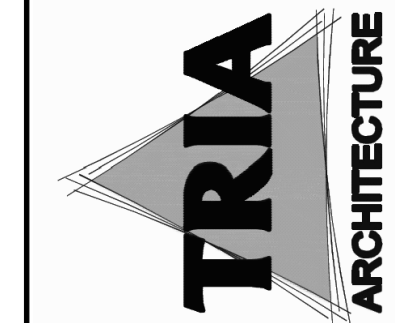


**DUNELAND SCHOOL CORPORATION**  
 2020 MECHANICAL RENOVATIONS AT:  
 CHESTERTON HIGH SCHOOL  
 2125 SOUTH 11TH STREET, CHESTERTON, IN 46304



PROJECT NUMBER: 18-051	DATE: 12/12/2018
PROJECT MANAGER: JG	DATE: 12/12/2018
DRAWN BY: JAS	DATE: 12/12/2018
USED FOR BID: 12/12/2018	DATE: 12/12/2018
EXISTING FLOOR PLANS - ELECTRICAL	

E0.10

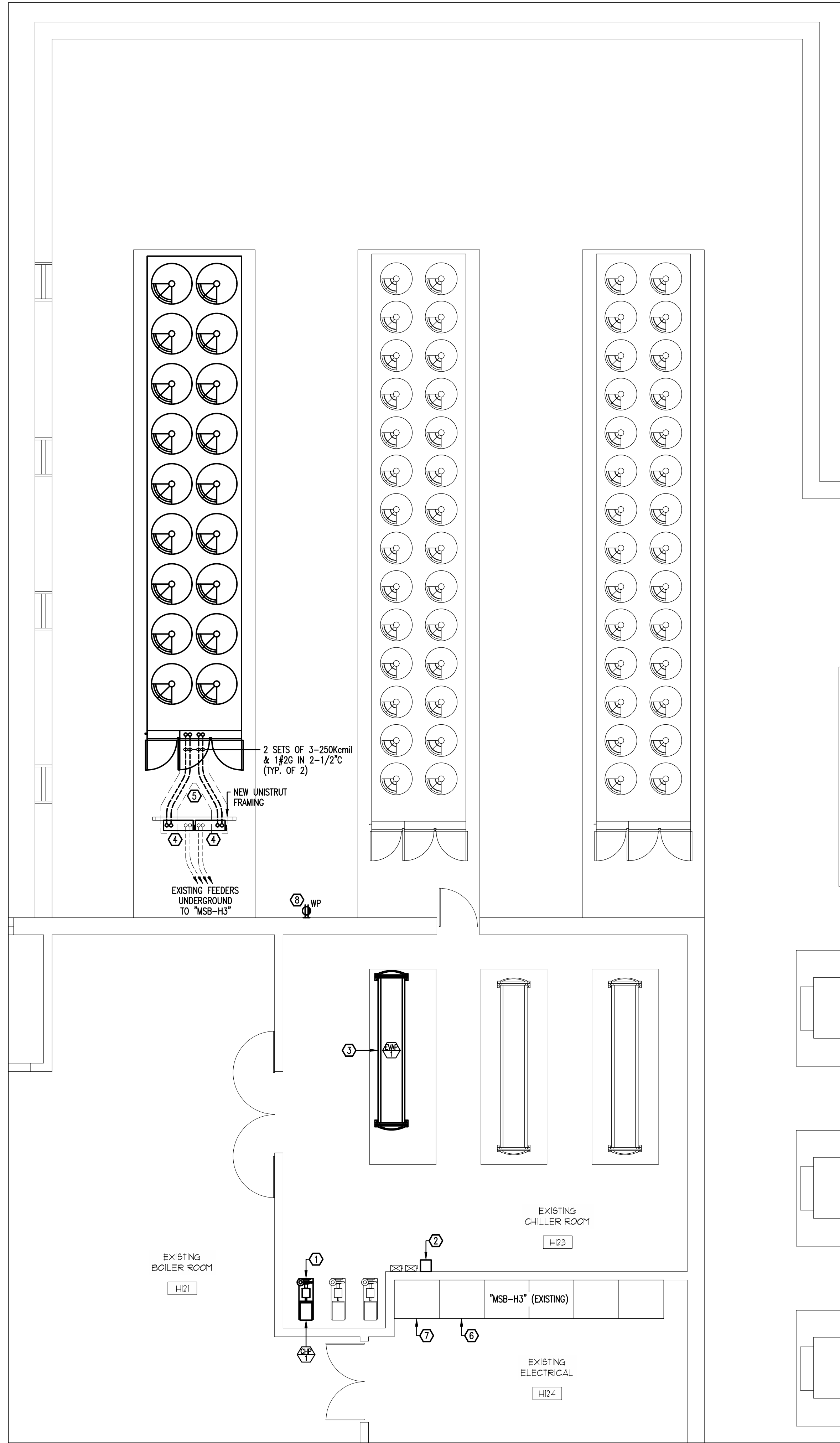


HEPF CONSULTANT  
 IDAS  
 700 KENNEDY BL. W. 1.5 SALEM INDIANA 47454

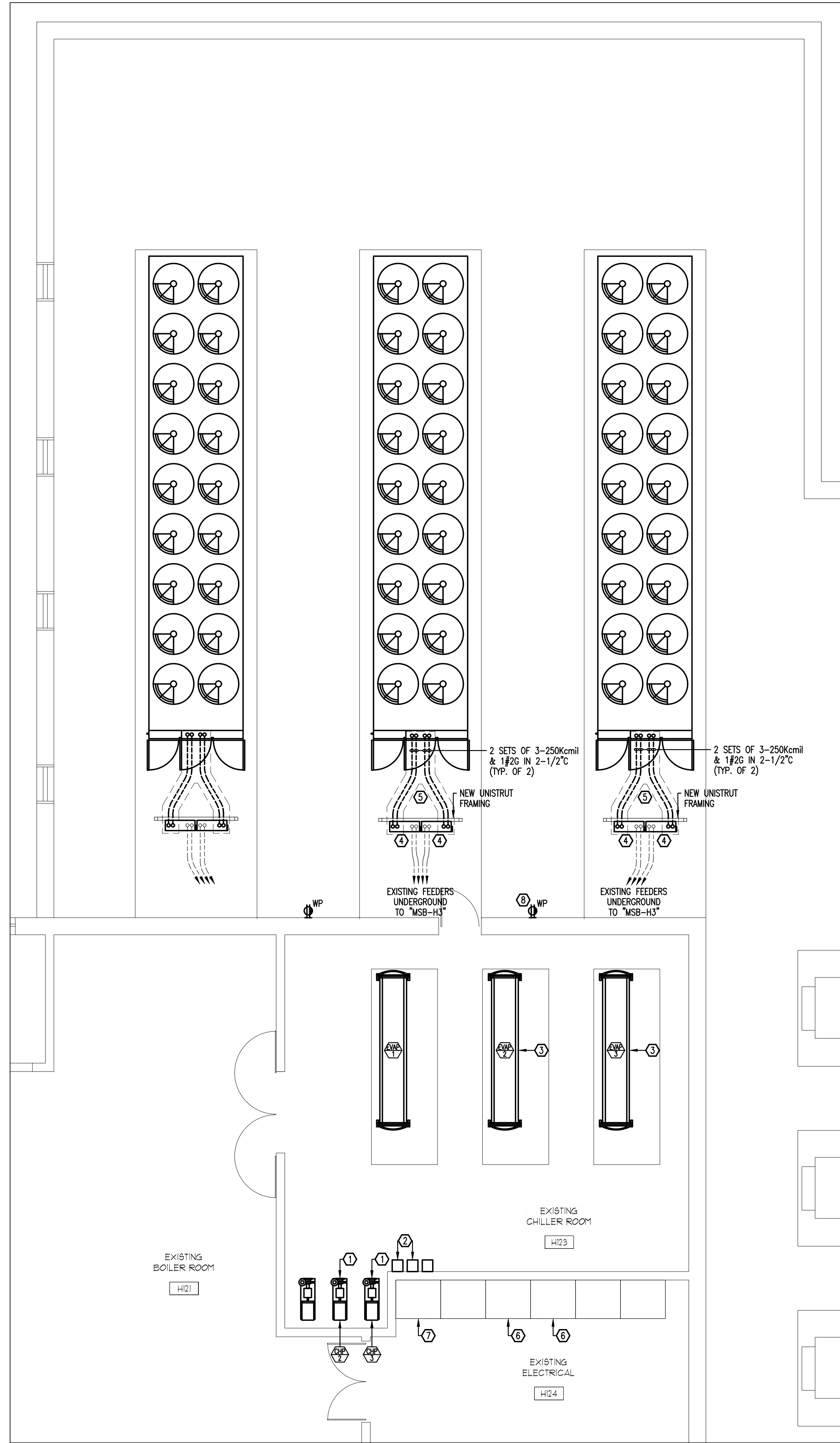


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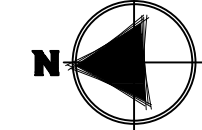
PLOTTED BY: LARRY ARNOLD  
CHS Electrical New Work



1 NEW WORK FLOOR PLAN - ELECTRICAL - BASE BID  
3/16" = 1'-0"



2 NEW WORK FLOOR PLAN - ELECTRICAL - ALTERNATE BID  
3/16" = 1'-0"

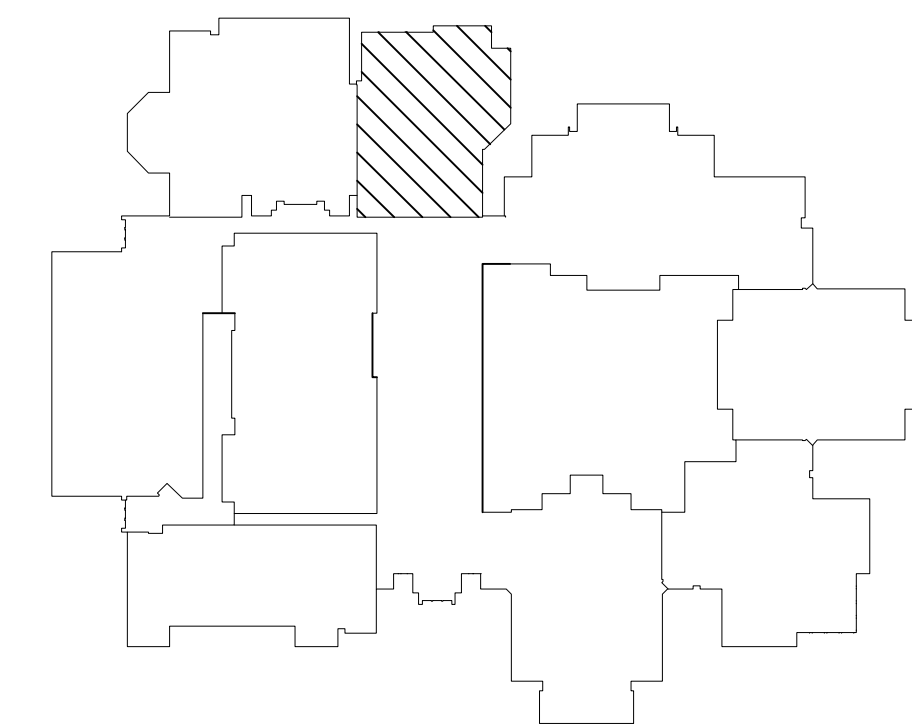


#### ELECTRICAL KEY NOTES:

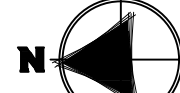
- 1 PROVIDE FINAL CONNECTION TO NEW CHILLER PUMP. RUN NEW FLEXIBLE METAL CONDUIT FROM EXISTING CONDUIT TO NEW PUMP. RUN 3/8" & 1/10" TO NEW VFD. COORDINATE EXACT ELECTRICAL CONNECTION LOCATION FOR PUMP IN FIELD AND CONNECT AS REQUIRED.
- 2 INSTALL NEW VFD (FURNISHED BY MECHANICAL CONTRACTOR) AS INDICATED. EXTEND/REROUTE EXISTING CONDUIT AS MAY BE REQUIRED TO ACCOMMODATE NEW VFD FINAL LOCATION. VERIFY THAT EXISTING WIRING IS EQUAL TO OR LARGER THAN 3/8" & 1/10" AND RECONNECT TO NEW VFD TERMINALS.
- 3 NEW CHILLER EVAPORATOR HAS NO LINE VOLTAGE WIRING REQUIREMENTS. ITEM IS SHOWN FOR REFERENCE ONLY.
- 4 EXTEND EXISTING FEEDERS TO (2) NEW 600A 3P DISCONNECT SWITCHES WITH 500A FUSES, MOUNTED ON UNISTRUT FRAMING. CONNECT EXISTING FEEDERS TO LINE LUGS OF NEW SWITCHES. ADJUST FINAL HEIGHT OF SWITCHES TO ACCOMMODATE EXISTING LENGTH OF CONDUCTORS, BUT NO LESS THAN 18" AFG TO BOTTOM OF SWITCHES.
- 5 RUN NEW FEEDERS UNDERGROUND FROM NEW SWITCHES TO NEW CHILLER UNIT ELECTRICAL COMPARTMENT. SAW CUT CONCRETE PAD AND TRENCH AS REQUIRED TO ACCOMMODATE NEW UNDERGROUND FEEDERS. SEE DETAIL ON SHEET E2.10 FOR ADDITIONAL INFORMATION. COORDINATE FINAL ELECTRICAL CONNECTION LOCATION WITH CHILLER MANUFACTURER AND PROVIDE AS REQUIRED.
- 6 (2) EXISTING 600A 3P DISCONNECT SWITCHES WITH 500A FUSES TO REMAIN TO FEED NEW CHILLER CIRCUITS. TURN SWITCHES OFF AND LOCK OUT WHILE WORKING ON CHILLER WIRING.
- 7 EXISTING 70A 3P FUSED SWITCH FEEDING PUMPS "P-23", "P-24", AND "P-25" TO REMAIN. TURN SWITCH OFF AND LOCK OUT WHILE WORKING ON PUMP WIRING.
- 8 PROVIDE SURFACE MOUNTED DUPLEX GFI RECEPTACLE WITH IN-USE WEATHERPROOF COVER, IN ACCORDANCE WITH GOVERNING AUTHORITY REQUIREMENTS. SEAL ALL WALL PENETRATIONS. CONNECT BOTH RECEPTACLES TO A SINGLE DEDICATED 120V 20A 1P CIRCUIT BREAKER WITHIN THE NEAREST 120V NON-EMERGENCY PANEL WITHIN EXISTING ELECTRICAL RM. H124. FIELD VERIFY EXACT CIRCUIT AND PROVIDE A 20A 1P CIRCUIT BREAKER IF A SPARE IS NOT AVAILABLE.

#### GENERAL ELECTRICAL NOTES:

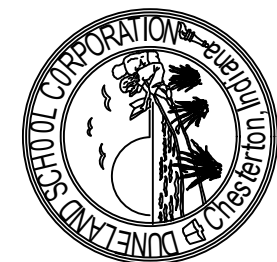
1. UNDER ALTERNATE BID THE CONTRACTOR(S) TO REPLACE EACH ADDITIONAL CHILLER, CHILLER BUNDLE, ECONOMIZER, PUMP, ETC. SEPARATELY. THE BUILDING NEEDS TO HAVE TWO CHILLERS FULLY OPERATIONAL AT ALL TIMES.
2. REPAIR/PATCH ALL WALLS AS REQUIRED TO REPAIR OPENINGS/MARKS FROM REMOVAL OF EXISTING CONDUIT, SUPPORTS, ETC. PAINT WALLS THAT HAVE AN EXISTING PAINT COVER TO MATCH SURROUNDING MATERIALS.



KEY PLAN  
NOT TO SCALE

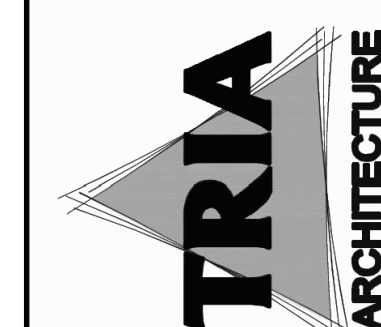


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2020 MECHANICAL RENOVATIONS AT:  
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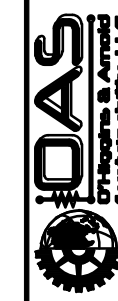


PROJECT NUMBER: 18-051	DATE: 12/12/2018
PROJECT MANAGER: JG	DATE: 12/12/2018
DRAWN BY: JAS	DATE: 12/12/2018
USED FOR BID: 12/12/2018	DATE: 12/12/2018
FLOOR PLAN - ELECTRICAL	

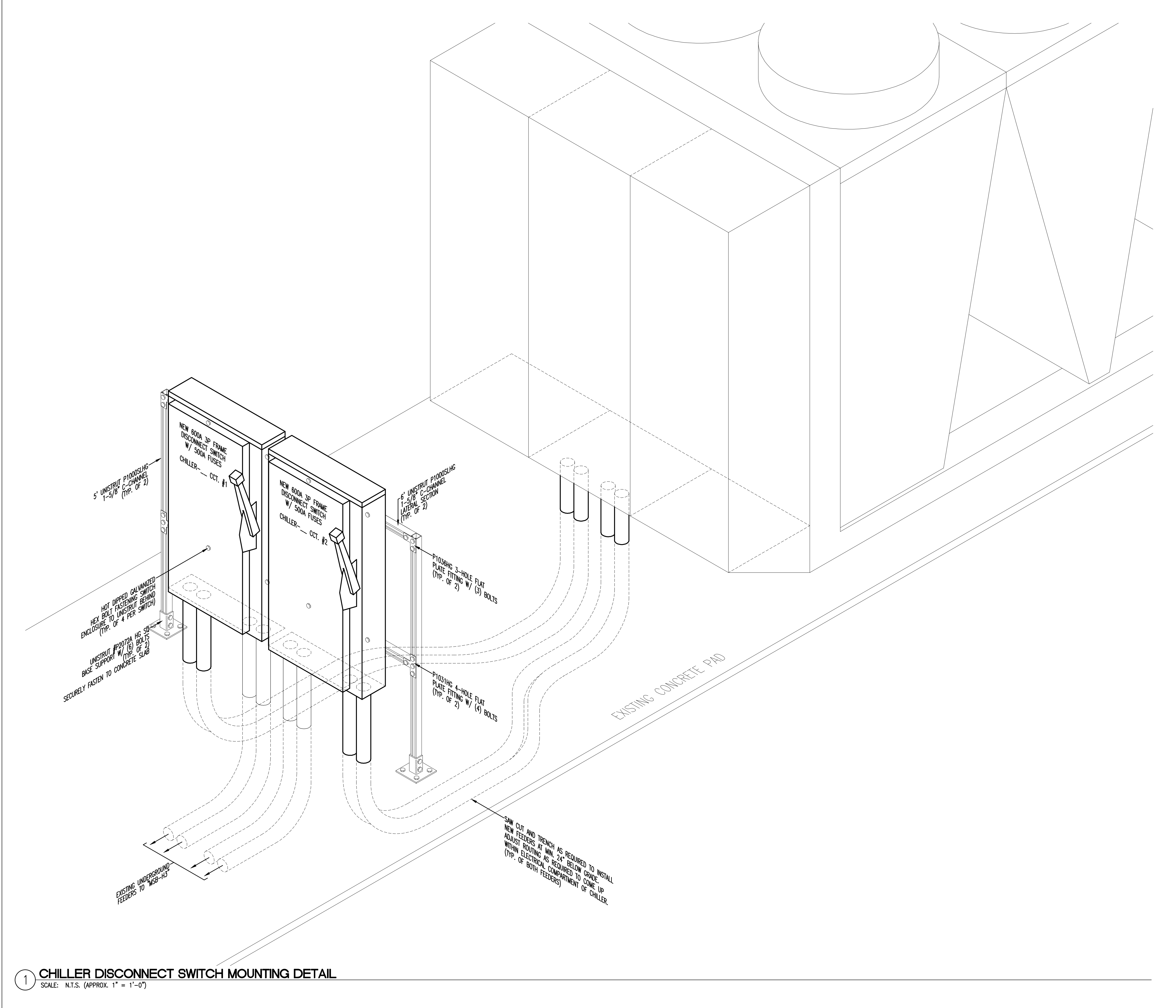
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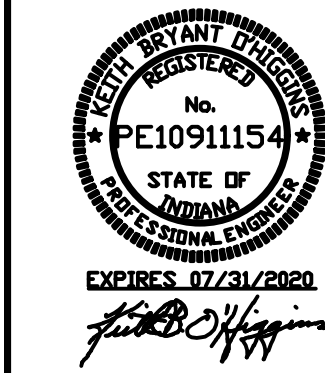
TRIA ARCHITECTURE  
1700 N. STATE ST., SUITE 100  
INDIANAPOLIS, IN 46204  
(317) 695-3356







1 CHILLER DISCONNECT SWITCH MOUNTING DETAIL  
 SCALE: N.T.S. (APPROX. 1" = 1'-0")



E2.10

PROJECT NUMBER: 18-0291  
 PROJECT NAME: HS  
 DRAWN BY: CAS  
 ISSUED FOR BID: 11/01/2019  
 DETAILS - ELECTRICAL



DUNELAND SCHOOL CORPORATION  
 2020 MECHANICAL RENOVATIONS AT:  
 CHESTERTON HIGH SCHOOL  
 2125 SOUTH 11TH STREET, CHESTERTON, IN 46304

