STORY CONSTRUCTION

ADDENDUM NO. 1

Date: February 07, 2020

Project: IA DAS – Eldora STS
Decentralization Building Package
DAS RFB #898201-01
DAS Project 8982.01

*****Bid date has changed from February 11, 2020 to February 18, 2020 by 2:00pm*****

Questions due date has changed from February 5, 2020 to February 11, 2020 by 2:00pm. All questions must follow the procedure in Specification 00 2113 and be submitted to the Purchasing Agent.

QUESTIONS AND ANSWERS FROM THE PRE-BID MEETING:

Q1. In spec section 09 5100, ACP 2 is called out as a 24"x 48" however on drawing 03-A1.02 – detail D4: Ground Floor Ceiling Plan has the ACP 2 panels in the kitchen drawn ad a 24" x 24" panel. Please confirm what size these need to be.
A1. Refer to revisions in spec section 08 5100 and sheet 03-A1.02.

Q2. For those same ACP 2 panels in the kitchen, the spec calls out for a USG Mars Ceiling tile. Usually in a kitchen or bathroom, the USG Sheetrock Lay-in panels are typically used because they are intended to be cleaned/whipped down if needed (see attached data page). They are a 5/8" drywall with a vinyl face on them so they can be cleaned. Please let me know which tile option you would like for that Kitchen area.
A2. Refer to revisions in spec section 08 5100 and sheet 03-A1.02.

Q3. On drawing 04-A1.02, the reflected plan only says "New ACP", but does not indicate which type. I assume this is to be ACP-1, but I wanted to verify. Please let me know which tile type you want in this area.
A3. Refer to revised sheet 04-A1.02.

Q4. Please clarify responsibilities of packaged RTU controls points integration.
A4. The RTU manufacturer shall provide BACnet points list or PICS files to the BAS vendor for integration.

Q5. As related to the asbestos abatement included in BP 02-1, who will the air clearances be determined by?
A5. Shive-Hattery will conduct air monitoring and clearances.

SPECIFICATIONS ITEMS:

1. **00 0110 – Table of Contents Summary**
    a. **ADD** Under Paragraph 2.013 Specification '23 2214 Steam and Condensate Heating Specialties'.
    b. **ADD** Under Paragraph 2.014 Specification '26 2923Veriable-Frequency Motor Controllers'.
2. **00 1113 – Notice to Bidders**
    a. **DELETE** 'Bids must be received no later than 2:00 pm, local time, Tuesday, February 11, 2020' and **REPLACE** with 'Bids must be received no later **than 2:00 pm, local time, Tuesday, February 18, 2020**'.
3. **00 2113 – Instruction to Bidders**
    a. Paragraph 3.06, B., 1. **DELETE '**February 11, 2020' and **REPLACE** with 'February 18, 2020'.
    b. Paragraph 3.010, A. **DELETE** 'February 5, 2020' and **REPLACE** with 'February 11, 2020'.
    c. Paragraph 3.011, A. **DELETE** '2:00pm, February 5, 2020' and **REPLCE** with 'February 11, 2020'.
4. **00 4116 – Bid Form**
    a. **REPLACE** this section in its entirety – attached.
5. **01 1200 – Contract Summary**
    a. **REPLACE** this section in its entirety – attached.
6. **08 5100 – Acoustical Ceilings**
    a. **ADD** Paragraph 2.2.C to provide washable 2x2 ACP ceilings:
        C. Acoustical Panels, Type ACP3: Mineral fiber with membrane-faced overlay, with the following characteristics:
            1. Classification: ASTM E1264 Type IV.
                a. Form: 1 and 2.
                b. Pattern: "E" - lightly textured.
            2. Size: 24 by 24 inches.
            3. Thickness: 3/4 inch.
            4. Light Reflectance: Minimum 85 percent, determined in accordance with ASTM E1264.
            5. NRC Range: 70 to 80, determined in accordance with ASTM E1264.
            6. Ceiling Attenuation Class (CAC): Minimum 30, determined in accordance with ASTM E1264.
            7. Panel Edge: Square.
            8. Suspension System: Exposed grid.
            9. Basis of Design Product:
                a. USG Corporation; Mars Acoustical Panels: www.usg.com.
                b. Or architect pre-approved equivalent.
7. **22 3000 – Plumbing Equipment**
    a. **ADD** paragraph 2.1.H which reads: "Furnish and install, as shown on plans, a buffer tank on the hot side of the heat exchanger. The unit shall have flanged, NPT, or grooved inlet and outlet connections. An NPT vent connection shall be fitted to the top and an NPT drain connection shall be fitted to the bottom of the vessel. Provide with 2 ports. The Buffer Tank must be designed, constructed, and stamped for 125 psig @ 450°F (232°C) in accordance

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with ASME section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code, and registered with the National Board of Boiler and Pressure Vessel Inspectors. The Buffer Tank shall be painted with one shop coat of red oxide primer. A manufacturers' Data Report for Pressure Vessels, Form U-1A as required by the provisions of the ASME Boiler and Pressure Vessel Code shall be furnished for each unit upon request."

8. **23 5215 – Fire Tube Condensing Boilers**
    a. **REMOVE** Cleaver-Brooks from approved manufacturers.
    b. **CLARIFICATION** of paragraph 2.4 and 2.5. Separate boiler control panel is not required if the boilers have built-in functionality for staging and controlling all boilers.
    c. **ADD** paragraph 2.6.A.14 under ACCESSORIES which reads: "Motorized Isolation Valves."
9. **23 7413 – Packaged Rooftop Air Conditioning Units**
    a. **ADD** paragraph 2.9.D which reads: "Provide single-stage, on/off hot gas reheat option to provide increased dehumidification. The option shall consist of a hot-gas reheat coil located on the leaving air side of the evaporator coil prepiped and circuited. The option shall be equipped with crankcase heater(s), low pressure switch(es), controls including room humidistat, and a thermostatic expansion valve(s) (TXV) as required for full dehumidification operation."
    b. **DELETE** paragraph 3.3.K
    c. **DELETE** paragraph 3.3.L
10. **26 2923 – Variable-Frequency Motor Controllers**
    a. **ADD** this section in its entirety – attached.

DRAWING ITEMS:

1. **DRAWINGS**

    a. **SHEET – 02-AD-02 - SECOND FLOOR - REFLECTED CEILING DEMOLITION PLAN**

        i. **REVISE –** 4C SECOND FLOOR – REFLECTED CEILING DEMO PLAN to remove ceiling work from CLOSET 3-304 & BATHROOM 3-305.

        ii. **REVISE –** 4E SECOND FLOOR –DEMO PLAN to add keynote AD33 and revise scope of work in CLOSET 3-304 & BATHROOM 3-305.

        iii. **REVISE –** DEMO KEYNOTE LEGEND to include keynote AD33.

    b. **SHEET – 02-A1-01 - COTTAGE 3 & 4 FLOOR PLANS**

        i. **REVISE –** A3 SECOND FLOOR – RCP to remove ceiling from CLOSET 3-304 & remove new demising wall between BATHROOM 3-305 & CLOSET 3-304.

        ii. **REVISE –** 1 SECOND FLOOR PLAN Copy 1 to remove new demising wall between BATHROOM 3-305 & CLOSET 3-304.

        iii. **REVISE –** 1 SECOND FLOOR PLAN Copy 1 to add keynote A59 to BATHROOM 3-305.

        iv. **REVISE –** ARCHITECTURAL KEYNOTE LEGEND to include keynote A59.

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v. **REVISE –** B4 GROUND FLOOR – REFLECTED CEILING PLAN to call for NEW ACP1 at LAUNDRY 4-109, shaded area in LOCKER ROOM 3-111 and shared areas in LOCKER ROOM 4-111.

c. **SHEET – 03-A1-02 - COTTAGE 5 & RECEIVING CEILING PLANS**

i. **REVISE –** D4 GROUND FLOOR CEILING PLAN to call for NEW ACP3 at KITCHEN 5-101 and KITCHEN 6-101.

d. **SHEET – 04-A1-02 - COTTAGE 7 & 8 CEILING PLANS**

i. **REVISE –** A4 FIRST FLOOR CEILING PLAN to call for NEW ACP1 at SLEEPING 7-201, SLEEPING 8-201, OFFICE 8-211 AND OFFICE 8-212.

e. **SHEET – 10-A1-01 - CANTEEN FIRST FLOOR PLAN**

i. **REVISE –** A4 FIRST FLOOR CEILING PLAN to call for NEW ACP1 at CANTEEN 1.

f. **SHEET – 01-M1.01 – SCHOOL MECHANICAL PLAN MECHANICAL ROOM**

i. **REVISE –** Heating water coils and associated keynotes on AHU-5.

g. **SHEET – 01-M5.00 SCHOOL MECHANICAL DETAILS**

i. **REVISE** – Annotation on B1 Boiler Piping Detail

ii. **REVISE –** Flow and EWT on HX-1 on Heating Water Schematic.

h. **SHEET – 01-M5.01 SCHOOL MECHANICAL DETAILS**

i. **REVISE** – Detail A1 AHU HEATING WATER COIL PIPING DEAIL FOR MULTIPLE COILS.

ii. **REVISE –** Heating Water Return temperature to 120°F

i. **SHEET– 01-M6.00 SCHOOL MECHANICAL SCHEDULES**

i. **ADD –** Note 3 to GLYCOL FEED SCHEDULE.

ii. **REVISE –** NOTE 4, GPM, HEAD, SHUTOFF HEAD and BHP on P-4 and P-5 on MECHANICAL PUMP SCHEDULE.

iii. **ADD** -NOTE 2 on AIR HANDLIND UNIT REPLACEMENT HEATING COIL – HOT WATER SCHEDULE.

iv. **REVISE –** HC-5A and HC-5B on AIR HANDLIND UNIT REPLACEMENT HEATING COIL – HOT WATER SCHEDULE.

v. **ADD –** HC-5C on AIR HANDLIND UNIT REPLACEMENT HEATING COIL – HOT WATER SCHEDULE.

vi. **REVISE** – HX-1 on HEAT EXCHANGER – PLATE AND FRAME SCHEUDLE.

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j. **SHEET – 02-M1.01 COTTAGE 3 & 4 MECHANICAL PLANS FIRST FLOOR & SECOND FLOOR.**

   i. **REVISE –** GF3-1 Location

   ii. **ADD** – Keynote M-02-22

k. **SHEET – 02-M5.00 COTTAGE 3 & 4 MECHANICAL DETAILS & CONTROLS**

   i. **REVISE –** Detail C1 - GAS PIPING SCHEMATIC

   ii. **REVISE –** Detail C4 – SENSORY ROOM TEMPERATURE CONTROL

      1. Provide flat-plate sensor without user adjustment in lieu of thermostat

   iii. **REVISE** – Detail B1 - TYPICAL FURNACE INSTALLATION SCHEMATIC AND CONTROLS

      1. Remove mixed air damper and revise sequence to match 2-position damper control.

   iv. **ADD** – Detail – ELECTRIC UNIT HEATER CONTROL

   v. **MOVE –** GAS CONNECTION DETAIL to sheet 02-M6.00

l. **SHEET – 02-M6.00 COTTAGE 3 & 4 MECHANICAL SCHEDULES**

   i. **REVISE** – NOTES 2, 3, & 9 on PACKAGED ROOFTOP UNIT SCHEDULE

m. **SHEET – 02-P1.01 COTTAGE 3 & 4 PLUMBING PLAN GROUNF FLOOR AND SECOND FLOOR**

   i. **REVISE** – Domestic water and fire protection layout.

   ii. **ADD –** Keynotes P-02-09 and P-02-10

n. **SHEET – 02-P6.00 COTTAGE 3 & 4 PLUMBING SCHEDULES & DETAILS**

   i. **REVISE** - BACKFLOW PREVENTER DEATIL

   ii. **ADD** – SIDEWALK SIAMESE FIRE DEPARTMENT CONNECTION DETAIL

o. **SHEET – 02-PD.01 COTTAGE 3 & 4 PLUMBING DEMOLITION PLAN**

   i. **REVISE** - Demolition of piping at tunnel level.

   ii. **ADD** - Keynotes PD-02-05, PD-02-06, PD-02-07

p. **SHEET – 03-M1.01 COTTAGE 5 & RECEIVING MECHANICAL GROUND FLOOR PLANS**

   i. **ADD** – Annotation furnace intake duct.

   ii. **ADD** – OA Intake for GF6-1 and keynote M-03-14.

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q. **SHEET – 03-M1.02 COTTAGE 5 & RECEIVING MECHANICAL PLAN FIRST AND SECOND FLOORS**

   i. **ADD** – Annotation on existing duct to new furnace.

r. **SHEET – 03-M5.00 COTTAGE 5 & RECEIVING MECHANICAL DETAILS**

   i. **ADD** – NEW LAUNDRY FURNACE INSTALLATION DETAIL

s. **SHEET – 03-M5.01 COTTAGES 5 & RECEIVING MECHANICAL CONTROLS**

   i. **REVISE –** Detail A4 – ERV INTEGRATION SCHEMATIC

      1. Add humidity sensor

   ii. **REVISE –** Detail C1 – SENSORY ROOM TEMPERATURE CONTROL

      1. Provide flat-plate sensor without user adjustment in lieu of thermostat

   iii. **REVISE –** Detail C4– RTU INTEGRATION SCHEMATIC

      1. Add humidity sensor

   iv. **REVISE** – A1a - TYPICAL FURNACE CONTROL SCHEMATIC & SEQUENCE

      1. Remove mixed air damper and revise sequence to match 2-position damper control.

   v. **ADD** – Detail – ELECTRIC UNIT HEATER CONTROL

t. **SHEET – 03-M6.00 COTTAGE 5 & RECEIVING MECHANICAL SCHEDULES**

   i. **REVISE** – NOTES 2, 3, 9, & 11 on PACKAGED ROOFTOP UNIT SCHEDULE

u. **SHEET – 04-M1.01 COTTAGE 7 & 8 MECHANICAL GROUND FLOOR PLANS**

   i. **ADD** – Annotation furnace intake duct.

   ii. **ADD** – OA Intake for GF8-1 and keynote M-04-12

v. **SHEET – 04-M5.00 COTTAGE 7 & 8 MECHANICAL DETAILS**

   i. **ADD** – NEW LAUNDRY FURNACE INSTALLATION DETAIL

w. **SHEET – 04-M5.01 COTTAGES 5 & RECEIVING MECHANICAL CONTROLS**

   i. **REVISE –** Detail A4 – ERV INTEGRATION SCHEMATIC

      1. Add humidity sensor

   ii. **REVISE –** Detail C1 – SENSORY ROOM TEMPERATURE CONTROL

      1. Provide flat-plate sensor without user adjustment in lieu of thermostat

   iii. **REVISE –** Detail C4– RTU INTEGRATION SCHEMATIC

      1. Add humidity sensor

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iv. **REVISE** – A1a - TYPICAL FURNACE CONTROL SCHEMATIC & SEQUENCE

1. Remove mixed air damper and revise sequence to match 2-position damper control.

v. **ADD** – Detail – ELECTRIC UNIT HEATER CONTROL

x. **SHEET – 04-M6.00 COTTAGE 7 & 8 MECHANICAL SCHEDULES**

i. **REVISE** – NOTES 2, 3, 9, & 11 on PACKAGED ROOFTOP UNIT SCHEDULE

y. **SHEET – 08-M1.01 ADMINISTRATION BUILDING MECHANICAL PLAN GROUND FLOOR**

i. **REVISE** – Tag on steam unit heater to SUH-1

z. **SHEET – 08-M6.00 ADMINISTRATION BUILDING MECAHNICAL SCHEDULES**

i. **REVISE** - Tag SUH-1 in UNIT HEATER SCHEDULE-STEAM

ii. **ADD –** note 3. to FEEDWATER PUMP SCHEDULE which reads: “INTERLOCK PUMP OPERATION WITH BOILER LOW WATER FEED CONTROL.”

aa. **SHEET – 09-M5.00 A.E. SHEPHERD MECHANICAL DETAILS**

i. **REVISE** – THERMOSTATIC MIXING VALVE SCHEMATIC

ii. **REVISE** – ELECTRIC WATER HEATER PIPING DETAIL

bb. **SHEET – 10-M1.01 CANTEEN MECHANICAL LAYOUT**

i. **REVISE** – Size of NG piping.

cc. **SHEET – 10-MD.01 CANTEEN MECHANICAL DEMOLITION**

i. **ADD** – Keynote MD-10-08

dd. **SHEET – 10-P1.01 CANTEEN PLUMBING DEMOLITION AND NEW WORK PLAN**

ee. **ADD SHEET – 02-M6.00 COTTAGE 3 & 4 MECHANICAL SCHEDULES**

i. **REVISE** – NOTE 2 on PACKAGED ROOFTOP UNIT SCHEDULES

ii. **ADD** – Keynote PD-10-02

ff. **SHEET – 11-M1.01 KITCHEN & STORAGE MECHANICAL GROUND FLOOR PLAN**

i. **REVISE** – Unit heater tags to “HWUH-XX”.

gg. **SHEET – 11-M1.02 KITCHEN & STORAGE MECHANICAL FIRST AND SECOND FLOOR PLAN**

i. **REVISE** – Unit heater tags to “HWUH-XX”.

hh. **SHEET – 11-M5.02 KITCHEN & STORAGE MECAHNICAL SCHEMATIC**

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i. **REVISE** – Unit heater tags to “HWUH-XX”

ii. **SHEET – 11-M6.00 KITCHEN & STORAGE MECHANICAL SCHEDULES**

i. **REVISE** – Unit heater tags to “HWUH-XX”

ii. **ADD** – Note 3 to GLYCOL FEED SYSTEM SCHEDULE

jj. **SHEET - 11-P5.00 KITCHEN & STORAGE PLUMBING DETAILS & SCHEDULES**

i. **REVISE** – HIGH EFFICIENCY GAS-FIRED WATER HEATER DETAIL to show pre-assembled water heater stand.

kk. **SHEET – 19-MD.01 VOCATIONAL MECHANICAL DEMOLITION PLAN**

i. **REMOVE** – existing unit heater from above 106 OFFICE space.

ll. **SHEET – 19-PD.01 VOCATIONAL PLUMBING DEMOLITION**

i. **ADD** – Existing floor drain.

mm. **SHEET – 19-P1.01 VOCATIONAL PLUMBING PLAN**

i. **ADD** – Existing floor drain.

nn. **SHEET – 21-M1.01 GENERAL SUPPLY MECHANICAL PLAN**

i. **REVISE** – Location of gas meter.

ii. **REVISE** – GAS PIPING SCHEMATIC.

2. APPROVED SUBSTITUTIONS

SPECIFICATION SECTION	PRODUCT	APPROVED SUBSTITUTION
22 1123	Domestic Water Circ Pumps	Wilo Pumps – Stratos Model
22 3000	Domestic Water Heat Exchangers	AERCO Model SPDW23
22 3300	Electric Water Heater	Bock; nDurance
22 3400	Gas Fired Water Heaters	Bock; Optitherm
23 2123	Hydronic Pumps	Wilo Pumps - Models IL & NL
23 5215	Fire Tube Condensing Boilers	Fulton Endura
23 5215	Fire Tube Condensing Boiler	RBI Flexcore Condensing Boiler Model CK2500

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23 5216	Steel Water-Tube Boilers	RBI Infinite Energy Model IB399
23 5233	Steel Water-Tube Boilers	Rite 15 psi Low Pressure Steam Boilers – Model 48S
23 7223	ERV	Carrier
23 7413	Packaged Rooftop A/C Units	ClimateMaster Models RGED & RKRL
23 7413	RTU	Carrier
23 7414	AHU-1	Carrier
23 8200	Electric Baseboard	Indeeco Electric Baseboard Model BBI
23 8200	Electric Unit, Baseboard & Cab Unit Heaters	Brasch
23 8200	Hydronic Unit Heaters	Zehnder Rittling
23 8200	Hydronic Cab Heater	Zehnder Rittling
23 8200	Electric Cabinet Unit Heaters	Markel
23 8200	Electric Baseboard and Cabinet Unit Heaters	Redd-I; TPI Corp.
23 8200	Electric Baseboard	Markel
N/A	Variable Frequency Drives	Danfoss – VLT HVAC
M6.00	Replacement Heating Coils	Heatcraft

ATTACHMENTS:

1. Specification Section 00 4116 – BID FORM
2. Specification Section 01 1200 – CONTRACT SUMMARY
3. Specification Section 23 2214
4. Specification Section 26 2923
5. 02-A1.01
6. 02-AD.02
7. 03-A1.02
8. 04-A1.02
9. 10-A1.01
10. 01-M1.01
11. 01-M5.00
12. 01-M5.01
13. 01-M6.00
14. 02-M1.02

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15. 02-M5.00
16. 02-M6.00
17. 02-P1.01
18. 02-P6.00
19. 02-PD.01
20. 03-M1.01
21. 03-M1.02
22. 03-M5.01
23. 03-M5.00
24. 03-M6.00
25. 04-M1.01
26. 04-M5.01
27. 04-M5.00
28. 04-M6.00
29. 08-M1.01
30. 08-M6.00
31. 09-M5.00
32. 10-M1.01
33. 10-MD.01
34. 10-P1.01
35. 11-M1.01
36. 11-M1.02
37. 11-M5.02
38. 11-M6.00
39. 11-P5.00
40. 19-MD.01
41. 19-P1.01
42. 19-PD.01
43. 21-M1.01

END OF ADDENDUM

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SECTION 00 4116

BID FORM

RFB #898201-01

BID FORM for CONSTRUCTION CONTRACT
for
State Training School for Boys
3211 Edgington Avenue, Eldora, Iowa 50627
Project 8982.01

Iowa Department of Administrative Services
GSE-Central Procurement Bureau
Hoover State Office Building, Level 3
1305 East Walnut Street
Des Moines, Iowa 50319-0105

The following documents are to be completed and submitted with your bid.

1. Bid Proposal Form (Required)
2. Non Discrimination Clause Form
3. Contractor Targeted Small Business Enterprise Pre-Bid Contract Information Form
4. Bid Security – 5% of total Bid amount (Is to be submit in separate envelope) (Required)

Authorized Representative:
The undersigned Bidder, in response to your Request for Bid for construction of the above project, having examined the Drawings, Specifications, and other Bidding Documents dated January 6, 2020 and Addenda issued and acknowledged below as received and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby proposes to furnish all labor, materials, equipment and supplies to perform all work to construct the project in strict accordance with the proposed Contract Documents, within the time and at the prices stated below. Prices are to cover all expenses incurred in performing the work required under the proposed Contract Documents, of which this bid is a part.

Bidder acknowledges receipt of the following Addenda which are a part of the Bidding Documents and for which any effect on cost of the Work is included in the bid amounts indicated:

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Note that the State of Iowa is exempt from State and Local sales and use taxes (including local option and school option) for this project. Taxes on construction materials shall NOT be included in the bid amounts.

Amounts shall be indicated in both words and figures. In case of discrepancy, the amount indicated in words shall govern.

BID PACKAGES:

BP #02-1

Description: Asbestos abatement at the administrative building, canteen building, kitchen building and power plant building.

Bidder proposes and agrees to perform all Base Bid work as described in the Construction Documents for the sum of:

UNIT PRICE	DESCRIPTION	QUANTITY	UNIT PRICE	TOTAL PRICE
#01	Asbestos Abatement of Thermal Insulation	3,000 LF	$_____	$_____
#02	Asbestos Abatement of Floor Tile and Mastic	1,400 SF	$_____	$_____
#03	Asbestos Abatement of Plaster Ceilings	460 SF	$_____	$_____
#04	Asbestos Abatement of Drywall Walls and Ceilings	2,000 SF	$_____	$_____
#05	Asbestos Spot Abatement of Plaster Walls and Ceilings	12 EA.	$_____	$_____
#06	Site Mobilization for Abatement	7 EA.	$_____	$_____
			TOTAL OF BID	$_____

BP #09-1

Description: Framing, drywall, painting, ceilings and doors.

Bidder proposes and agrees to perform all Base Bid work as described in the Construction Documents for the sum of:

_____

_____Dollars

($_____). This sum includes an Owner's Allowance #01 in the amount of $80,000.

BP #09-1 Alternate #01

Description: Bulkheads in Cottages 5, 7, 8 and Receiving.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____Dollars

($_____).

BP #09-1 Alternate #03

Description: Sensory Room Buildouts.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____Dollars

($_____).

BP #23-1

Description: Mechanical, Plumbing, Demo, Concrete and Masonry.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____

_____Dollars

($_____). This sum includes an Owner's Allowance #02 in the amount of $20,000.

BP #23-1 Alternate #02

Description: Ductwork Cleaning in Cottages.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____Dollars

($_____).

BP #23-1 Alternate #03

Description: Sensory Room Buildouts.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____Dollars

($_____).

BP #26-1

Description: Electrical and man-down system.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____

_____Dollars

($_____).

BP #26-1 Alternate #03

Description: Sensory Room Buildouts.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____Dollars

($_____).

BP #26-1 Alternate #04

Description: Man Down Additional Hardware.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____Dollars

($_____).

BP #26-1 Alternate #05

Description: Man Down Front-End Software Upgrade.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____Dollars

BP #26-1 Unit Price #05

Description: Security System Transponders.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

_____Dollars

($_____).

BP #26-1 Unit Price #06

Description: Internal Security System Receivers.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

___Dollars

($_____).

BP #26-1 Unit Price #07

Description: External Security System Receivers.

Bidder proposes and agrees to perform all work as described in the Construction Documents for the sum of:

___Dollars

($_____).

Bidder hereby certifies that:

1. This bid is genuine and is not made in the interest of or on behalf of any undisclosed person, firm or corporation;
2. Bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain any advantage over any other bidder or over the Owner.
3. Bidder hereby certifies that the Bidder is registered with the Iowa Labor Commissioner as a Contractor as required by Chapter 91C, Code of Iowa.
4. Bidder agrees to comply with all Federal and State Affirmative Action/Equal Employment Opportunity requirements concerning fair employment and will not discriminate between or among them by reason of race, color, religion, sex, national origin or physical handicap.
5. All construction under this Contract shall conform to the requirements of the *Iowa State Building Code*.
6. Bidder agrees that this bid shall remain valid and shall not be withdrawn for a period of thirty (30) calendar days after the date for receipt of bids.
7. Bidder agrees that if written notice of acceptance of this bid is mailed, emailed, or delivered to the undersigned within thirty (30) days after the date in which bids are due, or at any time thereafter before it is withdrawn, the undersigned will sign and return the Contract Agreement, prepared in accord with the Bidding Documents and this bid as accepted; and will also provide proof of insurance coverage and required surety bonds.
8. Bidder understands that the Owner reserves the right to reject any and all bids, and to waive irregularities or informalities and enter into a contract for the work, as the Owner deems to be in the best interest of the State.
9. Bidder understands that the Owner reserves the right to accept any, or no, Alternate Bid, if requested, and that the Alternate Bids may be considered in any order or combination, and the low Bidder shall be determined on the basis of the sum of the base bid and any Alternate(s) accepted.

Subcontractors:
The Trade Contractor must identify all Subcontractors and Suppliers within 48 hours of the published date and time for which bids must be submitted, in accordance with Iowa Code Section 8A311, as amended by House File 646 in 2011. Subcontractors and suppliers may not be changed without the approval of the Owner. Requests for changing a Subcontractor or supplier must identify the reason for the proposed change, the name of the new Subcontractor or supplier, and the change in the subcontractor or supplier price as a result of the change. Any reduction in subcontractor or supplier price as a result of the change, if the change is approved by the Owner, shall be deducted from the Trade Contract Price via a deductive Change Order. Any such changes, if approved by the Owner, which result in an increase in the Trade Contract Price shall be borne by the Trade Contractor.

Enforcement of Reciprocal Resident Bidder Preference, per Iowa Code 73A.21.

All bidders shall either check the box next to "Resident Bidder" or check the box next to "Nonresident Bidder" and by doing so and signing thereafter certifies and attests to the same. All information requested must be provided. Seek out the advice of an attorney if you have questions.

"Resident Bidder" means a person or entity authorized to transact business in of the State of Iowa and having a place of business for transacting business within the State of Iowa at which it is conducting and has conducted business for at least three years prior to the date of the first advertisement for the public improvement. Note, however, that if a nonresident bidder's state or foreign country has a more stringent definition of a resident bidder, the more stringent definition is applicable as to bidders from that state or foreign country.

Resident Bidder ☐

Name of Resident Bidder: _____

By: _____
Authorized Agent and Signatory of Resident Bidder

OR:

Nonresident Bidder ☐

Name of Nonresident Bidder: _____

Name of State or Foreign Country of Nonresident Bidder: _____

Particularly identify and describe any preference, labor preference, or any other type of preferential treatment, in effect in the nonresident bidder's state or foreign country at the time of this bid:

_____
_____
_____
_____

NOTICE: Nonresident Bidders domiciled in a state or country with a resident labor force preference shall make and keep, for a period of not less than three years, accurate records of all workers employed on the public improvement. The records shall include each worker's name, address, telephone number when available, social security number, trade classification, and the starting ending time of employment.

By: _____
Authorized Agent and Signatory of Nonresident Bidder

Bid Form shall be signed by an officer of the company with authority to bind in a contract.
Notice of acceptance of this bid, or request for additional information by the Department of Administrative Services, may be addressed to the undersigned at the address set forth below:

Legal Name of Firm: _____

Date: _____

Signature of Bidder: _____

Title: _____

Typed Name of Signatory: _____

Email: _____

Business Address:

_____
_____
_____

Telephone Number: _____ Fax Number: _____

Federal Tax Identification Number: _____

Iowa Contractor Registration Number: _____

Bidder Safety Manager Name:_____

For an out-of-state Bidder, Bidder certifies that the Resident Preference given by the State or

Foreign Country of Bidder's residence, _____, is _____ %.

END OF SECTION

SECTION 01 1200

CONTRACT SUMMARY

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Project Information
B. Project Summary
C. Bid Scope Summary
D. Work Hour Restrictions
E. Access to Site
F. Coordination with Occupants
G. Rules for Construction Workers
H. Bid Package Instructions

1.02 PROJECT INFORMATION

A. Facility Name/Location: 3211 Edgington Avenue, Eldora, Iowa 50627
B. DAS Project #: 8982.01
C. Owner: State of Iowa, Department of Administrative Services, Hoover State Office Building, Level 3, 1305 East Walnut Street, Des Moines, IA 50319
D. Owner's Representative: Jennifer Kleene, Iowa Department of Administrative Services, 109 SE 13th Street, Des Moines, IA 50319
E. Construction Manager: Jeffrey Reams, Story Construction Co., 2810 Wakefield Circle, Ames, IA 50010

1.03 PROJECT SUMMARY

A. The project includes, but is not limited to:
   1. Bid Package #02-1: Asbestos Abatement at the Administrative Building, Canteen Building, Kitchen Building and Power Plant Building.
   2. Bid Package #09-1: Framing, Drywall, Painting, Ceilings and Doors.
   3. Bid Package #23-1: Mechanical, Plumbing, Demo, Concrete and Masonry.
   4. Bid Package #26-1: Electrical and Man-Down System.
B. Target date to provide substantial completion is phased for each bid package. See Specification Section 00 3113 PRELIMINARY SCHEDULE for further information.

1.04 BID SCOPE SUMMARY

A. Scope Applicable to All Bid Packages:
   1. Construction of the project shall be accomplished under separate multiple contracts. Award of each separate contract shall be to the lowest responsive, responsible bidder. Bidders may bid more than one Bid Package; however, combined bids will not be accepted. Refer to Section 01 1200-1.09 for a description of work included under each separate contract. Contracts for this Project include the following:
      a. Bid Package #02-1: Asbestos Abatement at the Administrative Building, Canteen Building, Kitchen Building and Power Plant Building.
      b. Bid Package #09-1: Framing, Drywall, Painting, Ceilings and Doors.
      c. Bid Package #23-1: Mechanical, Plumbing, Demo, Concrete and Masonry.
      d. Bid Package #26-1: Electrical and Man-Down System.
   2. The Contractor's Work includes all labor, supervision, materials, equipment, services, supplies, tools, facilities, transportation, hoisting, storage, receiving, licenses,

inspections, certifications, overhead, profit, or other items required or reasonably inferable to properly and timely perform and complete all work and services to be performed by the Contractor pursuant to this Agreement. Unless specifically stated otherwise, incidental work required to accomplish the work of this Bid Package shall be included the bid. This would include, but not be limited to, temporary facilities, protection of the work, security of equipment, materials, and work in progress, etc. Contractor's Work shall be performed in accordance with the Drawings, Specification Divisions 00 and 01, and Specification sections applicable to each Contractor's scope.

3. Contractor is responsible for all labor and equipment to unload, account for all material delivered, stock, and delivery for this scope of work. Storage and delivery of materials and equipment at the Site shall be permitted only to the extent approved in advance by the Construction Manager, and if anything so stored obstructs the progress of any portion of the work, it shall be promptly removed or relocated by the Contractor without reimbursement.

4. Contractors shall designate two competent persons for the Project, one of which shall always be onsite during the performance of the Contractor's work or any of its subcontractors' work.

5. Provide all temporary facilities required for this scope of work including trailer, trailer power, telephone, secured storage, temporary power for work, temporary and task lighting for work, etc. as determined necessary by Contractor. Coordinate location of trailers, material storage and utility lines with Construction Manager. Limited space is available, and permission to bring any such facility or excess materials on to the site shall be approved by the Construction Manager.

6. Each Contractor shall be responsible for locating private utilities that affects their scope of work.

7. Contractors shall clean up and dispose of waste materials and debris generated from their work daily.

8. Contractors shall remove mud, dirt, and debris from roadways as it is generated from their work.

9. Protect adjacent existing building elements from damage from scope of work. Repair existing building elements damaged during Contractor's scope of work.

10. Contractors shall have a copy of their own Company Safety Manual onsite and submit an electronic copy to the Construction Manager.

11. If not included in the Company Safety Manual, Contractors shall submit their OSHA-required Silica Control Policy/Plan along with documentation identifying who the onsite Component Silica Control person(s) are, prior to beginning work onsite.

12. Refer to Section 01 4000-3.04 regarding inspection and testing responsibilities.

13. Contractors shall provide cutting and patching for its own work.

14. Contractors shall maintain an accurate set of As-Built Drawings throughout the duration of the Project.

15. Each person must pass a background check prior to work onsite (excluding delivery drivers). The background checks will be completed by the State of Iowa at no cost to the Contractors. Information needed includes full name, date of birth, and social security number.

16. Each person working onsite (excluding delivery drivers) shall attend a 45-minute State Training School and Story Construction Co. safety orientation prior to site entry. Upon successful completion of the orientation, each person will receive a hard-hat sticker to identify successful completion. Each person must successfully complete the orientation prior to being allowed onsite to perform work. A 24-hour notice to the Construction Manager of the need for an orientation is required.

17. Each Contractor shall designate a representative to attend one 60-minute pre-construction meeting.

18. Each Contractor and their Subcontractors shall designate an onsite representative to attend a daily 15-minute “End of Shift Meeting” on days which work is performed by them.

19. Each Contractor and their Subcontractors shall designate an onsite representative to attend a weekly 60-minute production and planning meeting the weeks which work is performed by them, plus the two (2) weeks ahead of each Contractor/Subcontractor starting work on site.

20. Each Contractor shall designate a representative to attend a 60-minute bi-weekly Owner/Designer/Construction Manager Meeting.

21. Prior to the weekly production and planning meeting, each Contractor and their Subcontractors shall populate the project planning and communication board with daily activities. This shall include activity description, quantity of work planned for completion daily, crew size for each activity, and location of each activity. The Construction Manager will assist with the population of the board.

22. Each Contractor shall have their Project Manager and onsite representative attend a Story Construction Co. Planning and Production system orientation. Plan for this meeting to last 2-hours.

23. All persons shall wear hardhats, safety classes, work boots, full-length pants, and shirts with a minimum of 4-inch sleeves while onsite.

24. All persons are prohibited from using products containing tobacco and/or nicotine on site.

1.05 WORK HOUR RESTRICTIONS

A. Work hours are from 7:00 AM to 6:00 PM, Monday through Friday unless arrangements are made in advance.

1.06 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.
B. Provide access to and from site as required by law and Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.

2. Do not obstruct roadways, sidewalks, or other public ways without permission of Owner and permit if required.

C. The facility will always be occupied during the duration of the project. Contractor personnel shall conduct themselves in an agreeable manner at all times. Failure to do so may result in removal from the work site.

D. Personal vehicles shall be parked in the designated parking areas shown in the drawings. The vehicles are to remain locked and not running unless occupied.

E. Tool trailers and office trailers shall be parked in the designated parking areas shown in the drawings. Tool trailers and office trailers must always be locked unless occupied by personnel.

1.07 OWNER OCCUPANCY

A. Owner intends to occupy the effected locations upon completion of the work.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.08 RULES FOR CONSTRUCTION WORKERS

A. The staff of the State of Iowa has a responsibility to protect the public by providing a secure environment. All work site rules must be followed always.

B. All personnel entering the site must have a background check completed prior to entering the campus to perform work. This does not apply to delivery drivers.

C. Hot Work Permit Processes, when necessary, will be adhered to for this project.

D. The Training School properties are tobacco free. The use of tobacco and nicotine products are prohibited.

E. The Contractor is permitted access only to the work site and no other area of the institution.

F. No drugs, alcohol, or firearms are allowed on the work site.

G. Do not leave money, drugs, alcohol, or firearms in your personal vehicle.

H. Company and personal vehicles are to be parked and locked in designated or authorized area of the work.

I. Never leave keys in any vehicle. If a security officer finds keys in a vehicle, they are under orders to turn them in to a security supervisor.

J. Do not give anything to residents or take anything from residents; if they offer, inform your supervisor.

K. During an emergency, follow the instructions of the Training School staff.

L. All tools, materials and equipment shall always be controlled by the Contractor and never left unattended without being secured. The Contractor shall have a written inventory of tools which they have onsite. All tools shall be secured at the end of each shift. If tools, materials or equipment are missing, the Contractor shall immediately notify the State Training School Staff.

M. Each person shall check in and check out at the Administration Building switchboard each time entering or exiting the Training School, including breaks and lunch.

N. All persons shall wear hardhats, safety glasses, work boots, full-length pants and shirts with a minimum of 4-inch sleeves while onsite.

1.09 BID PACKAGE INSTRUCTIONS

A. **Bid Package #02-1** – Asbestos abatement as shown or called to be removed at the administrative building, canteen building, kitchen building and power plant building. Additional abatement is anticipated at additional locations and buildings for unforeseen materials which shall be measured and included in the unit pricing items. Trade Contractor shall include all of the following as base bid work, but not limited to, as part of the contract:

1. Specifications:
   a. Division 00 – Procurement and Contracting Requirements
   b. Division 01 – General Requirements
   c. Division 02 – Existing Conditions
      1) Specifications 02 8200 Asbestos Abatement Complete.

2. Drawings:
   a. Drawing set titled, “ELDORA STATE TRAINING SCHOOL – ASBESTOS ABATEMENT PACKAGE”:
      1) All work shown in this set of drawings is by this package.

3. **Unit Price #01** – Asbestos abatement of thermal insulation, at locations requested by the Construction Manager, which are not shown or called to be removed in the bid documents: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

   a. Unit Price Quantity: 3,000 LF
   b. Unit price includes all necessary material, removal and disposal of asbestos-containing materials, insurance, overhead, and profit to remove a linear foot of asbestos containing thermal insulation according to project requirements. Thermal insulation unit pricing also includes abatement of thermal insulation on pipe fittings and shall be measured as one (1) linear foot for each pipe fitting.
   c. Owner reserves the right to reject Contractor’s measurements of additional work in locations shown as base bid work and to have this work measured, at the Owner’s expense, by an independent surveyor acceptable to the Contractor.

4. **Unit Price #02** – Asbestos abatement of floor tile and mastic, at locations requested by the Construction Manager, which are not shown or called to be removed in the bid documents: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

   a. Unit Price Quantity: 1,400 SF
   b. Unit price includes all necessary material, removal and disposal of asbestos-containing materials, insurance, overhead, and profit to remove a square foot of asbestos containing floor tile and/or mastic according to project requirements.
   c. Owner reserves the right to reject Contractor’s measurements of additional work in locations shown as base bid work and to have this work measured, at the Owner’s expense, by an independent surveyor acceptable to the Contractor.

5. **Unit Price #03** – Asbestos abatement of plaster ceilings, at locations requested by the Construction Manager, which are not shown or called to be removed in the bid documents: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

    a. Unit Price Quantity: 460 SF
    b. Unit price includes all necessary material, removal and disposal of asbestos-containing materials, insurance, overhead, and profit to remove a square foot of drywall or plaster walls or ceilings according to project requirements.
    c. Owner reserves the right to reject Contractor's measurements of additional work in locations shown as base bid work and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

6. **Unit Price #04** – Asbestos abatement of drywall walls and ceilings, at locations requested by the Construction Manager, which are not shown or called to be removed in the bid documents: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

    a. Unit Price Quantity: 2,000 SF
    b. Unit price includes all necessary material, removal and disposal of asbestos-containing materials, insurance, overhead, and profit to remove a square foot of drywall or plaster walls or ceilings according to project requirements.
    c. Owner reserves the right to reject Contractor's measurements of additional work in locations shown as base bid work and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

7. **Unit Price #05** – Asbestos spot abatement of plaster walls and ceilings, at locations requested by the Construction Manager, which are not shown or called to be removed in the bid documents: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

    a. Unit Price Quantity: 12 EA.
    b. Unit price includes all necessary material, removal and disposal of asbestos-containing materials, insurance, overhead, and profit to remove a square foot of drywall or plaster walls or ceilings according to project requirements.
    c. Owner reserves the right to reject Contractor's measurements of additional work in locations shown as base bid work and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

8. **Unit Price #06** –Site remobilization for abatement as requested by the Construction Manager for additional unit price work not shown or called to be removed in the bid documents: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

    a. Unit Price Quantity: 7 EA.
    b. Unit price includes all necessary material, engineering controls, cleaning all surfaces, personal air monitoring, final cleaning, insurance, overhead, and profit to remobilize to the site for additional unit price abatement work not included in the base bid.
    c. Owner reserves the right to reject Contractor's measurements of additional work in locations shown as base bid work and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

B. **Bid Package #09-1** – Framing, drywall, painting, ceilings and doors: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

1. Specifications:
    a. Division 00 – Procurement and Contracting Requirements
    b. Division 01 – General Requirements
    c. Division 02 – Existing Conditions
        1) Specification 02 4100 Demolition. Complete demo for new openings from Division 08 completed by BP #09-1.
    d. Division 05 – Metals
        1) Specification 05 1200 Structural Steel Framing.
        2) Specification 05 5116 Metal Floor Plate Stairs.
        3) Specification 05 5213 Pipe and Tube Railings.
    e. Division 06 – Wood, Plastics and Composites
        1) Complete.
    f. Division 07 – Thermal and Moisture Protection
        1) Specification 07 8400 Firestopping – for adjacent work completed by BP 09-1.
        2) Specifications 07 9200 Joint Sealants – for adjacent work completed by BP 09-1.
    g. Division 08 – Openings
        1) Complete. BP #09-1 to complete demo and/or preparation for new openings.
    h. Division 09 – Finishes
        1) Complete.

2. Drawings:
    a. Drawing set titled, “ELDORA STATE TRAINING SCHOOL – DECENTRALIZATION BUILDING PACKAGE”.

3. **Allowance #01** – Wall Patching Allowance: BP #09-1 shall include all of the following as part of the contract:
    a. Include $80,000 Owner wall patching allowance in Base Bid. Work will be completed on a T&M or proposal basis.

4. **Alternate #01** – Bulkheads in Cottages 5, 7, 8 and Receiving: BP #09-1 shall include all of the following, but not limited to, as part of the contract:
    a. Construct gypsum wall board bulkheads in the Locker Rooms as indicated on sheets 03-A1.02 and 04-A1.02.
    b. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
    c. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
    d. Execute accepted alternates under the same conditions as other work of the Contract.

5. **Alternate #03** – Sensory Room Buildouts:
    a. Buildouts include (5) five sensory rooms with one sensory room to be located in each of the following locations: Cottage 3, Cottage 4, Cottage 5, Receiving and Cottage 7.
        1) BP #09-1 shall include all of the following, but not limited to, as part of the contract:
            a) All work included in BP #09-1 scope of work associated with the Sensory Room Buildouts.
    b. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
    c. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
    d. Execute accepted alternates under the same conditions as other work of the Contract.

C. **Bid Package #23-1** – Mechanical, plumbing, demo, concrete and masonry: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

1. Specifications:
    a. Division 00 – Procurement and Contracting Requirements
    b. Division 01 – General Requirements
    c. Division 02 – Existing Conditions
        1) Specification 02 4100 – Complete all mass and spot demo work except specifically for new openings noted in Specification Division 8. The demo for new openings will be completed by BP #09-1.
    d. Division 03 – Concrete
        1) Complete.
    e. Division 04 – Masonry
        1) Complete.
    f. Division 05 – Metals
        1) Specification 05 5000 Metal Fabrications.
    g. Division 07 – Thermal and Moisture Protection
        1) Specification 07 8400 Firestopping – for adjacent work completed by BP 23-1.
        2) Specifications 07 9200 Joint Sealants – for adjacent work completed by BP 23-1.
    h. Division 21 – Fire Suppression
        1) Complete.
    i. Division 22 – Plumbing
        1) Complete.
    j. Division 23 – Heating Ventilating and Air Conditioning
        1) Complete.

2. Drawings:
    a. Drawing set titled, “ELDORA STATE TRAINING SCHOOL – DECENTRALIZATION BUILDING PACKAGE”.

3. **Allowance #02** – Masonry Wall Patching Allowance: BP #09-1 shall include all of the following as part of the contract:
    a. Include $20,000 Owner Masonry wall patching allowance in base bid. Work will be completed on a T&M or proposal basis.

4. **Alternate #02** – Ductwork Cleaning in Cottages: BP #23-1 shall include all of the following, but not limited to, as part of the contract:
    a. The cleaning of all existing ductwork in Cottage 1, Cottage 2, Cottage 3, Cottage 4, Cottage 5, Receiving, Cottage 7 and Cottage 8.
    b. The removal of visible surface contaminants and deposits from within the HVAC system. The HVAC system includes any interior surface of the air distribution system for conditioned spaces. This includes the entire heating and air-conditioning system from where the air enters the system to where the air discharges the system.
    c. All service openings created for cleaning shall be sealed according to NFPA and SMACNA Standards.
    d. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
    e. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
    f. Execute accepted alternates under the same conditions as other work of the Contract.

5. **Alternate #03** – Sensory Room Buildouts:
    a. Buildouts include (5) five sensory rooms with one sensory room to be located in each of the following locations: Cottage 3, Cottage 4, Cottage 5, Receiving and Cottage 7.
        1) BP #23-1 shall include all of the following, but not limited to, as part of the contract:
            a) All work included in BP #23-1 scope of work associated with the Sensory Room Buildouts.
    b. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
    c. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
    d. Execute accepted alternates under the same conditions as other work of the Contract.

D. **Bid Package #26-1** – Electrical and man-down system: Trade Contractor shall include all of the following, but not limited to, as part of the contract:

1. Specifications:
    a. Division 00 – Procurement and Contracting Requirements
    b. Division 01 – General Requirements
    c. Division 02 – Demolition
        1) Complete demolition as related to BP #26-1 scope of work.
    d. Division 07 – Thermal and Moisture Protection
        1) Specification 07 8400 Firestopping – for adjacent work completed by BP 23-1.

2) Specifications 07 9200 Joint Sealants – for adjacent work completed by BP 23-1.

e. Division 26 – Electrical
   1) Complete.

f. Division 27 – Communications
   1) Complete.

g. Division 28 – Electronic Safety and Security
   1) Complete.

2. Drawings:
   a. Drawing set titled, “ELDORA STATE TRAINING SCHOOL – DECENTRALIZATION BUILDING PACKAGE”.
   b. Drawing set titled, “ELDORA STATE TRAINING SCHOOL – SECURITY SYSTEM”.

3. **Alternate #03** – Sensory Room Buildouts:
   a. Buildouts include (5) five sensory rooms with one sensory room to be located in each of the following locations: Cottage 3, Cottage 4, Cottage 5, Receiving and Cottage 7.
      1) BP #26-1 shall include all of the following. but not limited to, as part of the contract:
         a) All work included in BP #26-1 scope or work associated with the Sensory Room Buildouts.
   b. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
   c. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
   d. Execute accepted alternates under the same conditions as other work of the Contract.

4. **Alternate #04** – Man Down Additional Hardware: BP #26-1 shall include all of the following, but not limited to, as part of the contract:
   a. Furnish and install new receivers as shown on the floorplans to supplement the current Man down system. Include the cost to furnish and install new wiring to connect the devices to the base bid system. Refer to the drawings for the devices that are to be included in Alternate #4 Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
   b. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
   c. Execute accepted alternates under the same conditions as other work of the Contract.

5. **Alternate #05** – Man Down Front-End Software Upgrade: BP #26-1 shall include all of the following, but not limited to, as part of the contract:
   a. Furnish and install new central console control center for the Man down system. Provide complete graphical monitoring system, include software upgrade for the entire system. Printer shall be provided and installed by vendor.

b. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
c. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
d. Execute accepted alternates under the same conditions as other work of the Contract.

6. **Unit Price #05** – Security System Transponders: Trade Contractor shall include all of the following, but not limited to, as part of the contract:
   a. Internal Receiver Transponder:
      1) Furnish and install new transponder and 50' of cable in ¾" conduit.
   b. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
   c. Owner reserves the right to reject Contractor's measurements of work in place that involves use of established unit prices and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

7. **Unit Price #06** – Internal Security System Receivers: Trade Contractor shall include all of the following, but not limited to, as part of the contract:
   a. Internal Receiver:
      1) Furnish and install new internal receiver and 30' of cable in ¾" conduit.
   b. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
   c. Owner reserves the right to reject Contractor's measurements of work in place that involves use of established unit prices and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

8. **Unit Price #07** – External Security System Receivers: Trade Contractor shall include all of the following, but not limited to, as part of the contract:
   a. External Receiver:
      1) Furnish and install new internal receiver and 50' of cable in ¾" conduit.
   b. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
   c. Owner reserves the right to reject Contractor's measurements of work in place that involves use of established unit prices and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.

E. **Work Performed by Owner or Construction Manager:** The Owner or Construction Manager will perform the following work items:
1. Relocate all moveable furniture, fixtures and equipment (FF&E), including window treatments; and personal materials from each sequenced work area prior to demolition and construction activities and after new construction is completed.
2. Fire Watch when necessary.
3. NPDES plan and permit and associated erosion control measures and inspections.
4. Temporary tree dripline fencing (if necessary).
5. Temporary granular surfacing for parking and laydown area.
6. Temporary fencing for laydown area.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION – NOT USED

END OF SECTION

SECTION 23 2214
STEAM AND CONDENSATE HEATING SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Steam traps.

B. Boiler feed units.

C. Vacuum pumping units.

D. Steam safety valves.

1.2 RELATED REQUIREMENTS

1.3 REFERENCE STANDARDS

A. ASME B31.9 - Building Services Piping; 2014.

B. ASTM A126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings; 2004 (Reapproved 2014).

C. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2014.

1.4 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data:

1. Provide for manufactured products and assemblies required for this project.

2. Include product description, model, dimensions, component sizes, rough-in requirements, service sizes, and finishes.

3. Submit schedule indicating manufacturer, model number, size, location, rated capacity, load served, and features for each specialty.

4. Include electrical characteristics and connection requirements.

C. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

1. See Section 01 6000 - Product Requirements, for additional provisions.

2. Extra Pump Seals: One set for each type and size of pump.

3. Steam Trap Service Kits: One for each type and size.

1.5 QUALITY ASSURANCE

A. Perform Work in accordance with State of Iowa standard for installation of boilers and pressure vessels.

B. Products Requiring Electrical Connection: Listed and classified by UL as suitable for the purpose indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.

B. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

C. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

PART 2 PRODUCTS

2.1 STEAM TRAPS

A. Manufacturers:

1. Armstrong International, Inc: www.armstronginternational.com/#sle.

2. Marshall Engineered Products Company: www.mepcollc.com/#sle.

3. Spirax-Sarco: www.spiraxsarco.com/us/#sle.

B. Steam Trap Applications:

1. Use Float and Thermostatic Traps for:

a. Unit heaters.

b. Main headers.

C. Steam Trap Performance:

1. Select to handle minimum of two times maximum condensate load of apparatus served.

2. Pressure Differentials:

a. Low Pressure Systems (15 psi maximum): 2 psi.

D. Float and Thermostatic Traps: ASTM A126 cast iron or semi-steel body and bolted cover, stainless steel or bronze bellows type air vent, stainless steel or copper float, stainless steel lever and valve assembly.

1. Rating: 15 psi WSP.

2. Features: Access to internal parts without disturbing piping, bottom drain plug.

3. Accessories: Gauge glass with shut-off cocks.

2.2 LOW PRESSURE BOILER FEED UNITS

A. Manufacturers:

1. Bryan Steam Corporation: www.bryanboilers.com/#sle.

2. Cleaver-Brooks: www.cleaver-brooks.com/#sle.

3. Marshall Engineered Products Company: www.mepcollc.com/#sle.

4. Substitutions: See Section 01 6000 - Product Requirements.

B. Boiler Feed Units: Consist of receiver, inlet strainer, pumps, water make-up assembly, electric control components and accessories.

C. Condensate Receiver: Cast iron, equipped with water level gauge, dial thermometer, pressure gauges on pump discharge, bronze isolation valves and strainer between pumps and receiver, and lifter eye bolts.

D. Inlet Strainer: Cast iron, with vertical self-cleaning easily removable bronze screen and large dirt pocket, mounted on receiver.

E. Water Make-Up Assembly: Level control switch and solenoid valve mounted on receiver.

1. Valve: Packless, piston pilot operated type with cushioned closing and epoxy resin molded waterproof coil.

2. Capacity: Equal to one boiler feed pump.

3. With strainer, and manual bypass.

F. Pumps: Vertical design, bronze fitted with stainless steel shaft, enclosed bronze impeller, renewable bronze case ring, mechanical shaft seal, close coupled to motor.

2.3 VACUUM PUMPING UNITS

A. Manufacturers:

1. Bell & Gossett, a xylem brand: www.bellgossett.com/#sle.

2. Marshall Engineered Products Company: www.mepcollc.com/#sle.

3. Spirax-Sarco: www.spiraxsarco.com/us/#sle.

4. Shipco.

5. Substitutions: See Section 01 6000 - Product Requirements.

B. Vacuum Pumping Units: Consist of receiver on which are mounted inlet strainer, pumps, discharge valve assemblies, vacuum and float controls, electric controls and accessories.

C. Receiver: Two compartment cast iron with multi-jet vacuum producers, centerline of inlet no higher than 8 inches from floor.

D. Accessories: Vacuum gauge, thermometer, water level gauge, lifting eye bolts, and vacuum breaker.

E. Inlet Strainer: Cast iron with vertical self-cleaning bronze screen and large dirt pocket, mounted on receiver. Screen shall be vertically removable for cleaning.

F. Condensate Discharge: Control with hydraulically operated positive acting discharge valves with bronze bellows and float operated pilot valves.

G. Pumps: Vertical design, flange mounted, bronze fitted with stainless steel shaft, enclosed bronze impeller, renewable bronze case ring, mechanical shaft seal, close coupled to motor.

H. The entire assembly shall be permanently aligned and dynamically balanced to deliver its full rated capacity of air and water at a test point of 5-1/2" Hg vacuum and 160°F in accordance to the latest ASHRAE Standard Code for Return Line Low Vaccum Heating Pumps.

I. Control Cabinet:

1. NEMA 250 enclosure with piano hinged door, grounding lug, terminal strip, and fusible control circuit transformer.

2. Combination magnetic starters with overload relays, circuit breakers and cover interlock.

3. Selector switches "off", "float only", "float & vacuum", "continuous".

4. Electric alternator, test buttons.

2.4 SAFETY RELIEF VALVES

A. Manufacturers:

1. Armstrong International, Inc: www.armstronginternational.com/#sle.

2. Cash Acme, a brand of Reliance Worldwide Corporation: www.cashacme.com/#sle.

3. ITT McDonnell & Miller, a xylem brand: www.mcdonnellmiller.com/#sle.

4. Spirax-Sarco: www.spiraxsarco.com/us/#sle.

5. Substitutions: See Section 01 6000 - Product Requirements.

B. Valve: Bronze body, stainless steel valve spring, stem, and trim, direct pressure actuated, capacities ASME certified and labelled.

C. Accessories: Drip pan elbow.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install steam and steam condensate piping and specialties in accordance with ASME B31.9.

B. Install specialties in accordance with manufacturer's instructions.

C. Steam Traps:

1. Provide minimum 3/4 inch size on steam mains and branches.

2. Install with union or flanged connections at both ends.

3. Provide gate valve and strainer at inlet, and gate valve and check valve at discharge.

4. Provide minimum 10 inch long, line size dirt pocket between apparatus and trap.

D. Terminate relief valves to outdoors. Provide drip pan elbow with drain connection to nearest floor drain.

END OF SECTION

SECTION 26 2923

VARIABLE-FREQUENCY MOTOR CONTROLLERS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Variable frequency controllers.

1.2 REFERENCE STANDARDS

A. NEMA ICS 7.1 - Safety Standards for Construction and Guide for Selection, Installation, and Operation of Adjustable-Speed Drive Systems; 2014.

B. NEMA ICS 7 - Industrial Control and Systems: Adjustable-Speed Drives; 2014.

C. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2014.

D. NETA ATS - Acceptance Testing Specifications for Electrical Power Equipment and Systems; 2013.

E. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

1.3 SUBMITTALS

A. Product Data: Provide catalog sheets showing voltage, controller size, ratings and size of switching and overcurrent protective devices, short circuit ratings, dimensions, and enclosure details.

1.4 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience and with service facilities within 100 miles of Project.

C. Products: Listed, classified, and labeled as suitable for the purpose intended.

D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store in a clean, dry space. Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.

B. Handle in accordance with manufacturer's written instructions. Lift only with lugs provided for the purpose. Handle carefully to avoid damage to components, enclosure, and finish.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Variable Frequency Motor Controllers:

1. ABB/GE www.geindustrial.com/#sle.

2. Danfoss: www.danfoss.com/#sle.

3. Eaton Corporation: www.eaton.com/#sle.

4. Rockwell Automation, Inc.; Allen-Bradley Products: ab.rockwellautomation.com/#sle.

5. Schneider Electric; Square D Products: www.schneider-electric.us/#sle.

6. Siemens Industry, Inc: www.usa.siemens.com/#sle.

B. Source Limitations: Furnish variable frequency motor controllers and associated components produced by a single manufacturer and obtained from a single supplier.

2.2 DESCRIPTION

A. Variable Frequency Controllers: Enclosed controllers suitable for operating the indicated loads, in compliance with requirements of NEMA ICS 7. Select unspecified features and options in accordance with NEMA ICS 3.1.

1. Employ microprocessor-based inverter logic isolated from power circuits.

2. Employ pulse-width-modulated inverter system.

3. Design for ability to operate controller with motor disconnected from output.

4. Design to attempt five automatic restarts following fault condition before locking out and requiring manual restart.

B. Enclosures: NEMA 250, Type 1, suitable for equipment application in places regularly open to the public.

C. Finish: Manufacturer's standard enamel.

2.3 OPERATING REQUIREMENTS

A. Rated Input Voltage: 208 volts, three phase, 60 Hertz.

B. Motor Nameplate Voltage: 200 volts, three phase, 60 Hertz.

C. Displacement Power Factor: Between 1.0 and 0.95, lagging, over entire range of operating speed and load.

D. Operating Ambient: 0 degrees C to 40 degrees C.

E. Volts Per Hertz Adjustment: Plus or minus 10 percent.

F. Current Limit Adjustment: 60 to 110 percent of rated.

G. Acceleration Rate Adjustment: 0.5 to 30 seconds.

H. Deceleration Rate Adjustment: 1 to 30 seconds.

I. Input Signal: 4 to 20 mA DC.

2.4 COMPONENTS

A. Display: Provide integral digital display to indicate output voltage, output frequency, and output current.

B. Status Indicators: Separate indicators for overcurrent, overvoltage, ground fault, overtemperature, and input power ON.

C. Furnish HAND-OFF-AUTOMATIC selector switch and manual speed control.

D. Include undervoltage release.

E. Control Power Source: Separate circuit.

F. Door Interlocks: Furnish mechanical means to prevent opening of equipment with power connected, or to disconnect power if door is opened; include means for defeating interlock by qualified persons.

G. Safety Interlocks: Furnish terminals for remote contact to inhibit starting under both manual and automatic mode.

H. Control Interlocks: Furnish terminals for remote contact to allow starting in automatic mode.

I. Manual Bypass: Furnish contactor, motor running overload protection, and short circuit protection for full voltage, non-reversing operation of the motor. Include isolation switch to allow maintenance of inverter during bypass operation.

J. Emergency Stop: Use dynamic brakes for emergency stop function.

K. Disconnecting Means: Include integral fused disconnect switch on the line side of each controller.

L. Wiring Terminations: Match conductor materials and sizes indicated.

2.5 SOURCE QUALITY CONTROL

A. Shop inspect and perform standard productions tests for each controller.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that surface is suitable for controller installation.

B. Do not install controller until building environment can be maintained within the service conditions required by the manufacturer.

3.2 INSTALLATION

A. Install in accordance with NEMA ICS 7.1 and manufacturer's instructions.

B. Provide required support and attachment in accordance with Section 26 0529.

C. Tighten accessible connections and mechanical fasteners after placing controller.

D. Provide fuses in fusible switches; refer to Section 26 2813 for product requirements.

E. Select and install overload heater elements in motor controllers to match installed motor characteristics.

F. Identify variable frequency controllers in accordance with Section 26 0553.

3.3 FIELD QUALITY CONTROL

A. Perform field inspection and testing in accordance with Section 01 4000.

B. Inspect and test in accordance with NETA ATS, except Section 4.

C. Perform inspections and tests listed in NETA ATS, Section 7.17. The insulation-resistance test on control wiring listed as optional is not required.

3.4 ADJUSTING

A. Make final adjustments to installed controller to assure proper operation of load system. Obtain performance requirements from installer of driven loads.

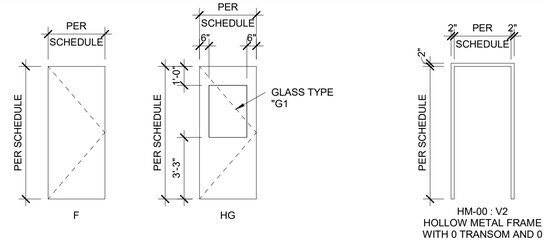
3.5 CLOSEOUT ACTIVITIES

A. Demonstrate operation of controllers in automatic and manual modes.

3.6 MAINTENANCE

A. Provide service and maintenance of controllers for one year from Date of Substantial Completion.

END OF SECTION



DOOR AND FRAME SCHEDULE

		FINISHED OPENING SIZE		LEAF				FRAME				
MARK	ROOM NAME	WIDTH	HEIGHT	THICK	TYPE	MTRL	GLAZ	MTRL-TYPE	GLAZ	HDWR	RATING	REMARKS
3-111A	SENSORY RM	3' - 0"	7' - 0"	1 3/4"	HG	HM	G1	HM-00 : F2	-			ALT. 03
4-109	MECH	3' - 0"	7' - 0"	1 3/4"	F	HM	-	HM-00 : F2	-			
4-111A	SENSORY RM	3' - 0"	7' - 0"	1 3/4"	HG	HM	G1	HM-00 : F2	-			ALT. 03

CODE KEYNOTE LEGEND	
KEY	NOTE
C05	INDIVIDUAL BOILERS DO NOT EXCEED 399 MBH (399,000 MBTU/HR)
C11	BOILER ROOM RATING OF 1-HOUR NOT REQUIRED: PER IBC TABLE 509 INCIDENTAL USES. BOILER IS UNDER 10 HP.

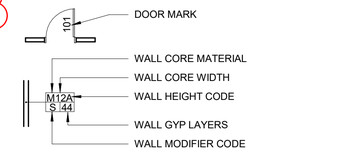
ARHITECTURAL KEYNOTE LEGEND	
KEY	NOTE
A11	NEW GYP. BD. BULKHEAD.
A12	EXISTING CABINETRY TO REMAIN.
A16	PROTECT EXISTING WINDOW AND SECURITY SCREEN.
A22	PROVIDE BALLASTED MODULAR GUARDRAIL SYSTEM.
A55	NEW FINISHES EPX1 AND P1, SEE FINISH SCHEDULE.
A58	EXISTING CEILING TO REMAIN.
A59	PATCH FLOOR TO BE LEVEL WITH ADJACENT FLOOR FINISH. FINISH PATCHED AREA AND EXISTING TILE FLOOR WITH EPOXY FLOORING.

1 ADD

ARCHITECTURAL CONSTRUCTION NOTES

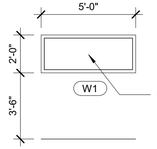
1. REFER TO DRAWINGS OF ALL TRADES FOR ADDITIONAL INFORMATION REGARDING ITEMS PENETRATING FLOORS, WALLS, AND CEILINGS.
2. ALL NEW PARTITIONS ARE DIMENSIONED TO FACE OF STUD, MASONRY, OR CONCRETE COMPONENT UNLESS NOTED OTHERWISE. DIMENSIONS TO EXISTING ELEMENTS ARE TO EXPOSED FACE.
3. ALL DOORS IN STUD WALL CONSTRUCTION ARE TO BE LOCATED WITH EDGE OF FRAME 4" FROM FACE OF ADJACENT PARTITION UNLESS NOTED OTHERWISE. DIMENSIONS LOCATING DOORS NOT DIRECTLY ADJACENT TO WALLS ARE GIVEN TO OUTSIDE EDGE OF FRAME.
4. ALL ANGLED PARTITIONS SHOWN SHALL BE AT A 45° ANGLE UNLESS NOTED OTHERWISE.
5. ARCHITECTURAL DIMENSIONS AND DESIGN INTENT ARE INDICATED ON ARCHITECTURAL DRAWINGS. IF THE INSTALLATION OF EQUIPMENT FROM OTHER TRADES INTERFERES WITH COMPLIANCE OF THE DESIGN INTENT, NOTIFY THE ARCHITECT BEFORE PROCEEDING.
6. DO NOT SCALE DRAWINGS; DIMENSIONS GOVERN LOCATION OF BUILDING ELEMENTS. IF DIMENSIONS ARE NOT AVAILABLE, CONTACT THE ARCHITECT.
7. WHEN DIMENSIONS ON SMALL SCALE DRAWINGS CONFLICT WITH THOSE ON LARGE SCALE DRAWINGS, THE LARGE SCALE DRAWINGS GOVERN.

FLOOR PLAN SYMBOLS LEGEND

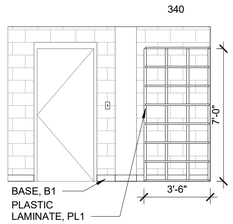


SEE SHEET 00-A0.02 FOR WALL TYPE INFORMATION

A1 DOOR PANEL ELEVATIONS
1/4" = 1'-0"

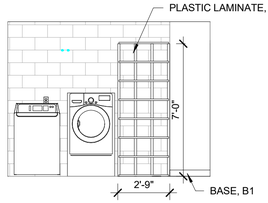


A2 ALT. 03 WINDOW ELEVATION
1/4" = 1'-0"

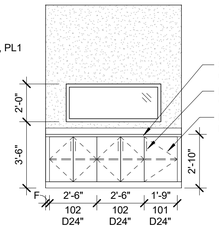


A2a LAUNDRY ROOM A
1/4" = 1'-0"

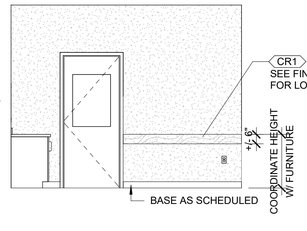
B1 DOOR FRAME ELEVATIONS
1/4" = 1'-0"



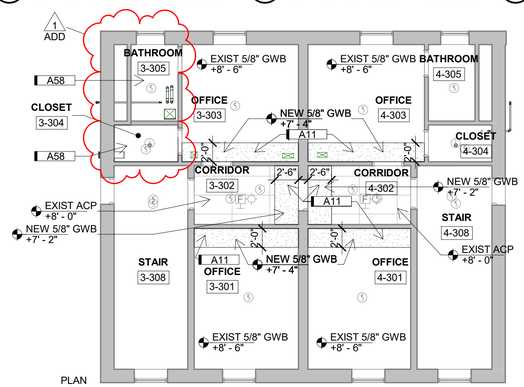
B2 LAUNDRY ROOM B
1/4" = 1'-0"



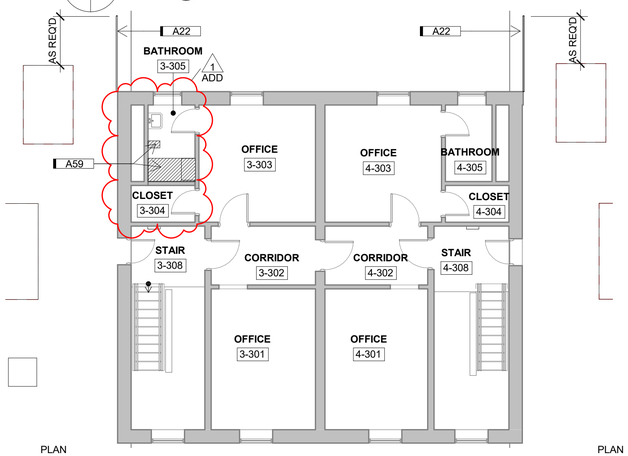
C2 ALT. 03 SENSORY ROOM - BUILT-IN CABINET
1/4" = 1'-0"



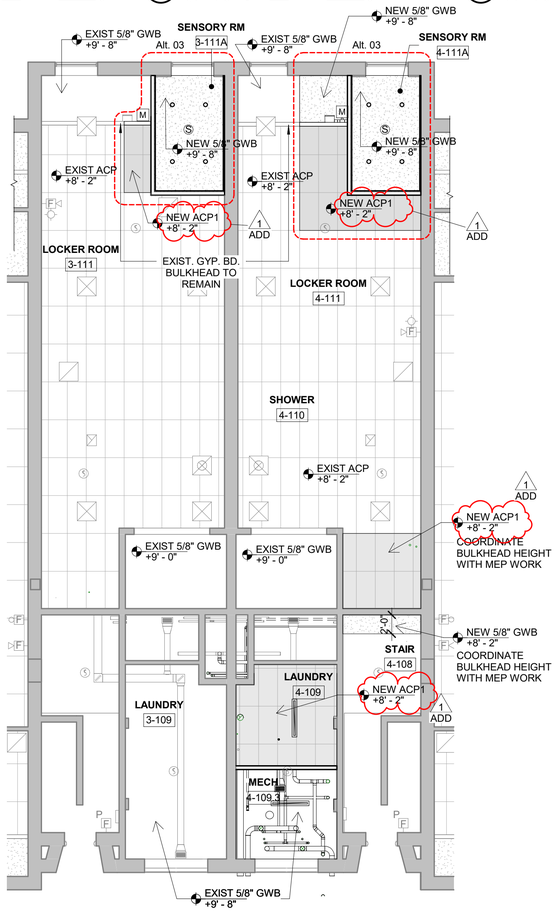
D2 ALT. 03 SENSORY ROOM - ENTRY DOOR
1/4" = 1'-0"



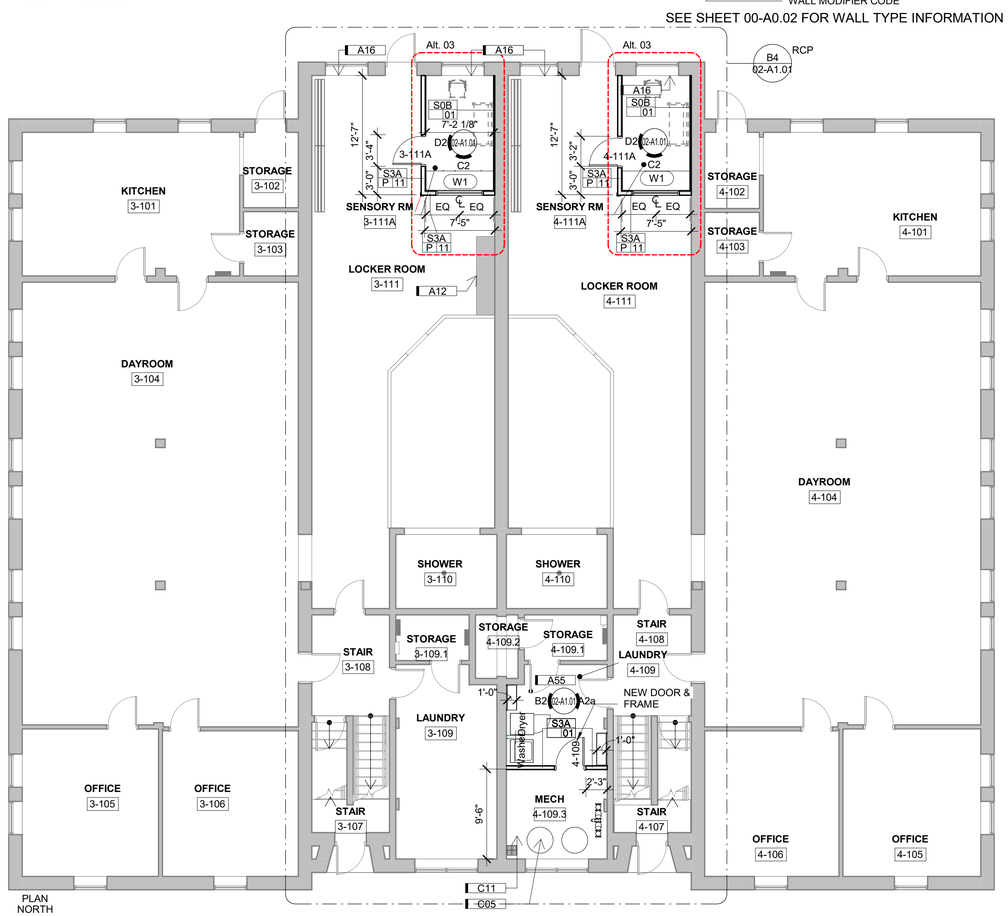
A3 SECOND FLOOR - RCP
1/8" = 1'-0"



1 SECOND FLOOR PLAN Copy 1
1/8" = 1'-0"



B4 GROUND FLOOR - REFLECTED CEILING PLAN
1/8" = 1'-0"



D4 GROUND FLOOR PLAN
1/8" = 1'-0"

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Autodesk Revit 2019

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ELDORA STS DECENTRALIZATION BUILDING PACKAGE COTTAGES 3 & 4

IOWA DEPARTMENT OF ADMINISTRATION SERVICES
3211 EDGINGTON AVE, ELDORA, IA 50627

ADD	DATE	DESCRIPTION
1	02-06-2020	ADDENDUM 01

DRAWN: TDS
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO.4175681
CLIENT NO: #8982.01

COTTAGE 3 & 4 FLOOR PLANS

02-A1.01

ARCHITECTURAL DEMOLITION NOTES

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK. NOTIFY ARCHITECT IN WRITING OF DISCREPANCIES BETWEEN WORK SHOWN IN THE DRAWINGS AND FIELD CONDITIONS ENCOUNTERED.
2. TO PROTECT OWNER AND CONTRACTOR, PHOTOGRAPHICALLY DOCUMENT EXISTING CONDITIONS TO REMAIN, PRIOR TO START OF DEMOLITION AND CONSTRUCTION ACTIVITIES. COPY ARCHITECT AND OWNER ON PHOTOGRAPHIC DOCUMENTATION.
3. OPEN FLAME EQUIPMENT IS NOT PERMITTED FOR REMOVAL OF EXISTING WORK WITHOUT SPECIFIC WRITTEN PERMISSION FROM THE OWNER.
4. COORDINATE WITH OWNER ANY ITEMS TO BE SALVAGED.
5. OWNER WILL REMOVE ALL NON-FIXED FURNISHINGS AND EQUIPMENT FROM THE CONSTRUCTION AREA PRIOR TO START OF CONSTRUCTION UNLESS NOTED OTHERWISE.
6. MAINTAIN BUILDING IN A WEATHER-TIGHT CONDITION. DO NOT PERFORM WORK ON EXTERIOR OPENINGS THAT CANNOT BE COMPLETED OR MADE WEATHER-TIGHT WHEN INCLEMENT WEATHER IS POSSIBLE.
7. REMOVE FLOOR MATERIALS TO THE EXTENT SHOWN OR DESCRIBED IN THE DRAWINGS. REMOVAL INCLUDES ADHESIVES, GROUTING BEDS, ANCHORING DEVICES, ASSOCIATED WALL BASE, ETC. CLEAN AND PREPARE SURFACES FOR INSTALLATION OF NEW FLOOR MATERIALS.
8. COORDINATE CUTTING AND PATCHING REQUIRED FOR DEMOLITION OR NEW CONSTRUCTION WITH OTHER TRADES.
9. ANY DEMOLITION OR REMOVAL INDICATED IS SHOWN IN GENERAL TO PROVIDE THE EXTENT OF DEMOLITION AND IS NOT TO BE CONSIDERED AS A RECORD DRAWING OF EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR IN FIELD VERIFICATION AND COORDINATION WITH THE ARCHITECT PRIOR TO COMMENCING WITH STATED WORK.
10. ALL CONSTRUCTION TO REMAIN WHICH IS AFFECTED BY DEMOLITION SHALL BE PATCHED, BE PROPERLY ALIGNED AND FINISHED SO AS TO LEAVE NO EVIDENCE OF PATCHING OR REPAIR. REPAIR OR REPLACE ANY EXISTING CONSTRUCTION, MATERIALS, OR EQUIPMENT DAMAGED DURING DEMOLITION TO LIKE NEW CONDITION.
11. THE CONTRACTOR IS TO RETURN SALVAGEABLE MATERIALS, INCLUDING BUT NOT LIMITED TO DOORS, FRAMES, HARDWARE, MARBLE, EQUIPMENT, AND LIGHTING FIXTURES TO THE OWNER AND STOCKPILE THEM IN AN APPROVED CONSTRUCTION AREA. DISPOSE OF THESE MATERIALS AFTER OWNER'S REVIEW AND APPROVAL.
12. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL FINISHES (TO REMAIN) IN THE PROJECT AREA. COORDINATE WITH ARCHITECT AND OWNER PRIOR TO DEMOLITION.
13. CONTRACTOR SHALL ENSURE THAT DUST AND DEBRIS ARE PREVENTED FROM ENTERING THE EXISTING HVAC SYSTEM AND ADJOINING SPACES WITH TEMPORARY BARRIERS AS REQUIRED PER THE BUILDING.
14. INDICATION OF NEW MATERIALS SHALL INFER ALL REMOVAL OR DEMOLITION AND PATCHING REQUIRED OF EXISTING MATERIALS AND SUBSTRATES FOR PROPER ALIGNMENT. MATCH EXISTING FINISHES.

DEMO KEYNOTE LEGEND	
KEY	NOTE
A09	COORDINATE WITH NEW MECHANICAL EQUIPMENT'S LOCATION AND SIZE. PATCH WALLS TO MATCH CONTIGUOUS CONSTRUCTION AND FINISHES. PAINT WALLS. COORDINATE WITH MECHANICAL, ELECTRICAL, AND PLUMBING SCOPES.
A30	DEMO EXISTING CEILING TO ACCOMMODATE NEW MECHANICAL DUCTWORK.
A56	RELOCATE EXISTING EXIT SIGN TO FACE OF NEW BULKHEAD.
AD31	DEMOLISH EXISTING TUB. CAP LINES. SEE MECH FOR SCOPE.
AD32	DEMOLISH EXISTING SHELVES.
AD33	DEMOLISH EXISTING TOILET. CAP LINES AS REQUIRED.

1 ADD

DEMOLITION PLAN SYMBOLS LEGEND

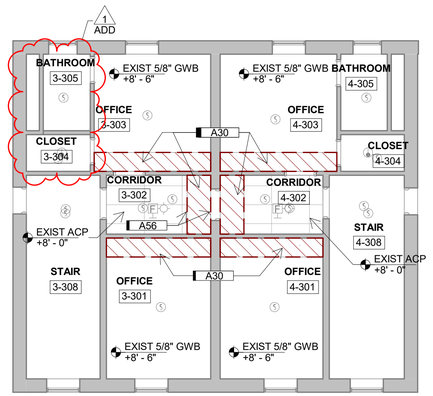
EXISTING WALL PARTITIONS

TEMPORARY WALL PARTITIONS

DEMOLISHED WALL PARTITIONS

EXISTING DOOR

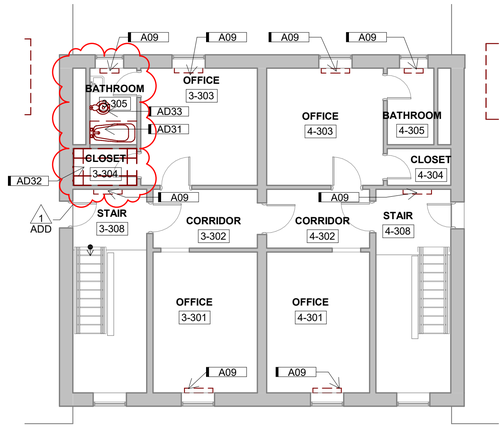
DEMOLISHED DOOR



PLAN NORTH — TRUE NORTH

4C SECOND FLOOR - REFLECTED CEILING DEMO PLAN

1/8" = 1'-0" 0 12'



PLAN NORTH — TRUE NORTH

4E SECOND FLOOR DEMO PLAN

1/8" = 1'-0" 0 12'

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ELDORA STS DECENTRALIZATION BUILDING PACKAGE COTTAGES 3 & 4

IOWA DEPARTMENT OF ADMINISTRATION SERVICES
3211 EDGINGTON AVE, ELDORA, IA 50627

ADD 1	02-06-2020	ADDENDUM 01

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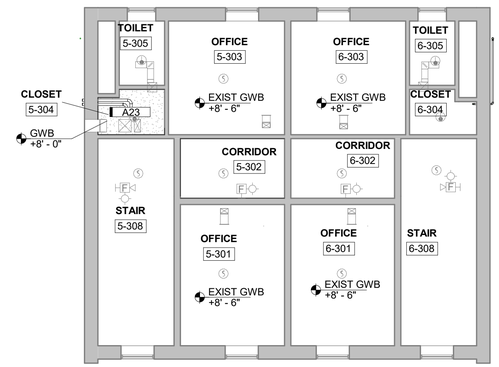
PROJECT NO: 4175681
CLIENT NO: #8982.01

SECOND FLOOR - REFLECTED CEILING DEMOLITION PLAN

02-AD.02



PLAN NORTH

TRUE NORTH

B2 SECOND FLOOR CEILING PLAN

1/8" = 1'-0" 0 12'

REFLECTED CEILING PLAN SYMBOLS LEGEND

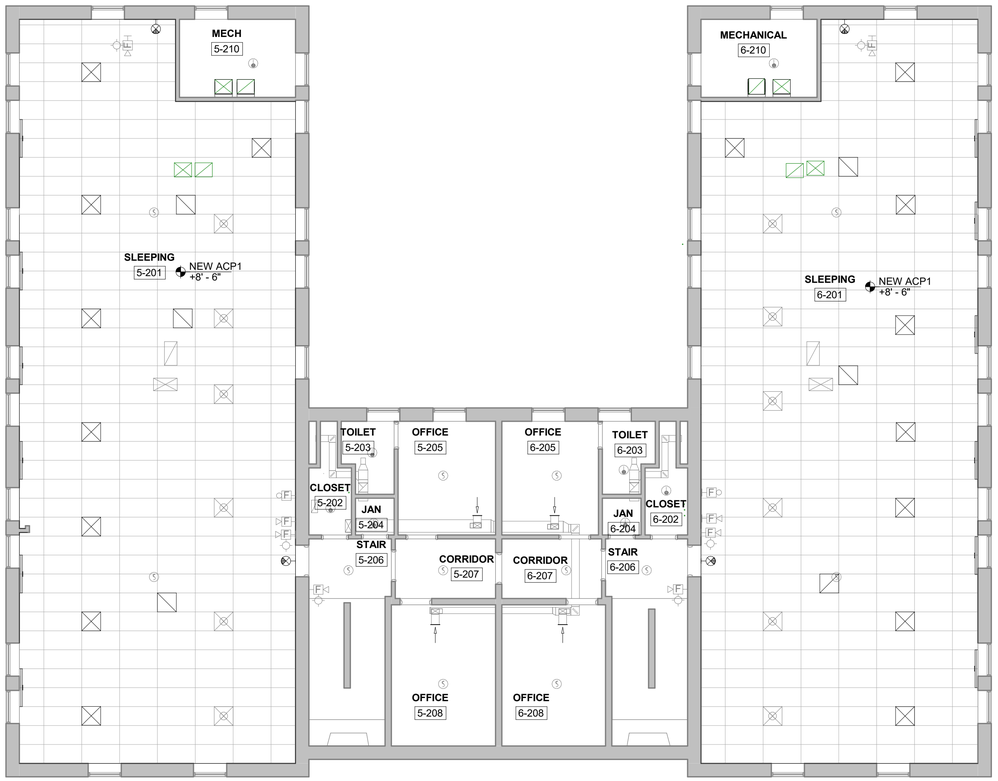
- ACP-1 / +8'-0" — CEILING MATERIAL DESIGNATION / CEILING HEIGHT
- GYPSUM BOARD CEILING/ SOFFIT
- ACOUSTICAL CEILING PANEL SYSTEM
- SURFACE LIGHT
- RECESSED LIGHT
- SURFACE LIGHT
- SUSPENDED OR PENDANT LIGHT
- RECESSED LIGHT
- STRIP LIGHT
- COVE LIGHT
- E — EXIT SIGN
- ACCESS PANEL
- RETURN AIR GRILLE
- SUPPLY AIR DIFFUSER
- EXHAUST AIR GRILLE
- SPEAKER
- SMOKE DETECTOR

CODE KEYNOTE LEGEND	
KEY	NOTE
C11	BOILER ROOM RATING OF 1-HOUR NOT REQUIRED: PER IBC TABLE 509 INCIDENTAL USES. BOILER IS UNDER 10 HP.

CEILING KEYNOTE LEGEND	
KEY	NOTE
A23	NEW GYP. BD. CEILING TO ACCOMMODATE NEW MECHANICAL WORK.
A57	PROVIDE ACCESS PANEL.

CEILINGS NOTES

1. NOTIFY ARCHITECT OF INADEQUATE CLEARANCES FOR CEILING LAYOUT PRIOR TO COMMENCING WORK.
2. LOCATIONS OF LIGHT FIXTURES, DIFFUSERS, ETC. SHALL BE AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS AND DETAILS. NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO PROCEEDING WITH CONSTRUCTION. REFER TO DRAWINGS AND SPECIFICATIONS OF ALL TRADES FOR SYSTEM DESIGN AND ADDITIONAL INFORMATION.
3. COORDINATE WITH ALL TRADES TO CONFIRM THEIR WORK CAN BE INSTALLED TO ACHIEVE CEILING HEIGHTS AS SHOWN. TRADE PRIORITY SHALL BE AS FOLLOWS UNLESS DIRECTED OTHERWISE BY THE ARCHITECT.
   - ELECTRICAL LIGHTING FIXTURES
   - MECHANICAL GRILLES AND DIFFUSERS
   - MECHANICAL DUCTWORK
   - ELECTRICAL CONDUIT
   - PIPING SYSTEMS
4. COORDINATE WITH ALL TRADES TO CONFIRM THE LOCATION OF ACCESS PANELS WITH ASSOCIATED INSTALLED EQUIPMENT. INFORM ARCHITECT OF PROPOSED LOCATIONS PRIOR TO INSTALLATION AND CONSTRUCTION OF NEW WORK.
5. ALL CEILING LIGHT FIXTURES TO BE CENTERED ON CEILING PANELS UNLESS SHOWN OTHERWISE. GRID OR PANEL IS TO BE CENTERED IN ROOM UNLESS SHOWN AND DIMENSIONED OTHERWISE.
6. ALL CEILING PANELS TO MATCH EXISTING. U.N.O.
7. SOFFITS TO MATCH EXISTING GYP. BD. TEXTURE

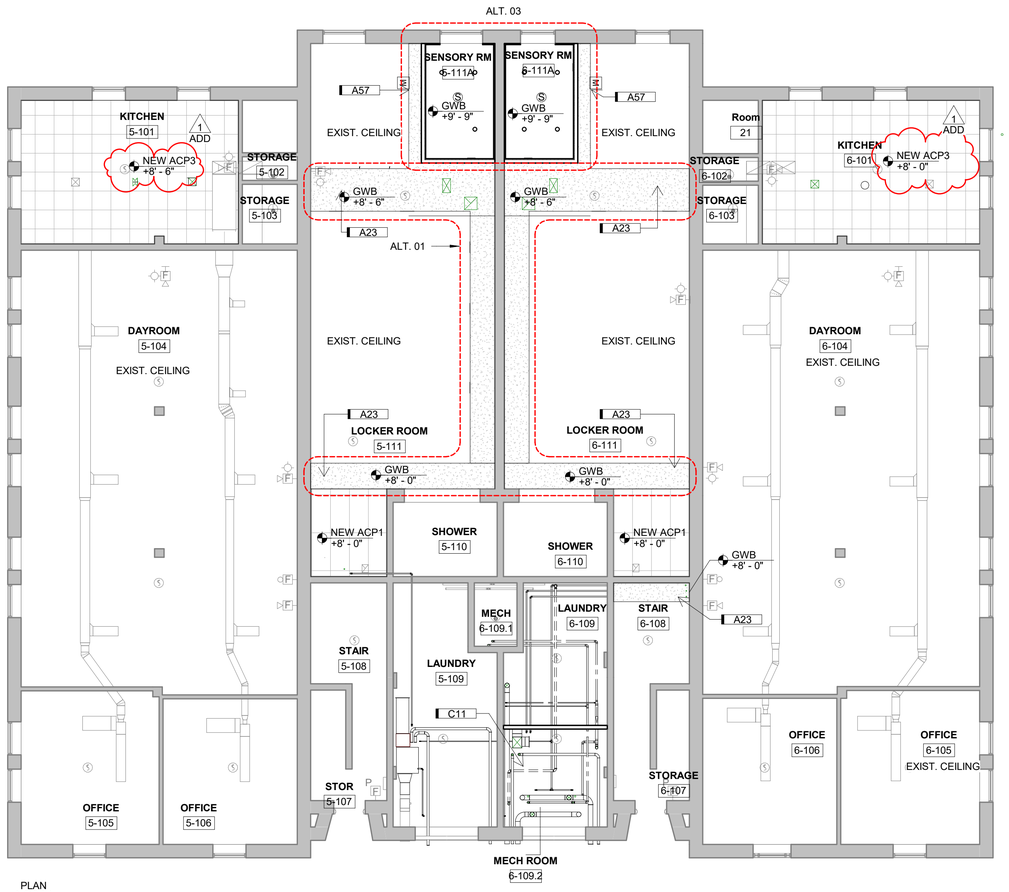


PLAN NORTH

TRUE NORTH

A4 FIRST FLOOR CEILING PLAN

1/8" = 1'-0" 0 12'



PLAN NORTH

TRUE NORTH

D4 GROUND FLOOR CEILING PLAN

1/8" = 1'-0" 0 12'

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ELDORA STS DECENTRALIZATION BUILDING PACKAGE COTTAGES 5 & RECEIVING

IOWA DEPARTMENT OF ADMINISTRATION SERVICES

3211 EDGINGTON AVE, ELDORA, IA 50627

ADD	DATE	DESCRIPTION
1	02-06-2020	ADDENDUM 01

DRAWN: TDS
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO.4175681
CLIENT NO: #6982.01

COTTAGE 5 & RECEIVING CEILING PLANS

03-A1.02

REFLECTED CEILING PLAN SYMBOLS LEGEND

ACP-1 / +8'-0" — CEILING MATERIAL DESIGNATION / CEILING HEIGHT

GYPSUM BOARD CEILING/ SOFFIT - SEE MATERIAL FINISH LEGEND

ACOUSTICAL CEILING PANEL SYSTEM - SEE MATERIAL FINISH LEGEND

SURFACE LIGHT

RECESSED LIGHT

SURFACE LIGHT

SUSPENDED OR PENDANT LIGHT

RECESSED LIGHT

STRIP LIGHT

COVE LIGHT

E — EXIT SIGN

ACCESS PANEL

RETURN AIR GRILLE

SUPPLY AIR DIFFUSER

EXHAUST AIR GRILLE

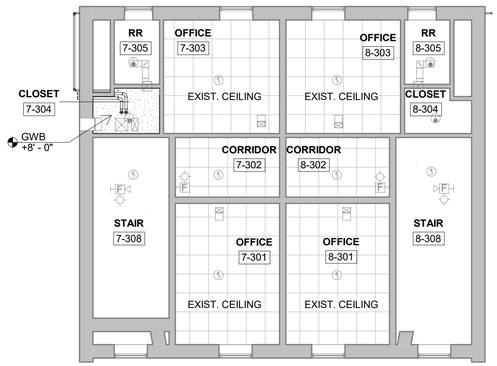
SPEAKER

P — SMOKE DETECTOR

CEILING KEYNOTE LEGEND	
KEY	NOTE
A23	NEW GYP. BD. CEILING TO ACCOMMODATE NEW MECHANICAL WORK.

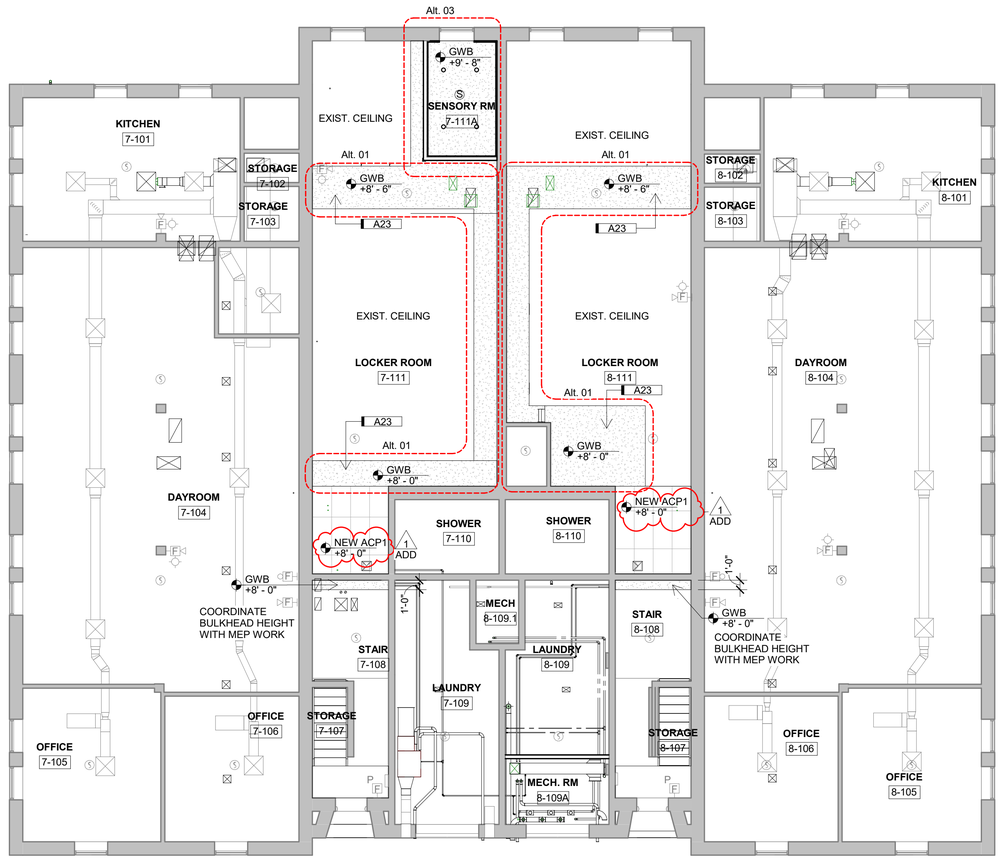
CEILINGS NOTES

1. NOTIFY ARCHITECT OF INADEQUATE CLEARANCES FOR CEILING LAYOUT PRIOR TO COMMENCING WORK.
2. LOCATIONS OF LIGHT FIXTURES, DIFFUSERS, ETC. SHALL BE AS SHOWN ON THE ARCHITECTURAL REFLECTED CEILING PLANS AND DETAILS. NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO PROCEEDING WITH CONSTRUCTION. REFER TO DRAWINGS AND SPECIFICATIONS OF ALL TRADES FOR SYSTEM DESIGN AND ADDITIONAL INFORMATION.
3. COORDINATE WITH ALL TRADES TO CONFIRM THEIR WORK CAN BE INSTALLED TO ACHIEVE CEILING HEIGHTS AS SHOWN. TRADE PRIORITY SHALL BE AS FOLLOWS UNLESS DIRECTED OTHERWISE BY THE ARCHITECT.
   - ELECTRICAL LIGHTING FIXTURES
   - MECHANICAL GRILLES AND DIFFUSERS
   - MECHANICAL DUCTWORK
   - ELECTRICAL CONDUIT
   - PIPING SYSTEMS
4. COORDINATE WITH ALL TRADES TO CONFIRM THE LOCATION OF ACCESS PANELS WITH ASSOCIATED INSTALLED EQUIPMENT. INFORM ARCHITECT OF PROPOSED LOCATIONS PRIOR TO INSTALLATION AND CONSTRUCTION OF NEW WORK.
5. ALL CEILING LIGHT FIXTURES TO BE CENTERED ON CEILING PANELS UNLESS SHOWN OTHERWISE. GRID OR PANEL IS TO BE CENTERED IN ROOM UNLESS SHOWN AND DIMENSIONED OTHERWISE.
6. ALL CEILING PANELS TO **MATCH EXISTING,** UNLESS NOTED OTHERWISE
7. SOFFITS TO **MATCH EXISTING GYP. BD TEXTURE**



PLAN NORTH — TRUE NORTH — B2 SECOND FLOOR
1/8" = 1'-0" 0 12'

PLAN NORTH — TRUE NORTH — A4 FIRST FLOOR CEILING PLAN
1/8" = 1'-0" 0 12'



PLAN NORTH — TRUE NORTH — D4 GROUND FLOOR CEILING PLAN
1/8" = 1'-0" 0 12'

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ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
COTTAGE 7,8
IOWA DEPARTMENT OF ADMINISTRATION SERVICES
3211 EDGINGTON AVE, ELDORA, IA 50627

ADD	1	02-06-2020	ADDENDUM 01

DRAWN: TDS
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO.:4175681
FIELD BOOK:
CLIENT NO: #9060.00

COTTAGE 7 & 8
CEILING PLANS

04-A1.02

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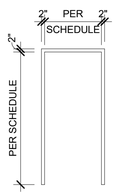
Autodesk Revit 2019

ARCHITECTURAL DEMOLITION NOTES

1. FIELD VERIFY EXISTING CONDITIONS PRIOR TO START OF DEMOLITION WORK. NOTIFY ARCHITECT IN WRITING OF DISCREPANCIES BETWEEN WORK SHOWN IN THE DRAWINGS AND FIELD CONDITIONS ENCOUNTERED.
2. TO PROTECT OWNER AND CONTRACTOR, PHOTOGRAPHICALLY DOCUMENT EXISTING CONDITIONS TO REMAIN, PRIOR TO START OF DEMOLITION AND CONSTRUCTION ACTIVITIES. COPY ARCHITECT AND OWNER ON PHOTOGRAPHIC DOCUMENTATION.
3. OPEN FLAME EQUIPMENT IS NOT PERMITTED FOR REMOVAL OF EXISTING WORK WITHOUT SPECIFIC WRITTEN PERMISSION FROM THE OWNER.
4. COORDINATE WITH OWNER ANY ITEMS TO BE SALVAGED.
5. OWNER WILL REMOVE ALL NON-FIXED FURNISHINGS AND EQUIPMENT FROM THE CONSTRUCTION AREA PRIOR TO START OF CONSTRUCTION UNLESS NOTED OTHERWISE.
6. MAINTAIN BUILDING IN A WEATHER-TIGHT CONDITION. DO NOT PERFORM WORK ON EXTERIOR OPENINGS THAT CANNOT BE COMPLETED OR MADE WEATHER-TIGHT WHEN INCLEMENT WEATHER IS POSSIBLE.
7. REMOVE FLOOR MATERIALS TO THE EXTENT SHOWN OR DESCRIBED IN THE DRAWINGS. REMOVAL INCLUDES ADHESIVES, GROUTING BEDS, ANCHORING DEVICES, ASSOCIATED WALL BASE, ETC. CLEAN AND PREPARE SURFACES FOR INSTALLATION OF NEW FLOOR MATERIALS.
8. COORDINATE CUTTING AND PATCHING REQUIRED FOR DEMOLITION OR NEW CONSTRUCTION WITH OTHER TRADES.
9. ANY DEMOLITION OR REMOVAL INDICATED IS SHOWN IN GENERAL TO PROVIDE THE EXTENT OF DEMOLITION AND IS NOT TO BE CONSIDERED AS A RECORD DRAWING OF EXISTING CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR IN FIELD VERIFICATION AND COORDINATION WITH THE ARCHITECT PRIOR TO COMMENCING WITH STATED WORK.
10. ALL CONSTRUCTION TO REMAIN WHICH IS AFFECTED BY DEMOLITION SHALL BE PATCHED, BE PROPERLY ALIGNED AND FINISHED SO AS TO LEAVE NO EVIDENCE OF PATCHING OR REPAIR. REPAIR OR REPLACE ANY EXISTING CONSTRUCTION, MATERIALS, OR EQUIPMENT DAMAGED DURING DEMOLITION TO LIKE NEW CONDITION.
11. THE CONTRACTOR IS TO RETURN SALVAGEABLE MATERIALS, INCLUDING BUT NOT LIMITED TO DOORS, FRAMES, HARDWARE, MARBLE, EQUIPMENT, AND LIGHTING FIXTURES TO THE OWNER AND STOCKPILE THEM IN AN APPROVED CONSTRUCTION AREA. DISPOSE OF THESE MATERIALS AFTER OWNER'S REVIEW AND APPROVAL.
12. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL FINISHES (TO REMAIN) IN THE PROJECT AREA. COORDINATE WITH ARCHITECT AND OWNER PRIOR TO DEMOLITION.
13. CONTRACTOR SHALL ENSURE THAT DUST AND DEBRIS ARE PREVENTED FROM ENTERING THE EXISTING HVAC SYSTEM AND ADJOINING SPACES WITH TEMPORARY BARRIERS AS REQUIRED PER THE BUILDING.
14. INDICATION OF NEW MATERIALS SHALL INFER ALL REMOVAL OR DEMOLITION AND PATCHING REQUIRED OF EXISTING MATERIALS AND SUBSTRATES FOR PROPER ALIGNMENT. MATCH EXISTING FINISHES.

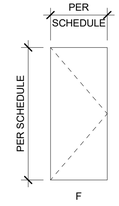
DOOR AND FRAME SCHEDULE

		FINISHED OPENING SIZE		LEAF				FRAME				
MARK	ROOM NAME	WIDTH	HEIGHT	THICK	TYPE	MTRL	GLAZ	MTRL-TYPE	GLAZ	HDWR	RATING	REMARKS
002	MECHANICAL	3' - 0"	7' - 0"	1 3/4"	F	HM	-	HM-00 : F2	-		-	

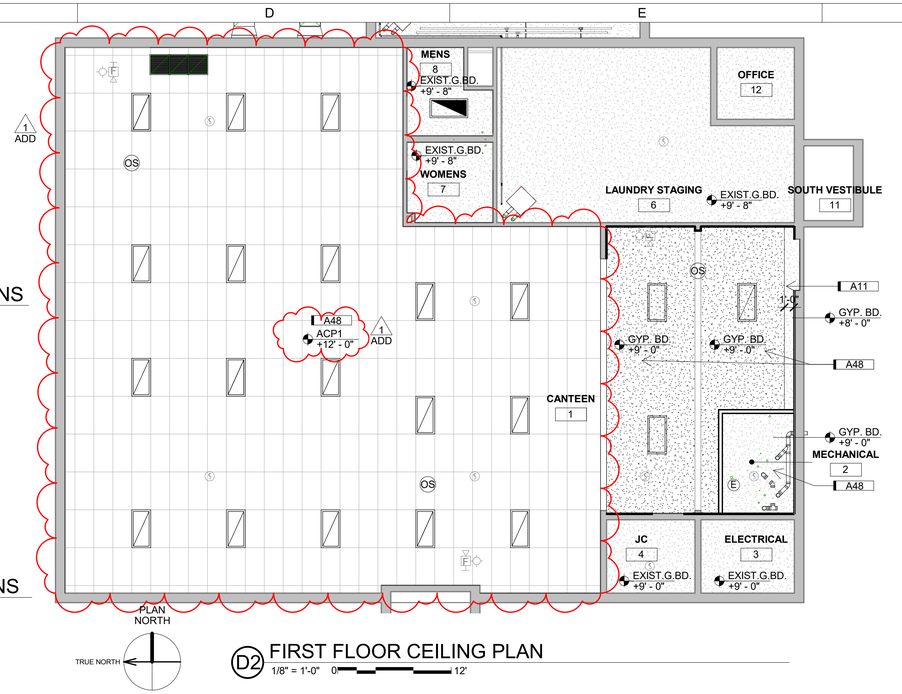


HM-00 : V2
HOLLOW METAL FRAME
WITH 0 TRANSOM AND 0 SIDELIGHTS

C1 DOOR FRAME ELEVATIONS
1/4" = 1'-0" 0 6'



C2 DOOR PANEL ELEVATIONS
1/4" = 1'-0" 0 6'



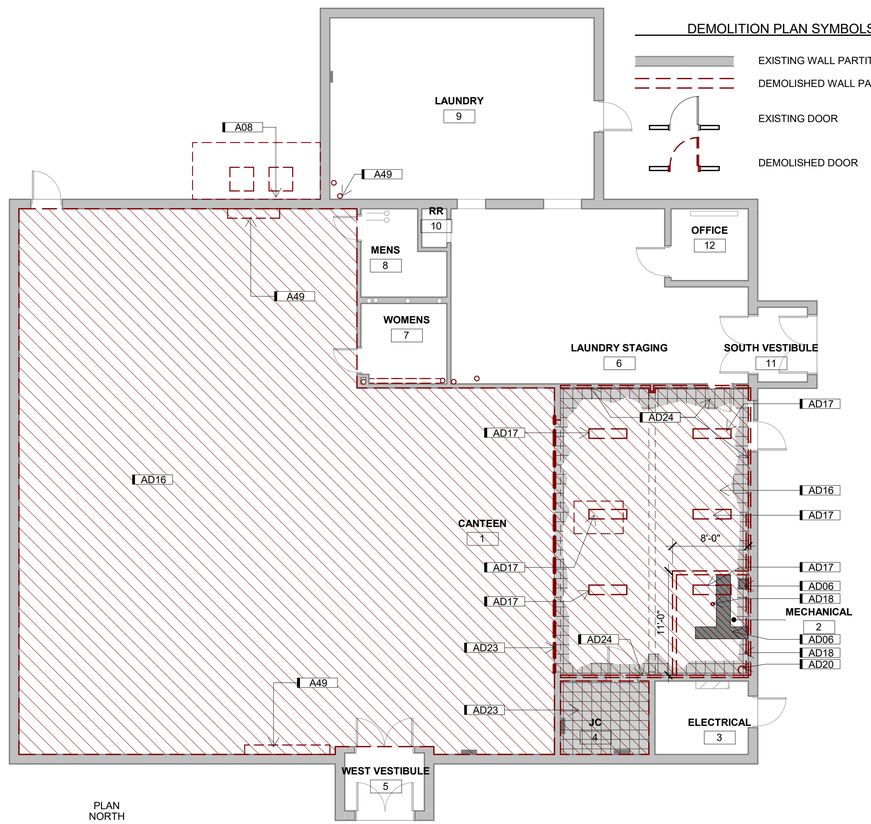
D2 FIRST FLOOR CEILING PLAN
1/8" = 1'-0" 0 12'

CODE KEYNOTE LEGEND

KEY	NOTE
C11	BOILER ROOM RATING OF 1-HOUR NOT REQUIRED: PER IBC TABLE 509 INCIDENTAL USES. BOILER IS UNDER 10 HP.

ARCHITECTURAL KEYNOTE LEGEND

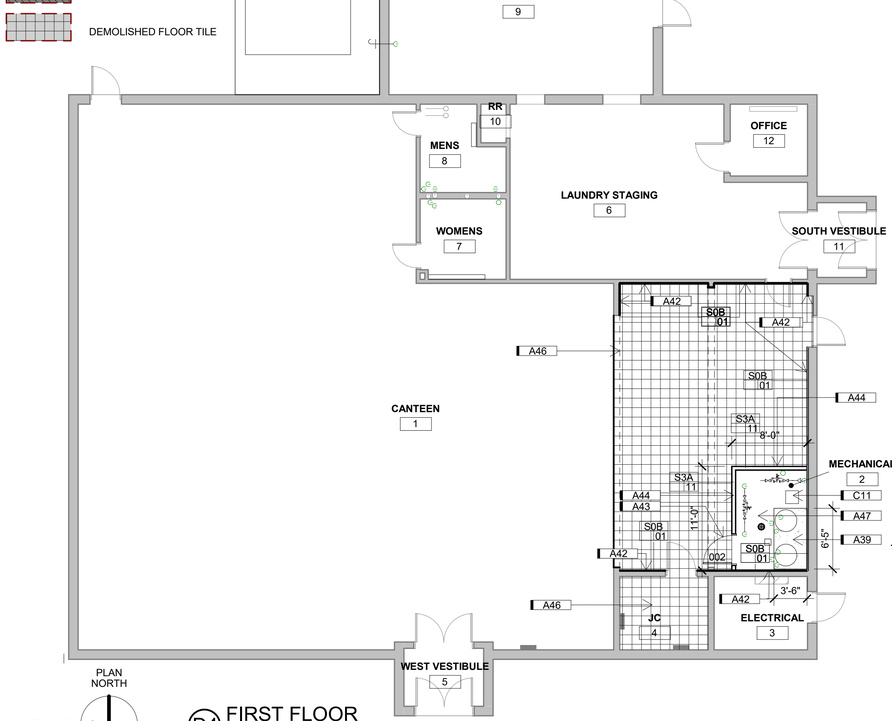
KEY	NOTE
A08	PATCH WALLS TO MATCH ADJACENT CONSTRUCTION AND FINISHES WHERE MECHANICAL UNITS AND PIPING ARE DEMOLISHED. PAINT WALLS. COORDINATE WITH MECHANICAL, ELECTRICAL, AND PLUMBING SCOPES.
A11	NEW GYP. BD. BULKHEAD.
A39	NEW 4" CONCRETE EQUIPMENT PAD. SEE STRUCTURAL SHEET 00-S0.01
A42	NEW WALL(S).
A43	NEW DOOR AND FRAME.
A44	NEW WALL(S), PAINT INTERIOR AND EXTERIOR OF MECHANICAL ROOM 2 WITH LATEX PAINT TO MATCH EXISTING FILED COLOR WHICH LOCATED ABOVE ADJACENT BORDER.
A46	REPLACE REMOVED TILE WITH VINYL COMPOSITE TILE IN A FORMAT TO MIMIC EXISTING TILE COLOR AND SIZE. REINSTALL OR REPAIR EXISTING BASE ALONG WALLS.
A47	FLOOR FINISH TO BE SEALED CONCRETE.
A48	PROVIDE INSULATION OVER NEW CEILINGS, SEE SPECIFICATION.
A49	PATCH FLOOR TO MATCH ADJACENT CONSTRUCTION AND FINISHES WHERE MECHANICAL UNITS AND PIPING ARE DEMOLISHED. COORDINATE WITH MECHANICAL, ELECTRICAL, AND PLUMBING SCOPES.
AD06	DEMOLISH CONCRETE SLAB AS REQUIRED FOR NEW UNDERGROUND PIPING. HOLD DEMO AT LEAST 4" FROM WALL TO PROTECT WALL TILE. CORE DRILL THROUGH FOUNDATION WALL FOR NEW PIPE. DO NOT DRILL THROUGH FOOTING. CONTACT ARCHITECT FOR DIRECTION IF FOOTING ELEVATION CONFLICTS WITH PIPE. SEE MECHANICAL DRAWINGS FOR UNDERGROUND PIPING.
AD16	DEMOLISH EXISTING CEILING. COORDINATE WITH ASBESTOS ABATEMENT SCOPE.
AD17	DEMOLISH EXISTING LIGHT FIXTURES. SALVAGE FOR OWNER'S REUSE.
AD18	REMOVE SMOKE DETECTOR, SALVAGE FOR OWNER.
AD20	REMOVE OCCUPANCY SENSOR.
AD23	COORDINATE FLOOR TILE DEMOLITION WITH ABATEMENT. DEMOLISH UP TO TRANSITION BETWEEN THE TWO EXISING TYPES OF TILE.
AD24	REFER TO ASBESTOS ABATEMENT SCOPE. WALL FINISH TO BE ABATED.



A4 FIRST FLOOR DEMOLITION PLAN
1/8" = 1'-0" 0 12'

DEMOLITION PLAN SYMBOLS LEGEND

- EXISTING WALL PARTITIONS
- DEMOLISHED WALL PARTITIONS
- EXISTING DOOR
- DEMOLISHED DOOR
- DEMOLISHED CEILING
- DEMOLISHED FLOOR
- DEMOLISHED FLOOR TILE

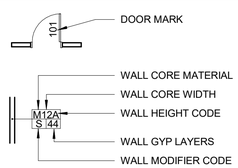


D4 FIRST FLOOR
1/8" = 1'-0" 0 12'

ARCHITECTURAL CONSTRUCTION NOTES

1. REFER TO DRAWINGS OF ALL TRADES FOR ADDITIONAL INFORMATION REGARDING ITEMS PENETRATING FLOORS, WALLS, AND CEILINGS.
2. ALL NEW PARTITIONS ARE DIMENSIONED TO FACE OF STUD, MASONRY, OR CONCRETE COMPONENT UNLESS NOTED OTHERWISE. DIMENSIONS TO EXISTING ELEMENTS ARE TO EXPOSED FACE.
3. ALL DOORS IN STUD WALL CONSTRUCTION ARE TO BE LOCATED WITH EDGE OF FRAME 4" FROM FACE OF ADJACENT PARTITION UNLESS NOTED OTHERWISE. DIMENSIONS LOCATING DOORS NOT DIRECTLY ADJACENT TO WALLS ARE GIVEN TO OUTSIDE EDGE OF FRAME.
4. ALL ANGLED PARTITIONS SHOWN SHALL BE AT A 45° ANGLE UNLESS NOTED OTHERWISE.
5. ARCHITECTURAL DIMENSIONS AND DESIGN INTENT ARE INDICATED ON ARCHITECTURAL DRAWINGS. IF THE INSTALLATION OF EQUIPMENT FROM OTHER TRADES INTERFERES WITH COMPLIANCE OF THE DESIGN INTENT, NOTIFY THE ARCHITECT BEFORE PROCEEDING.
6. DO NOT SCALE DRAWINGS; DIMENSIONS GOVERN LOCATION OF BUILDING ELEMENTS. IF DIMENSIONS ARE NOT AVAILABLE, CONTACT THE ARCHITECT.
7. WHEN DIMENSIONS ON SMALL SCALE DRAWINGS CONFLICT WITH THOSE ON LARGE SCALE DRAWINGS, THE LARGE SCALE DRAWINGS GOVERN.

FLOOR PLAN SYMBOLS LEGEND



SEE SHEET 00-A0.02 FOR WALL TYPE INFORMATION

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ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
CANTEEN
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD	1	02-06-2020	ADDENDUM 01

DRAWN: TDS
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO.4175681
CLIENT NO: #8982.01

CANTEEN FIRST FLOOR PLAN

10-A1.01

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Autodesk Revit 2019

MECHANICAL GENERAL NOTES

1. LIGHT LINES INDICATE EXISTING PIPING, DUCTWORK, EQUIPMENT, ETC. TO REMAIN. BOLD LINES INDICATE PIPING, DUCTWORK, EQUIPMENT ETC. TO BE INSTALLED BY THIS CONTRACT UNLESS NOTED OTHERWISE.
2. PIPING IS SHOWN IN SCHEMATIC FORM, ROUTE AS REQUIRED FOR CLEARANCE. VERIFY ROUTING AND CLEARANCES AND COORDINATE WITH OTHER TRADES PRIOR TO FABRICATION. THE CONTRACTOR SHALL PROVIDE COMPLETE FULLY FUNCTIONAL SYSTEMS.
3. COORDINATE ROUGH-IN AND FINAL LOCATION OF DUCTWORK AND PIPING WITH LIGHTING, STRUCTURE, SPRINKLERS, ETC. PROVIDE OFFSETS AND/OR EASEMENTS, OR RELOCATE AS REQUIRED AVOIDING CONFLICTS WITH WORK OF OTHER TRADES.
4. BREAK CONNECTIONS REQUIRED AT ALL MAJOR EQUIPMENT AND PIPING ITEMS THAT REQUIRE REMOVAL FOR MAINTENANCE.
5. PIPE REDUCTIONS ON HORIZONTAL PIPING GOING FROM LARGER TO SMALLER SHALL BE MADE WITH ECCENTRIC REDUCERS: TOP FLAT FOR LIQUID SYSTEMS, CONCENTRIC REDUCERS MAY BE USED FOR FLOW GOING FROM SMALL TO LARGER SIZE PIPE.
6. FIRE SAFE ALL PIPE PENETRATIONS PER UL AT RATED WALLS.
7. NEW FLOOR/WALL/CEILING PENETRATIONS REQUIRED FOR MECHANICAL PIPING INSTALLATION SHALL BE CLEANLY BORED AT RIGHT ANGLES. AS NEW PIPING IS INSTALLED, NEW PIPING PENETRATIONS SHALL BE NEATLY CAULKED TO FILL VOID. WALL PENETRATIONS SHALL BE FINISHED WITH ESCUTCHEONS.
8. ALL NEW PIPING EXPOSED IN OCCUPIED SPACES SHALL HAVE PVC JACKETS INSTALLED OVER THE PIPING INSULATION. ANY PIPING REQUIRED TO BE EXPOSED SHALL BE INSTALLED VERTICALLY OR HORIZONTALLY IN LEASE VISIBLE LOCATION.
9. ALL NEW EQUIPMENT AND ACCESSORIES SHALL BE INSTALLED SO AS TO BE EASILY ACCESSIBLE.
10. CONTRACTOR SHALL PATCH/REPAIR ALL UNUSED OPENINGS AND MODIFIED FINISH SURFACES. PATCHING SHALL MATCH MATERIALS, FINISH, AND TEXTURE OF ADJACENT SURFACES.
11. ALL WORK WITHIN THE CONTRACT DOCUMENTS, WHICH INCLUDE THIS DRAWING, SHALL BE COMPLETED IN A SAFE WORKMANLIKE MANNER AND IN ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL, AND NATIONAL CODES, REGULATIONS AND ORDINANCES. IF ANY CONFLICTS ARISE BETWEEN THE CONTRACT DOCUMENTS AND THE APPLICABLE CODES, REGULATIONS OR ORDINANCE, THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE ALL WORK CONFORM TO THE STRICTER OF SAID REQUIREMENTS.
12. DO NOT ROUTE ANY COMPONENTS ABOVE ELECTRICAL EQUIPMENT. MAINTAIN ALL CODE REQUIRED CLEARANCES.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS AS REQUIRED FOR ELECTRICAL, FIRE PROTECTION, PLUMBING, MECHANICAL AND BACKFLOW PREVENTION INSTALLATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE BOTH A COMPLETE AND COMPLIANT INSTALLATION AS MAY BE DETERMINED BY THE AUTHORITY(S) HAVING JURISDICTION.
14. CONTRACTOR SHALL NOT PROCURE OR FABRICATE ANY PIPING, DUCTWORK OR OTHER EQUIPMENT WITHOUT FIRST VERIFYING ALL DIMENSIONS AND CONDITIONS WHETHER CURRENTLY EXISTING OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, INCLUDING ANY REQUIRED REWORK.
15. MAINTAIN ALL MANUFACTURER RECOMMENDED EQUIPMENT SERVICE AND SAFETY CLEARANCES. DO NOT LOCATE ANY EQUIPMENT OR RUN MATERIALS ABOVE ANY ELECTRICAL PANELS OR SWITCHGEAR. MAINTAIN ALL NFPA/NEC CODE REQUIRED CLEARANCES.
16. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING, SCHEDULING AND SEQUENCING OF THEIR WORK WITH ALL OTHER TRADES. PROVIDE OFFSETS, EASEMENTS, OR RELOCATE TO AVOID CONFLICTS WITH WORK OF OTHER TRADES. FURNISH SUFFICIENT RESOURCES TO MEET ALL PROJECT MILESTONES AND DEADLINES.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE WATERTIGHT AND WEATHER-PROOF INTEGRITY OF ROOFS, WALLS AND FLOORS DURING CONSTRUCTION. EACH TRADE SHALL LOCATE/DIMENSION/COORDINATE THEIR ROOF, FLOOR AND WALL OPENINGS WITH THE GC OR CONSTRUCTION MANAGER.

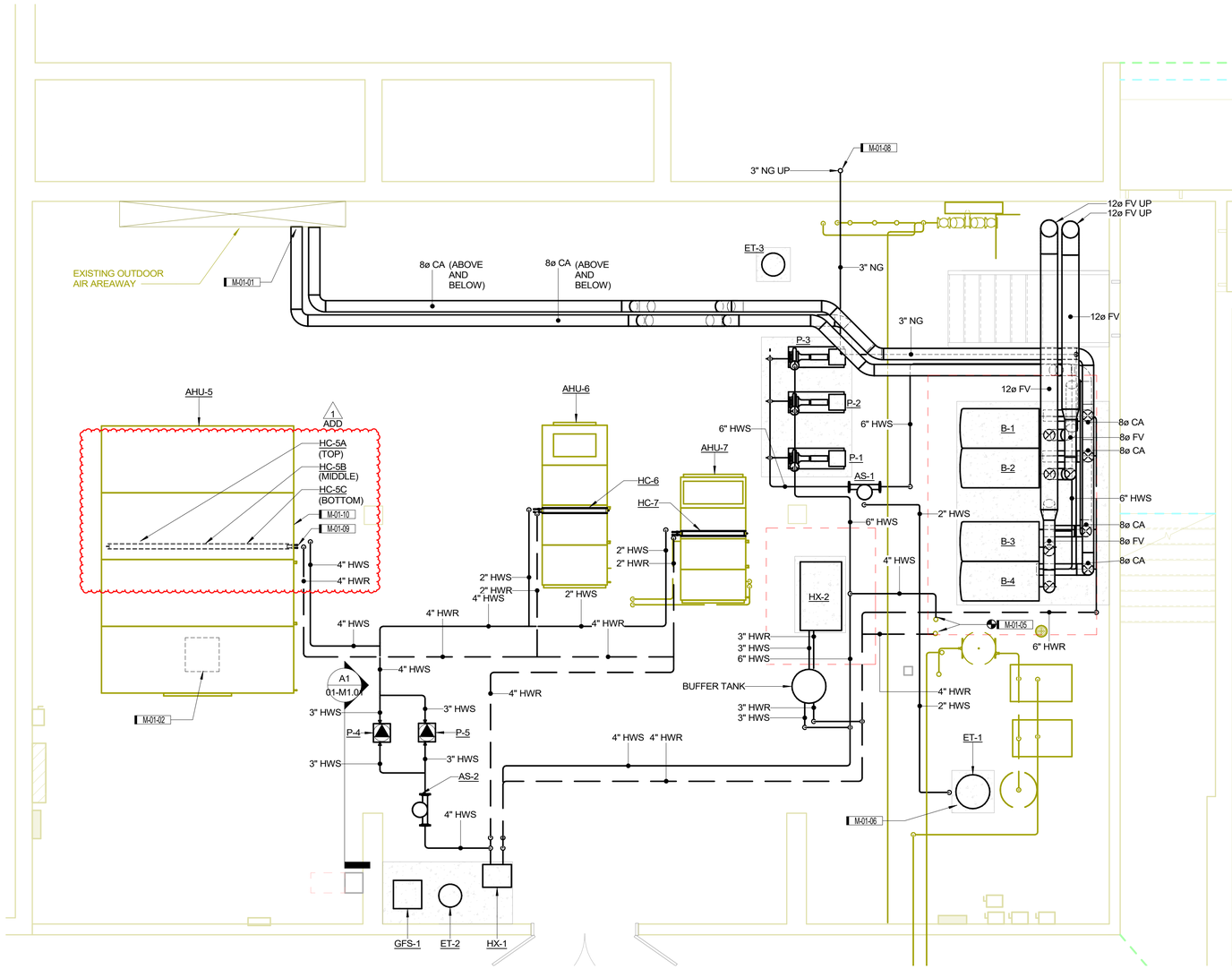
KEYNOTE LEGEND

KEY	NOTE
M-01-01	CONNECT COMBUSTION AIR FOR BOILERS TO EXISTING OUTDOOR AIR PLENUM.
M-01-02	REPLACE MOTOR WITH NEW 25 HP MOTOR. SEE SF-1 IN FAN SCHEDULE ON 01-M6.00.
M-01-05	CONNECT TO EXISTING HWS/HWR LINES.
M-01-06	SALVAGE AND RELOCATE EXISTING EXPANSION TANK. CONNECT EXPANSION TANK TO NEW AIR SEPARATOR PER DETAIL.
M-01-08	NATURAL GAS UP TO GRADE. NEW NATURAL GAS METER PROVIDED AND INSTALLED BY LOCAL UTILITY COMPANY. ALL WORK DOWNSTREAM OF METER BY MECHANICAL CONTRACTOR.
M-01-09	INSTALL NEW COIL BANK IN SECOND BLANK SECTION TO KEEP COIL ACCESS CLEAR OF EXISTING COLUMN.
M-01-10	INFILL ALL OPENINGS IN EXISTING COIL SECTION ONCE COIL IS REMOVED. FILL WITH 2" FIBERGLASS INSULATED AND SHEET METAL TO MATCH THE EXISTING CONSTRUCTION. SEAL ALL NEW JOINTS AIRTIGHT. SEALING MATERIALS SHALL BE ASTM E 83 RATED FOR FIRE & SMOKE SPREAD.

1 ADD

A1 PUMP SECTION VIEW
1/4" = 1'-0"

NORTH



B1 BASEMENT MECHANICAL ROOM
1/4" = 1'-0"

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ADD	1	02-06-2020	ADDENDUM 01

DRAWN: JDB
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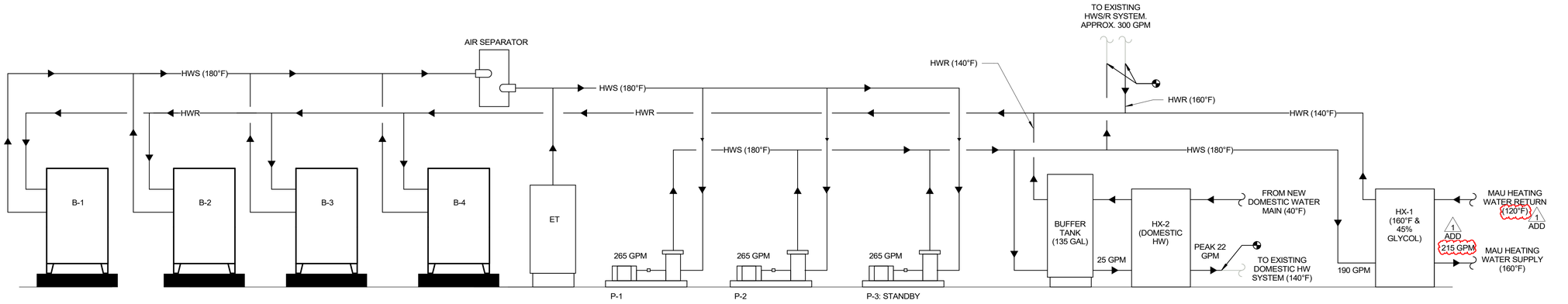
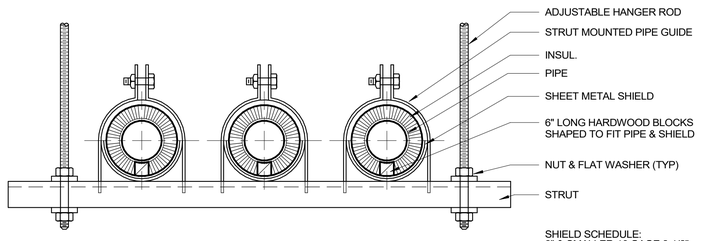
PROJECT NO: 4175681
CLIENT NO: #8982.01

SCHOOL MECHANICAL PLAN MECHANICAL ROOM

01-M1.01



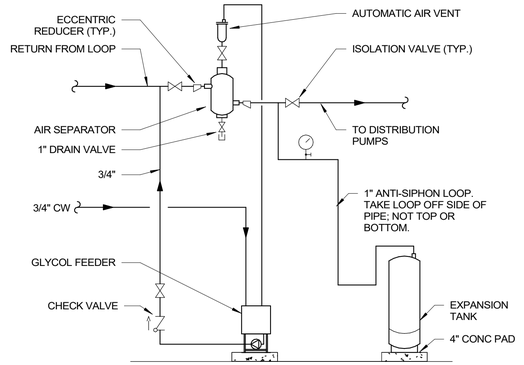
A5 HEATING WATER SCHEMATIC
NOT TO SCALE



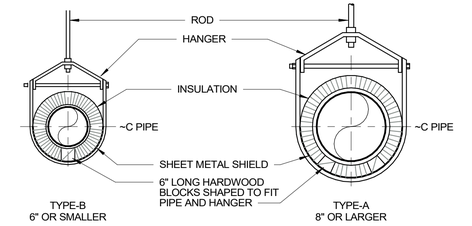
NOTES:
1. SIZE STRUT AND CLAMP TO ADEQUATELY SUPPORT LOAD
2. STRUT SHALL BE EPOXY PAINTED.

SHIELD SCHEDULE:
2" & SMALLER-16 GAGE 2-1/2" TO 6"-14 GAGE 8" & LARGER-12 GAGE LENGTH OF SHIELD TO BE AT LEAST 6" LONGER THAN THE OUTSIDE DIA. OF THE INSULATION

A3 TRAPEZE TYPE HANGER DETAIL
NOT TO SCALE



C3 AIR SEPARATOR/BLADDER TYPE EXP. TANK W/ GLYCOL FEEDER DETAIL
NOT TO SCALE

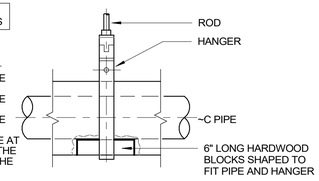


SEE SPECIFICATION FOR SPACING REQUIREMENTS

SHIELD SCHEDULE

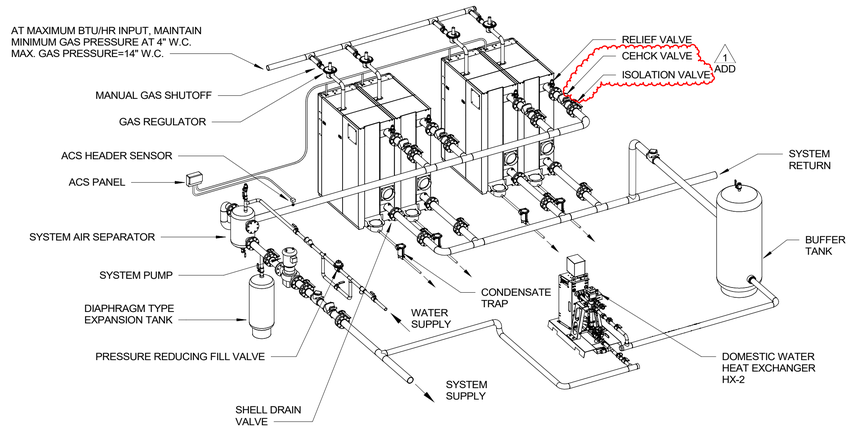
2" AND SMALLER:	16 GAGE
2 1/2" TO 6":	14 GAGE
8" AND LARGER:	12 GAGE

LENGTH OF SHIELD TO BE AT LEAST 6" LONGER THAN THE OUTSIDE DIAMETER OF THE INSULATION



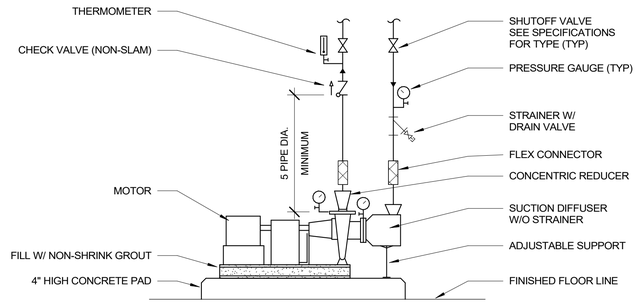
TYPICAL ELEVATION

D2 INSULATED PIPE HANGER DETAIL
NOT TO SCALE



NOTES:
1. SHELL DRAIN VALVE AND CONDENSATE HOSE SHOULD BE ARRANGED TO PERMIT THE FLUIDS TO DRAIN FREELY, BY GRAVITY, TO A FLOOR DRAIN. RELIEF VALVE DISCHARGE SHOULD BE PIPED TO THE NEAREST FLOOR DRAIN.
2. THIS IS A TYPICAL INSTALLATION DRAWING. DIAGRAM BASED ON THE DESIGN BASIS.

B1 BOILER PIPING DETAIL
NOT TO SCALE



D1 END SUCTION BASE MOUNTED PUMP DETAIL
NOT TO SCALE

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ELDORA STS DECENTRALIZATION BUILDING PACKAGE SCHOOL

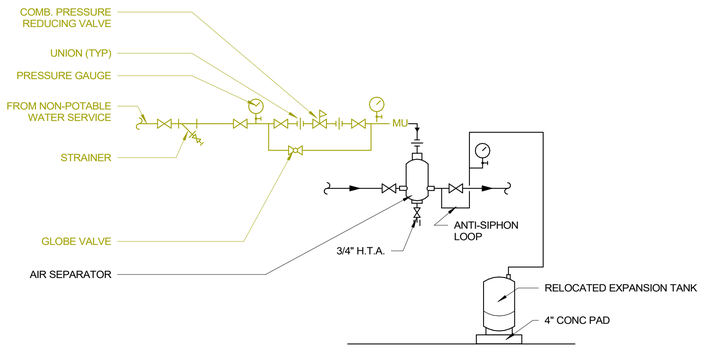
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD	DATE	DESCRIPTION
1	02-06-2020	ADDENDUM 01

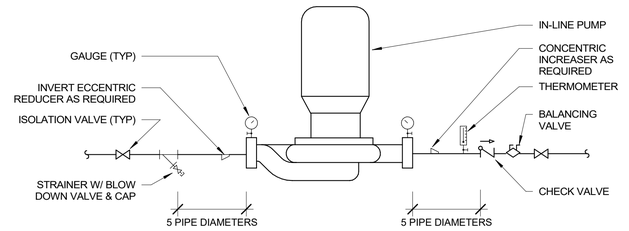
DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO:4175681
CLIENT NO: #6982.01

SCHOOL MECHANICAL DETAILS

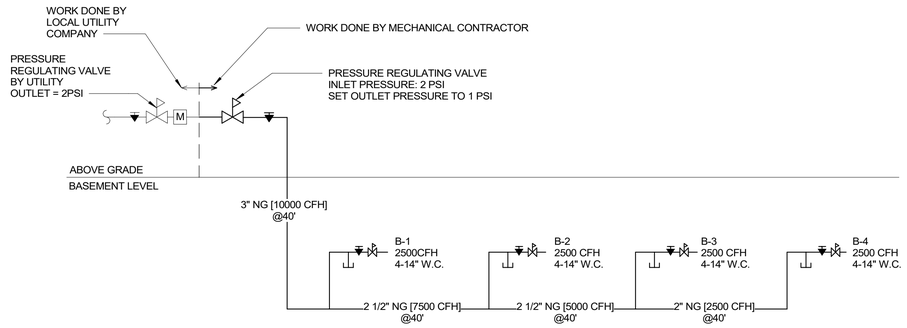
01-M5.00



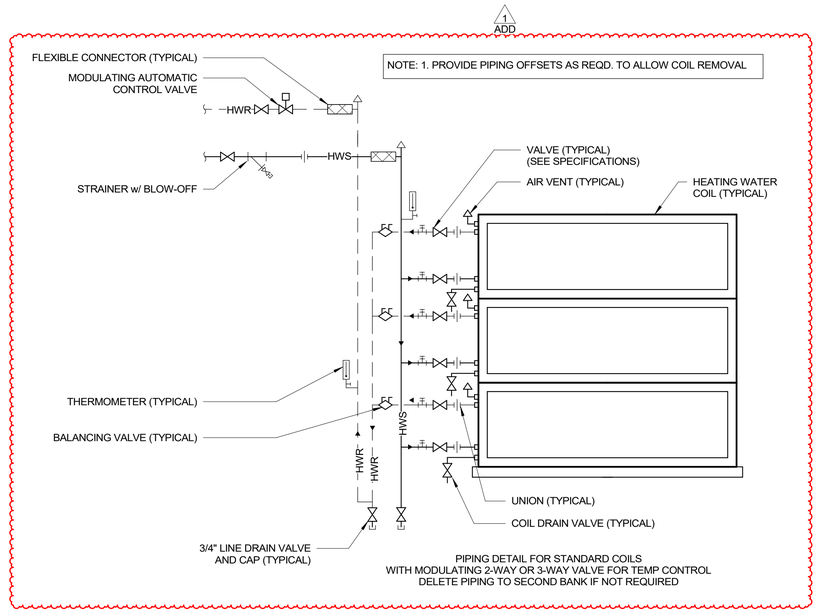
A4 AIR SEPARATOR/BLADDER TYPE EXP. TANK DETAIL
NOT TO SCALE



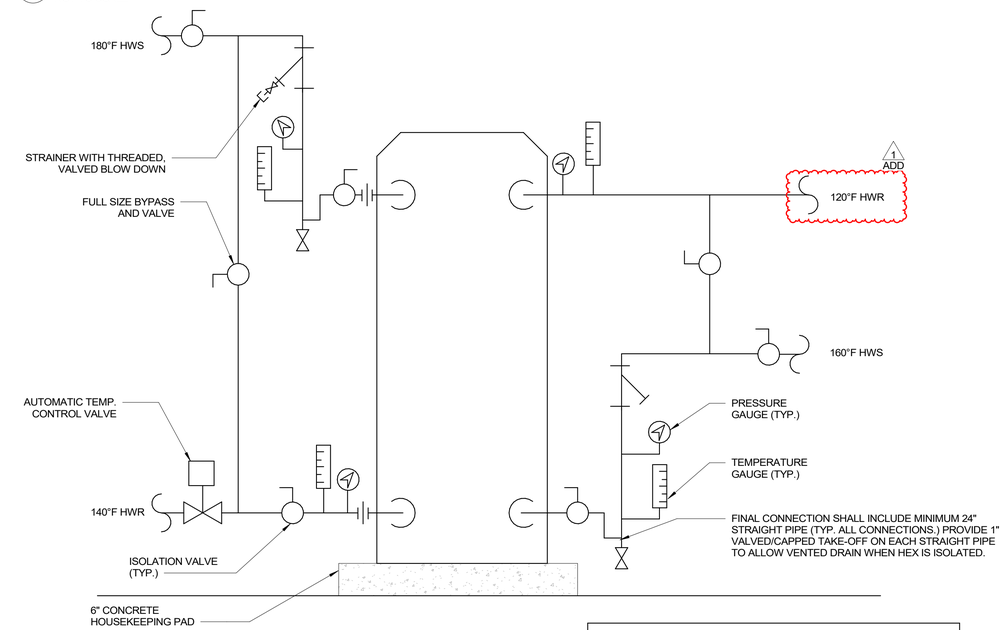
C5 PIPING DIAGRAM-IN-LINE PUMP
NOT TO SCALE



C3 GAS PIPING SCHEMATIC
NOT TO SCALE



A1 AHU HEATING WATER COIL PIPING DETAIL FOR MULTIPLE COILS
NOT TO SCALE



C1 PLATE AND FRAME HEAT EXCHANGER DETAIL
NOT TO SCALE

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ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
SCHOOL
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD 1	02-06-2020 ADDENDUM 01
DRAWN:	JDB
APPROVED:	TLS
ISSUED FOR:	CONSTRUCTION DOCUMENTS
DATE:	01/06/2020
PROJECT NO:	4175681
CLIENT NO:	#8982.01

SCHOOL MECHANICAL DETAILS

01-M5.01

EQUIVALENT PRODUCTS BY MANUFACTURERS WHICH ARE NOT LISTED IN SCHEDULES OR IN SPECIFICATIONS MAY BE USED WITH PRE-APPROVAL FROM ENGINEER. SEE SPECIFICATIONS FOR SUBSTITUTION REQUEST INSTRUCTIONS.

FAN SCHEDULE

REMARKS:
1. PROVIDE NEW MOTOR. EXISTING FAN ASSEMBLY TO REMAIN.
2. COODINATE CONNECTION TO VFD AND DISCONNECT WITH ELECTRICAL CONTRACTOR.
3. REBALANCE TO 30,000 CFM FAN AT FULL SPEED.

MARK	MOTOR DATA			DESIGN BASIS	REMARKS
	HP	VOLTS	PHASE		
SF-5	25	208	3	TRANE	1,2

AIR SEPARATOR SCHEDULE

MARK	SYSTEM SERVED	SIZE (IN)	CAPACITY (GPM)	STRAINER (Y/N)	MAX PD (FT)	DESIGN BASIS	REMARKS
AS-1	HWS	6"	700	Y	3	BELL AND GOSSETT R-6F	
AS-2	PPG HWS	4"	300	Y	2	BELL AND GOSSETT R-4F	

GLYCOL FEED SYSTEM SCHEDULE

NOTES:
1. PROVIDE WITH PRE-MIXED 50% PROPYLENE GLYCOL SOLUTION. NO FIELD MIXING SHALL BE ALLOWED. SEE SPEC.
2. FURNISH AND INSTALL ALL PUMP CONTROLS AND WIRING.
1 ADD 3. SYSTEM VOLUME APPROXIMATELY 150 GALLONS.

MARK	SYSTEM SERVED	TANK CAPACITY (GAL)	GPM @ 100 PSI	CUT IN RANGE (PSI)	CUT OUT RANGE(PSI)	MOTOR DATA			DESIGN BASIS	REMARKS
						HP	VOLTS	PHASE		
GFS-1	HEATING WATER	50	1.5	10-40	20-60	1/3	115	1	JL WINGERT GL50	ELECTRICAL TO PROVIDE DUPLEX RECEPTACLE

MECHANICAL PIPING EXPANSION TANK SCHEDULE

MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	RELIEF VALVE		DESIGN BASIS	REMARKS
					RELIEF AT (PSI)	FILL AT (PSI)		
ET-1	HEATING WATER	DIAPHRAGM	68.0	34.0	125.00	12.00	B&G D-120V	EXISTING
ET-2	HEATING WATER	DIAPHRAGM	21.7	11.3	125.00	12.00	B&G D-40V	

MECHANICAL PUMP SCHEDULE

NOTES:
1. VARIABLE FREQUENCY DRIVE AND DISCONNECT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
2. PERFORMANCE BASED ON 50% PROPYLENE GLYCOL.
3. PUMPS P-1, P-2, & P-3 SELECTED TO OPERATE WITH TWO PUMPS IN PARALLEL AND THE THIRD PUMP IN STAND-BY TO DELIVER A TOTAL OF 530 GPM AT 46 FEET OF HEAD PRESSURE.
4. PUMPS P-4 & P-5 SELECTED TO OPERATE WITH TWO PUMPS IN PARALLEL TO DELIVER A TOTAL OF 215 GPM AT 62 FEET OF HEAD PRESSURE. 1 ADD

MARK	SYSTEM SERVED	TYPE	GPM	HEAD (FT)	SHUTOFF HEAD (FT)	MOTOR DATA					DESIGN BASIS	REMARKS
						BHP	HP	VOLTS	PHASE	RPM		
P-1	HWS	END SUCTION	265	46.00	79.40	4.84	7.5	208	3	1800	B&G e1510 2BD	1,3
P-2	HWS	END SUCTION	265	46.00	79.40	4.84	7.5	208	3	1800	B&G e1510 2BD	1,3
P-3	HWS	END SUCTION	265	46.00	79.40	4.84	7.5	208	3	1800	B&G e1510 2BD	1,3
P-4	MUA HWS	INLINE	110	62.00	68.10	2.2	3	208	3	3600	B&G e-90 2AAC	1,2,4
P-5	MUA HWS	INLINE	110	62.00	68.10	2.2	3	208	3	3600	B&G e-90 2AAC	1,2,4

1 ADD

AIR HANDLING UNIT REPLACEMENT HEATING COIL - HOT WATER

NOTES:
1 ADD 1. INSTALLED AS A COIL BANK IN EXISTING AHU-5.
2. PERFORMANCE BASED ON 45% PROPYLENE GLYCOL.

MARK	HEATING CFM	HEATING COIL DATA							AIR TEMPERATURE		VELOCITY (FPM)	APD (IN)	SIZE (INXIN)	DESIGN BASIS	REMARKS
		ROWS	FINS PER INCH	MBH	GPM	WPD (FT)	EWT (°F)	LWT (°F)	EAT °F	LAT °F					
1 ADD HC-5A	10000	4	7.33	1084	58.33	10.74	160	119	-10	90	480	0.23	24 X 126	TRANE	1,2
HC-5B	10000	4	7.33	1084	58.33	10.74	160	119	-10	90	480	0.23	24 X 126	TRANE	1,2
HC-5C	10000	4	7.33	1084	58.33	10.74	160	119	-10	90	480	0.23	24 X 126	TRANE	1,2
HC-6	2700	4	7.4	283.4	20.00	1.44	160	130	-10	90	460	0.24	23 X 36	TRANE UW	2
HC-7	2700	4	7.4	283.4	20.00	1.44	160	130	-10	90	460	0.24	23 X 36	TRANE UW	2

HEAT EXCHANGER - PLATE AND FRAME SCHEDULE

REMARKS:
1. PERFORMANCE BASED ON 50% PROPYLENE GLYCOL ON COLD SIDE.
2. PROVIDE 135 GALLON BUFFER TANK ON THE HOT SIDE HX-2.

MARK	SYSTEM SERVED	HOT SIDE				COLD SIDE				HEATING SURFACES (SQ. FT.)	DESIGN BASIS	REMARKS
		GPM	MAX PD (PSI)	EWT (°F)	LWT (°F)	GPM	MAX PD (PSI)	EWT (°F)	LWT (°F)			
1 ADD HX-1	MAKEUP AIR HEATING	190	6.84	180	138	215	9.89	120	160	214.7	SPX APV	1
HX-2	DOMESTIC HOT WATER	27	6.00	180	108	22	4.00	40	140	33.9	AERCO SPDW23	2

BOILER SCHEDULE - HOT WATER

MARK	INPUT (MBH)	OUTPUT (MBH)	MIN GAS PRESSURE REQUIRED(IN)	EFFICIENCY	EWT (°F)	LWT (°F)	GPM	MAX PD (FT)	FUEL TYPE	INLET FUEL PRESSURE	TURNDOWN RATIO	ELECTRICAL DATA					DESIGN BASIS	REMARKS
												VOLTS	PHASE	FLA	MCA	MOCP		
B-1	2500	2175	4	87	160	180	350	7.00	NATURAL GAS	4.00	1:15	208	3	10	13	20	AERCO BMK 2500	
B-2	2500	2175	4	87	160	180	350	7.00	NATURAL GAS	4.00	1:15	208	3	10	13	20	AERCO BMK 2500	
B-3	2500	2175	4	87	160	180	350	7.00	NATURAL GAS	4.00	1:15	208	3	10	13	20	AERCO BMK 2500	
B-4	2500	2175	4	87	160	180	350	7.00	NATURAL GAS	4.00	1:15	208	3	10	13	20	AERCO BMK 2500	

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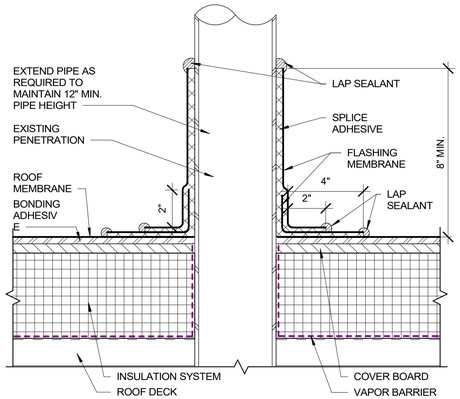
ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
SCHOOL
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD 1	02-06-2020	ADDENDUM 01

DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO:4175681
CLIENT NO: #8982.01

SCHOOL
MECHANICAL
SCHEDULES

01-M6.00

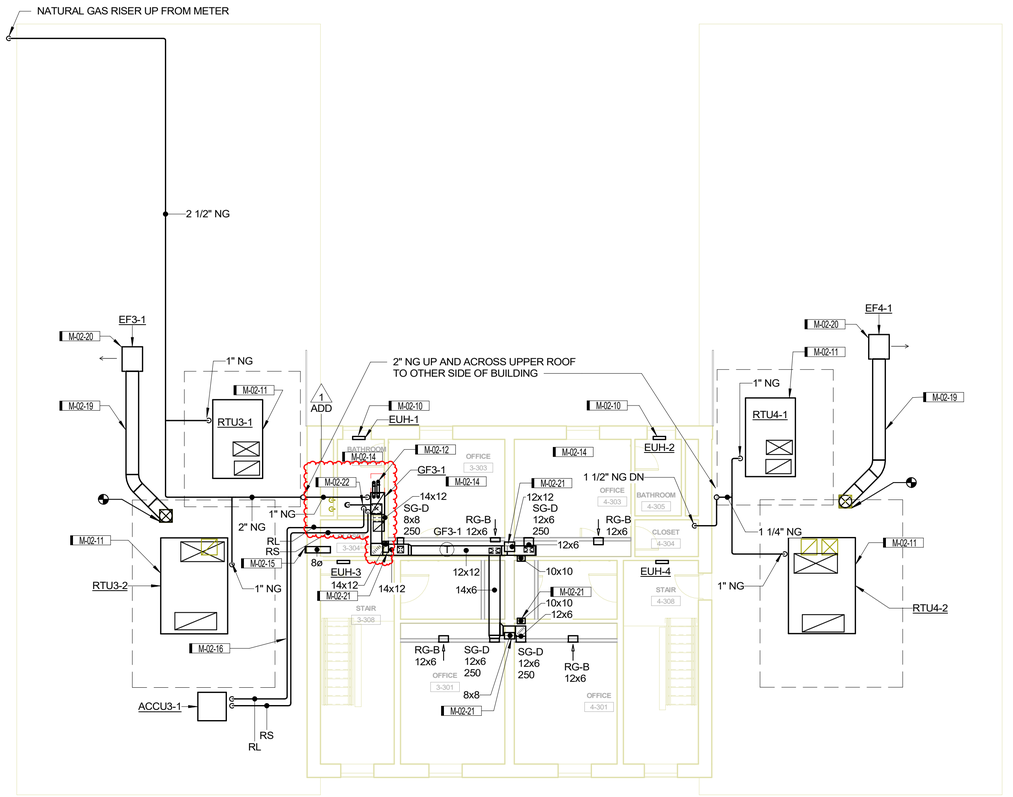


A4 EPDM - ROOF PENETRATION
NOT TO SCALE

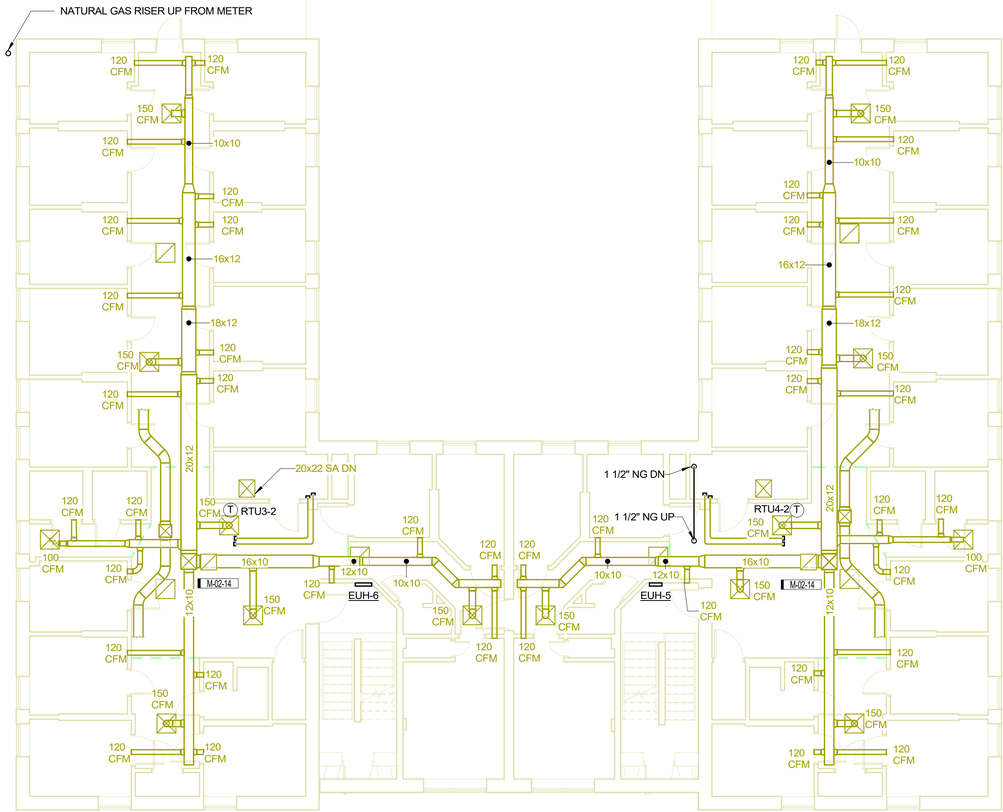
KEYNOTE LEGEND	
KEY	NOTE
M-02-10	INSTALL NEW ELECTRIC UNIT HEATER IN EXISTING RECESSED PORTION OF WALL.
M-02-11	PROVIDE TRANSITIONING ROOF CURB ADAPTER. CONNECT TO EXISTING SA AND RA ROOF PENETRATIONS.
M-02-12	ROUTE COMBUSTION AIR AND VENT FROM FURNACE AND TERMINATE THROUGH ROOF WITH CONCENTRIC DISCHARGE AND RAIN CAP.
M-02-14	REVISE SPRINKLER HEAD LOCATIONS. ADD NEW BRANCH PIPING AND SPRINKLER HEADS AS REQUIRED BY NFPA 13 TO CONFORM WITH NEW FLOOR PLAN AND CEILING GRID. AREA SHALL BE CONSIDERED LIGHT HAZARD WITH SPRINKLER PROTECTION DENSITY OF 0.10 GPM/SF WITH A 100 GPM HOSE STREAM ALLOWANCE. SPRINKLER HEAD STYLE SHALL MATCH EXISTING STYLE.
M-02-15	OA DUCT THROUGH SIDE WALL. PROVIDE TERMINATE WITH WALL CAP WITH BACKDRAFT DAMPER.
M-02-16	SIZE REFRIGERANT LINES PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
M-02-19	CONNECT TO EXISTING EXHAUST PENETRATION AND ROUTE DUCT TO NEW EXHAUST BLOWER. SEAL CONNECTION AT ROOF CURB WATERTIGHT TO MAINTAIN EXISTING ROOF WARRANTY.
M-02-20	SUPPORT ON ROOF WITH MIRO LD MECHANICAL UNIT SUPPORT OR ENGINEER APPROVED EQUIVALENT.
M-02-21	PROVIDE TRANSFER DUCT IN BULKHEAD.
M-02-22	ROUTE 3/4" CONDENSATE DRAIN FROM GF3-1 TO OPEN RECEIVER.

1 ADD

ALTERNATE #2: CLEAN ALL EXISTING SUPPLY, RETURN AND EXHAUST DUCTWORK PRIOR TO INSTALLING NEW DUCTWORK OR STARTING UP NEW RTUs AND ERVS. SEE SPECIFICATION 23 0130.



PLAN NORTH
TRUE NORTH
A1 SECOND FLOOR MECHANICAL PLAN
1/8" = 1'-0" 0 12'



PLAN NORTH
TRUE NORTH
C1 FIRST FLOOR MECHANICAL PLAN
1/8" = 1'-0" 0 12'

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BUILDING PACKAGE
COTTAGES 3 & 4
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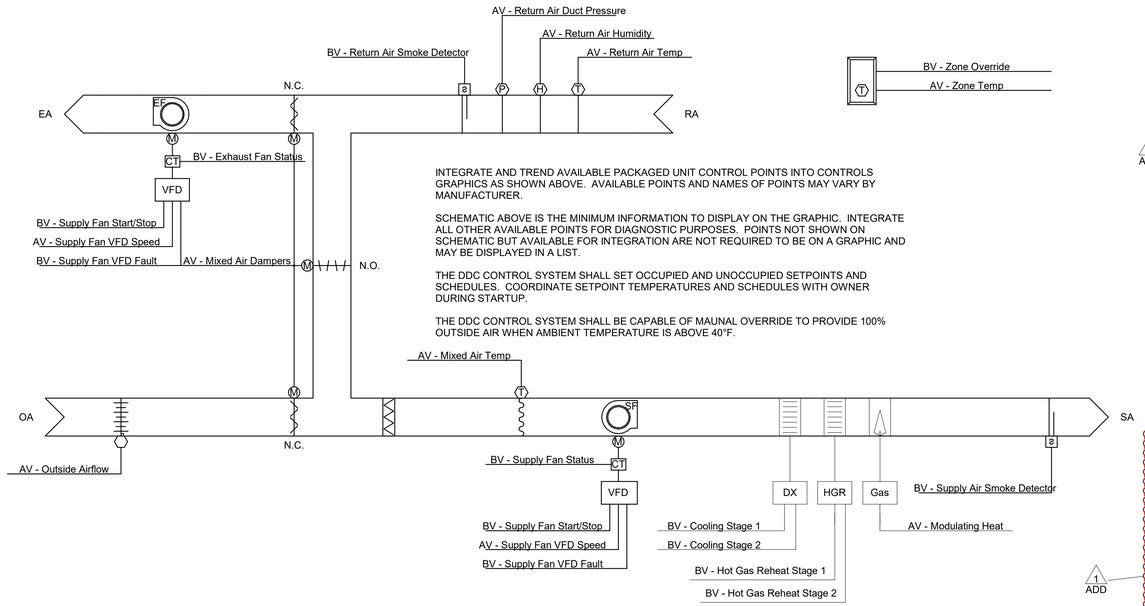
1	02-06-2020	ADDENDUM 01
ADD		

DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO: 4175681
CLIENT NO: #8982.01

COTTAGES 3 & 4
MECHANICAL
PLANS FIRST
FLOOR &
SECOND FLOOR

02-M1.02



A4 RTU INTEGRATION SCHEMATIC (TYPICAL)
NOT TO SCALE

Furnaces

Run Conditions - Scheduled:
The unit shall run according to a user definable time schedule in the following modes:
- Occupied Mode: The unit shall maintain
  - A 75°F (adj.) cooling setpoint
  - A 70°F (adj.) heating setpoint.
- Unoccupied Mode (night setback): The unit shall maintain
  - A 85°F (adj.) cooling setpoint.
  - A 55°F (adj.) heating setpoint.

Alarms shall be provided as follows:
- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).
- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

The furnace shall operate the heating or cooling using factory controls. The BAS system shall send heat or cool requests to the factory controls based on zone temperature setpoint and mode.

Zone Mode Adjust:
The occupant shall be able to adjust the zone mode (heat or cool) at the zone sensor.

Zone Setpoint Adjust:
The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

1 ADD

Zone Optimal Start:
The unit shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

Zone Unoccupied Override:
A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule.

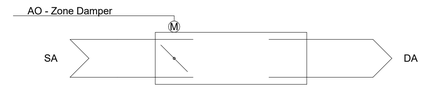
Supply Fan:
The supply fan shall run continuously during occupied modes, unless shutdown on safeties.

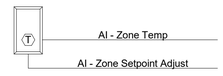
If Optimal Start Up is available, the outside air damper shall close and the return air damper shall open.

Minimum Outside Air Ventilation:
The outside air dampers shall open during building occupied hours and be closed during unoccupied hours. Balancer to set minimum outside airflow with manual damper.

1 ADD

B1 TYPICAL FURNACE INSTALLATION SCHEMATIC AND CONTROLS
NOT TO SCALE





Run Conditions - Continuous:
The unit shall run continuously and shall maintain:
- A 75°F (adj.) cooling setpoint
- A 70°F (adj.) heating setpoint.

Alarms shall be provided as follows:
- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).
- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

1 ADD

Zone Setpoint Adjust:
Provide flat-plate temperature sensor inside room to measure temperature. Room setpoint adjustment shall be through BAS.

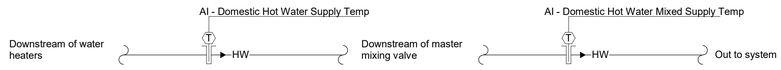
Variable Volume Terminal Unit - Pressure Dependent - Damper Control:
The unit shall maintain zone cooling setpoints by modulating the damper through one of the following:

Occupied:
- When zone temperature is greater than its cooling setpoint, the zone damper shall modulate open to maintain setpoint.
- When the zone temperature is less than the cooling setpoint, the zone damper shall modulate closed to minimum position.
- Additionally, if the discharge air temperature from the associated ERV is greater than the room temperature and the room is less than its heating setpoint, the damper shall modulate open to maintain setpoint.

Unoccupied:
- When the zone is unoccupied the zone damper shall modulate closed to inactive position.
- When the zone temperature is greater than its cooling setpoint, the zone damper shall modulate open to maintain setpoint.

Point Name	Hardware Points				Software Points						Show On Graphic
	AI	AO	BI	BO	AV	BV	Loop	Sched	Trend	Alarm	
Zone Setpoint Adjust	x										x
Zone Temp	x								x		x
Zone Damper		x							x		x
Cooling Setpoint					x				x		x
Heating Setpoint					x				x		x
High Zone Temp										x	
Low Zone Temp										x	

C5 SENSORY ROOM TEMPERATURE CONTROL
NOT TO SCALE



Monitor and trend domestic hot water temperature downstream of master mixing valve.

Alarm if temperature is above 160°F
Alarm if temperature is below 100°F

C4a DOMESTIC HOT WATER TEMPERATURE MONITORING
NOT TO SCALE

Run Conditions - Continuous:
The unit shall run continuously and shall maintain a heating setpoint of 70°F (adj.).

Alarms shall be provided as follows:

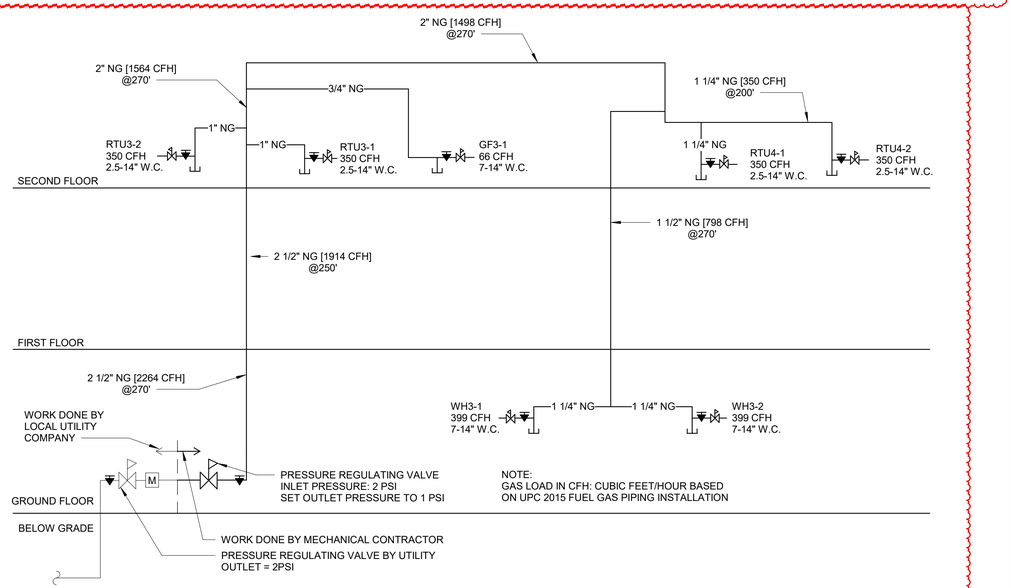
Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

Electric Heating Stage:
The controller shall measure the zone temperature and stage the heating to maintain its heating setpoint. To prevent short cycling, the stage shall have a user definable (adj.) minimum runtime.

The heating shall be enabled whenever:

Outside air temperature is less than 65°F (adj.).
AND the zone temperature is below heating setpoint.

C3 ELECTRIC UNIT HEATER CONTROL
NOT TO SCALE



C1 GAS PIPING SCHEMATIC
NOT TO SCALE

SHIVEHATTERY
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ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
COTTAGES 3 & 4
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD 1	02-06-2020 ADDENDUM 01
DRAWN:	MDP
APPROVED:	TLS
ISSUED FOR:	CONSTRUCTION DOCUMENTS
DATE:	01/06/2020
PROJECT NO:	4175681
CLIENT NO:	#8982.01

COTTAGES 3 & 4
MECHANICAL
DETAILS &
CONTROLS

02-M5.00

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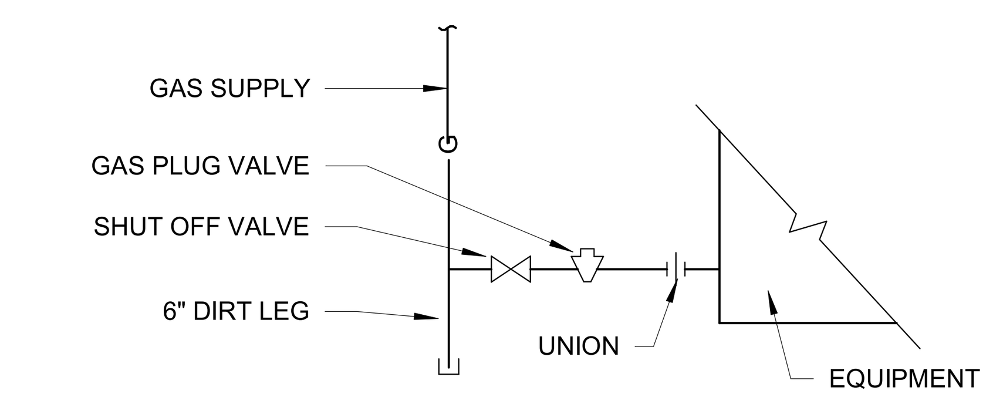
Printed: 2/6/2020 3:08:51 PM

Autodesk Revit 2019



1 ADD

D5 GAS CONNECTION DETAIL
NOT TO SCALE

NOTE:
EQUIVALENT PRODUCTS BY MANUFACTURERS WHICH ARE NOT LISTED IN SCHEDULES OR IN SPECIFICATIONS MAY BE USED WITH PRE-APPROVAL FROM ENGINEER. SEE SPECIFICATIONS FOR SUBSTITUTION REQUEST INSTRUCTIONS.

DIFFUSERS REGISTERS AND GRILLES SCHEDULE

MARK	MATERIAL	DESCRIPTION	FACE SIZE	FACTORY FINISH	DESIGN BASIS	REMARKS
EG-A	ALUMINUM	PERFORATED ANTI LIGATURE	SEE PLANS	WHITE	BEHAVIORAL SAFETY PRODUCTS EG450	
RG-B	STEEL	1/2"x1/2"x1/2", ALUMINUM BORDER	SEE PLANS	WHITE	TITUS 50F	
SG-C	ALUMINUM	PERFORATED ANTI LIGATURE	SEE PLANS	WHITE	BEHAVIORAL SAFETY PRODUCTS EG450	
SG-D	STEEL	3/4" BLADE SPACING, DOUBLE DEFLECTION	SEE PLANS	WHITE	TITUS 272FL	

UNIT HEATER SCHEDULE - ELECTRIC

NOTES:
1. PROVIDE SURFACE MOUNTING FRAME ON EUH-3, 4, 5, & 6.
2. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

MARK	CFM	EAT (°F)	KW	MOUNTING HEIGHT (FT)	ORIENTATION	ELECTRICAL DATA			DESIGN BASIS	REMARKS
						VOLTS	PHASE	FLA		
EUH-1	100	50	1.5	0' - 8"	HORIZONTAL	208	1	7	BERKO VFK204F	
EUH-2	100	50	1.5	0' - 8"	HORIZONTAL	208	1	7	BERKO VFK204F	
EUH-3	100	50	3	0' - 8"	HORIZONTAL	208	1	14	BERKO VFK404F	1
EUH-4	100	50	3	0' - 8"	HORIZONTAL	208	1	14	BERKO VFK404F	1
EUH-5	100	50	3	0' - 8"	HORIZONTAL	208	1	14	BERKO VFK404F	1
EUH-6	100	50	3	0' - 8"	HORIZONTAL	208	1	14	BERKO VFK404F	1

FAN SCHEDULE

NOTES:
1. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. PROVIDE BIRDSCREEN ON FAN OUTLET.

MARK	SYSTEM SERVED	FAN TYPE	CFM	ESP (IN H20)	NO FLOW ESP (IN H20)	MOTOR DATA				RPM	DRIVE	DAMPER TYPE	INLET SONES	DESIGN BASIS	REMARKS
						BHP	HP	VOLTS	PHASE						
EF3-1	EXHAUST	BLOWER	1000	0.50	0.78	0.18	1/3	120	1	1080	BELT	BACKDRAFT	11	GREENHECK USF-13	
EF4-1	EXHAUST	BLOWER	1000	0.50	0.78	0.18	1/3	120	1	1080	BELT	BACKDRAFT	11	GREENHECK USF-13	

FURNACE - GAS SCHEDULE

NOTE:
1. REFER TO FILTER SCHEDULE FOR SIZE AND EFFICIENCY.
2. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

MARK	OA CFM	CFM	ESP (IN WC)	AIRFLOW DIRECTION	HEATING DATA					HP	VOLTS	PHASE	DESIGN BASIS	REMARKS
					EAT (°F)	LAT (°F)	INPUT MBH	MINIMUM GAS PRESSURE	AFUE					
GF3-1	150	1000	0.80	UPFLOW	50	100	66	3.5	96	1/2	120	1	EL296UH070XV36B	

AIR COOLED CONDENSING UNIT SCHEDULE

NOTES:
1. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

MARK	LOCATION	SYSTEM SERVED	CAPACITY (MBH)	COND AMBIENT AIR TEMP (°F)	MINIMUM OPERATING AMBIENT TEMPERATURE	NUMBER OF CIRCUITS	NUMBER OF COMPRESSORS	SEER	ELECTRICAL DATA			OPERATING WEIGHT	REFRIGERANT TYPE	DESIGN BASIS	REMARKS
									VOLTS	PHASE	MCA				
ACCU3-1	ROOF	GF3-1	35.2	95	0	1	1	20	208	1	21	241.00	R-410A	XC20-036-230	

PACKAGED ROOFTOP UNIT SCHEDULE

NOTES:
1. COMPRESSORS SHALL BE TWO-STAGE.
2. HOT GAS REHEAT. (1 ADD)
3. TWO-STAGE GAS HEAT. (1 ADD)
4. PROVIDE SINGLE POINT POWER CONNECTION, FACTORY-MOUNTED NON-FUSED DISCONNECT SWITCH, AND CONVENIENCE OUTLET.
5. PROVIDE ROOF CURB ADAPTER.
6. PROVIDE DRY-BULB ECONOMIZER WITH POWERED EXHAUST. SET ECONOMIZER ON TO 67°F
7. UNIT SHALL BE SINGLE-ZONE VAV WITH BACNET AND DISPLAY.
8. UNIT SHALL HAVE MERV 8 FILTERS.
9. PROVIDE HAIL GUARDS. (1 ADD)
10. PROVIDE CONDENSATE OVERFLOW SWITCH.
11. PROVIDE VFD ON SUPPLY FAN WITH SHAFT GROUNDING RING.
12. PROVIDE MOTORIZED OUTSIDE AIR DAMPERS. BALANCE MINIMUM OUTSIDE AIR TO CFM SCHEDULED.
13. RTU3-2 AND RTU4-2 SHALL HAVE A MAXIMUM OPERATING WEIGHT OF 2700 LBS.
14. RTU3-1 AND RTU4-1 SHALL HAVE A MAXIMUM OPERATING WEIGHT OF 1650 LBS.

MARK	COOLING CAPACITY (TONS)	SUPPLY CFM	OA CFM	SUPPLY FAN DATA					EXHAUST FAN DATA		
				STATIC PRESSURE TOTAL (T.S.P.)	STATIC PRESSURE EXTERNAL (E.S.P.)	TYPE	SUPPLY FAN ELECTRICAL DATA BHP	SUPPLY FAN ELECTRICAL DATA HP	EXHAUST FAN CFM	STATIC PRESSURE ESP	EXHAUST FAN ELECTRICAL DATA HP
RTU3-1	10.0	3960	600	2.10	1.00	BELT	2.18	2.75	1600	0.40	0.9
RTU3-2	15.0	4000	1100	2.02	1.00	BELT	2.48	3.00	2150	0.40	0.8
RTU4-1	10.0	3960	600	2.10	1.00	BELT	2.18	2.75	1600	0.40	0.9
RTU4-2	15.0	4000	1100	2.02	1.00	BELT	2.48	3.00	2150	0.40	0.8

MARK	COOLING DATA							HEATING COIL					UNIT ELECTRICAL DATA				DESIGN BASIS	REMARKS
	EAT (°F) DB	EAT (°F) WB	LAT (°F) DB	REFRIGERANT TYPE	MBH	EER	IEER	EAT DB (°F)	LAT DB (°F)	GAS INPUT (MBH)	GAS OUTPUT (MBH)	GAS THERMAL EFFICIENCY	MCA	MOCP	VOLTS	PHASE		
RTU3-1	79.5	67.0	57.5	R-410A	107.4	12.4	15.2	52	98	250	200	80	54	70	208	3	TRANE YHC120F3RHA	
RTU3-2	81.2	67.0	56.5	R-410A	164.75	12	15	45	101	300	280	80	77	90	208	3	TRANE YHD180G3RHB	
RTU4-1	79.5	67.0	57.5	R-410A	107.4	12.4	15.2	52	98	250	200	80	54	70	208	3	TRANE YHC120F3RHA	
RTU4-2	81.2	67.0	56.5	R-410A	164.75	12	15	45	101	300	280	80	77	90	208	3	TRANE YHD180G3RHB	

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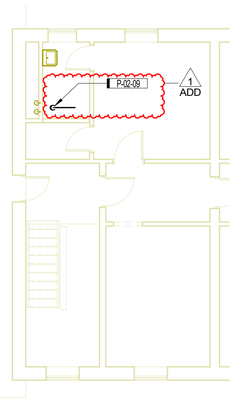
COTTAGES 3 & 4
MECHANICAL SCHEDULES

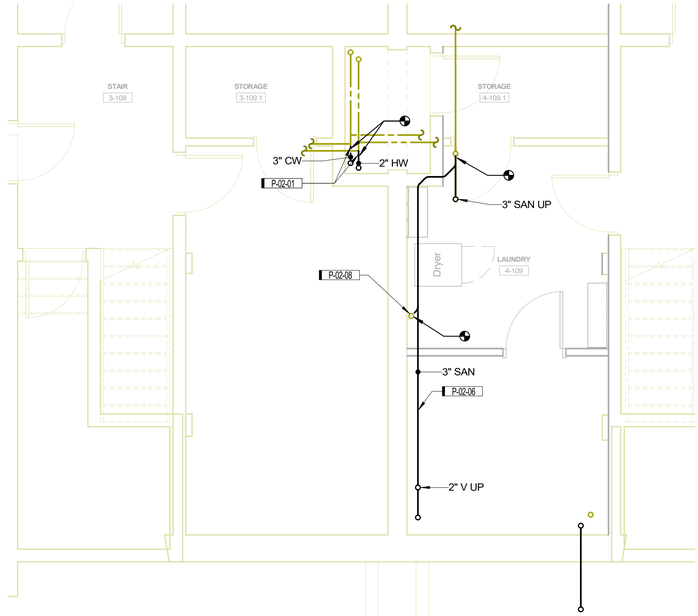
KEYNOTE LEGEND	
KEY	NOTE
P-02-01	CONNECT CW AND HW LINES TO EXISTING CW AND HW LINES IN PIPING CHASE.
P-02-04	CONNECT NEW FIRE PROTECTION MAIN TO EXISTING TEE LOCATED IN MECHANICAL SPACE.
P-02-05	CONNECT TO WATER SERVICE RISER INSTALLED UNDER PREVIOUS PHASE.
P-02-06	ROUTE NEW SANITARY DRAIN LINE IN SERVICE CRAWLSPACE AND CONNECT INTO EXISTING SANITARY LINE AFTER CLEAN-OUT.
P-02-07	ROUTE VENT NEXT TO NATURAL GAS LINE IN BULKHEAD UP THROUGH MECHANICAL CLOSETS ON FIRST AND SECOND FLOOR AND TERMINATE WITH 3" VTR.
P-02-08	CONNECT EXISTING SANITARY LINE TO NEW SANITARY DRAIN LINE IN TUNNEL.
P-02-09	EXTEND SANITARY LINE UP AND TERMINATE WITH OPEN RECEIVER FOR FURNACE CONDENSATE DRAIN.
1 ADD P-02-10	RELOCATE EXISTING FREE STANDING FIRE DEPARTMENT CONNECTION AND CONNECT TO FIRE PROTECTION SERVICE. SEE DETAIL.

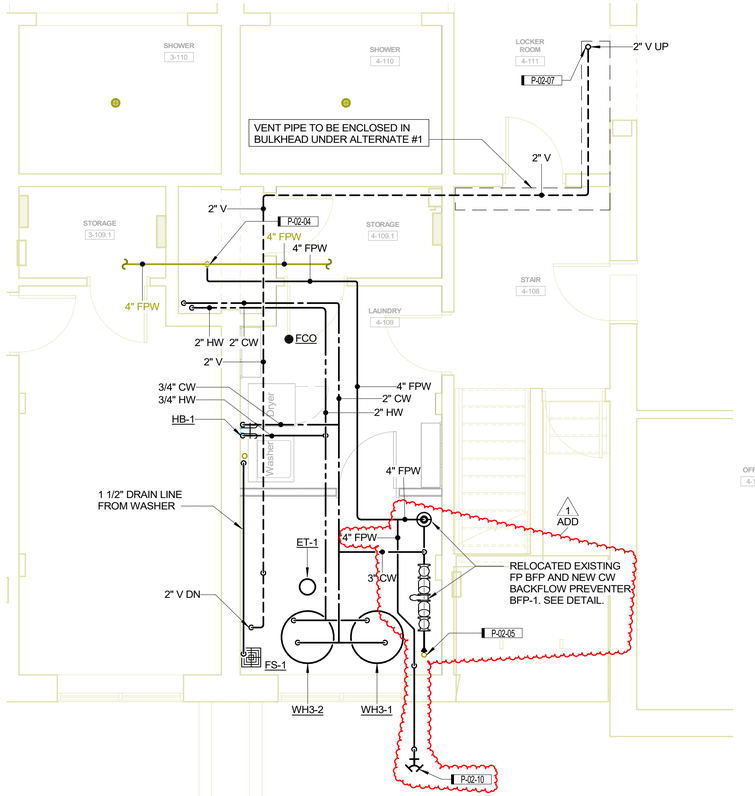


PLAN NORTH / TRUE NORTH

B4 COTTAGES 3 & 4 PLUMBING PLAN SECOND FLOOR

1/8" = 1'-0" 0' 12'





PLAN NORTH / TRUE NORTH

B1 COTTAGES 3 & 4 UNDERFLOOR PLUMBING PLAN

1/4" = 1'-0" 0' 6'

PLAN NORTH / TRUE NORTH

C1 GROUND FLOOR PLUMBING PLAN

1/4" = 1'-0" 0' 6'

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ELDORA STS DECENTRALIZATION BUILDING PACKAGE COTTAGES 3 & 4

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ADD	1	02-06-2020	ADDENDUM 01

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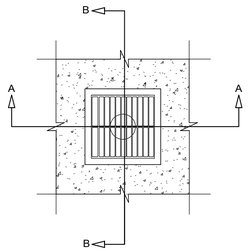
COTTAGES 3 & 4 PLUMBING PLAN GROUND FLOOR AND SECOND FLOOR

02-P1.01

UL/cUL SYSTEM NO F-A-1137
F-RATING = 2-HR
T-RATING = 2-HR
L-RATING AT AMBIENT = LESS THAN 1CFM / SQ.FT.
L-RATING AT 400F = 4 CFM / SQ. FT.

TOP VIEW



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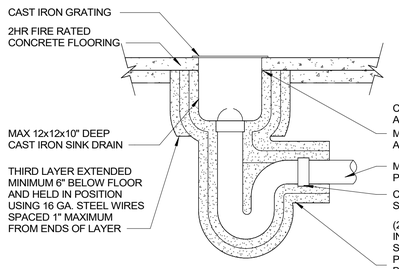

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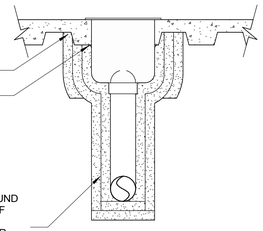
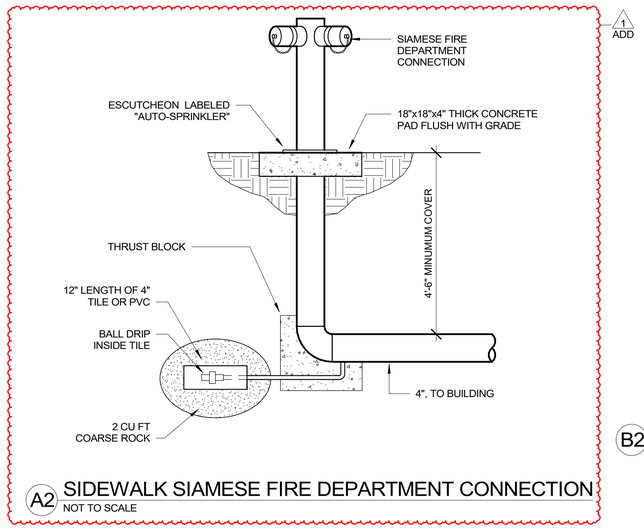
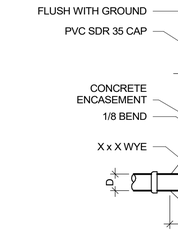


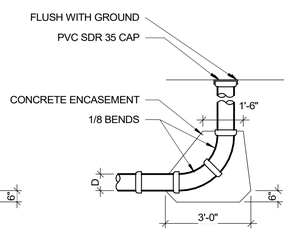
A4 CAST IRON FLOOR SINK - UL RATED
NOT TO SCALE



A2 SIDEWALK SIAMESE FIRE DEPARTMENT CONNECTION
NOT TO SCALE

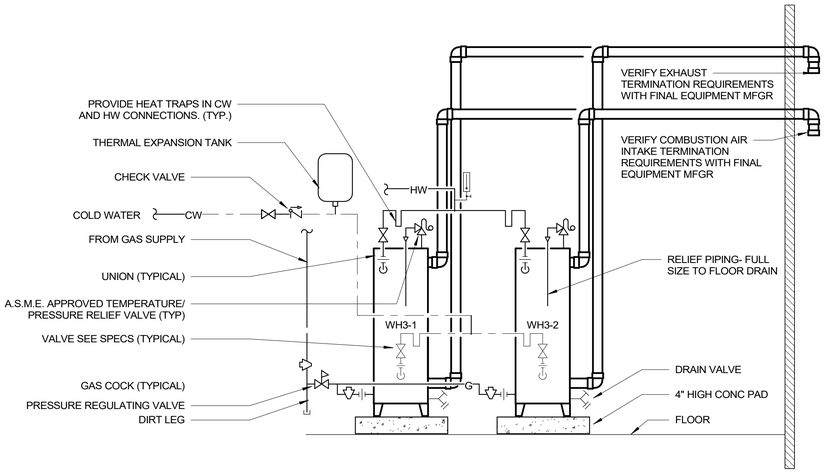


IN LINE CLEANOUT DETAIL

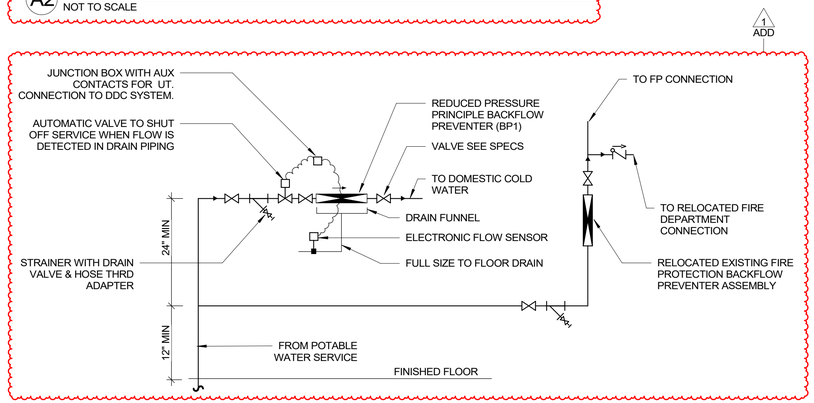


END LINE CLEANOUT DETAIL

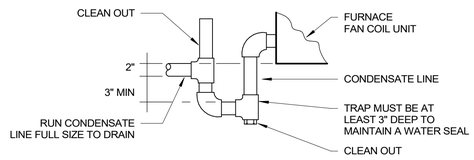
B2 CLEANOUT DETAILS
NOT TO SCALE



C3 GAS-FIRED WATER HEATER DETAIL
NOT TO SCALE



A1 BACKFLOW PREVENTER DETAIL
NOT TO SCALE



NOTE: THE TRAP MUST EQUAL OR EXCEED THE NEGATIVE STATIC PRESSURE DEVELOPED BY THE SUPPLY AIR BLOWERS. OTHERWISE THE CONDENSATE WILL NOT DRAIN PROPERLY AND WILL OVERFLOW THE DRAIN PAN.

B1 CONDENSATE DRAIN PIPING DETAIL A
NOT TO SCALE

NOTE:
EQUIVALENT PRODUCTS BY MANUFACTURERS WHICH ARE NOT LISTED IN SCHEDULES OR IN SPECIFICATIONS MAY BE USED WITH PRE-APPROVAL FROM ENGINEER. SEE SPECIFICATIONS FOR SUBSTITUTION REQUEST INSTRUCTIONS.

PLUMBING FIXTURE SCHEDULE

BFP-1 (REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER): USED AT WATER SEVICE ENTRANCES AND BACKFLOWS LARGER THAN 2"

FIXTURE: DESIGN BASIS - WATTS, 909 SERIES, LEAD FREE, FULL LINE SIZE, REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER, TWO INDEPENDENTLY OPERATING CHECK VALVES SEPARATED BY A RELIEF VALVE, AIR-IN/WATER-OUT RELIEF VALVE CONCEPT, BALL VALVE TEST COCKS, COMPLIANT WITH USCFCC MANUAL FOR CROSS CONNECTION CONTROL, ASSE STANDARD 1013, AWWA STANDARD C506-78. PROVIDE WATTS DRAIN CONNECTION WITH AIR GAP. PROVIDE WATTS FLOOD PROTECTION AUTOMATIC SHUTDOWN VALVE AND CONTROLS.

FS-1 (SANITARY FLOOR SINK):

FIXTURE: 3" ZURN Z-1910 SERIES, 8"x8"x6" DEEP, CAST IRON, SQUARE NICKEL BRONZE MEDIUM DUTY GRATE, WHITE ACID RESISTING PORCELAIN ENAMEL INTERIOR & DOME STRAINER, MEMBRANE CLAMP, BOTTOM CAULK OUTLET. SET TOP FLUSH WITH FINISHED FLOOR. PROVIDE DEEP SEAL P-TRAP

NOTE: PROVIDE HEAVY DUTY CAST IRON TOP GRATE FOR DRAINS LOCATED IN WALK WAYS.

HB-1 (HOSE BIB): [MECH SPACES]

FIXTURE: DESIGN BASIS - WOODFORD MODEL 24, ANTI-CONTAMINATION, WALL FAUCET, VACUUM BREAKER, 3/4" HOSE THREAD OUTLET, ROUGH BRASS FINISH, 3/4" INLET, POLYCARBONATE WHEEL HANDLE. MOUNT AT 36" AFF

FCO (FLOOR CLEANOUT):

FIXTURE: ZURN, Z-1400 LEVEL-TROL SERIES FLOOR CLEANOUT, CAST IRON, INSIDE CAULK CONNECTION, ADJUSTABLE, THREADED ABS PLUG, SECURED SATIN NICKEL BRONZE TOP. SET TOP FLUSH WITH FINISHED CONCRETE. FURNISH CARPET MARKER FOR CARPETED AREA WITH LINE IDENTIFICATION - VERIFY WITH ROOM FINISH SCHEDULE. FURNISH DIMENSIONED RECORD DRAWING TO OWNER FOR FINAL LOCATIONS. PROVIDE EXTRA HEAVY DUTY FLOOR CLEANOUT COVER FOR CLEANOUTS LOCATED IN MECHANICAL SPACES

PLUMBING EXPANSION TANK SCHEDULE

MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	RELIEF VALVE		DESIGN BASIS	REMARKS
					RELIEF AT (PSI)	FILL AT (PSI)		
ET-1	DOMESTIC HOT WATER	DIAPHRAGM	14.0	9.0	125.00	12.00	PTA-30V	

WATER HEATER SCHEDULE - GAS

MARK	STORAGE (GAL)	RECOVERY (GPH)	WATER IN (°F)	OUT (°F)	GAS				ELECTRICAL DATA			DESIGN BASIS	REMARKS
					INPUT (MBH)	OUTPUT (MBH)	THERMAL EFFICIENCY	PRESSURE (IN WC)	VOLTS	PHASE	FLA		
WH3-1	119.0	460	40	140	399	379	95	4.8	120	1	5	AO SMITH BTH-400(A)	
WH3-2	119.0	460	40	140	399	379	95	4.8	120	1	5	AO SMITH BTH-400(A)	

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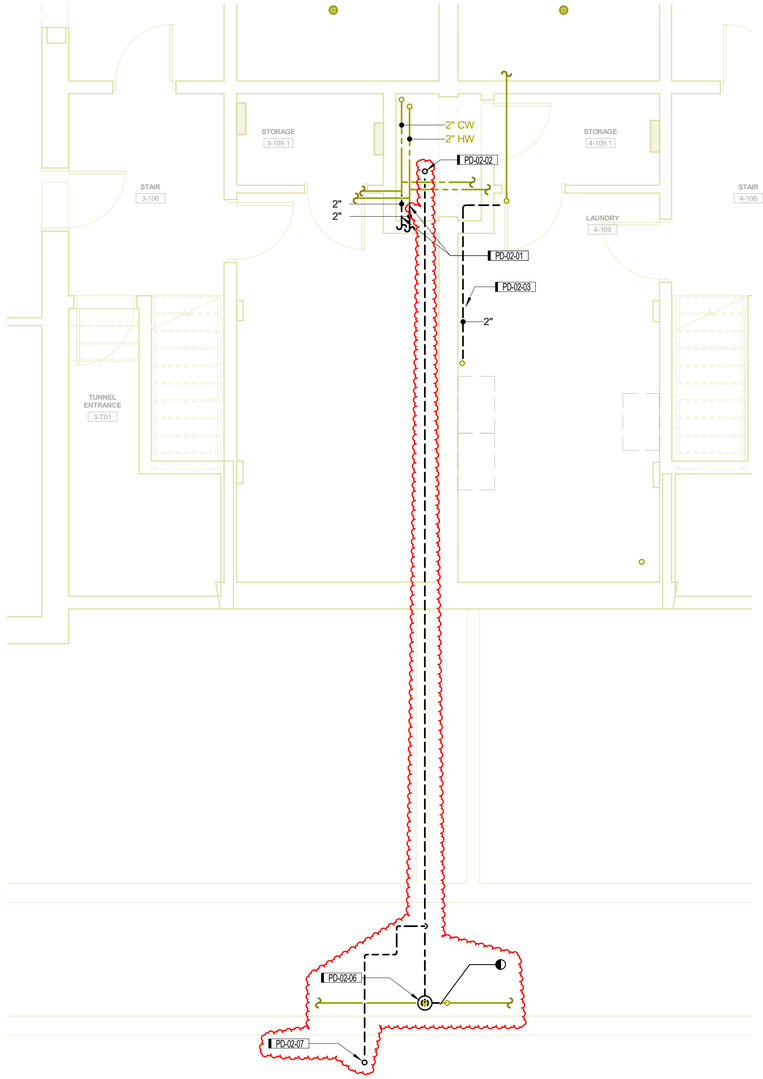
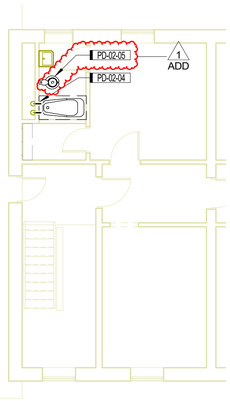
COTTAGES 3 & 4
PLUMBING SCHEDULES & DETAILS

02-P6.00

KEYNOTE LEGEND	
KEY	NOTE
PD-02-01	REMOVE HW AND CW MAINS JUST BEFORE FIRST BRANCHES IN MECHANICAL SPACE. PREPARE HW AND CW LINES FOR RECONNECTION.
PD-02-02	REMOVE FIRE PROTECTION MAIN IN MECHANICAL SPACE UP TO TEE. PREPARE TEE FOR RECONNECTION.
PD-02-03	REMOVE SANITARY PIPING IN CRAWL SPACE. RISER THROUGH FLOOR TO REMAIN.
PD-02-04	REMOVE CW AND HW CONNECTIONS FROM TUB BACK TO PIPING CHASE AND CAP. SAN LINE FROM TUB TO REMAIN.
PD-02-05	REMOVE CW CONNECTION FROM WATER CLOSET BACK TO PIPING CHASE AND CAP. REMOVE SAN LINE TO BELOW FLOOR AND CAP. INFILL FLOOR PENETRATION TO MATCH EXISTING.
PD-02-06	EXISTING FIRE PROTECTION BACKFLOW PREVENTER TO BE RELOCATED. REMOVE PIPING BACK TO MAIN AND CAP.
PD-02-07	EXISTING FIRE DEPARTMENT CONNECTION TO BE RELOCATED. REMOVE PIPING BACK TO MAIN AND CAP. INFILL TUNNEL WALL.

1 ADD





PLAN NORTH
TRUE NORTH

A1 COTTAGES 3 & 4 SECOND FLOOR PLUMBING DEMOLITION
1/8" = 1'-0" 0 12'

PLAN NORTH
TRUE NORTH

C1 GROUND FLOOR PLUMBING DEMOLITION PLAN
1/4" = 1'-0" 0 6'

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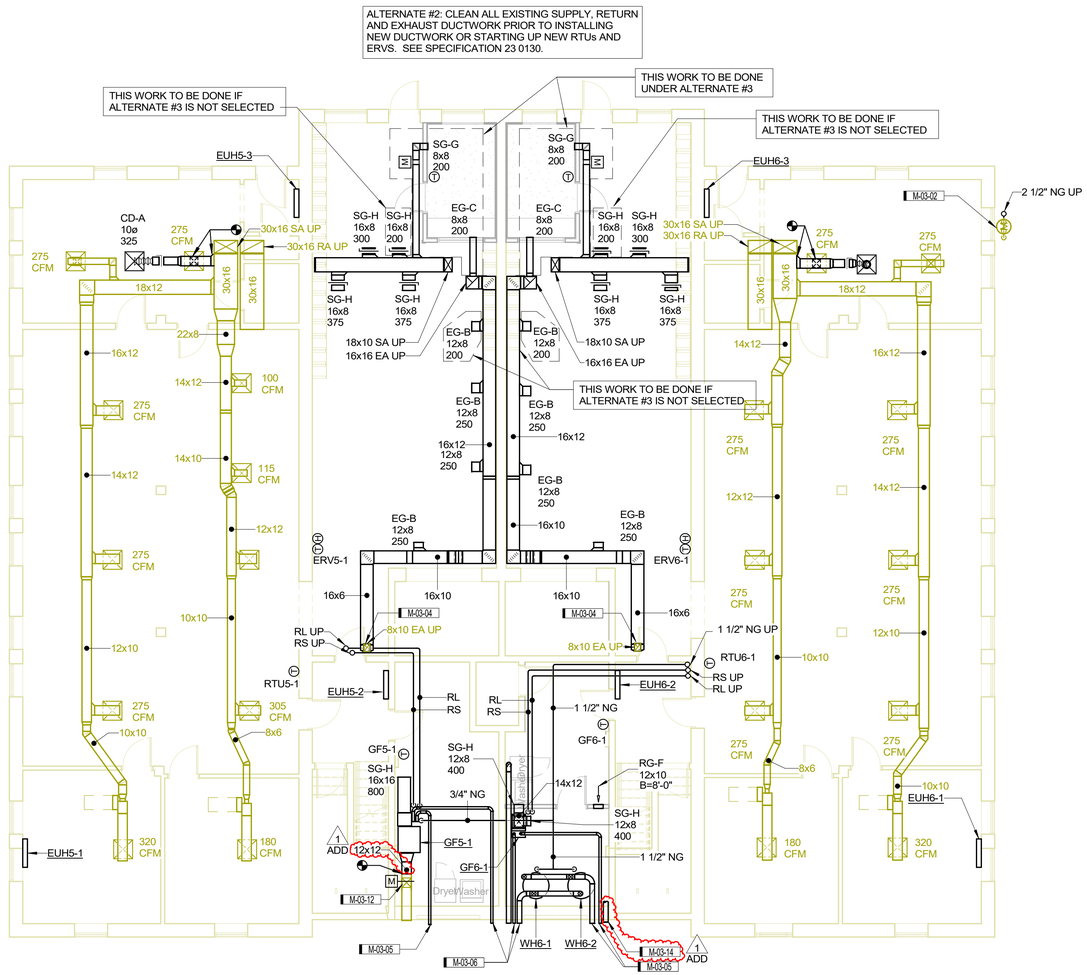
COTTAGES 3 & 4
PLUBMING
DEMOLITION
PLAN

02-PD.01

KEYNOTE LEGEND	
KEY	NOTE
M-03-02	NEW NATURAL GAS METER PROVIDED AND INSTALLED BY LOCAL UTILITY COMPANY. ALL WORK DOWNSTREAM OF METER BY MECHANICAL CONTRACTOR.
M-03-04	CONNECT NEW EXHAUST RISER TO ALL EXISTING TAPS AND DUCT FROM FLOOR ABOVE.
M-03-05	ROUTE COMBUSTION AIR THROUGH WALL AND TERMINATE PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND SEAL WALL PENETRATION.
M-03-06	ROUTE VENT THROUGH WALL AND TERMINATE PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND SEAL WALL PENETRATION.
M-03-12	REMOVE EXISTING MOTORIZED DAMPERS AND PROVIDE NEW MOTORIZED DAMPERS AND ACTUATORS.
M-03-14	6" OUTDOOR AIR INTAKE FOR FURNACE WITH WALL CAP. CONTINUE TO FURNACE, SEE DETAIL B1 ON SHEET 03-M5.00

1 ADD



PLAN NORTH

TRUE NORTH

A6 GROUND FLOOR MECHANICAL PLAN

1/8" = 1'-0"

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ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
COTTAGES 5 & RECEIVING

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD 1	02-06-2020 ADDENDUM 01

DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO: 4175681
CLIENT NO: #8982.01

COTTAGES 5 & RECEIVING
MECHANICAL
PLAN GROUND FLOOR

03-M1.01

KEYNOTE LEGEND	
KEY	NOTE
M-03-03	INSTALL NEW ELECTRIC UNIT HEATER IN EXISTING RECESSED PORTION OF WALL.
M-03-07	ROUTE COMBUSTION AIR AND VENT FROM FURNACE AND TERMINATE WITH CONCENTRIC DISCHARGE.
M-03-08	PROVIDE TRANSITIONING ROOF CURB. CONNECT TO EXISTING SA AND RA ROOF PENETRATIONS.
M-03-09	INSTALL NEW ROOFTOP UNIT AND TRANSITION SUPPLY AND RETURN DUCTS WITHIN ROOF CURB TO FIT BETWEEN EXISTING JOIST SPACE AT ROOF PENETRATION.
M-03-10	CONNECT SUPPLY AIR DUCT TO EXISTING RISER THROUGH ROOF.

PLAN NORTH

TRUE NORTH

A1 SECOND FLOOR MECHANICAL PLAN

1/8" = 1'-0" 0 12'

ALTERNATE #2: CLEAN ALL EXISTING SUPPLY, RETURN AND EXHAUST DUCTWORK PRIOR TO INSTALLING NEW DUCTWORK OR STARTING UP NEW RTUs AND ERVS. SEE SPECIFICATION 23 0130.

PLAN NORTH

TRUE NORTH

C1 FIRST FLOOR MECHANICAL PLAN

1/8" = 1'-0" 0 12'

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ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
COTTAGES 5 & RECEIVING
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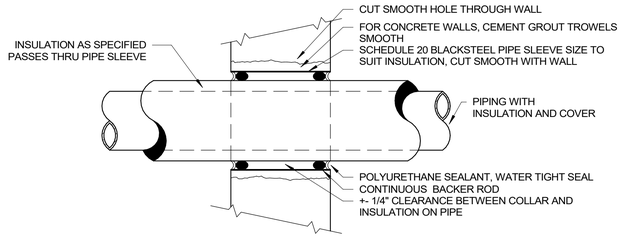
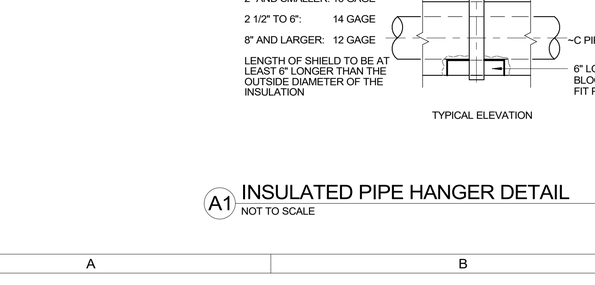
COTTAGES 5 & RECEIVING MECHANICAL PLAN FIRST AND SECOND FLOORS

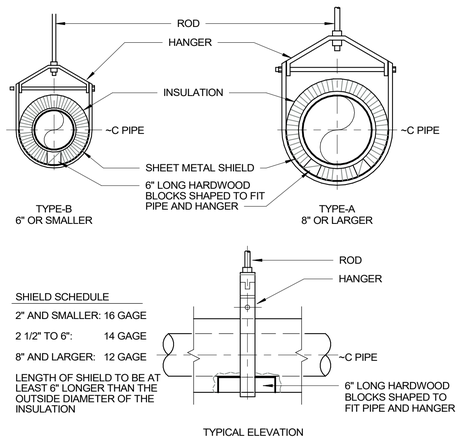
03-M1.02



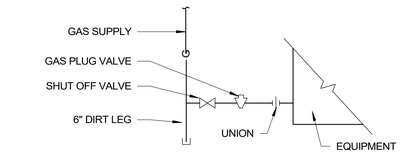
A4 PIPE THROUGH WALL DETAIL
NOT TO SCALE



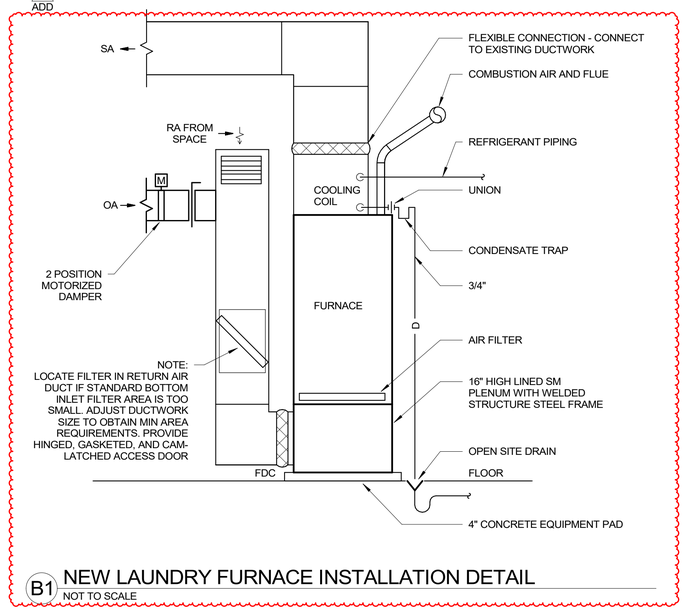
A3 ROOF CURB DETAIL
NOT TO SCALE



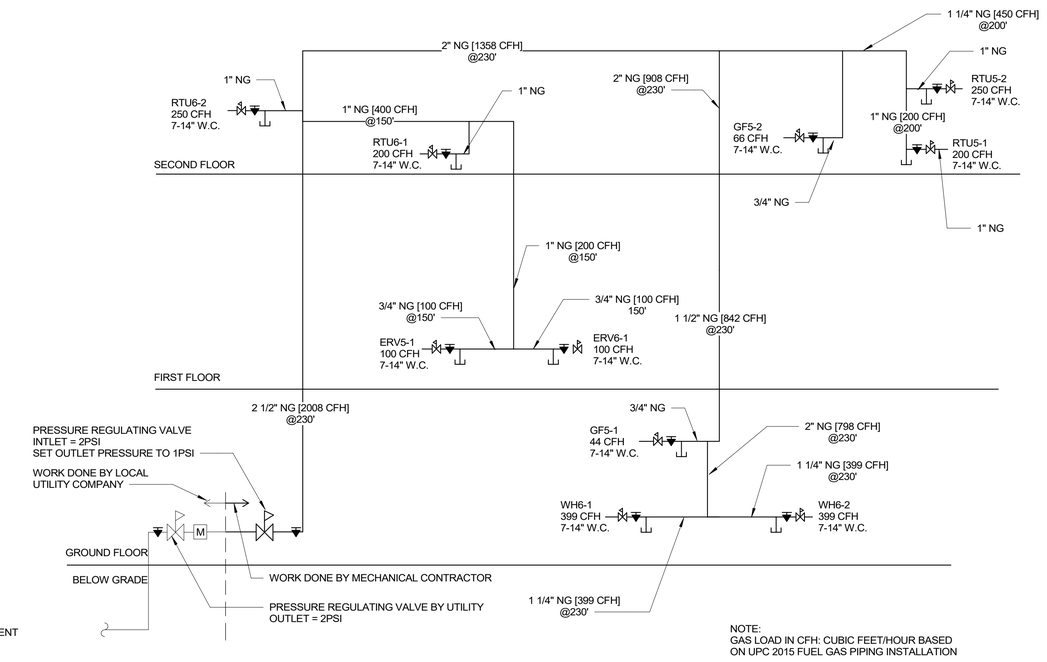
A1 INSULATED PIPE HANGER DETAIL
NOT TO SCALE



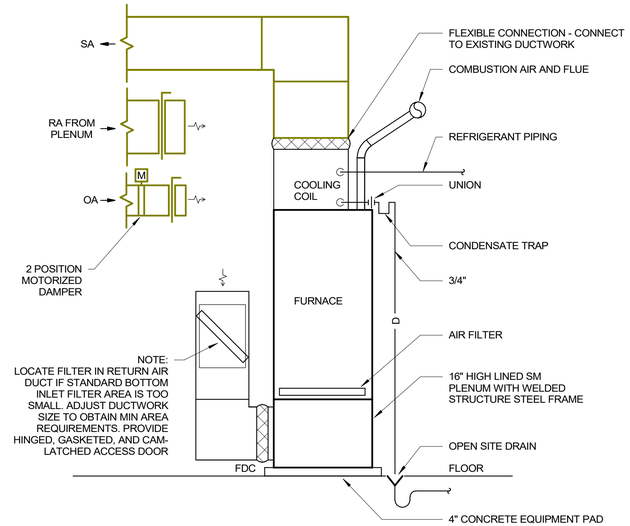
B3 GAS CONNECTION DETAIL
NOT TO SCALE



B1 NEW LAUNDRY FURNACE INSTALLATION DETAIL
NOT TO SCALE



C3 GAS PIPING SCHEMATIC
NOT TO SCALE



D1 TYPICAL FURNACE INSTALLATION SCHEMATIC
NOT TO SCALE

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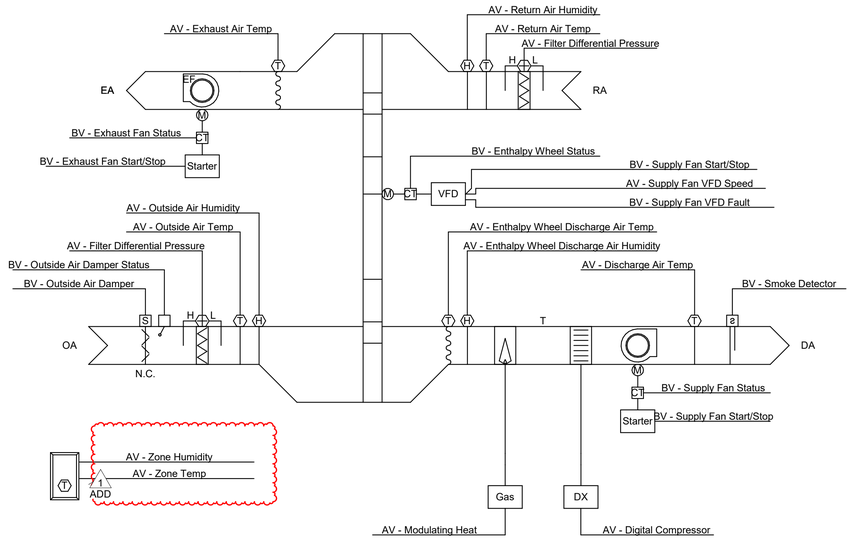
COTTAGES 5 & RECEIVING MECHANICAL DETAILS

03-M5.00

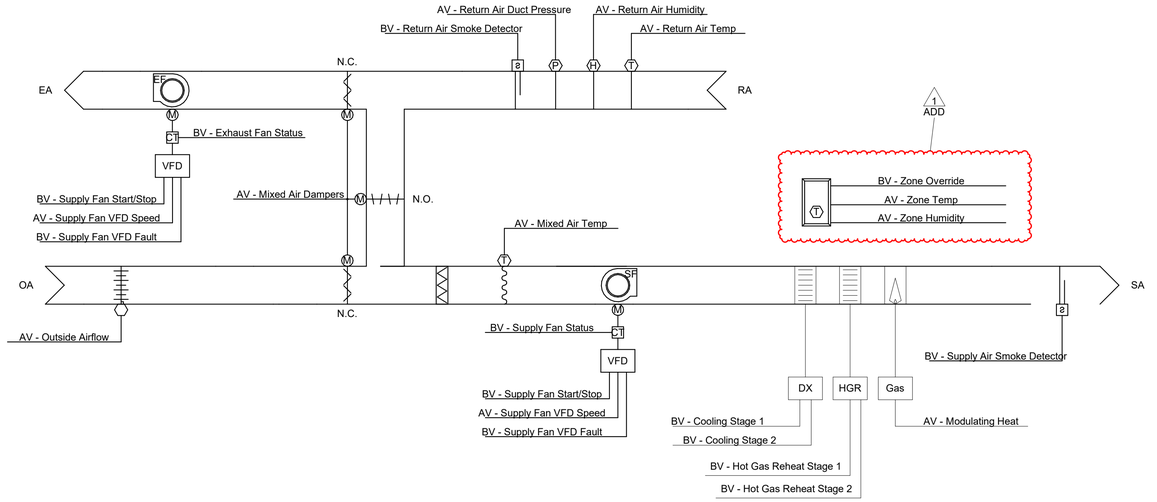


INTEGRATE AND TREND AVAILABLE PACKAGED UNIT CONTROL POINTS INTO CONTROLS GRAPHICS AS SHOWN ABOVE. AVAILABLE POINTS AND NAMES OF POINTS MAY VARY BY MANUFACTURER.

SCHEMATIC ABOVE IS THE MINIMUM INFORMATION TO DISPLAY ON THE GRAPHIC. INTEGRATE ALL OTHER AVAILABLE POINTS FOR DIAGNOSTIC PURPOSES. POINTS NOT SHOWN ON SCHEMATIC BUT AVAILABLE FOR INTEGRATION ARE NOT REQUIRED TO BE ON A GRAPHIC AND MAY BE DISPLAYED IN A LIST.

THE DDC CONTROL SYSTEM SHALL SET OCCUPIED AND UNOCCUPIED SETPOINTS AND SCHEDULES. COORDINATE SETPOINT TEMPERATURES AND SCHEDULES WITH OWNER DURING STARTUP.

A4 ERV INTEGRATION SCHEMATIC
NOT TO SCALE



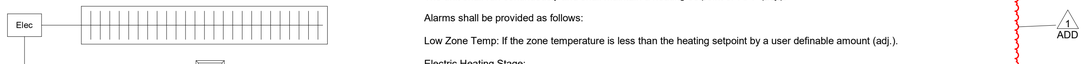
INTEGRATE AND TREND AVAILABLE PACKAGED UNIT CONTROL POINTS INTO CONTROLS GRAPHICS AS SHOWN ABOVE. AVAILABLE POINTS AND NAMES OF POINTS MAY VARY BY MANUFACTURER.

SCHEMATIC ABOVE IS THE MINIMUM INFORMATION TO DISPLAY ON THE GRAPHIC. INTEGRATE ALL OTHER AVAILABLE POINTS FOR DIAGNOSTIC PURPOSES. POINTS NOT SHOWN ON SCHEMATIC BUT AVAILABLE FOR INTEGRATION ARE NOT REQUIRED TO BE ON A GRAPHIC AND MAY BE DISPLAYED IN A LIST.

THE DDC CONTROL SYSTEM SHALL SET OCCUPIED AND UNOCCUPIED SETPOINTS AND SCHEDULES. COORDINATE SETPOINT TEMPERATURES AND SCHEDULES WITH OWNER DURING STARTUP.

THE DDC CONTROL SYSTEM SHALL BE CAPABLE OF MAUNAL OVERRIDE TO PROVIDE 100% OUTSIDE AIR WHEN AMBIENT TEMPERATURE IS ABOVE 40°F.

C4 RTU INTEGRATION SCHEMATIC
NOT TO SCALE



Run Conditions - Continuous:
The unit shall run continuously and shall maintain a heating setpoint of 70°F (adj.).

Alarms shall be provided as follows:

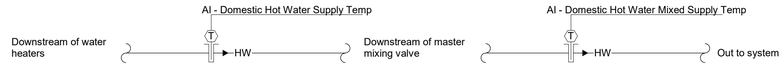
Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

Electric Heating Stage:
The controller shall measure the zone temperature and stage the heating to maintain its heating setpoint. To prevent short cycling, the stage shall have a user definable (adj.) minimum runtime.

The heating shall be enabled whenever:

Outside air temperature is less than 65°F (adj.).
AND the zone temperature is below heating setpoint.

A3 ELECTRIC UNIT HEATER CONTROL
NOT TO SCALE



Monitor and trend domestic hot water temperature downstream of master mixing valve.

Alarm if temperature is above 160°F
Alarm if temperature is below 100°F

C2 DOMESTIC HOT WATER TEMPERATURE MONITORING
NOT TO SCALE

Furnaces

Run Conditions - Scheduled:
The unit shall run according to a user definable time schedule in the following modes:
- Occupied Mode: The unit shall maintain
  - A 75°F (adj.) cooling setpoint
  - A 70°F (adj.) heating setpoint.
- Unoccupied Mode (night setback): The unit shall maintain
  - A 85°F (adj.) cooling setpoint.
  - A 55°F (adj.) heating setpoint.

Alarms shall be provided as follows:
- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).
- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

The furnace shall operate the heating or cooling using factory controls. The BAS system shall send heat or cool requests to the factory controls based on zone temperature setpoint and mode.

Zone Mode Adjust:
The occupant shall be able to adjust the zone mode (heat or cool) at the zone sensor.

Zone Setpoint Adjust:
The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

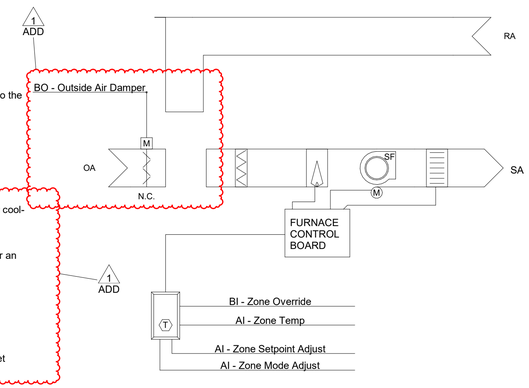
Zone Optimal Start:
The unit shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

Zone Unoccupied Override:
A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule.

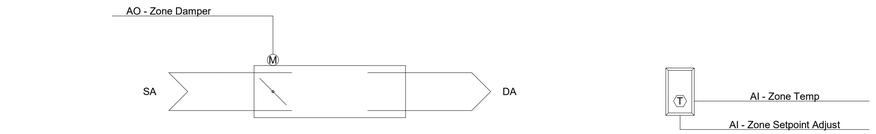
Supply Fan:
The supply fan shall run continuously during occupied modes, unless shutdown on safeties.

If Optimal Start Up is available, the outside air damper shall close and the return air damper shall open.

Minimum Outside Air Ventilation:
The outside air dampers shall open during building occupied hours and be closed during unoccupied hours. Balancer to set minimum outside airflow with manual damper.



A1a TYPICAL FURNACE CONTROL SCHEMATIC & SEQUENCE
NOT TO SCALE



Run Conditions - Continuous:
The unit shall run continuously and shall maintain:
- A 75°F (adj.) cooling setpoint
- A 70°F (adj.) heating setpoint.

Alarms shall be provided as follows:
- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).
- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

Zone Setpoint Adjust:
Provide flat-plate temperature sensor inside room to measure temperature. Room setpoint adjustment shall be through BAS.

Variable Volume Terminal Unit - Pressure Dependent - Damper Control:
The unit shall maintain zone cooling setpoints by modulating the damper through one of the following:

Occupied:
- When zone temperature is greater than its cooling setpoint, the zone damper shall modulate open to maintain setpoint.
- When the zone temperature is less than the cooling setpoint, the zone damper shall modulate closed to minimum position.
- Additionally, if the discharge air temperature from the associated ERV is greater than the room temperature and the room is less than its heating setpoint, the damper shall modulate open to maintain setpoint.

Unoccupied:
- When the zone is unoccupied the zone damper shall modulate closed to inactive position.
- When the zone temperature is greater than its cooling setpoint, the zone damper shall modulate open to maintain setpoint.

Point Name	Hardware Points: AI	AO	BI	BO	Software Points: AV	BV	Loop	Sched	Trend	Alarm	Show On Graphic
Zone Setpoint Adjust	x										x
Zone Temp	x								x		x
Zone Damper		x							x		x
Cooling Setpoint					x				x		x
Heating Setpoint					x				x		x
High Zone Temp										x	
Low Zone Temp										x	

C1 SENSORY ROOM TEMPERATURE CONTROL
NOT TO SCALE

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COTTAGES 5 & RECEIVING MECHANICAL CONTROLS

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NOTE:
EQUIVALENT PRODUCTS BY MANUFACTURERS WHICH ARE NOT LISTED IN SCHEDULES OR IN SPECIFICATIONS MAY BE USED WITH PRE-APPROVAL FROM ENGINEER. SEE SPECIFICATIONS FOR SUBSTITUTION REQUEST INSTRUCTIONS.

DIFFUSERS REGISTERS AND GRILLES SCHEDULE

MARK	MATERIAL	DESCRIPTION	FACE SIZE	FACTORY FINISH	DESIGN BASIS	REMARKS
CD-A	STEEL		24"x24"			
EG-B	STEEL	LONG BLADE	SEE PLANS	WHITE	TITUS 350FL	
EG-C	ALUMINUM	PERFORATED ANTI LIGATURE	SEE PLANS	WHITE	BEHAVIORAL SAFETY PRODUCTS EG450	
LD-D	ALUMINUM	LINEAR DIFFUSER	2" SLOT	WHITE	TITUS FL-20	
RG-E	STEEL	EGGCRATE	24"x24"	WHITE	TITUS 50F	
RG-F	STEEL	LONG BLADE	SEE PLANS	WHITE	TITUS 350FL	
SG-G	ALUMINUM	PERFORATED ANTI LIGATURE	SEE PLANS	WHITE	BEHAVIORAL SAFETY PRODUCTS EG450	
SG-H	STEEL	DOUBLE DEFLECTION	SEE PLANS	WHITE	TITUS 272FL	

UNIT HEATER SCHEDULE - ELECTRIC

NOTES:
1. DISCONNECT SWITCH TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

MARK	CFM	EAT (°F)	KW	MOUNTING HEIGHT (FT)	ORIENTATION	ELECTRICAL DATA			DESIGN BASIS	REMARKS
						VOLTS	PHASE	FLA		
EUH5-1	100	50	1.5	0' - 0"	HORIZONTAL	120	1	13	BERKO VFK151F	
EUH5-2	100	50	4	0' - 0"	HORIZONTAL	208	1	19	BERKO VFK408F	
EUH5-3	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	BERKO VFK151F	
EUH5-4	100	50	4	0' - 0"	HORIZONTAL	208	1	19	BERKO VFK408F	
EUH5-5	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	BERKO VFK151F	
EUH5-6	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	BERKO VFK151F	
EUH6-1	100	50	1.5	0' - 0"	HORIZONTAL	120	1	13	BERKO VFK151F	
EUH6-2	100	50	4	0' - 0"	HORIZONTAL	208	1	19	BERKO VFK408F	
EUH6-3	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	BERKO VFK151F	
EUH6-4	100	50	4	0' - 0"	HORIZONTAL	208	1	19	BERKO VFK408F	
EUH6-5	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	BERKO VFK151F	
EUH6-6	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	BERKO VFK151F	

AIR COOLED CONDENSING UNIT SCHEDULE

NOTES:
1. DISCONNECT SWITCH TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

MARK	LOCATION	SYSTEM SERVED	CAPACITY (MBH)	COND AMBIENT AIR TEMP (°F)	MINIMUM OPERATING AMBIENT TEMPERATURE (°F)	STEPS OF UNLOADING	NUMBER OF CIRCUITS	NUMBER OF COMPRESSORS	SEER	ELECTRICAL DATA			OPERATING WEIGHT	REFRIGERANT TYPE	DESIGN BASIS	REMARKS
										VOLTS	PHASE	MCA				
ACCU5-1	ROOF	GF5-1	24	95	45	1	1	1	20	208	2	19	243.00	R-410A	LENNOX XC20-024	
ACCU5-2	ROOF	GF5-2	46	95	45	2	1	1	15	208	3	20	288.00	R-410A	LENNOX SSB048H4	
ACCU6-1	ROOF	GF6-1	21	95	45	1	1	1	20	208	2	19	243.00	R-410A	LENNOX XC20-024	

FURNACE - GAS SCHEDULE

NOTES:
1. DISCONNECT SWITCH TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. PROVIDE DIRECT DRIVE FAN WITH EC MOTOR AND 2-STAGE HEATING OPERATION.
3. PROVIDE AND INSTALL CONDENSATE NEUTRALIZATION AND ROUTE CONDENSATE TO FLOOR DRAIN.

MARK	AREA SERVED	OA CFM	CFM	ESP (IN WC)	COOLING COIL DATA				HEATING DATA					ELECTRICAL DATA			DESIGN BASIS	REMARKS
					TOTAL MBH	EAT DB (°F)	LAT DB (°F)	MODEL	EAT (°F)	LAT (°F)	INPUT MBH	THERMAL EFFICIENCY	MINIMUM GAS PRESSURE	AFUE	HP	VOLTS	PHASE		
GF5-1	COTTAGE 5 LAUNDRY	100	800	0.80	24	80	55	CX35-24B	60	95	44	96	3.5	96	1/2	120	1	LENNOX EL296UH045XV36B	
GF5-2	OFFICES	150	1200	0.80	48	80	55	CX35-48C	50	95	88	96	3.5	96	3/4	120	1	LENNOX EL296UH090XV48C	
GF6-1	COTTAGE 6 LAUNDRY	100	800	0.80	24	80	55	CX35-24B	60	95	44	96	3.5	96	1/2	120	1	LENNOX EL296UH045XV36B	

ENERGY RECOVERY VENTILATOR SCHEDULE

NOTES:
1.

MARK	SUPPLY FAN DATA				EXHAUST FAN DATA				SUMMER OPERATION							COOLING COIL						WINTER OPERATION								HEATING COIL		ELECTRICAL DATA				DESIGN BASIS	REMARKS
	CFM	ESP (IN WC)	BHP	HP	CFM	ESP (IN WC)	BHP	HP	OUTSIDE AIR EAT		RETURN AIR EAT		TEMPERED AIR LAT		EFFECTIVENESS	TOTAL REC MBH	COIL EAT		COIL LAT		TOTAL MBH	SENSIBLE MBH	COIL APD	OUTDOOR AIR EAT		RETURN AIR EAT		TEMPERED AIR LAT		EFFECTIVENESS	TOTAL REC MBH	HEATING COIL EAT (DB)	HEATING COIL LAT (DB)	INPUT (MBH)	OUTPUT (MBH)	VOLTS	PHASE	MCA	MOCP		
									DB	WB	DB	WB	DB	WB			DB	WB	DB	WB				DB	WB	DB	WB	DB	WB										
ERV5-1	1250	0.75	0.73	0.75	1250	0.75	0.80	1.00	95	78	72	60	76	65	79	71.0	76 °F	65 °F	52 °F	52 °F	48.5	33.2	0.28 in-wg	-10	-11	72	56	58	47	81.7	91.4	58 °F	110 °F	100	80	208	3	36	50	GREENHECK ERCH-20	
ERV6-1	1250	0.75	0.73	0.75	1250	0.75	0.80	1.00	95	78	72	60	76	65	79	71.0	76 °F	65 °F	52 °F	52 °F	48.5	33.2	0.28 in-wg	-10	-11	72	56	58	47	81.7	91.4	58 °F	110 °F	100	80	208	3	36	50	GREENHECK ERCH-20	

PACKAGED ROOFTOP UNIT SCHEDULE

1 ADD NOTES:
1. COMPRESSORS SHALL BE TWO-STAGE.
2. HOT GAS REHEAT.
3. TWO STAGE GAS HEAT.
4. PROVIDE SINGLE POINT POWER CONNECTION, FACTORY-MOUNTED NON-FUSED DISCONNECT SWITCH, AND CONVENIENCE OUTLET.
5. PROVIDE ROOF CURB ADAPTER.
6. PROVIDE DRY-BULB ECONOMIZER WITH POWERED EXHAUST. SET ECONOMIZER ON TO 67°F
7. UNIT SHALL BE SINGLE-ZONE VAV WITH BACNET AND DISPLAY.
8. UNIT SHALL HAVE MERV 8 FILTERS.

1 ADD
9. PROVIDE HAIL GUARDS.
10. PROVIDE CONDENSATE OVERFLOW SWITCH.

1 ADD
11. NOT USED.
12. PROVIDE VFD ON SUPPLY FAN WITH SHAFT GROUNDING RING.
13. PROVIDE MOTORIZED OUTSIDE AIR DAMPERS. BALANCE MINIMUM OUTSIDE AIR TO CFM SCHEDULED.
14. UNITS SHALL HAVE A MAXIMUM OPERATING WEIGHT OF 1500 LBS.

MARK	COOLING CAPACITY (TONS)	SUPPLY CFM	OA CFM	SUPPLY FAN DATA					EXHAUST FAN DATA				COOLING COIL									HEATING COIL					ELECTRICAL DATA					DESIGN BASIS	REMARKS
				SUPPLY FAN CFM	STATIC PRESSURE		SUPPLY FAN ELECTRICAL DATA		EXHAUST FAN CFM	STATIC PRESSURE	MOTOR DATA		TYPE	EAT (°F)		LAT (°F)		REFRIGERANT TYPE	MBH	SENSIBLE MBH	EAT DB (°F)	LAT DB (°F)	GAS			MCA	MOCP	VOLTS	PHASE		
					TOTAL (T.S.P.)	EXTERNAL (E.S.P.)	BHP	HP		ESP	HP			DB	WB	DB	WB						INPUT (MBH)	OUTPUT (MBH)	THERMAL EFFICIENCY						
RTU5-1	7.5	3000	350	3000	1.33	1.00	1.4	2.8	1600	0.40	0.9	DX	78	66	58	56	R-410A	86	62	59	96	150	120	80	47	60	208	3	TRANE YHC092F3RMA	
RTU5-2	7.5	3250	450	3250	1.38	1.00	1.8	2.8	1600	0.40	0.9	DX	80	67	60	58	R-410A	88	64	54	99	200	160	80	47	60	208	3	TRANE YHC092F3RHA	
RTU6-1	7.5	3000	350	3000	1.33	1.00	1.4	2.8	1600	0.40	0.9	DX	78	66	58	56	R-410A	86	62	59	96	150	120	80	47	60	208	3	TRANE YHC092F3RMA	
RTU6-2	7.5	3250	450	3250	1.38	1.00	1.8	2.8	1600	0.40	0.9	DX	80	67	60	58	R-410A	88	64	54	99	200	160	80	47	60	208	3	TRANE YHC092F3RHA	

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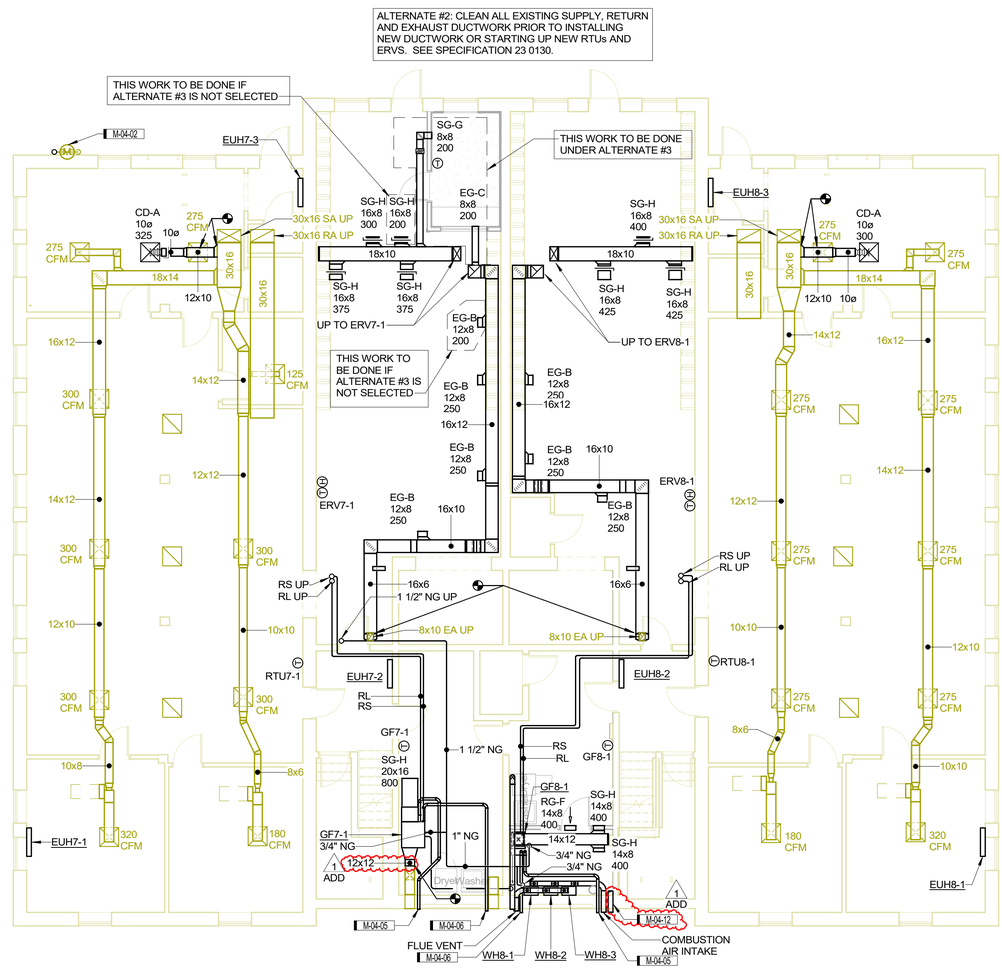
MECHANICAL SCHEDULES

03-M6.00

KEYNOTE LEGEND	
KEY	NOTE
M-04-02	NEW NATURAL GAS METER PROVIDED AND INSTALLED BY LOCAL UTILITY COMPANY. ALL WORK DOWNSTREAM OF METER BY MECHANICAL CONTRACTOR.
M-04-05	ROUTE COMBUSTION AIR THROUGH WALL AND TERMINATE PER MANUFACTURER'S RECOMMENDATIONS AND SEAL WALL PENETRATION.
M-04-06	ROUTE VENT THROUGH WALL AND TERMINATE PER MANUFACTURER'S RECOMMENDATIONS AND SEAL WALL PENETRATION.
M-04-12	6" OUTDOOR AIR INTAKE FOR FURNACE WITH WALL CAP. CONTINUE TO FURNACE. SEE DETAIL B1 ON SHEET 04-M5.00

1 ADD



PLAN NORTH

TRUE NORTH

C1 GROUND FLOOR MECHANICAL PLAN

1/8" = 1'-0" 0 12'

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ELDORA STS DECENTRALIZATION BUILDING PACKAGE COTTAGES 7 & 8

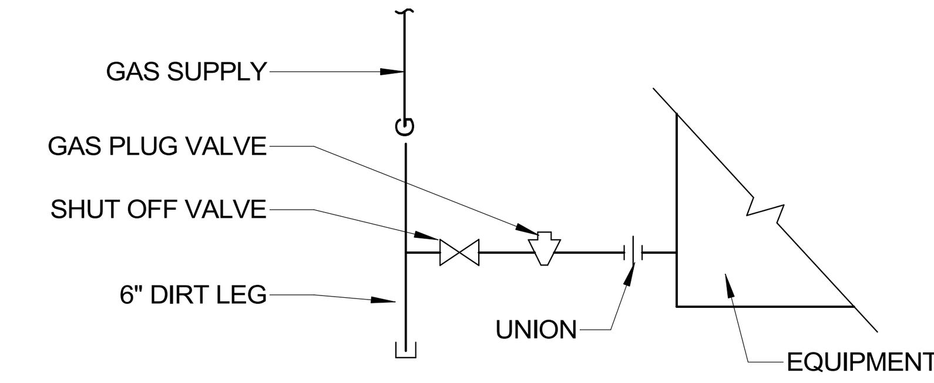
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD	1	02-06-2020	ADDENDUM 01

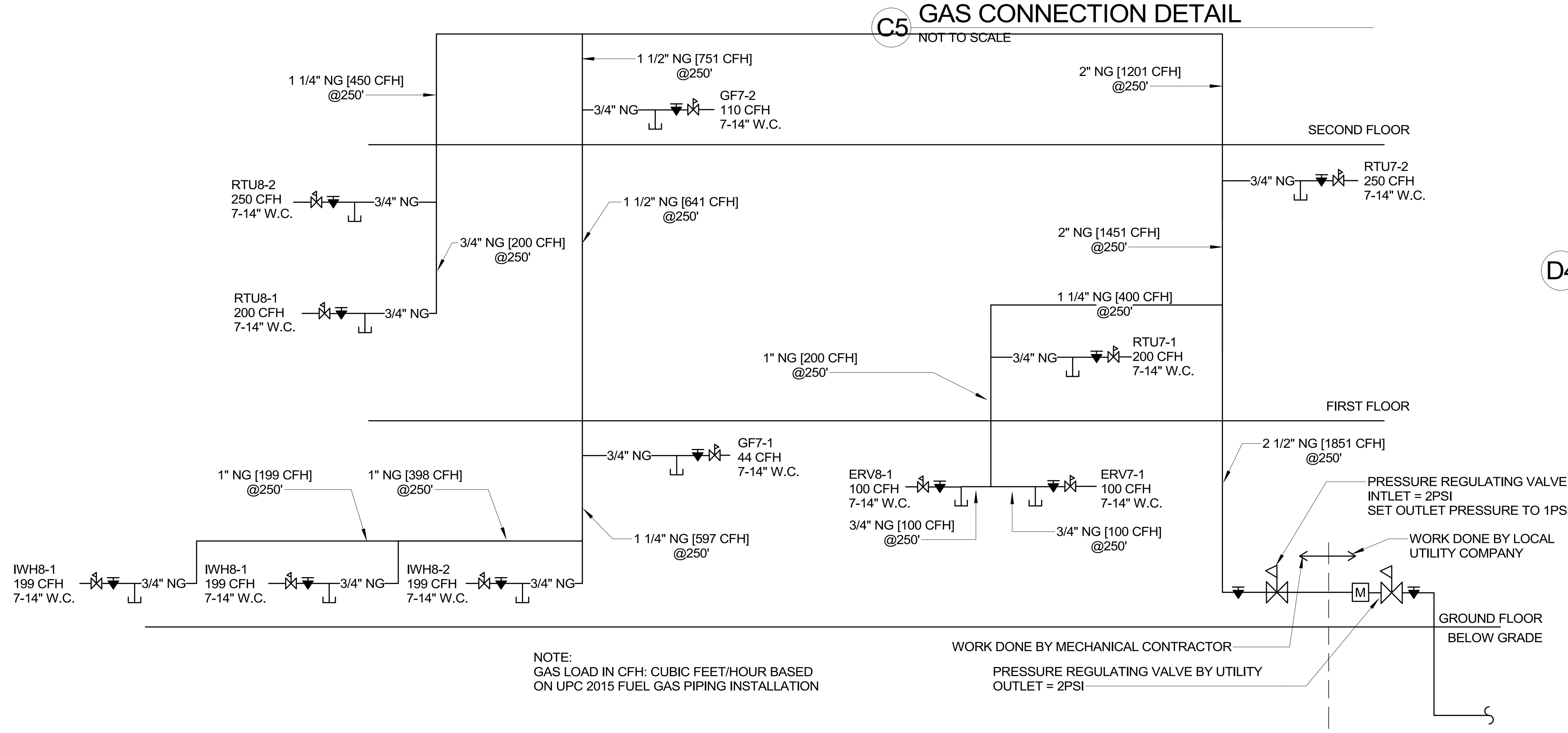
DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO.: 4175681
CLIENT NO: #8982.01

COTTAGES 7 & 8
MECHANICAL
PLAN GROUND FLOOR

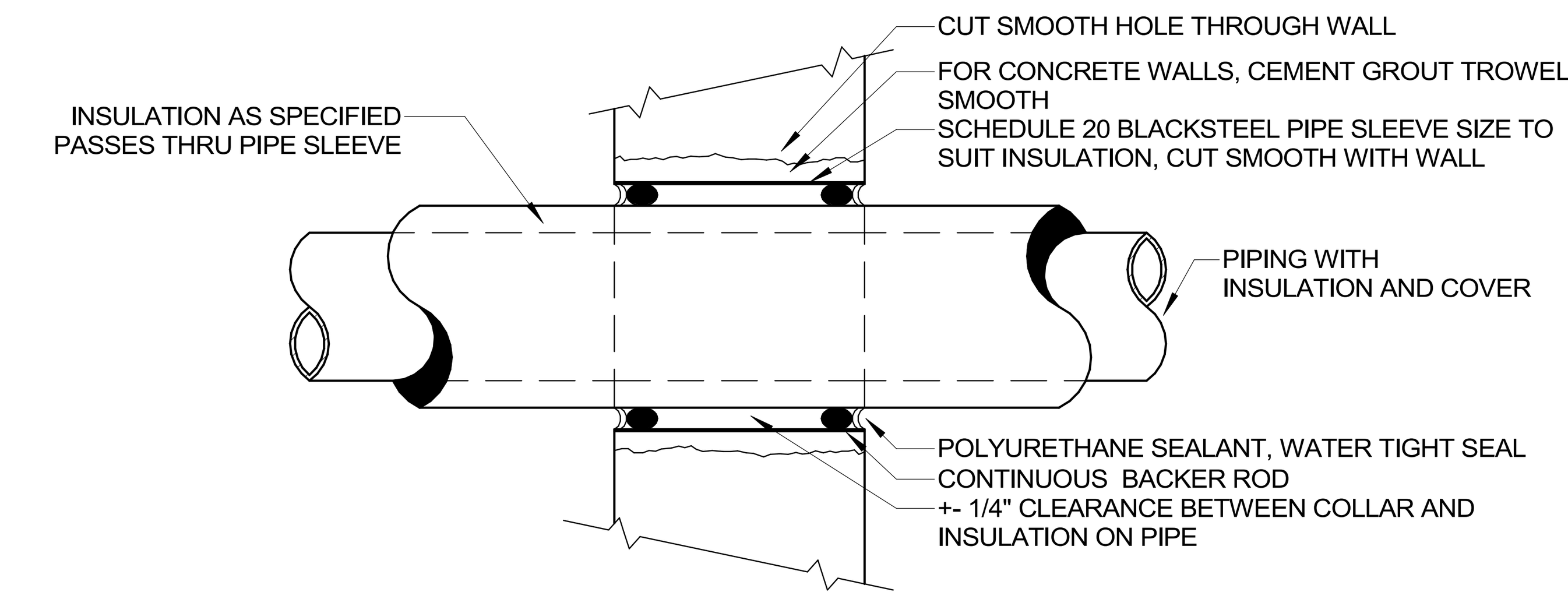
04-M1.01



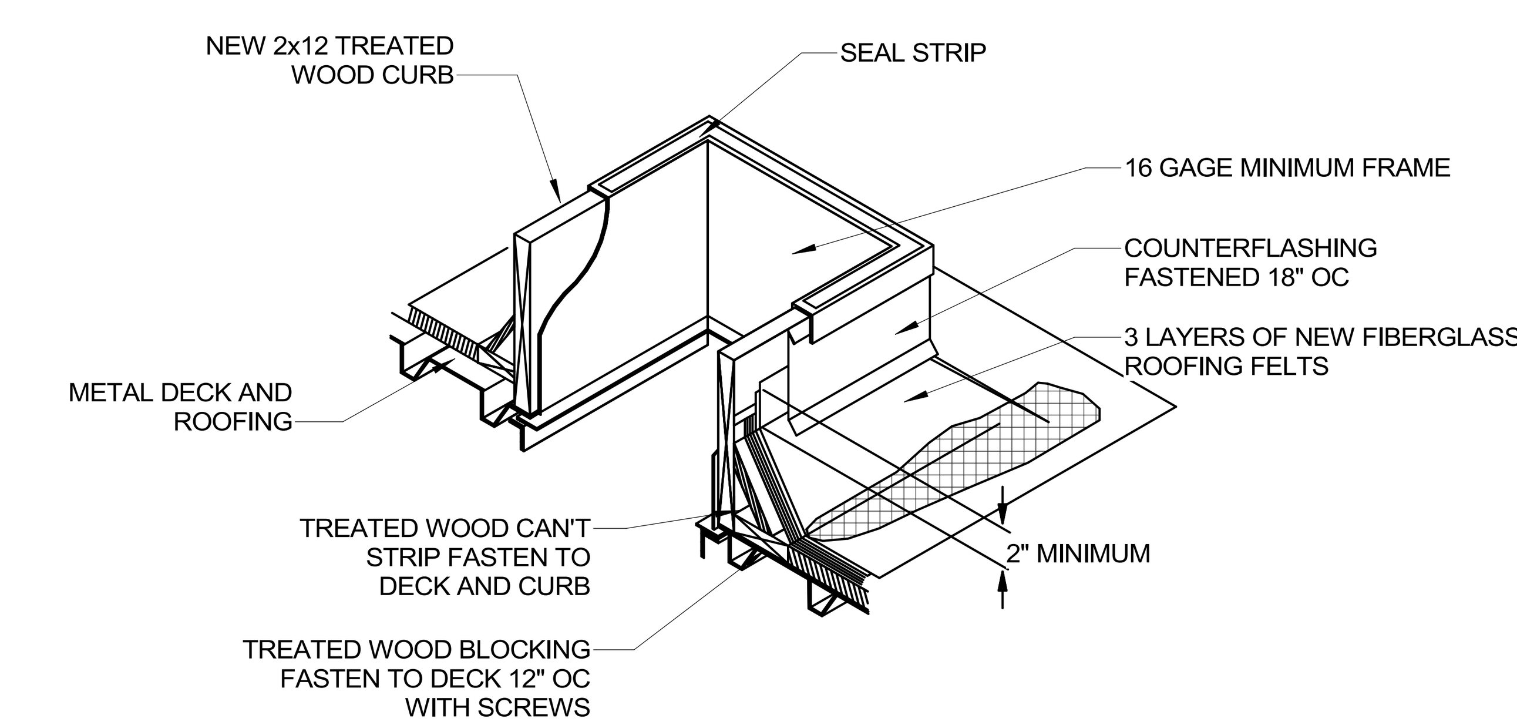
C5 GAS CONNECTION DETAIL
NOT TO SCALE



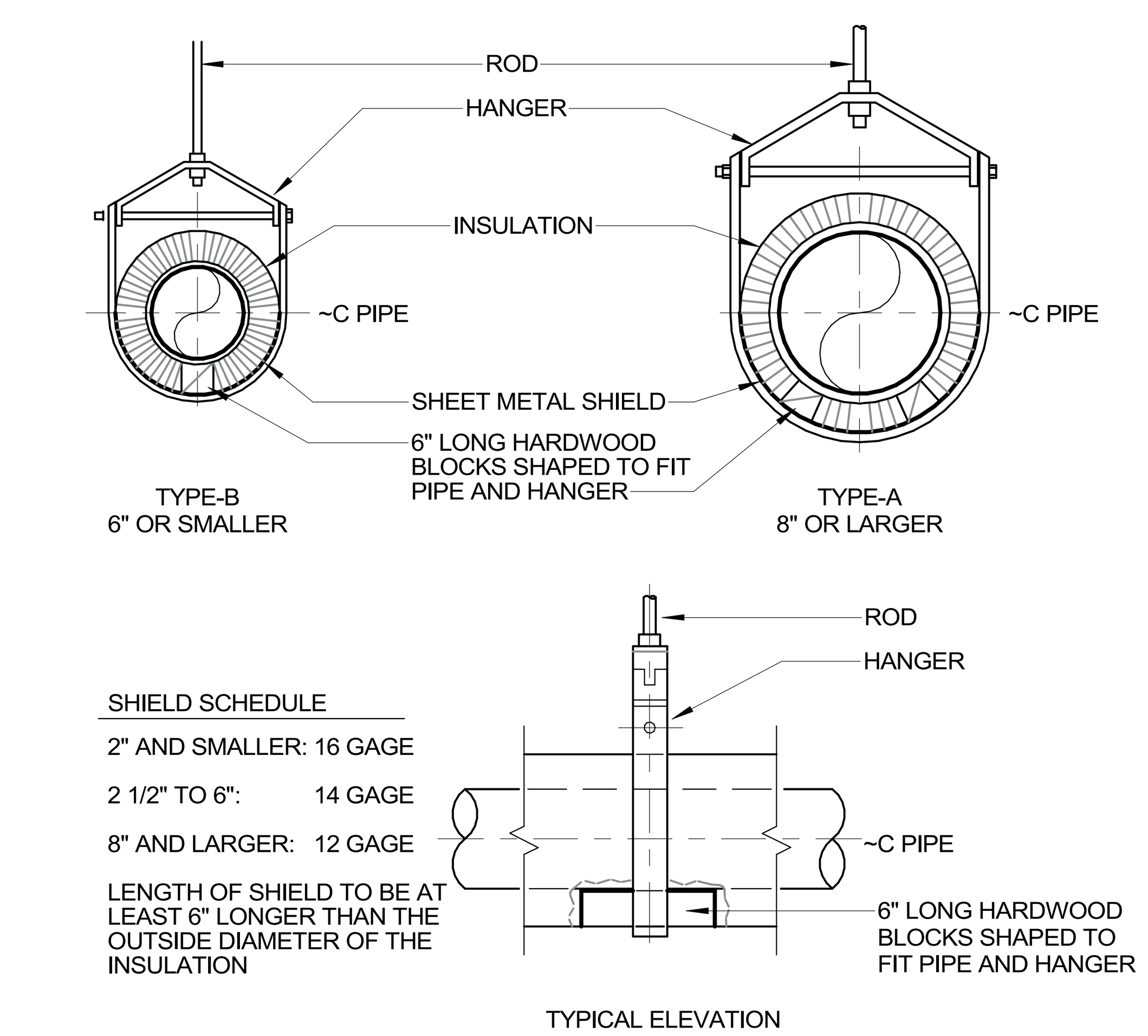
A3 GAS PIPING SCHEMATIC
NOT TO SCALE



D4 PIPE THROUGH WALL DETAIL
NOT TO SCALE

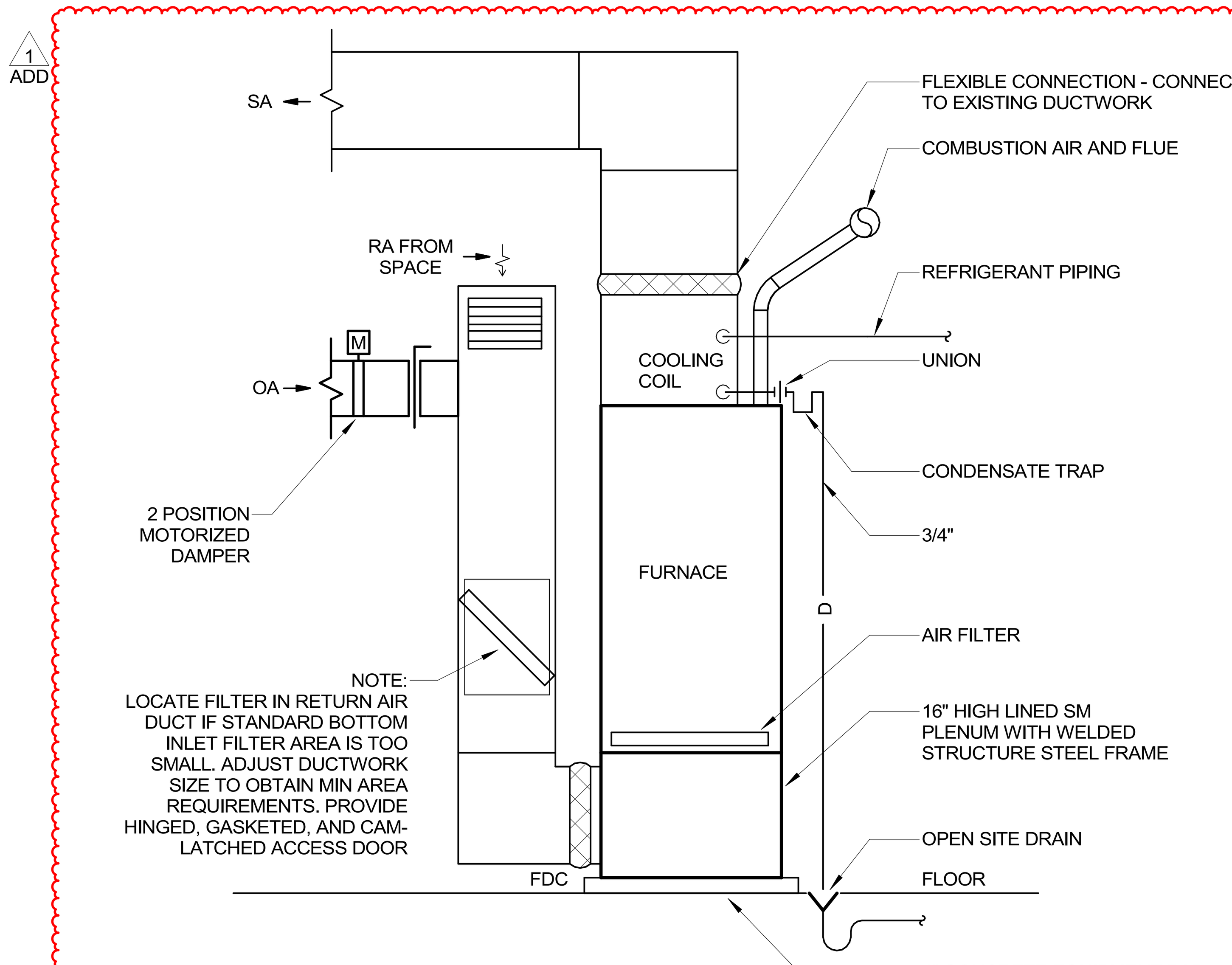


D3 ROOF CURB DETAIL
NOT TO SCALE

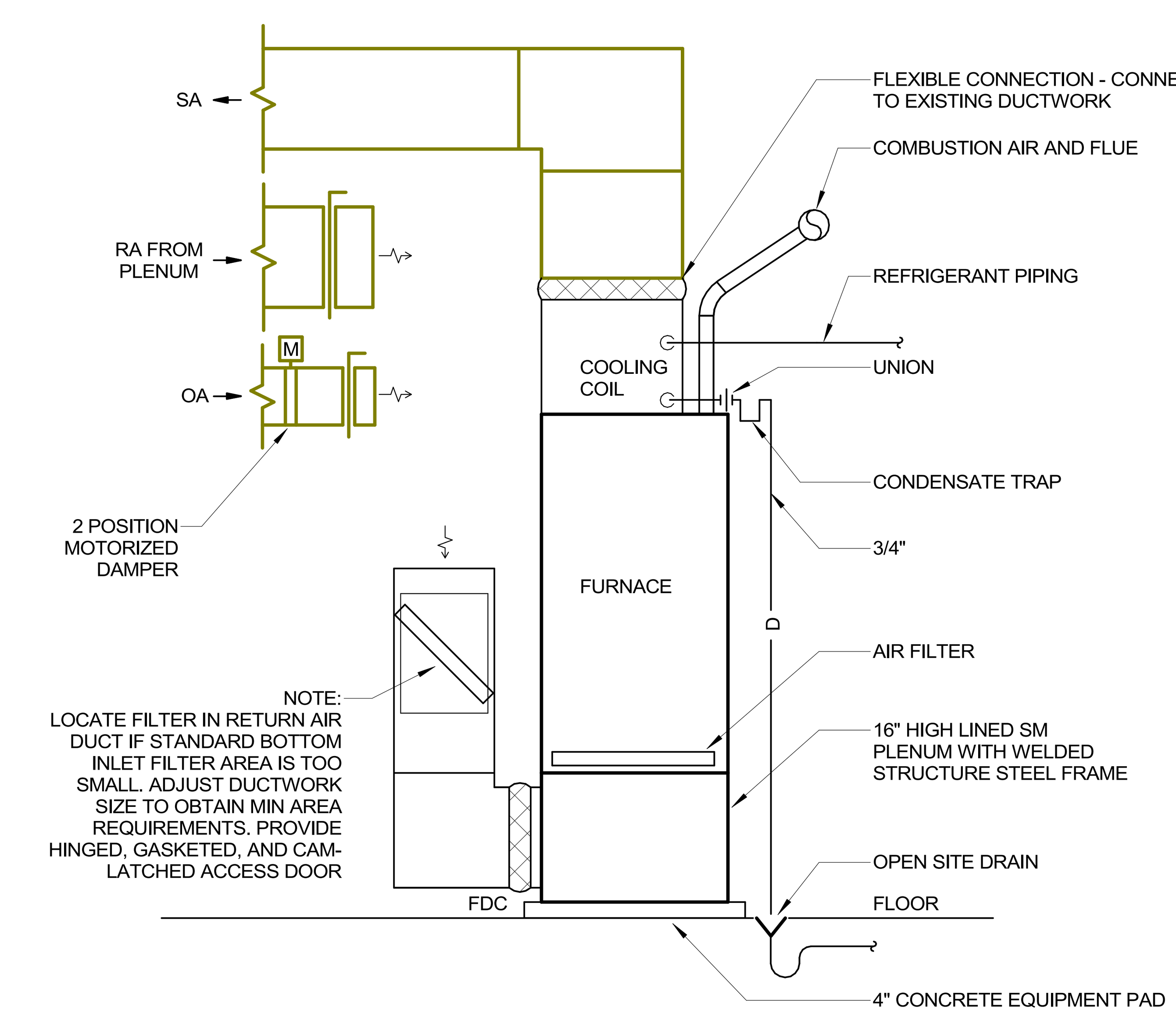


A1 INSULATED PIPE HANGER DETAIL
NOT TO SCALE

1 ADD



B1 NEW LAUNDRY FURNACE INSTALLATION DETAIL
NOT TO SCALE



D1 TYPICAL FURNACE INSTALLATION SCHEMATIC
NOT TO SCALE

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ADD 1	02-06-2020	ADDENDUM 01

DRAWN: JDB
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PROJECT NO: 4175681
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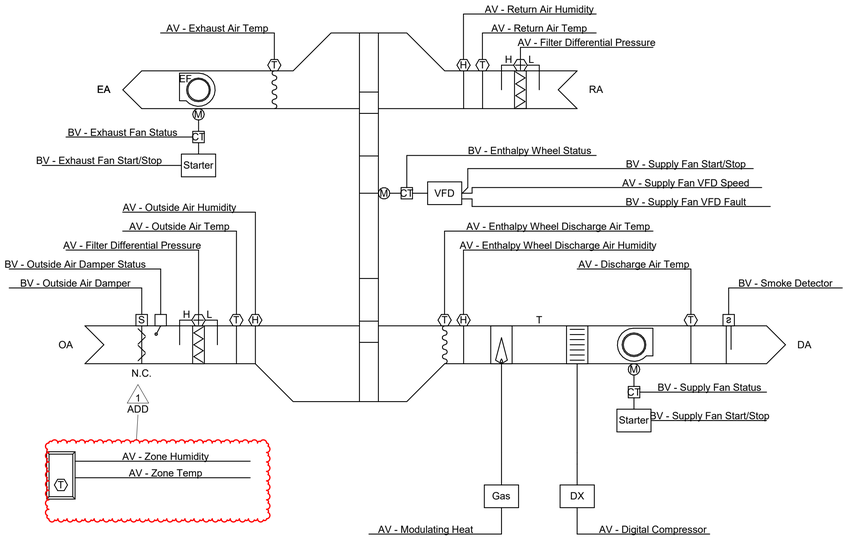
COTTAGES 7 & 8 MECHANICAL DETAILS

04-M5.00

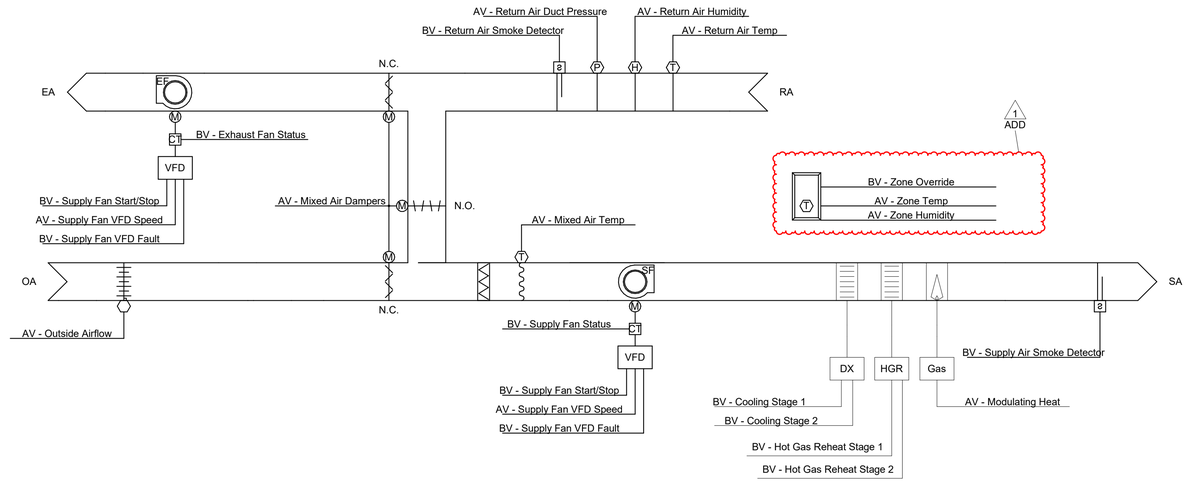


INTEGRATE AND TREND AVAILABLE PACKAGED UNIT CONTROL POINTS INTO CONTROLS GRAPHICS AS SHOWN ABOVE. AVAILABLE POINTS AND NAMES OF POINTS MAY VARY BY MANUFACTURER.

SCHEMATIC ABOVE IS THE MINIMUM INFORMATION TO DISPLAY ON THE GRAPHIC. INTEGRATE ALL OTHER AVAILABLE POINTS FOR DIAGNOSTIC PURPOSES. POINTS NOT SHOWN ON SCHEMATIC BUT AVAILABLE FOR INTEGRATION ARE NOT REQUIRED TO BE ON A GRAPHIC AND MAY BE DISPLAYED IN A LIST.

THE DDC CONTROL SYSTEM SHALL SET OCCUPIED AND UNOCCUPIED SETPOINTS AND SCHEDULES. COORDINATE SETPOINT TEMPERATURES AND SCHEDULES WITH OWNER DURING STARTUP.

A4 ERV INTEGRATION SCHEMATIC
NOT TO SCALE



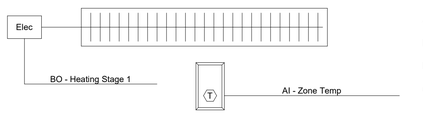
INTEGRATE AND TREND AVAILABLE PACKAGED UNIT CONTROL POINTS INTO CONTROLS GRAPHICS AS SHOWN ABOVE. AVAILABLE POINTS AND NAMES OF POINTS MAY VARY BY MANUFACTURER.

SCHEMATIC ABOVE IS THE MINIMUM INFORMATION TO DISPLAY ON THE GRAPHIC. INTEGRATE ALL OTHER AVAILABLE POINTS FOR DIAGNOSTIC PURPOSES. POINTS NOT SHOWN ON SCHEMATIC BUT AVAILABLE FOR INTEGRATION ARE NOT REQUIRED TO BE ON A GRAPHIC AND MAY BE DISPLAYED IN A LIST.

THE DDC CONTROL SYSTEM SHALL SET OCCUPIED AND UNOCCUPIED SETPOINTS AND SCHEDULES. COORDINATE SETPOINT TEMPERATURES AND SCHEDULES WITH OWNER DURING STARTUP.

THE DDC CONTROL SYSTEM SHALL BE CAPABLE OF MAUNAL OVERRIDE TO PROVIDE 100% OUTSIDE AIR WHEN AMBIENT TEMPERATURE IS ABOVE 40°F.

C4 RTU INTEGRATION SCHEMATICS
NOT TO SCALE



Run Conditions - Continuous:
The unit shall run continuously and shall maintain a heating setpoint of 70°F (adj.).

Alarms shall be provided as follows:

Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

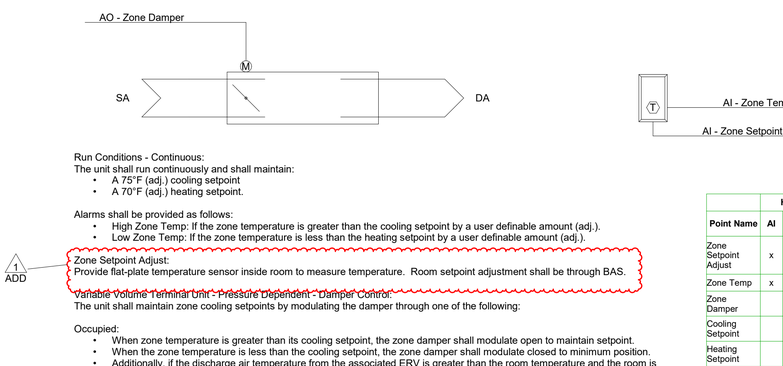
Electric Heating Stage:
The controller shall measure the zone temperature and stage the heating to maintain its heating setpoint. To prevent short cycling, the stage shall have a user definable (adj.) minimum runtime.

The heating shall be enabled whenever:

Outside air temperature is less than 65°F (adj.).
AND the zone temperature is below heating setpoint.

1 ADD

A3 ELECTRIC UNIT HEATER CONTROL
NOT TO SCALE



Furnaces

Run Conditions - Scheduled:
The unit shall run according to a user definable time schedule in the following modes:
- Occupied Mode: The unit shall maintain
  - A 75°F (adj.) cooling setpoint
  - A 70°F (adj.) heating setpoint.
- Unoccupied Mode (night setback): The unit shall maintain
  - A 85°F (adj.) cooling setpoint.
  - A 55°F (adj.) heating setpoint.

Alarms shall be provided as follows:
- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).
- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

The furnace shall operate the heating or cooling using factory controls. The BAS system shall send heat or cool requests to the factory controls based on zone temperature setpoint and mode.

Zone Mode Adjust:
The occupant shall be able to adjust the zone mode (heat or cool) at the zone sensor.

Zone Setpoint Adjust:
The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

Zone Optimal Start:
The unit shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

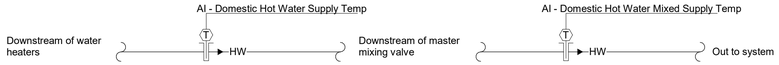
Zone Unoccupied Override:
A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule.

Supply Fan:
The supply fan shall run continuously during occupied modes, unless shutdown on safeties.

If Optimal Start Up is available, the outside air damper shall close and the return air damper shall open.

Minimum Outside Air Ventilation:
The outside air dampers shall open during building occupied hours and be closed during unoccupied hours. Balancer to set minimum outside airflow with manual damper.

A1a TYPICAL FURNACE CONTROL SCHEMATIC & SEQUENCE
NOT TO SCALE



Monitor and trend domestic hot water temperature downstream of master mixing valve.

Alarm if temperature is above 160°F
Alarm if temperature is below 100°F

C3a DOMESTIC HOT WATER TEMPERATURE MONITORING
NOT TO SCALE

Run Conditions - Continuous:
The unit shall run continuously and shall maintain:
- A 75°F (adj.) cooling setpoint
- A 70°F (adj.) heating setpoint.

Alarms shall be provided as follows:
- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).
- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

1 ADD

Zone Setpoint Adjust:
Provide flat-plate temperature sensor inside room to measure temperature. Room setpoint adjustment shall be through BAS.

Variable Volume Terminal Unit - Pressure Dependent - Damper Control:
The unit shall maintain zone cooling setpoints by modulating the damper through one of the following:

Occupied:
- When zone temperature is greater than its cooling setpoint, the zone damper shall modulate open to maintain setpoint.
- When the zone temperature is less than the cooling setpoint, the zone damper shall modulate closed to minimum position.
- Additionally, if the discharge air temperature from the associated ERV is greater than the room temperature and the room is less than its heating setpoint, the damper shall modulate open to maintain setpoint.

Unoccupied:
- When the zone is unoccupied the zone damper shall modulate closed to inactive position.
- When the zone temperature is greater than its cooling setpoint, the zone damper shall modulate open to maintain setpoint.

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Zone Setpoint Adjust	x										x
Zone Temp	x								x		x
Zone Damper		x							x		x
Cooling Setpoint					x				x		x
Heating Setpoint					x				x		x
High Zone Temp										x	
Low Zone Temp										x	

C1 SENSORY ROOM TEMPERATURE CONTROL
NOT TO SCALE

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ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
COTTAGES 7 & 8
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD	1	02-06-2020	ADDENDUM 01

DRAWN: Author
APPROVED: Approver
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO.:4175681
CLIENT NO: #8982.01

COTTAGES 7 & 8
MECHANICAL
CONTROLS

04-M5.01

NOTE:
EQUIVALENT PRODUCTS BY MANUFACTURERS WHICH ARE NOT LISTED IN SCHEDULES OR IN SPECIFICATIONS MAY BE USED WITH PRE-APPROVAL FROM ENGINEER. SEE SPECIFICATIONS FOR SUBSTITUTION REQUEST INSTRUCTIONS.

DIFFUSERS REGISTERS AND GRILLES SCHEDULE

MARK	MATERIAL	DESCRIPTION	FACE SIZE	FACTORY FINISH	DESIGN BASIS	REMARKS
CD-A	STEEL		24"x24"			
EG-B	STEEL	LONG BLADE	SEE PLANS	WHITE	TITUS 350FL	
EG-C	ALUMINUM	PERFORATED ANTI LIGATURE	SEE PLANS	WHITE	BE SAFE PROUD EG450	
LD-D	ALUMINUM	LINEAR DIFFUSER	2" SLOT	WHITE	TITUS FL-20	
RG-E	STEEL	EGGCRATE	24"x24"	WHITE	TITUS 50F	
RG-F	STEEL	LONG BLADE	24"x24"	WHITE	TITUS 350FL	
SG-G	ALUMINUM	PERFORATED ANTI LIGATURE	SEE PLANS	WHITE	BE SAFE PROUD EG450	
SG-H	STEEL	DOUBLE DEFLECTION	24"x24"	WHITE	TITUS 272FL	

UNIT HEATER SCHEDULE - ELECTRIC

NOTES:
1. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

MARK	CFM	EAT (°F)	KW	MOUNTING HEIGHT (FT)	ORIENTATION	ELECTRICAL DATA			DESIGN BASIS	REMARKS
						VOLTS	PHASE	FLA		
EUH7-1	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	QMARK VFK151F	
EUH7-2	100	50	4	2' - 0"	HORIZONTAL	208	1	19	BERKO VFK408F	
EUH7-3	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	QMARK VFK151F	
EUH7-4	100	50	4	2' - 0"	HORIZONTAL	208	1	19	BERKO VFK408F	
EUH7-5	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	QMARK VFK151F	
EUH7-6	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	QMARK VFK151F	
EUH8-1	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	QMARK VFK151F	
EUH8-2	100	50	4	2' - 0"	HORIZONTAL	208	1	19	BERKO VFK408F	
EUH8-3	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	QMARK VFK151F	
EUH8-4	100	50	4	2' - 0"	HORIZONTAL	208	1	19	BERKO VFK408F	
EUH8-5	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	QMARK VFK151F	
EUH8-6	100	50	1.5	2' - 0"	HORIZONTAL	120	1	13	QMARK VFK151F	

AIR COOLED CONDENSING UNIT SCHEDULE

NOTES:
1. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

MARK	LOCATION	SYSTEM SERVED	CAPACITY (MBH)	COND AMBIENT AIR TEMP (°F)	MINIMUM OPERATING AMBIENT TEMPERATURE (°F)	STEPS OF UNLOADING	NUMBER OF CIRCUITS	NUMBER OF COMPRESSORS	AHRI SEER	ELECTRICAL DATA			OPERATING WEIGHT	REFRIGERANT TYPE	DESIGN BASIS	REMARKS
										VOLTS	PHASE	MCA				
ACCU7-1	ROOF	GF7-1	24	95	45	1	1	1	20	208	1	15	243.00	R-410A	LENNOX XC20-024	
ACCU7-2	ROOF	GF7-2	46	95	45	2	1	1	15	208	3	16	288.00	R-410A	LENNOX SSB048H4	
ACCU8-1	ROOF	GF8-1	24	95	45	1	1	1	20	208	1	15	243.00	R-410A	LENNOX XC20-024	

FURNACE - GAS SCHEDULE

NOTES:
1.DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. PROVIDE WITH DIRECT DRIVE FAN WITH EC MOTOR AND 2-STAGE HEATING OPERATION.
3. PROVIDE AND INSTALL CONDENSATE NEUTRALIZATION AND ROUTE CONDENSATE TO FLOOR DRAIN.

MARK	AREA SERVED	OA CFM	CFM	ESP (IN WC)	COOLING COIL DATA				HEATING DATA						ELECTRICAL DATA			DESIGN BASIS	REMARKS
					TOTAL MBH	EAT DB (°F)	LAT DB (°F)	MODEL	EAT (°F)	LAT (°F)	INPUT MBH	OUTPUT MBH	THERMAL EFFICIENCY	MINIMUM GAS PRESSURE	AFUE	HP	VOLTS	PHASE		
GF7-1	COTTAGE 7 LAUNDRY	100	800	0.80	24	80	55	CX35-30B	60	95	44	42	96	3.5	96	1/2	120	1	LENNOX EL296UH045XV36B	
GF7-2	OFFICES	150	1560	0.80	46	80	55	CX35-48C	50	95	88	85	96	3.5	96	3/4	120	1	LENNOX EL296UH090XV48C	
GF8-1	COTTAGE 8 LAUNDRY	100	800	0.80	24	80	55	CX35-30B	60	95	44	42	96	3.5	96	1/2	120	1	LENNOX EL296UH045XV36B	

ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	SUPPLY FAN DATA				EXHAUST FAN DATA				SUMMER OPERATION						COOLING COIL							WINTER OPERATION							HEATING COIL				ELECTRICAL DATA				DESIGN BASIS	REMARKS
	CFM	ESP (IN WC)	BHP	HP	CFM	ESP (IN WC)	BHP	HP	OUTSIDE AIR EAT		RETURN AIR EAT		TEMPERED AIR LAT		EFFECTIVENESS	TOTAL REC MBH	COIL EAT		COIL LAT		TOTAL MBH	SENSIBLE MBH	COIL APD	OUTDOOR AIR EAT		RETURN AIR EAT		TEMPERED AIR LAT		EFFECTIVENESS	TOTAL REC MBH	HEATING COIL EAT (DB)	HEATING COIL LAT (DB)	INPUT (MBH)	OUTPUT (MBH)	VOLTS	PHASE	MCA	MOCP		
									DB	WB	DB	WB	DB	WB			DB	WB	DB	WB				DB	WB	DB	WB	DB	WB										
ERV7-1	1250	0.75	0.73	0.75	1250	0.75	0.80	1.00	95	78	72	60	76	65	79	71.0	76	65	52	52	48.5	33.2	0.28	-10	-11	72	56	58	47	81.7	91.4	58	110	100	80	208	3	36	50	GREENHECK ERCH-20	
ERV8-1	1250	0.75	0.73	0.75	1250	0.75	0.80	1.00	95	78	91	60	76	65	79	71.0	76	65	52	52	48.5	33.2	0.28	-10	-11	72	56	58	47	81.7	91.4	58	110	100	80	208	3	36	50	GREENHECK ERCH-20	

PACKAGED ROOFTOP UNIT SCHEDULE

NOTES:
1. COMPRESSORS SHALL BE TWO-STAGE.
1 ADD 2. HOT GAS REHEAT.
3. TWO STAGE GAS HEAT.
4. PROVIDE SINGLE POINT POWER CONNECTION, FACTORY-MOUNTED NON-FUSED DISCONNECT SWITCH, AND CONVENIENCE OUTLET.
5. PROVIDE ROOF CURB ADAPTER.
6. PROVIDE DRY-BULB ECONOMIZER WITH POWERED EXHAUST. SET ECONOMIZER ON TO 67°F
7. UNIT SHALL BE SINGLE-ZONE VAV WITH BACNET AND DISPLAY.
8. UNIT SHALL HAVE MERV 8 FILTERS.
1 ADD 9. PROVIDE HAIL GUARDS.
10. PROVIDE CONDENSATE OVERFLOW SWITCH.
1 ADD 11. NOT USED.
12. PROVIDE VFD ON SUPPLY FAN WITH SHAFT GROUNDING RING.
13. PROVIDE MOTORIZED OUTSIDE AIR DAMPERS. BALANCE MINIMUM OUTSIDE AIR TO CFM SCHEDULED.
14. UNITS SHALL HAVE A MAXIMUM OPERATING WEIGHT OF 1500 LBS.

MARK	COOLING CAPACITY (TONS)	SUPPLY CFM	OA CFM	SUPPLY FAN DATA					EXHAUST FAN DATA			COOLING COIL							HEATING COIL							UNIT ELECTRICAL DATA				DESIGN BASIS	REMARKS
				RPM	STATIC PRESSURE TOTAL (T.S.P.)	STATIC PRESSURE EXTERNAL (E.S.P.)	SUPPLY FAN ELECTRICAL DATA BHP	SUPPLY FAN ELECTRICAL DATA HP	EXHAUST FAN CFM	STATIC PRESSURE EXTERNAL (E.S.P)	MOTOR DATA HP	TYPE	EAT (°F) DB	EAT (°F) WB	LAT (°F) DB	LAT (°F) WB	REFRIGERANT TYPE	MBH	SENSIBL E MBH	TYPE	EAT DB (°F)	LAT DB (°F)	APD (IN WC)	MBH	GAS INPUT (MBH)	GAS OUTPUT (MBH)	GAS THERMAL EFFICIENCY	MCA	MOCP	VOLTS	PHASE		
RTU7-1	7.5	3000	350	3450	1.33	1.00	1.4	2.8	1600	0.40	0.9	DX	78	66	58	56	R-410A	86.55	61.91	NATURAL GAS	59	96	0.33	150	150	120	80	47	50	208	3	TRANE YHC092F3RMA	
RTU7-2	7.5	3250	450	3450	1.38	1.00	1.8	2.8	1600	0.40	0.9	DX	79	67	59	58	R-410A	88.24	64.18	NATURAL GAS	54	100	0.20	200	200	160	80	47	50	208	3	TRANE YHC092F3RMA	
RTU8-1	7.5	3000	350	3450	1.33	1.00	1.4	2.8	1600	0.40	0.9	DX	78	66	58	56	R-410A	86.55	61.91	NATURAL GAS	59	96	0.33	150	150	120	80	47	50	208	3	TRANE YHC092F3RMA	
RTU8-2	7.5	3250	450	3450	1.38	1.00	1.8	2.8	1600	0.40	0.9	DX	79	67	59	58	R-410A	88.24	64.18	NATURAL GAS	54	100	0.20	200	200	160	80	47	50	208	3	TRANE YHC092F3RMA	

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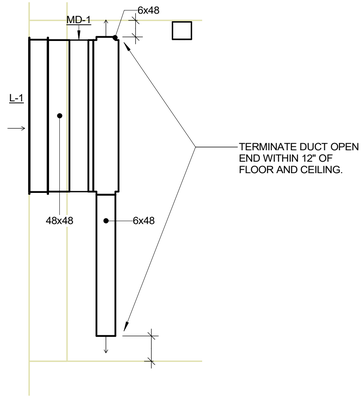
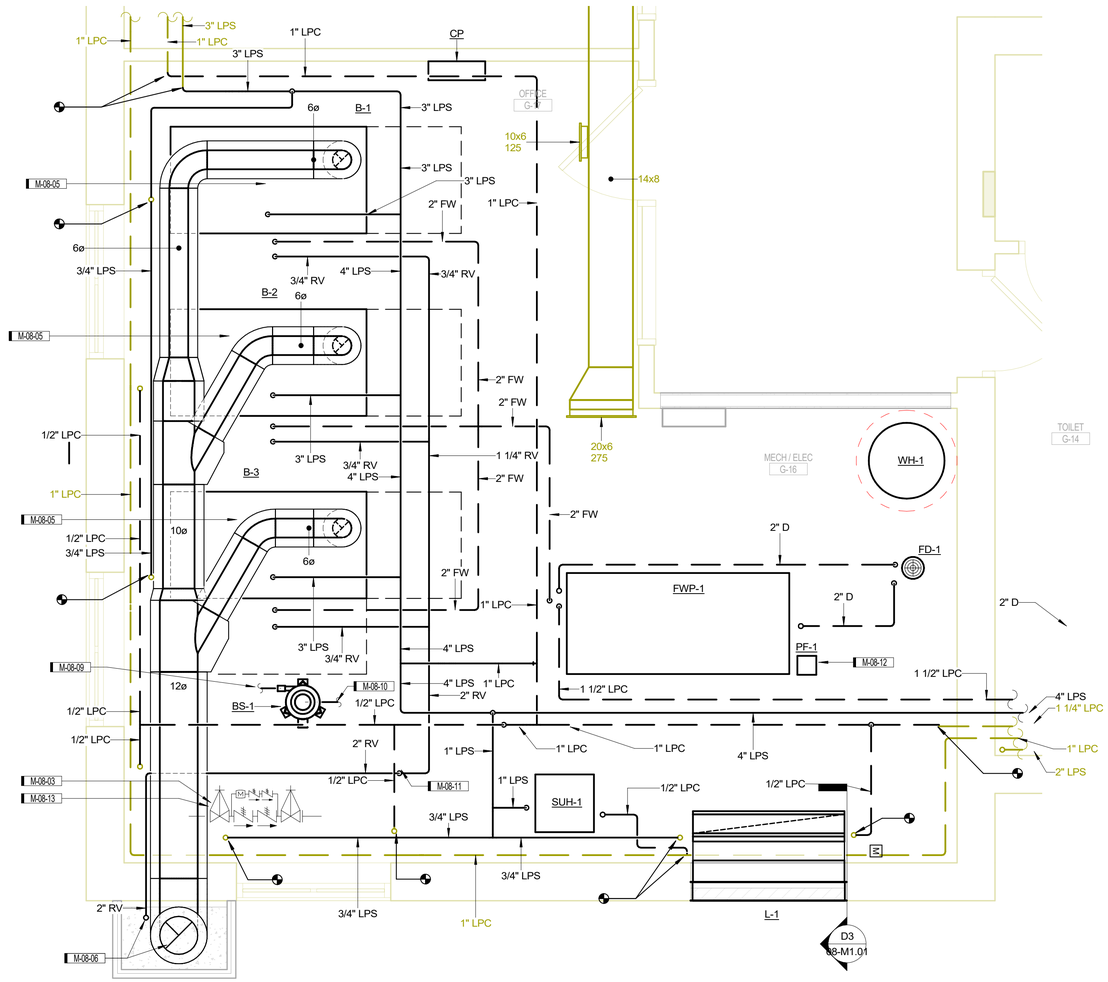
COTTAGES 7 & 8
MECHANICAL
SCHEDULES

04-M6.00

KEYNOTE LEGEND	
KEY	NOTE
M-08-01	CONNECT EXISTING LPS PIPE TO NEW LPS PIPE.
M-08-03	FUTURE FIRE PROTECTION BACKFLOW PREVENTER PLACEHOLDER
M-08-04	CONNECT LOW PRESSURE CONDENSATE LINE TO NEW CONDENSATE PUMP.
M-08-05	MAINTAIN 2'-0" CLEARANCE BETWEEN UNITS AND 2'-6" CLEARANCE IN FRONT OF UNITS PER MANUFACTURER'S REQUIREMENTS.
M-08-06	ROUTE BOILER VENTING UP NEW EXTERNAL CHASE. TERMINATE VENT 3'-0" ABOVE ROOF LINE WITH LISTED VENT CAP. ROUTE STEAM RELIEF VENT UP NEW EXTERNAL CHASE. TERMINATE STEAM RELIEF VENT 7'-0" ABOVE ROOF LINE. CUT TOP OF VENT LINE AT A 45 DEGREE ANGLE TO DISSIPATE DISCHARGE THRUST.
M-08-09	CONNECT 1" BLOWDOWN PIPING TO EACH BOILER. SEE BOILER DETAIL FOR PIPING CONNECTIONS.
M-08-10	ROUTE 1" DRAIN PIPING TO FLOOR DRAIN.
M-08-11	ROUTE 3/4" DRAIN PIPING FROM DRIP PAN ELBOW TO FLOOR DRAIN. SEE SAFETY VALVE DISCHARGE DETAIL.
M-08-12	POT FEEDER SUPPLIED BY WATER TREATMENT PROVIDER. REFER TO POT FEEDER DETAIL FOR CONNECTIONS AND PIPING.
M-08-13	MAINTAIN 2'-0" CLEARANCE IN FRONT OF BACKFLOW PREVENTER.

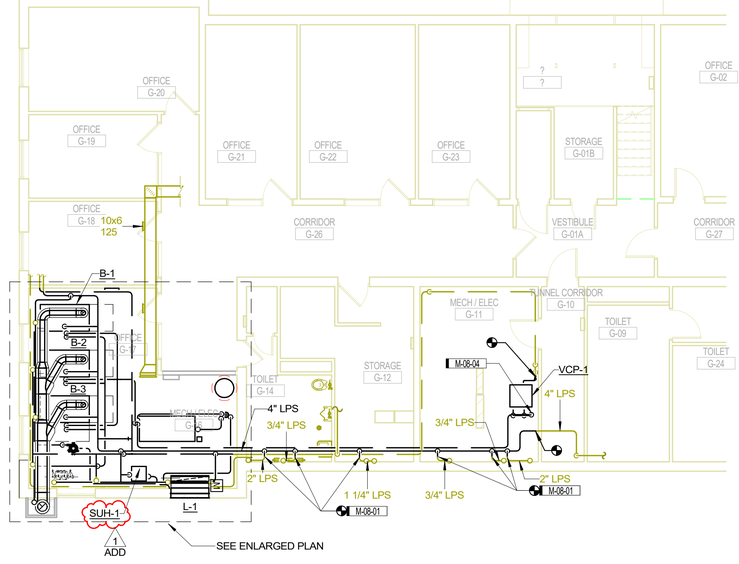


D3 COMBUSTION AIR DUCT SECTION
1/2" = 1'-0"



NORTH

A1 ADMINISTRATION BUILDING GROUND FLOOR ENLARGED MECHANICAL PLAN
1/2" = 1'-0"



NORTH

B4 ADMINISTRATION BUILDING GROUND FLOOR MECHANICAL PLAN
1/8" = 1'-0"

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BUILDING PACKAGE
ADMINISTRATIVE BUILDING
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD	1	02-06-2020	ADDENDUM 01

DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO: 4175681
CLIENT NO: #8982.01

ADMINISTRATION BUILDING MECHANICAL PLAN GROUND FLOOR

08-M1.01

NOTE: EQUIVALENT PRODUCTS BY MANUFACTURERS WHICH ARE NOT LISTED IN SCHEDULES OR IN SPECIFICATIONS MAY BE USED WITH PRE-APPROVAL FROM ENGINEER. SEE SPECIFICATIONS FOR SUBSTITUTION REQUEST INSTRUCTIONS.

VACUUM CONDENSATE PUMP

MARK	SYSTEM SERVED	TYPE	RATING AT 5-1/2" HG VACUUM AT 160°F SIMULTANEOUS		HEAD (FT)	MOTOR DATA				DESIGN BASIS	REMARKS
			GPM	AIR CFM		HP	VOLTS	PHASE	RPM		
VCP-1	CONDENSATE RETURN	VACUUM	7	3	46.00	1	120	1	3500	SHIPCO 5 LRV2-20-171	

1 ADD

FEEDWATER PUMP SCHEDULE

NOTES:
1. FEEDWATER PUMP ASSEMBLY SHALL HAVE SINGLE POINT POWER CONNECTION WITH CONTROL PANEL.
2. UNIT SHALL BE SIZED WITH ONE STANDBY PUMP.
3. INTERLOCK PUMP OPERATION WITH BOILER LOW WATER FEED CONTROL.

1 ADD

MARK	TANK VOLUME	GPM (PER PUMP)	HEAD (PSI)	NUMBER OF PUMPS	PUMP HP (EACH)	ELECTRICAL DATA		MOCP	DESIGN BASIS	REMARKS
						VOLTS	PHASE			
FWP-1	71	3	20.00	4	1/3	208	1	20	SHIPCO QUADRUPLEX CS-B	

LOUVER SCHEDULE

MARK	AIR FLOW (CFM)	DIMENSIONS			MAX FREE AREA (%)	FREE AREA VELOCITY (FPM)	PRESSURE DROP (WG)	DESIGN BASIS	REMARKS
		HEIGHT (IN.)	WIDTH (IN.)	DEPTH (IN.)					
L-1	1050	48	48	4"	44	150	0.01	GREENHECK FDS-402	

BOILER SCHEDULE - STEAM

NOTES:
1. MANUFACTURER SHALL PROVIDE PRESSURE SAFETY VALVE FOR BOILER. CONTRACTOR SHALL ROUTE AND TERMINATE RELIEF PIPING PER MANUFACTURER'S REQUIREMENTS.
2. PROVIDE COMMUNICATIONS BRIDGE TO BACNET. PROVIDE DISPLAY ON DDC SYSTEM WHICH SHOWS BOILER ENABLE/DISABLE, STEAM SUPPLY PRESSURE SET POINT AND SUMMARY ALARM FOR EACH BOILER.
3. INTERLOCK BOILER OPERATION WITH MOTORIZED DAMPER AT COMBUSTION AIR INTAKE LOUVER.

MARK	FUEL	GAS PRESSURE MIN. (IN. WC.)	GAS PRESSURE MAX (IN. WC.)	INPUT (MBH)	GROSS OUTPUT (MBH)	EFFICIENCY	OPERATING PRESSURE	ELECTRICAL DATA		TURNDOWN RATIO	BOILER DESIGN BASIS	REMARKS
								VOLTS	PHASE			
B-1	NATURAL GAS	4	14	350	280	80	14.5	120	1	10:1	BRYAN DR350S	
B-2	NATURAL GAS	4	14	350	280	80	14.5	120	1	10:1	BRYAN DR350S	
B-3	NATURAL GAS	4	14	350	280	80	14.5	120	1	10:1	BRYAN DR350S	

UNIT HEATER SCHEDULE - STEAM

NOTES:
1. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

1 ADD

MARK	CFM	EAT (°F)	LAT (°F)	MBH	STEAM PRESSURE (PSI)	STEAM LBS/HR	MOUNTING HEIGHT (FT)	ORIENTATION	ELECTRICAL DATA			DESIGN BASIS	REMARKS
									FLA	VOLTS	PHASE		
SUH-1	860	-5	95	89	15.00	67	6' - 0"	HORIZONTAL	1.2	115	1	REZNOR WS 44/62	

MOTOR OPERATED DAMPER SCHEDULE

NOTES:
1. PROVIDE WITH DAMPER END SWITCH. MOTORIZED DAMPER SHALL BE INTERLOCKED WITH BOILER OPERATION. BOILERS SHALL NOT OPERATE UNTIL DAMPER END SWITCH IS PROVED.
2. CONTROLS CONTRACTOR TO PROVIDE AND INSTALL 120V TO 24V TRANSFORMER. COORDINATE 120V POWER WITH ELECTRICAL CONTRACTOR.

MARK	EQUIPMENT SERVED	CFM	APD (IN)	DIMENSIONS		INSULATED BLADE	BLADE ORIENTATION	ACTUATOR		POWER FAILURE POSITION	REMARKS
				H	W			BY	VOLTS		
MD-1	BOILER COMBUSTION AIR	1050	0.01	48	48	YES	HORIZONTAL	CONTROLS CONTRACTOR	24	OPEN	1

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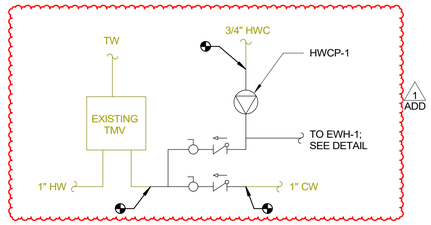
ADMINISTRATIVE BUILDING
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD 1 02-06-2020 ADDENDUM 01

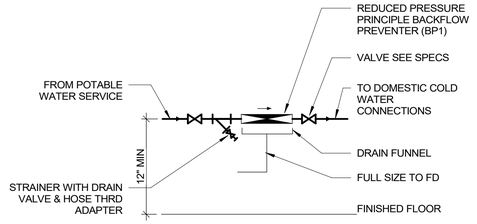
DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO: 4175681
CLIENT NO: #8982.01

ADMINISTRATION BUILDING MECHANICAL SCHEDULES

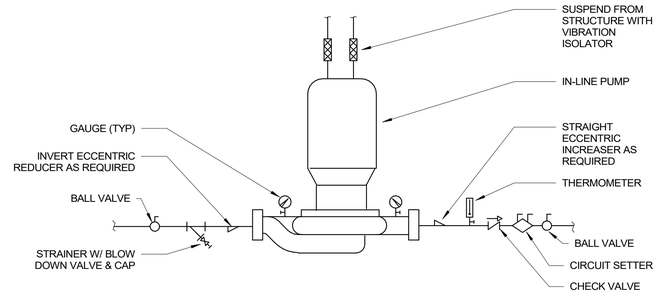
08-M6.00



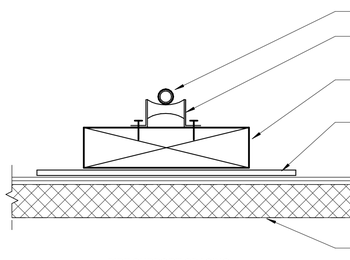
A4 THERMOSTATIC MIXING VALVE SCHEMATIC
NOT TO SCALE



B4 BACKFLOW PREVENTER DETAIL
NOT TO SCALE



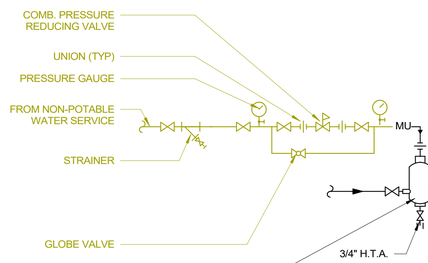
C4 PIPING DIAGRAM - IN-LINE PUMP
NOT TO SCALE



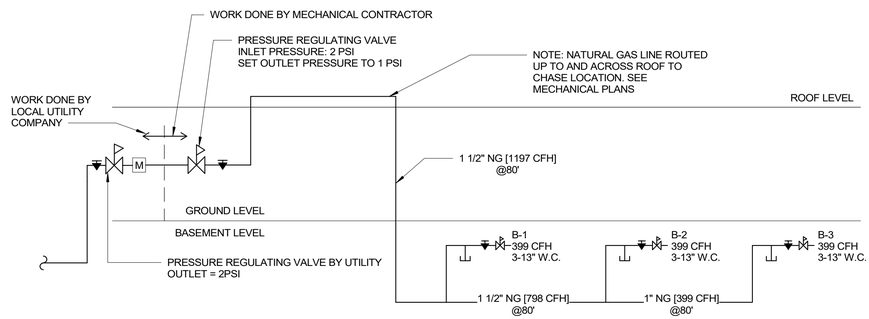
PIPE SUPPORT SPACING

PIPE SIZE	SPACING	DISTANCE FROM SLEEVE/OFFSET/CORNER
<= 1 1/4"	6'-0" OC	2'-0" OC
1 1/2"-2"	5'-0" OC	2'-0" OC
> 2"	4'-0" OC	2'-0" OC

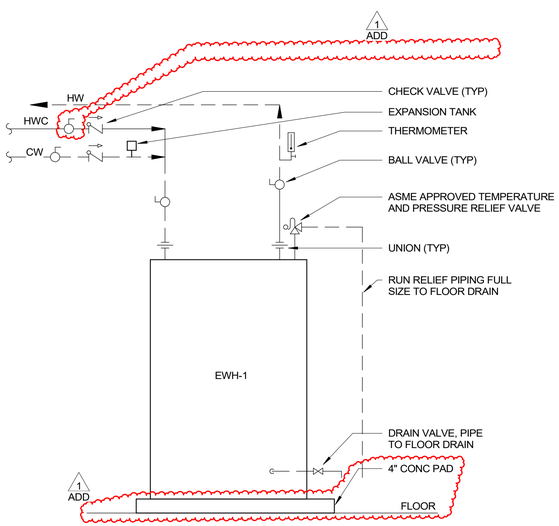
A3 ROLLER TYPE PIPE SUPPORT ON ROOF
NOT TO SCALE



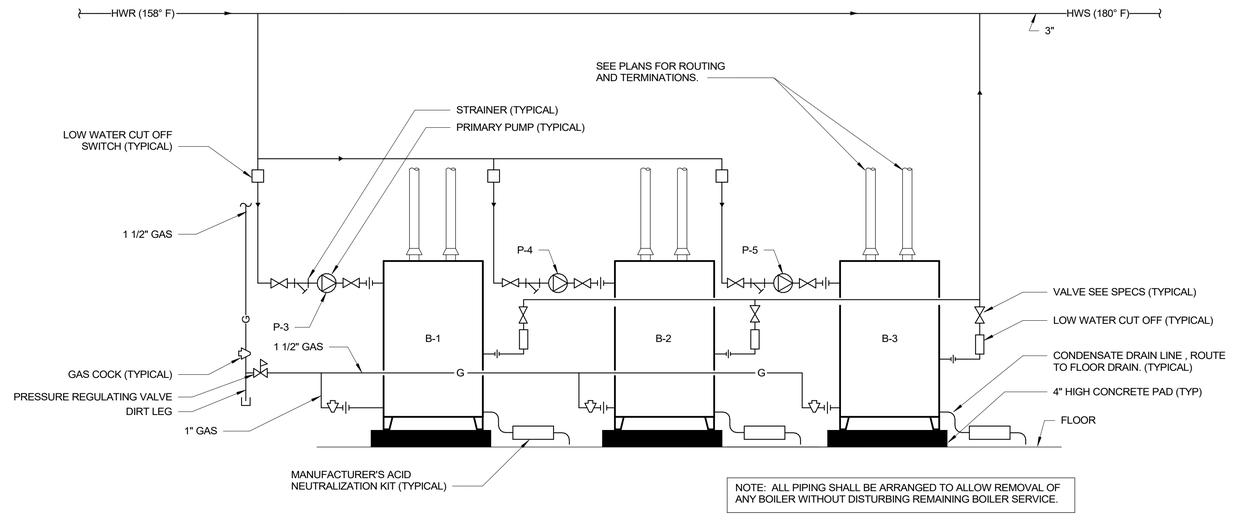
B3 AIR SEPARATOR/BLADDER TYPE EXP. TANK DETAIL
NOT TO SCALE



C3 GAS PIPING SCHEMATIC
NOT TO SCALE



A1 ELECTRIC WATER HEATER PIPING DETAIL
NOT TO SCALE



C1 BOILER PIPING DETAIL
NOT TO SCALE

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ELDORA STS DECENTRALIZATION BUILDING PACKAGE A.E. SHEPHERD

IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

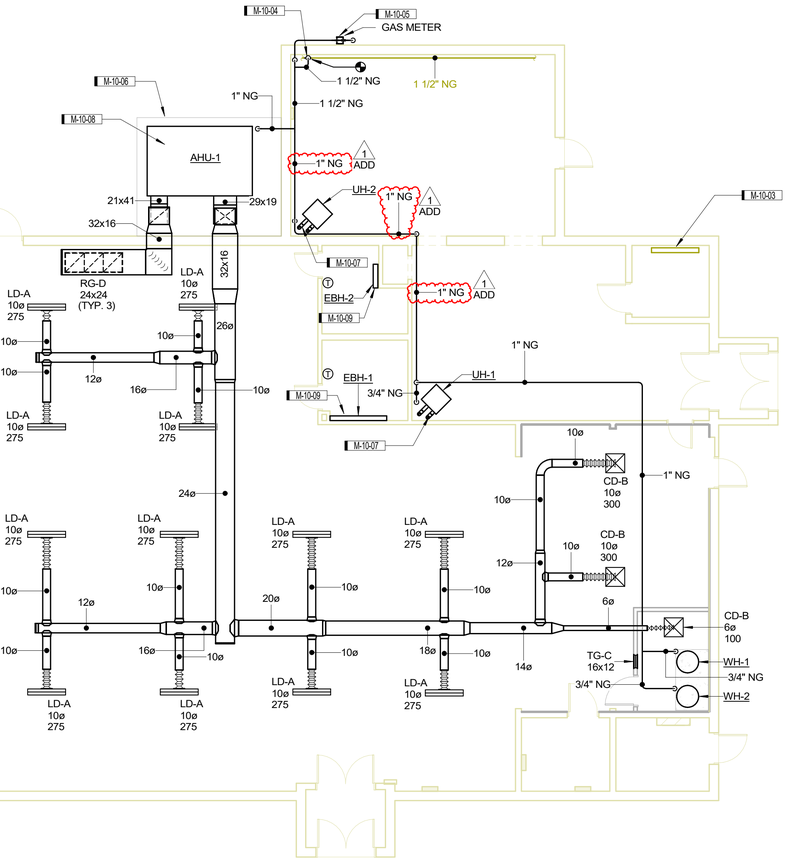
ADD	DATE	DESCRIPTION
1	02-06-2020	ADDENDUM 01

DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO.:4175681
CLIENT NO: #8982.01

A.E. SHEPHERD MECHANICAL DETAILS

09-M5.00

KEYNOTE LEGEND	
KEY	NOTE
M-10-03	EXISTING ELECTRIC BASEBOARD HEATER TO REMAIN.
M-10-04	CONNECT TO EXISTING NATURAL GAS HEADER FOR DRYERS.
M-10-05	NEW NATURAL GAS METER PROVIDED AND INSTALLED BY LOCAL UTILITY COMPANY. ALL WORK DOWNSTREAM OF METER BY MECHANICAL CONTRACTOR.
M-10-06	PROVIDE NEW EQUIPMENT PAD AT A HEIGHT OF 1'-0" ABOVE GRADE.
M-10-07	ROUTE COMBUSTION AIR AND VENT TO ROOF AND TERMINATE WITH CONCENTRIC VENT.
M-10-08	MAINTAIN AIR HANDLING UNIT MANUFACTURER'S MINIMUM SERVICE CLEARANCES.
M-10-09	COORDINATE INSTALLATION OF BASEBOARD HEATERS WITH ABATEMENT CONTRACTOR.



PLAN NORTH

TRUE NORTH

C1 MECHANICAL PLAN

1/8" = 1'-0"

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ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
CANTEEN
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD	1	02-06-2020	ADDENDUM - 01

DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO:4175681
CLIENT NO: #8982.01

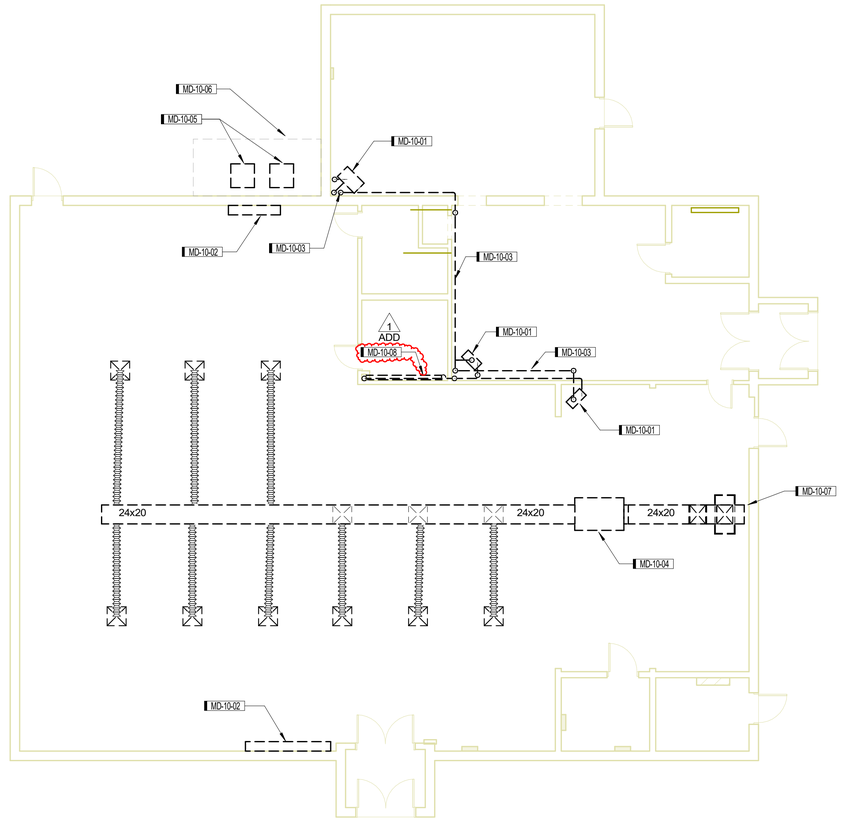
CANTEEN MECHANICAL LAYOUT

10-M1.01

KEYNOTE LEGEND

KEY	NOTE
MD-10-01	REMOVE STEAM UNIT HEATER AND ASSOCIATED STEAM AND CONDENSATE PIPING.
MD-10-02	REMOVE STEAM CABINET UNIT HEATER. DEMOLISH ASSOCIATED STEAM AND CONDENSATE PIPING BACK TO TUNNEL AND CAP.
MD-10-03	REMOVE STEAM AND CONDENSATE PIPING BACK TO TUNNEL BELOW SLAB AND CAP.
MD-10-04	REMOVE EXISTING COOLING UNIT ABOVE CEILING.
MD-10-05	DEMOLISH EXISTING CONDENSING UNITS AND ASSOCIATED REFRIGERANT PIPING.
MD-10-06	DEMOLISH EXISTING EQUIPMENT PAD.
MD-10-07	CAP EXISTING LOUVER WITH 2" RIGID INSULATION AND SHEET METAL ON BACK OF LOUVER.
MD-10-08	REMOVE RADIATOR AND AND ASSOCIATED EXPOSED STEAM PIPING. COORDINATE WITH ABATEMENT CONTRACTOR.

1 ADD



PLAN NORTH
TRUE NORTH

C1 MECHANICAL DEMOLITION PLAN
1/8" = 1'-0" 0

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ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
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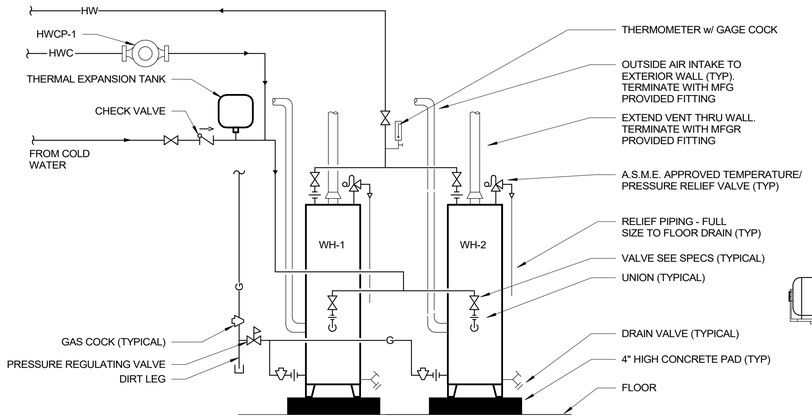
ADD	1	02-06-2020	ADDENDUM - 01

DRAWN: MDP
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO: 4175681
CLIENT NO: #8982.01

CANTEEN MECHANICAL DEMOLITION

10-MD.01



NOTE: ALL PIPING SHALL BE ARRANGED TO ALLOW REMOVAL OF ANY WATER HEATER WITHOUT DISTURBING REMAINING WATER HEATER SERVICE.

A4 GAS-FIRED WATER HEATER DETAIL
NOT TO SCALE

PLUMBING FIXTURE SCHEDULE:

FD-1 (FLOOR DRAIN):

FIXTURE: 3" ZURN Z-415-B SERIES, CAST IRON, MEMBRANE CLAMP, FLASHING COLLAR, WEEP HOLES, HUB OUTLET WITH GASKETED CONNECTION, 5" DIA ADJUSTABLE NICKEL BRONZE STRAINER, VANDAL-PROOF. SET TOP OF STRAINER FLUSH WITH FINISHED FLOOR. PROVIDE DEEP SEAL P-TRAP

BP-1 (REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER):

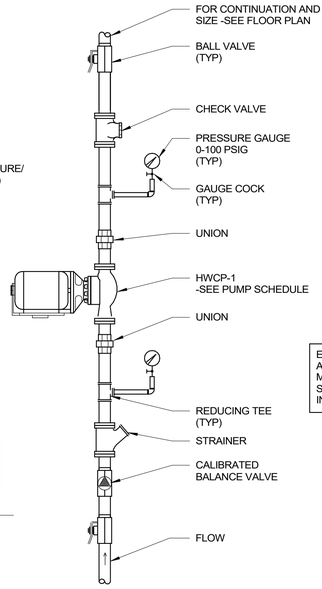
FIXTURE: WATTS, 909 SERIES, FULL LINE SIZE, REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER, TWO INDEPENDENTLY OPERATING CHECK VALVES SEPARATED BY A RELIEF VALVE, AIR-IN/WATER-OUT RELIEF VALVE CONCEPT, BALL VALVE TEST COCKS, COMPLIANT WITH USCFCC MANUAL FOR CROSS CONNECTION CONTROL, ASSE STANDARD 1013, AWWA STANDARD C506-78. PROVIDE WATTS DRAIN CONNECTION WITH AIR GAP. PROVIDE WATTS FLOOD PROTECTION AUTOMATIC SHUTDOWN VALVE AND CONTROLS.

TMV1 (THERMOSTATIC MIXING VALVE):

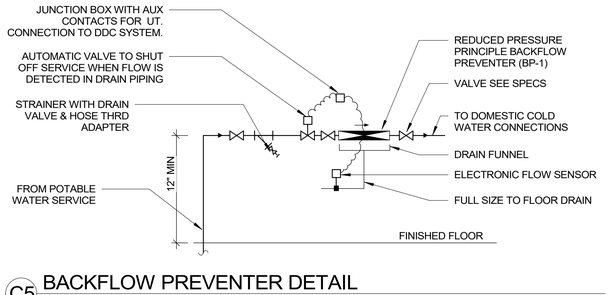
FIXTURE: WATTS LFG480 SERIES THERMOSTATIC MIXING VALVE, ADJUSTABLE TEMPERATURE SELECTION WITH LOCKING NUT TO PREVENT TAMPERING, SET OUTLET TEMPREATURE TO 105 DEG F, INTEGRAL CHECKS WITH SCREEN.(BASED ON 0.25 GPM MINIMUM FLOW AND 5 GPM AT 45 PSIG PRESSURE DROP), ROUGH BRONZE FINISH, FACTORY PRE-ASSEMBLED AND TESTED

WHA-1 (WALL HYDRANT):

FIXTURE: WOODFORD MODEL 65, AUTOMATIC DRAINING, FREEZELESS WALL HYDRANT, VACUUM BREAKER, 3/4" HOSE THREAD OUTLET, FITS ONE STANDARD BRICK COURSE, CHROME PLATED, STAINLESS STEEL OPERATING STEM, 3/4" INLET, LENGTH AS REQUIRED TO PLACE STOP VALVE ON WARM SIDE OF EXTERIOR WALL INSULATION. FURNISH LOOSE KEY WITH EACH HYDRANT. MOUNT HORIZONTALLY AT 18" ABOVE FINISHED GRADE. COORDINATE EXACT HEIGHT WITH BRICK COURSING



B4 CIRCULATING PUMP DETAILS
NOT TO SCALE



C5 BACKFLOW PREVENTER DETAIL
NOT TO SCALE

EQUIVALENT PRODUCTS BY MANUFACTURERS WHICH ARE NOT LISTED IN SCHEDULES OR IN SPECIFICATIONS MAY BE USED WITH PRE-APPROVAL FROM ENGINEER. SEE SPECIFICATIONS FOR SUBSTITUTION REQUEST INSTRUCTIONS.

KEYNOTE LEGEND

KEY	NOTE
P-10-01	FUTURE FIRE PROTECTION BACKFLOW PREVENTER PLACEHOLDER.
P-10-03	CONNECT HOT WATER RECIRCULATION LINE TO EXISTING HOT WATER HEADER SERVING WASHING MACHINES.
P-10-04	ROUTE NEW CW AND HW LINES UP HIGH IN RESTROOMS ALONG WALL. COORDINATE MOUNTING WITH ABATEMENT CONTRACTOR.
P-10-05	ROUTE 1/2" CW & 1/2" HW LINES DOWN ALONG WALL TO SERVE EXISTING LAVATORY. PROVIDE NEW POINT OF USE THERMOSTATIC MIXING VALVE .SEE DETAIL. COORDINATE MOUNTING WITH ABATEMENT CONTRACTOR.
P-10-06	ROUTE WATER HEATER COMBUSTION AIR AND VENT OUT EXTERIOR WALL AND TERMINATE PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
P-10-07	SAWCUT FLOOR FOR INSTALLATION OF NEW PIPING. SEE ARCHITECTURAL PLANS. COORDINATE WORK WITH ABATEMENT CONTRACTOR.
P-10-08	EXTEND SANITARY LINE FIVE FEET OUTSIDE OF BUILDING AND CAP FOR CONTINUATION BY OTHER.
P-10-09	CONNECT TO WATER SERVICE INSTALLED IN PREVIOUS PHASE.
P-10-11	ROUTE 2" CW DOWN ALONG WALL. CONNECT TO EXISTING WATER CLOSET. COORDINATE MOUNTING WITH ABATEMENT CONTRACTOR.
P-10-12	ROUTE 1/2" CW LINE TO EXISTING DRINKING FOUNTAIN AND CONNECT. COORDINATE WALL PENETRATION WITH ABATEMENT CONTRACTOR.
PD-10-01	DEMOLISH CW AND HW PIPING ABOVE CEILING FROM INDICATED POINT BACK TO WALL AND CAP COORDINATE PIPING DEMOLITION WITH ABATEMENT CONTRACTOR.
PD-10-02	ALL PIPING ABOVE BATHROOM CEILING AND IN CHASE SPACE TO BE ABANDONED IN PLACE. FIXTURES TO BE DISCONNECTED AND PIPING TO BE REMOVED BACK TO WALL. COORDINATE DEMOLITION WITH ABATEMENT CONTRACTOR.

1 ADD

PLUMBING EXPANSION TANK SCHEDULE

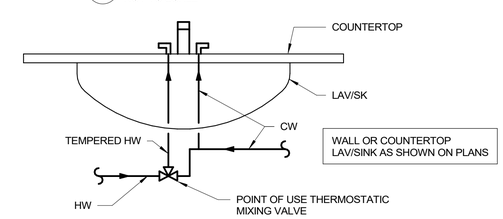
MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL.)	ACCEPTANCE CAPACITY (GAL.)	RELIEF VALVE		DESIGN BASIS	REMARKS
					RELIEF AT (PSI)	FILL AT (PSI)		
ET-1	DOMESTIC HOT WATER	DIAPHRAGM	14.0	9.0	125.00	12.00	PTA-30V	

PLUMBING PUMP SCHEDULE

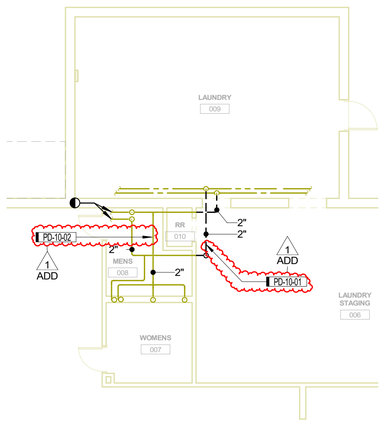
MARK	SYSTEM SERVED	TYPE	GPM	HEAD (FT)	SHUTOFF HEAD (FT)	MOTOR DATA			DESIGN BASIS	REMARKS
						WATTS	VOLTS	PHASE		
HWCP-1	HOT WATER RECIRC	INLINE	1	2.00	5.75	3	120	1	B&G ECOCIRC E3	

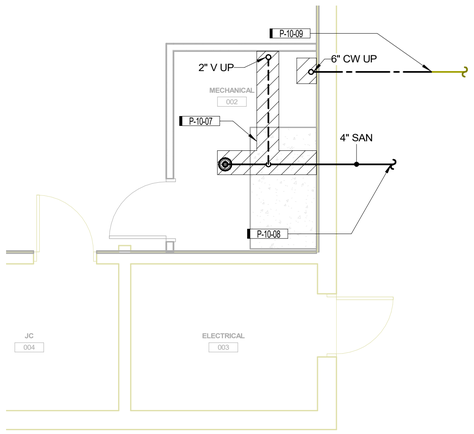
WATER HEATER SCHEDULE - GAS

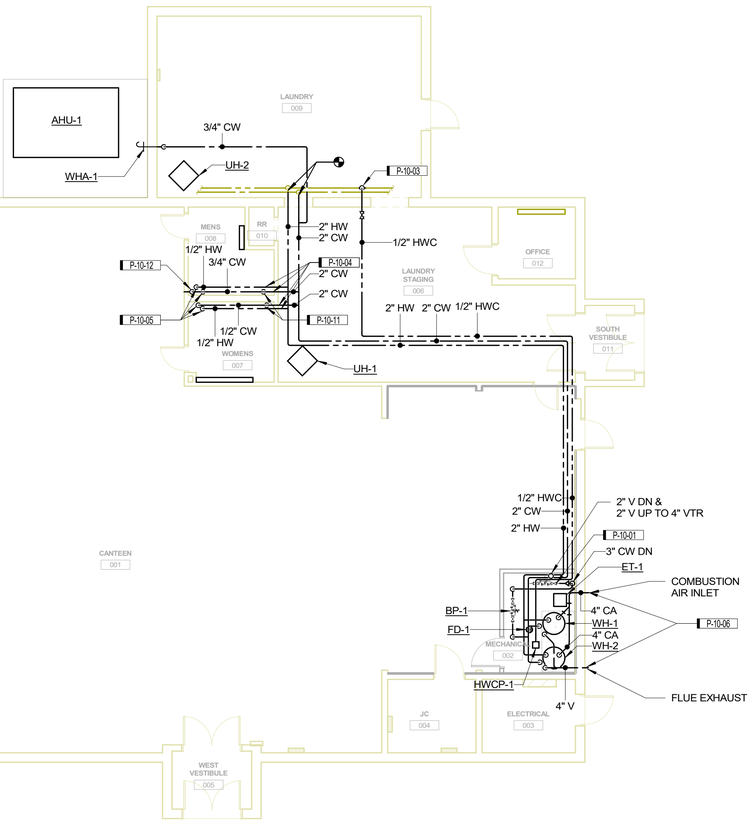
MARK	STORAGE (GAL)	RECOVERY (GPH)	WATER IN (°F)	OUT (°F)	GAS				ELECTRICAL DATA			DESIGN BASIS	REMARKS
					INPUT (MBH)	OUTPUT (MBH)	THERMAL EFFICIENCY	PRESSURE (IN W.C)	VOLTS	PHASE	FLA		
WH-1	100.0	196	40	160	199	193	97	4.4-14	120	1	5	AO SMITH BTH-199	
WH-2	100.0	196	40	160	199	193	97	4.4-14	120	1	5	AO SMITH BTH-199	



B3 POINT OF USE MIXING VALVE DETAIL
NOT TO SCALE







PLAN NORTH / TRUE NORTH

A1 PLUMBING DEMOLITION PLAN
1/8" = 1'-0" 0 12'

B1 PLUMBING PLAN BELOW SLAB
1/4" = 1'-0" 0 6'

C1 PLUMBING FLOOR PLAN
1/8" = 1'-0" 0 12'

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1	02-06-2020	ADDENDUM - 01

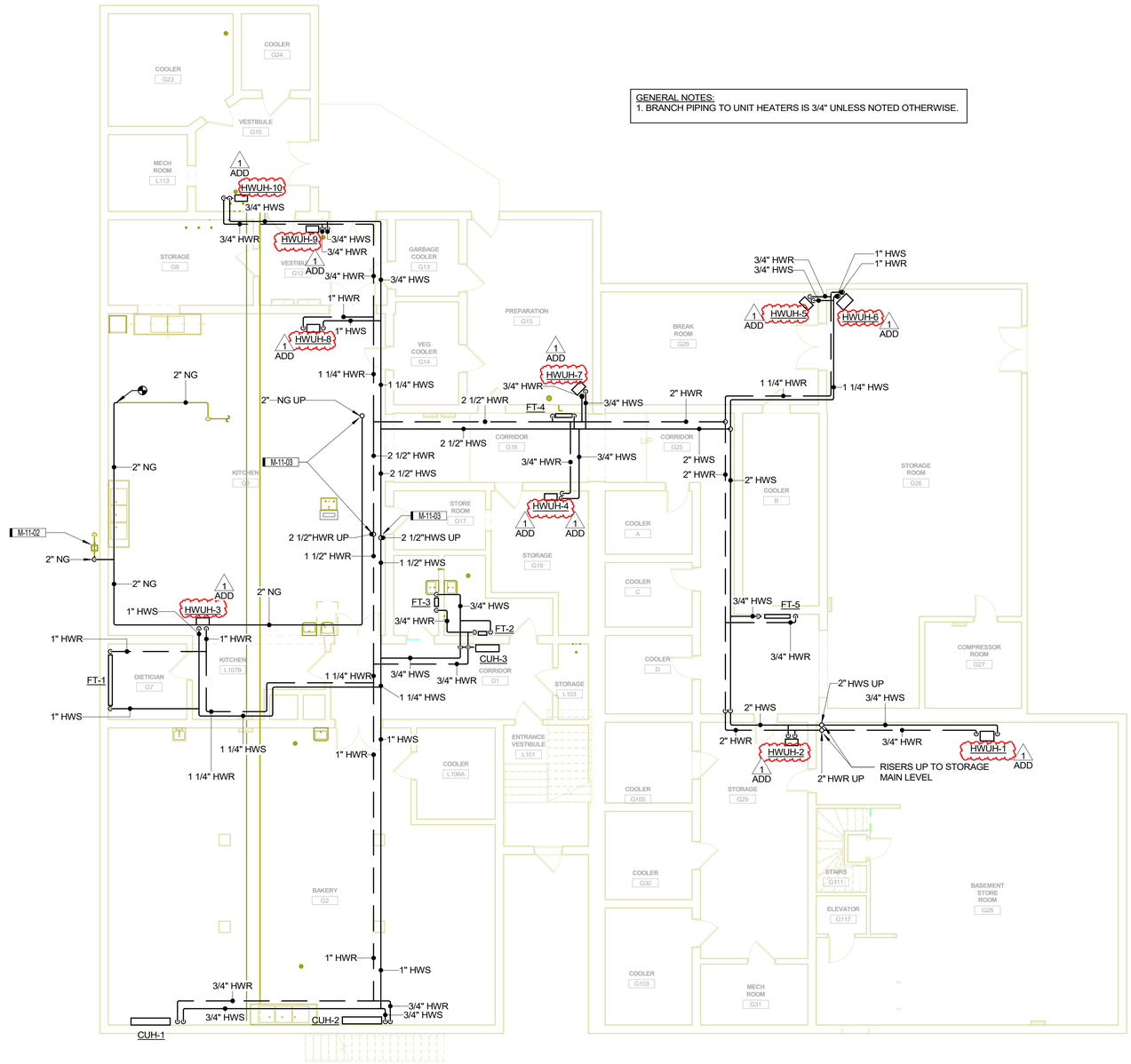
DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO: 4175681
CLIENT NO: #8982.01

CANTEEN PLUMBING DEMOLITION AND NEW WORK PLAN

10-P1.01

KEYNOTE LEGEND	
KEY	NOTE
M-11-02	NEW NATURAL GAS METER PROVIDED AND INSTALLED BY LOCAL UTILITY COMPANY. ALL WORK DOWNSTREAM OF METER BY MECHANICAL CONTRACTOR.
M-11-03	ROUTE HEATING WATER RETURN, HEATING WATER SUPPLY, AND NATURAL GAS UP TO CEILING AND THROUGH WALL INTO MECHANICAL ROOM.

GENERAL NOTES:
1. BRANCH PIPING TO UNIT HEATERS IS 3/4" UNLESS NOTED OTHERWISE.



PLAN NORTH
TRUE NORTH

B1 KITCHEN GROUND FLOOR PIPING PLAN
1/8" = 1'-0" 0 12'

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ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
KITCHEN
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

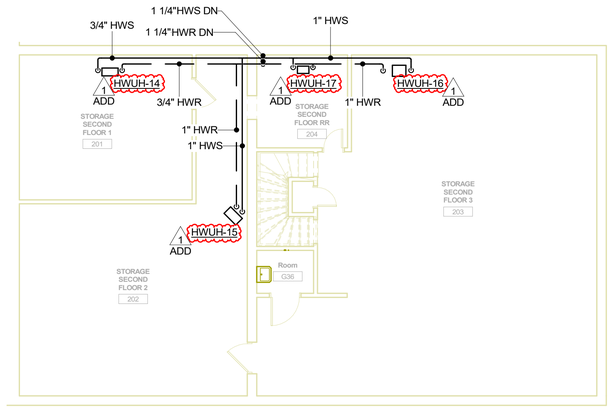
ADD	1	02-06-2020	ADDENDUM 01

DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO: 41756861
CLIENT NO: #8982.01

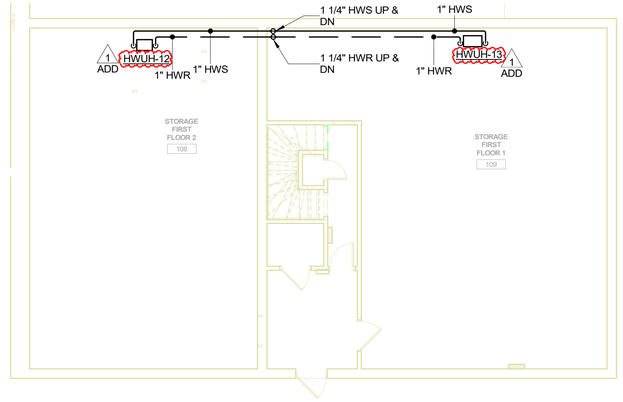
KITCHEN & STORAGE MECHANICAL PLAN GROUND FLOOR

11-M1.01

KEYNOTE LEGEND	
KEY	NOTE
M-11-01	ROUTE HEATING WATER SUPPLY AND RETURN THROUGH WALL AND UNDER KITCHEN ROOF.



GENERAL NOTES:
BRANCH PIPING TO UNIT HEATERS IS 3/4" UNLESS NOTED OTHERWISE.



PLAN NORTH
TRUE NORTH

A4 STORAGE UPPER LEVEL PIPING PLAN
1/8" = 1'-0" 0 12'

PLAN NORTH
TRUE NORTH

B2 KITCHEN ROOF PLAN
1/8" = 1'-0" 0 12'

PLAN NORTH
TRUE NORTH

C4 STORAGE FIRST FLOOR PIPING PLAN
1/8" = 1'-0" 0 12'

PLAN NORTH
TRUE NORTH

C1 KITCHEN FIRST FLOOR PIPING PLAN
1/8" = 1'-0" 0 12'

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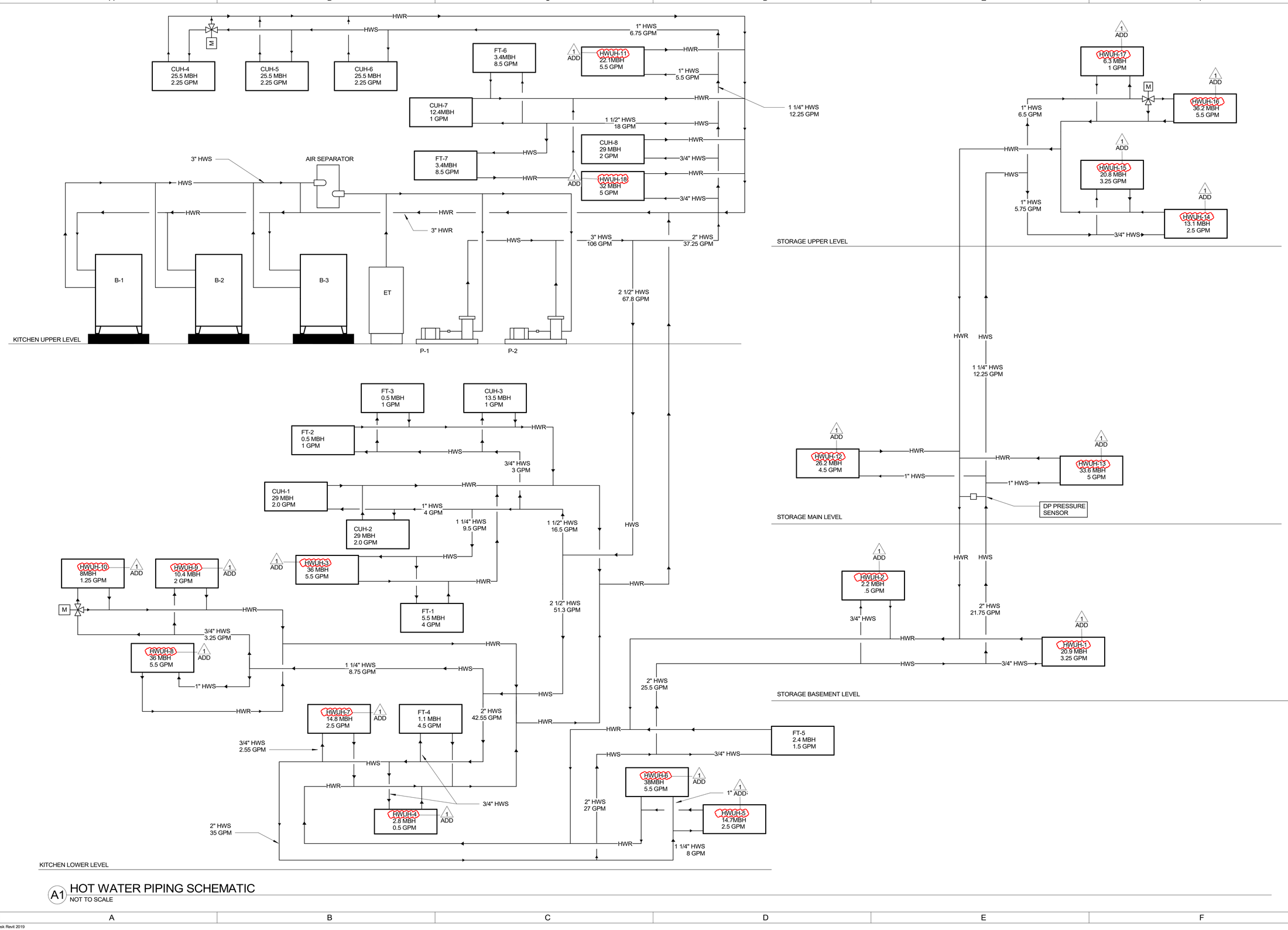
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD	1	02-06-2020	ADDENDUM 01

DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO:4175661
CLIENT NO: #8982.01

KITCHEN & STORAGE MECHANICAL PLAN FIRST AND SECOND FLOOR

11-M1.02



A1 HOT WATER PIPING SCHEMATIC
NOT TO SCALE

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ELDORA STS DECENTRALIZATION
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ADD	1	02-06-2020	ADDENDUM 01

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ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO.:4175681
CLIENT NO: #8882.01

KITCHEN & STORAGE MECHANICAL SCHEMATICS

11-M5.02

EQUIVALENT PRODUCTS BY MANUFACTURERS WHICH ARE NOT LISTED IN SCHEDULES OR IN SPECIFICATIONS MAY BE USED WITH PRE-APPROVAL FROM ENGINEER. SEE SPECIFICATIONS FOR SUBSTITUTION REQUEST INSTRUCTIONS.

MECHANICAL PIPING EXPANSION TANK SCHEDULE

MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	RELIEF VALVE		DESIGN BASIS
					RELIEF AT (PSI)	FILL AT (PSI)	
ET-1	HEATING WATER	BLADDER	10.0	10.0	125.00	12.00	B&G B-35LA

GLYCOL FEED SYSTEM SCHEDULE

NOTES:
1. PROVIDE WITH PRE-MIXED 30% PROPYLENE GLYCOL SOLUTION. NO FIELD MIXING SHALL BE ALLOWED. SEE SPEC.
2. FURNISH AND INSTALL ALL PUMP CONTROLS AND WIRING.
3. SYSTEM VOLUME APPROXIMATELY 150 GALLONS.

1 ADD

MARK	SYSTEM SERVED	TANK CAPACITY (GAL)	GPM @ 100 PSI	CUT IN RANGE (PSI)	CUT OUT RANGE(PSI)	MOTOR DATA			DESIGN BASIS	REMARKS
						HP	VOLTS	PHASE		
GFS-1	HEATING WATER	50	1.5	10-40	20-60	1/3	120	1	JL WINGERT GL50	ELECTRICAL TO PROVIDE DUPLEX RECEPTACLE

MECHANICAL PUMP SCHEDULE

NOTES:
1. VARIABLE FREQUENCY DRIVE AND DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
2. PUMPS SELECTED FOR ONE PUMP TO BE LEAD AND ONE PUMP TO BE IN STAND-BY.
3. PUMPS SELECTED AT 30% PROPYLENE GLYCOL.

MARK	SYSTEM SERVED	TYPE	GPM	HEAD (FT)	SHUTOFF HEAD (FT)	MOTOR DATA					DESIGN BASIS	REMARKS
						BHP	HP	VOLTS	PHASE	RPM		
P-1	HWS	END SUCTION	72	37.00	42.00	1.04	1.5	208	3	1800	B&G E1510 1.25AD-es	
P-2	HWS	END SUCTION	72	37.00	42.00	1.04	1.5	208	3	1800	B&G E1510 1.25AD-es	

CABINET UNIT HEATER SCHEDULE- HOT WATER

NOTES:
1. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL.
2. MANUFACTURER SHALL PROVIDE FACTORY MOUNTED DISCONNECT.

MARK	AREA SERVED	CFM	EWT (°F)	LWT (°F)	EAT (°F)	LAT (°F)	MBH	GPM	MAX PD (FT)	MOUNTING HEIGHT (FT)	ORIENTATION	FAN MOTOR DATA		DESIGN BASIS	REMARKS
												VOLTS	PHASE		
CUH-1	BAKERY	479	140	110	60	115	29	2.00	4	0' - 0"	VERTICAL	120	1	TRANE FFBB080	
CUH-2	BAKERY	479	140	110	60	115	29	2.00	4	0' - 0"	VERTICAL	120	1	TRANE FFBB080	
CUH-3	CORRIDOR L102	256	140	107	60	109	13.5	1.00	4	0' - 0"	VERTICAL	120	1	TRANE FFBB030	
CUH-4	DINING U103	541	140	114	60	103	25.5	2.25	4	0' - 0"	VERTICAL	120	1	TRANE FFBB060	
CUH-5	DINING U103	541	140	114	60	103	25.5	2.25	4	0' - 0"	VERTICAL	120	1	TRANE FFBB060	
CUH-6	DINING U103	541	140	114	60	103	25.5	2.25	4	0' - 0"	VERTICAL	120	1	TRANE FFBB060	
CUH-7	VESTIBULE U102	277	140	111	60	101	12.4	1.00	4	0' - 0"	VERTICAL	120	1	TRANE FFBB030	
CUH-8	LOUNGE U105	479	140	110	60	115	29	2.00	4	0' - 0"	VERTICAL	120	1	TRANE FFBB080	

FIN TUBE RADIATION SCHEDULE - HYDRONIC

NOTES:
1. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL.

MARK	CAPACITY (BTU/FT)	EWT (°F)	GPM	TUBE SIZE (IN)	NUMBER OF TUBES OR ROWS	ELEMENT LENGTH (FT)	EAT (°F)	HEATING COIL FIN DATA			ENCLOSURE			DESIGN BASIS	REMARKS
								FIN HEIGHT (IN)	FIN WIDTH (IN)	FINS PER FOOT	LENGTH (IN)	DEPTH (IN)	HEIGHT (IN)		
FT-1	904	140	4.0	1.25	3	6' - 0"	60	4 1/4"	4 1/4"	50	72"	5 5/16"	24"	STERLING JVB-FT24	
FT-2	533	140	1.0	0.75	1	1' - 0"	60	4 1/4"	4 1/4"	40	12"	5 5/16"	14"	STERLING JVB-FT14	
FT-3	533	140	1.0	0.75	1	1' - 0"	60	4 1/4"	4 1/4"	40	12"	5 5/16"	14"	STERLING JVB-FT14	
FT-4	566	140	4.5	0.75	1	2' - 0"	60	4 1/4"	4 1/4"	40	24"	5 5/16"	14"	STERLING JVB-FT14	
FT-5	791	140	1.5	0.75	3	3' - 0"	60	4 1/4"	4 1/4"	32	36"	5 5/16"	24"	STERLING JVB-FT24	
FT-6	855	140	8.5	1	3	4' - 0"	60	4 1/4"	4 1/4"	32	48"	5 5/16"	24"	STERLING JVB-FT24	
FT-7	855	140	8.5	1	3	4' - 0"	60	4 1/4"	4 1/4"	32	48"	5 5/16"	24"	STERLING JVB-FT24	

UNIT HEATER SCHEDULE - HOT WATER

NOTES:
1. PERFORMANCE BASED ON 30% PROPYLENE GLYCOL.
2. MANUFACTURER SHALL PROVIDE FACTORY MOUNTED DISCONNECT.

1 ADD

MARK	AREA SERVED	CFM	EWT (°F)	LWT (°F)	LAT (°F)	MBH	GPM	MAX PD (FT)	MOUNTING HEIGHT (FT)	ORIENTATION	FAN MOTOR DATA			DESIGN BASIS
											HP	VOLTS	PHASE	
HWUH-1	STORAGE BASEMENT	900	140 °F	110 °F	112 °F	20.9	3.25	1	8' - 0"	HORIZONTAL	1/20	120	1	REZNOR S-60
HWUH-2	STORAGE BASEMENT	245	140 °F	110 °F	91 °F	2.2	0.50	1	8' - 0"	HORIZONTAL	-	120	1	REZNOR S-A08
HWUH-3	KITCHEN L107	1800	140 °F	110 °F	103 °F	36	5.50	1	10' - 0"	HORIZONTAL	-	120	1	REZNOR S-108
HWUH-4	STORAGE L109	245	140 °F	110 °F	91 °F	2.8	0.50	1	8' - 0"	HORIZONTAL	-	120	1	REZNOR S-A08
HWUH-5	BREAKROOM G113	750	140 °F	110 °F	111 °F	14.7	2.50	1	8' - 0"	HORIZONTAL	1/20	120	1	REZNOR S-48
HWUH-6	STORAGE G115	1800	140 °F	110 °F	103 °F	38	5.50	1	8' - 0"	HORIZONTAL	-	120	1	REZNOR S-108
HWUH-7	PREPARATION L117	750	140 °F	110 °F	111 °F	14.8	2.50	1	8' - 0"	HORIZONTAL	1/20	120	1	REZNOR S-48
HWUH-8	KITCHEN L107	1800	140 °F	110 °F	103 °F	36	5.50	1	10' - 0"	HORIZONTAL	-	120	1	REZNOR S-108
HWUH-9	BACK VESTIBULE L111	550	140 °F	110 °F	103 °F	10.44	2.00	1	8' - 0"	HORIZONTAL	-	120	1	REZNOR S-36
HWUH-10	VESTIBULE L116	500	140 °F	110 °F	96 °F	8	1.25	1	8' - 0"	HORIZONTAL	-	120	1	REZNOR S-A18
HWUH-11	DISHWASHING ROOM U104	1100	140 °F	110 °F	106 °F	22.1	5.50	1	8' - 0"	HORIZONTAL	1/20	120	1	REZNOR S-72
HWUH-12	DRY STORAGE 107	1400	140 °F	110 °F	106 °F	26.2	4.50	1	8' - 0"	HORIZONTAL	-	120	1	REZNOR S-84
HWUH-13	STORAGE 109	1400	140 °F	110 °F	113 °F	33.6	5.00	1	8' - 0"	HORIZONTAL	-	120	1	REZNOR S-96
HWUH-14	STORAGE 201	750	140 °F	110 °F	111 °F	13.1	2.50	1	8' - 0"	HORIZONTAL	1/20	120	1	REZNOR S-48
HWUH-15	STORAGE 202	900	140 °F	110 °F	112 °F	20.8	3.25	1	8' - 0"	HORIZONTAL	1/20	120	1	REZNOR S-60
HWUH-16	STORAGE 203	1800	140 °F	110 °F	103 °F	36.2	5.50	1	8' - 0"	HORIZONTAL	-	120	1	REZNOR S-108
HWUH-17	STORAGE 204	395	140 °F	110 °F	99 °F	6.3	1.00	1	8' - 0"	HORIZONTAL	-	120	1	REZNOR S-18
HWUH-18	MECH ROOM	1400	140 °F	110 °F	113 °F	32	5.00	1	8' - 0"	HORIZONTAL	-	120	1	REZNOR S-96

BOILER SCHEDULE - HOT WATER

NOTES:
1. PERFORMANCE BASED ON OPERATING CONDITIONS.

MARK	AREA SERVED	INPUT (MBH)	OUTPUT (MBH)	MIN GAS PRESSURE REQUIRED (IN)	EFFICIENCY	EWT (°F)	LWT (°F)	GPM	MAX PD (FT)	FUEL TYPE	TURNDOWN RATIO	ELECTRICAL DATA					DESIGN BASIS	REMARKS
												VOLTS	PHASE	FLA	MCA	MOCP		
B-1	KITCHEN	399	363	3	91	110	140	40	6.10	NATURAL GAS	8:1	120	1	3	3	20	AERCO AM399	
B-2	KITCHEN	399	363	3	91	110	140	40	6.10	NATURAL GAS	8:1	120	1	3	3	20	AERCO AM399	
B-3	KITCHEN	399	363	3	91	110	140	40	6.10	NATURAL GAS	8:1	120	1	3	3	20	AERCO AM399	

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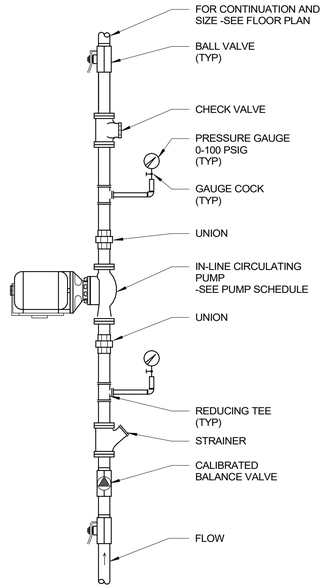
ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
KITCHEN
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD 1 02-06-2020 ADDENDUM 01

DRAWN: MDP
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO: 4175681
CLIENT NO: #8982.01

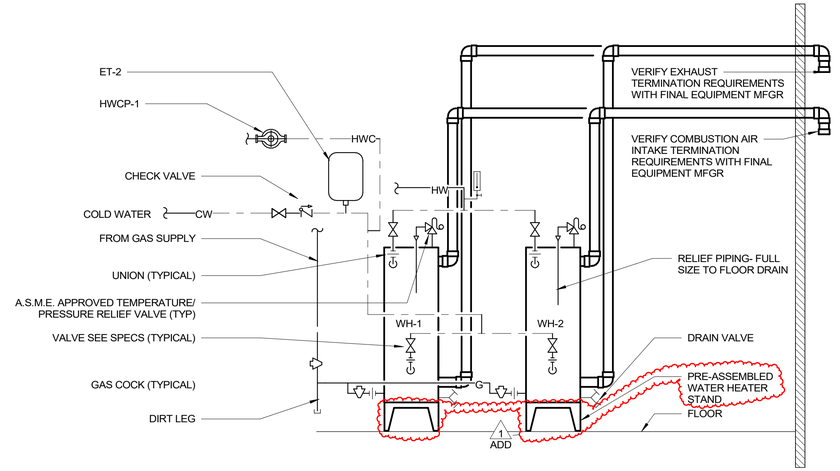
KITCHEN & STORAGE MECHANICAL SCHEDULES

11-M6.00



CIRCULATING PUMP DETAILS

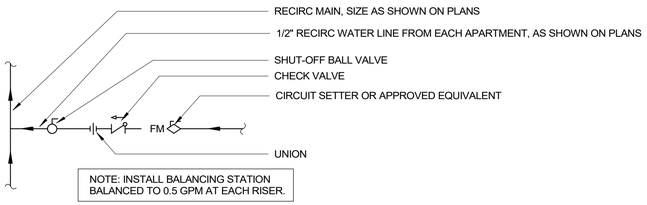
C4a NOT TO SCALE



HIGH EFFICIENCY GAS-FIRED WATER HEATER DETAIL

C4 NOT TO SCALE

EQUIVALENT PRODUCTS BY MANUFACTURERS WHICH ARE NOT LISTED IN SCHEDULES OR IN SPECIFICATIONS MAY BE USED WITH PRE-APPROVAL FROM ENGINEER. SEE SPECIFICATIONS FOR SUBSTITUTION REQUEST INSTRUCTIONS.



DOMESTIC HOT WATER RECIRCULATING BALANCING STATION DETAIL

B2 NOT TO SCALE

FD-1 (FLOOR DRAIN):

FIXTURE: 3" ZURN Z-415-B SERIES, CAST IRON, MEMBRANE CLAMP, FLASHING COLLAR, WEEP HOLES, HUB OUTLET WITH GASKETED CONNECTION, 5" DIA ADJUSTABLE NICKEL BRONZE STRAINER, VANDAL-PROOF. SET TOP OF STRAINER FLUSH WITH FINISHED FLOOR. PROVIDE DEEP SEAL P-TRAP

BFP-1 (REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER):

FIXTURE: WATTS, 909 SERIES, FULL LINE SIZE, REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER, TWO INDEPENDENTLY OPERATING CHECK VALVES SEPARATED BY A RELIEF VALVE. AIR-IN/WATER-OUT RELIEF VALVE CONCEPT, BALL VALVE TEST COCKS, COMPLIANT WITH USCFCC MANUAL FOR CROSS CONNECTION CONTROL, ASSE STANDARD 1013, AWWA STANDARD C506-78. PROVIDE WATTS DRAIN CONNECTION WITH AIR GAP. PROVIDE WATTS FLOOD PROTECTION AUTOMATIC SHUTDOWN VALVE AND CONTROLS.

L-1 (LAVATORY ADA COMPLIANT):

FIXTURE: AMERICAN STANDARD, COMRADE 0124-131 SERIES WALL HUNG LAVATORY, WHITE VITREOUS CHINA, FAUCET LEDGE, BACK OVERFLOW, 3 FAUCET HOLES ON 2" CENTERS, NOMINAL 20"x18", SOAP DEPRESSION, CONCEALED ARM SUPPORT. MOUNT TOP OF BASIN AT 34" AFF

[SINGLE LEVER FAUCET]
FAUCET: CHICAGO FAUCETS, 2200-4 SERIES, CERAMIC MIXING CARTRIDGE, SINGLE METAL LEVER HANDLE, 3/8" FLEXIBLE STAINLESS STEEL INLETS, 4 3/4" SPOUT WITH LAMINAR FLOW OUTLET, CHROME PLATED, 3/8" CHROME PLATED ANGLE STOPS WITH WHEEL HANDLE AND FLEXIBLE RISERS

[MIXING VALVE REQD AT EACH FAUCET]
MIXING VALVE: POWERS, HYDROGUARD LFLM495 SERIES LEAD FREE THERMOSTATIC MIXING VALVE. MOUNT UNDER THE FIXTURE, 1/2" INLETS AND OUTLET. SET VALVE TO DELIVER 105 DEG [110 DEG FOR HOSPITALS] WATER TO SOLENOID VALVE FOR ELECTRONIC FAUCET OR HOT WATER SIDE OF MANUAL FAUCET.

WASTE: CHROME PLATED WHEELCHAIR LAVATORY GRID DRAIN FOR 1 1/2" HOLE SIZE, 17 GAUGE - 1 1/4" CHROME PLATED BRASS ADJUSTABLE P-TRAP AND WASTE-TO-WALL. OFFSET DRAIN PIPING ASSEMBLY FOR WHEELCHAIR ACCESS

NOTE: INSTALL STOPS CLOSE TO WALL TO AVOID KNEES OF USERS IN WHEELCHAIRS AND PROVIDE WHITE PREFABRICATED VINYL COVER FOR WATER SUPPLY LINES AND WASTE (TRUEBRO OR EQUIVALENT)

CARRIER: ZURN CONCEALED ARM / THIN PLATE SYSTEM, CAST IRON.

WC-1 (WATERCLOSET ADA COMPLIANT):

FIXTURE: AMERICAN STANDARD, CADET RIGHT HEIGHT 2467.016 SERIES, FLOOR MOUNTED, BOTTOM OUTLET, CLOSE-COUPLED TANK, PRESSURE-ASSISTED 1.6 GPF, WHITE VITREOUS CHINA, ELONGATED BOWL, BOLT CAPS. TOP OF RIM 16 1/2" AFF. COORDINATE TRIP LEVER ARRANGEMENT WITH ARCHITECTURAL PLANS

SUPPLIES: CHROME PLATED BRASS, 3/8" WHEEL OPERATED ANGLE STOP, BACKFLOW PREVENTER WATER CONTROL WITH VOLUME REGULATOR, FLUSHING VALVE AND TRIP LEVER

SEAT: BENEKE, ELONGATED, SOLID PLASTIC, OPEN FRONT, WHITE, HEAVY DUTY SELF SUSTAINING CHECK HINGE, BUMPERS, NO COVER

PLUMBING EXPANSION TANK SCHEDULE

MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	RELIEF VALVE		DESIGN BASIS	REMARKS
					RELIEF AT (PSI)	FILL AT (PSI)		
ET-2	DOMESTIC HOT WATER	DIAPHRAGM	14.0	9.0	125.00	12.00	PTA-30V	

PLUMBING PUMP SCHEDULE (WATTAGE)

MARK	SYSTEM SERVED	GPM	HEAD (FT)	SHUTOFF HEAD (FT)	MOTOR DATA				DESIGN BASIS	REMARKS
					WATTS	VOLTS	PHASE	RPM		
HWCP-1	HOT WATER CIRCULATION	2.2	3.10	3.28	4	115	1	1182	B&G ECOCIRC 19-16	XXX

WATER HEATER SCHEDULE - GAS

NOTES:
1. DISCONNECT TO BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

MARK	STORAGE (GAL)	RECOVERY (GPH)	WATER IN (°F)	OUT (°F)	GAS				ELECTRICAL DATA			DESIGN BASIS	REMARKS
					INPUT (MBH)	OUTPUT (MBH)	THERMAL EFFICIENCY	PRESSURE (IN WC)	VOLTS	PHASE	FLA		
WH-1	100.0	235	40	140	199	193	97	4.8-14	120	1	5	AO SMITH BTH-199	
WH-2	100.0	235	40	140	199	193	97	4.8-14	120	1	5	AO SMITH BTH-199	

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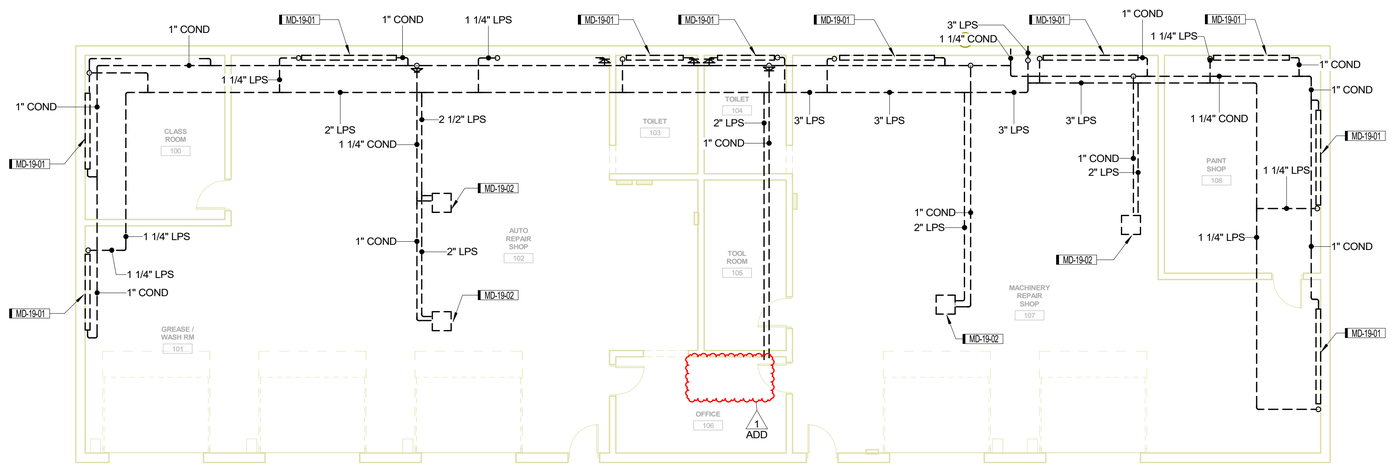
CLIENT NO:	#8982.01

KITCHEN & STORAGE PLUMBING DETAILS & SCHEDULES

11-P5.00

KEYNOTE LEGEND	
KEY	NOTE
MD-19-01	REMOVE STEAM RADIATOR AND ASSOCIATED PIPING AND ACCESSORIES.
MD-19-02	REMOVE STEAM UNIT HEATER AND ASSOCIATED PIPING AND ACCESSORIES.



NORTH

B1 MECHANICAL DEMOLITION PLAN

1/8" = 1'-0"

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ELDORA STS DECENTRALIZATION
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VOCATIONAL

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ADD	1	02-06-2020	ADDENDUM 01

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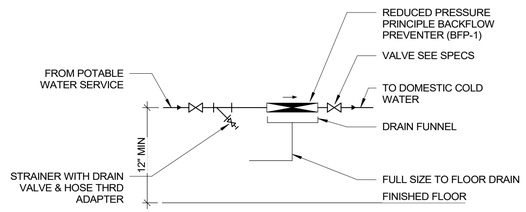
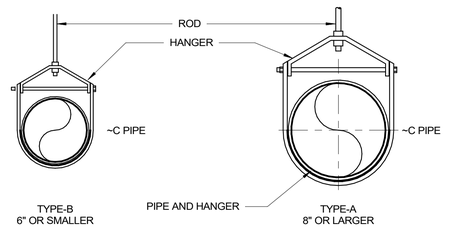
VOCATIONAL
MECHANICAL
DEMOLITION
PLAN

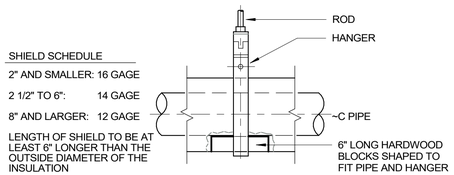
19-MD.01

KEYNOTE LEGEND	
KEY	NOTE
P-19-01	CONNECT TO WATER SERVICE INSTALLED IN PREVIOUS PHASE.
P-19-02	CONNECT CW LINE TO EXISTING CW PIPING IN RESTROOM UPSTREAM OF FIRST BRANCH.



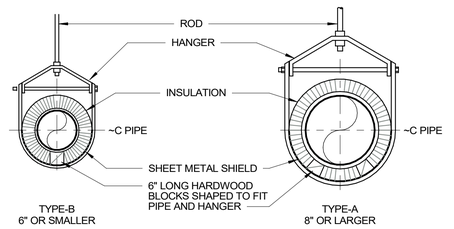
B4 BACKFLOW PREVENTER DETAIL
NOT TO SCALE

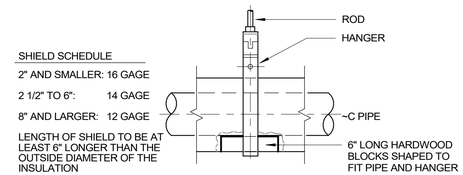




TYPICAL ELEVATION

C4 UNINSULATED PIPE HANGER DETAIL
NOT TO SCALE





TYPICAL ELEVATION

D4 INSULATED PIPE HANGER DETAIL
NOT TO SCALE

EQUIVALENT PRODUCTS BY MANUFACTURERS WHICH ARE NOT LISTED IN SCHEDULES OR IN SPECIFICATIONS MAY BE USED WITH PRE-APPROVAL FROM ENGINEER. SEE SPECIFICATIONS FOR SUBSTITUTION REQUEST INSTRUCTIONS.

BFP-1 (REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER):

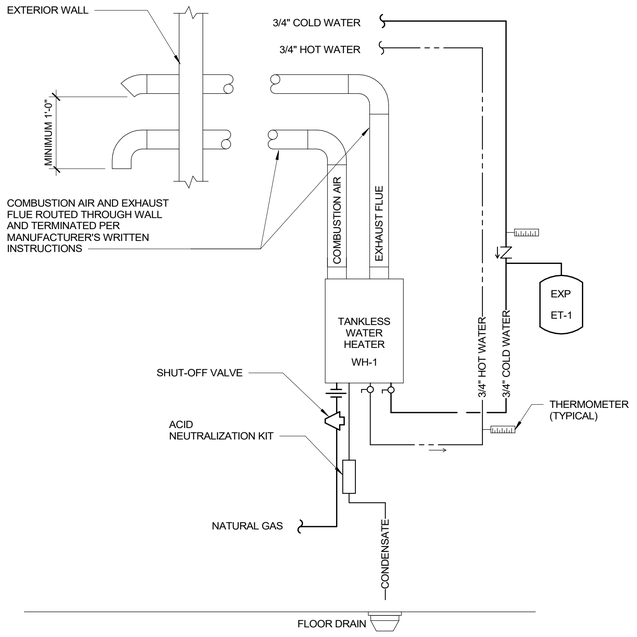
FIXTURE: WATTS, 909 SERIES, FULL LINE SIZE, REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER, TWO INDEPENDENTLY OPERATING CHECK VALVES SEPARATED BY A RELIEF VALVE, AIR-IN/WATER-OUT RELIEF VALVE CONCEPT, BALL VALVE TEST COCKS, COMPLIANT WITH USCFCC MANUAL FOR CROSS CONNECTION CONTROL, ASSE STANDARD 1013, AWWA STANDARD C506-78. PROVIDE WATTS DRAIN CONNECTION WITH AIR GAP.

WHA-1 (WALL HYDRANT):

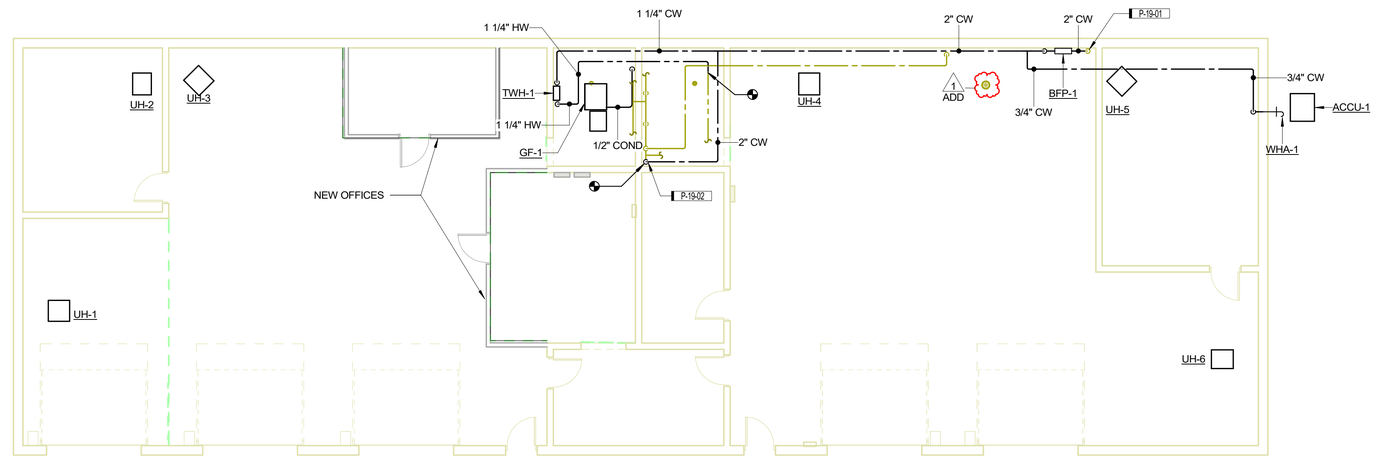
FIXTURE: WOODFORD MODEL 65, AUTOMATIC DRAINING, FREEZELESS WALL HYDRANT, VACUUM BREAKER, 3/4" HOSE THREAD OUTLET, FITS ONE STANDARD BRICK COURSE, CHROME PLATED, STAINLESS STEEL OPERATING STEM, 3/4" INLET, LENGTH AS REQUIRED TO PLACE STOP VALVE ON WARM SIDE OF EXTERIOR WALL INSULATION. FURNISH LOOSE KEY WITH EACH HYDRANT. MOUNT HORIZONTALLY AT 18" ABOVE FINISHED GRADE. COORDINATE EXACT HEIGHT WITH BRICK COURSING

INSTANTANEOUS WATER HEATER SCHEDULE

MARK	FLOW RATE (GPM)	MINIMUM INLET WATER TEMPERATURE (°F)	TEMPERATURE RISE (°F)	ELECTRICAL DATA						GAS DATA			DESIGN BASIS	REMARKS
				VOLTS	PHASE	KW	MCA	FLA	DISCONNECT BY	MBH	MINIMUM PRESSURE (IN)	MINIMUM PRESSURE (LBS)		
TWH-1	4	40	100	115	1	1	13	10	SPSW	199	4	10.5	AO SMITH 540H-N	



A1 TANKLESS WATER HEATER DETAIL
NOT TO SCALE



NORTH

B1 VOCATIONAL PLUMBING PLAN
1/8" = 1'-0" 0 12'

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ELDORA STS DECENTRALIZATION
BUILDING PACKAGE
VOCATIONAL
IOWA DEPARTMENT OF ADMINISTRATIVE SERVICES
3211 EDGINGTON AVE. ELDORA, IA 50627

ADD	1	02-06-2020	ADDENDUM 01

DRAWN: JDB
APPROVED: TLS
ISSUED FOR: CONSTRUCTION DOCUMENTS
DATE: 01/06/2020
PROJECT NO: 4175681
CLIENT NO: #8982.01

VOCATIONAL PLUMBING PLAN

19-P1.01

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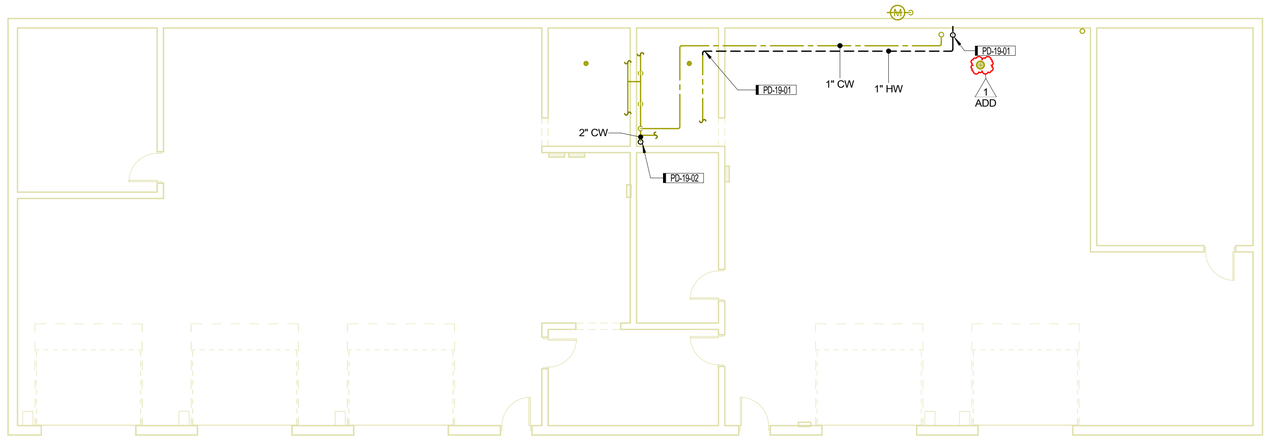
Printed: 2/4/2020 9:55:27 AM
Autodesk Revit 2019

KEYNOTE LEGEND	
KEY	NOTE
PD-19-01	REMOVE 1" HOT WATER LINE FROM WALL PENETRATION TO FIRST POINT OF SERVICE. CAP LINE AT WALL PENETRATION.
PD-19-02	REMOVE 2" COLD WATER LINE FROM FLOOR PENETRATION TO FIRST POINT OF SERVICE. CAP BELOW SLAB AND PATCH FLOOR PENETRATION TO MATCH EXISTING.



NORTH

B1 PLUMBING DEMOLITION PLAN
1/8" = 1'-0" 0

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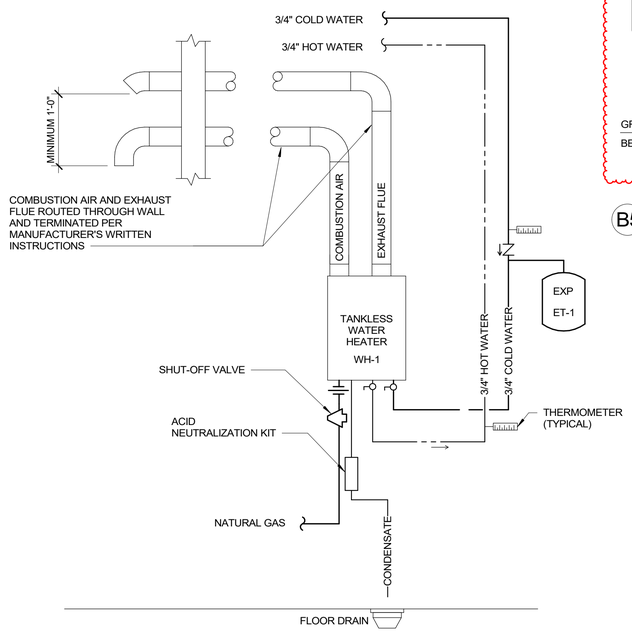
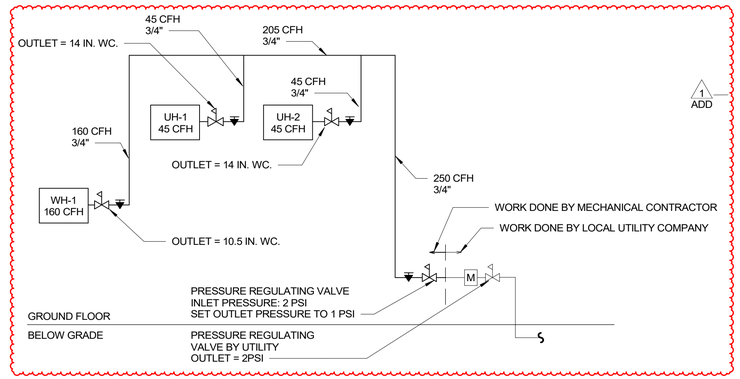
VOCATIONAL
PLUMBING
DEMOLITION

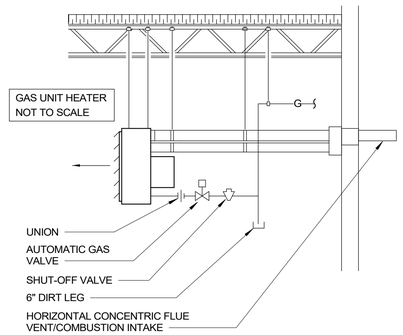
19-PD.01



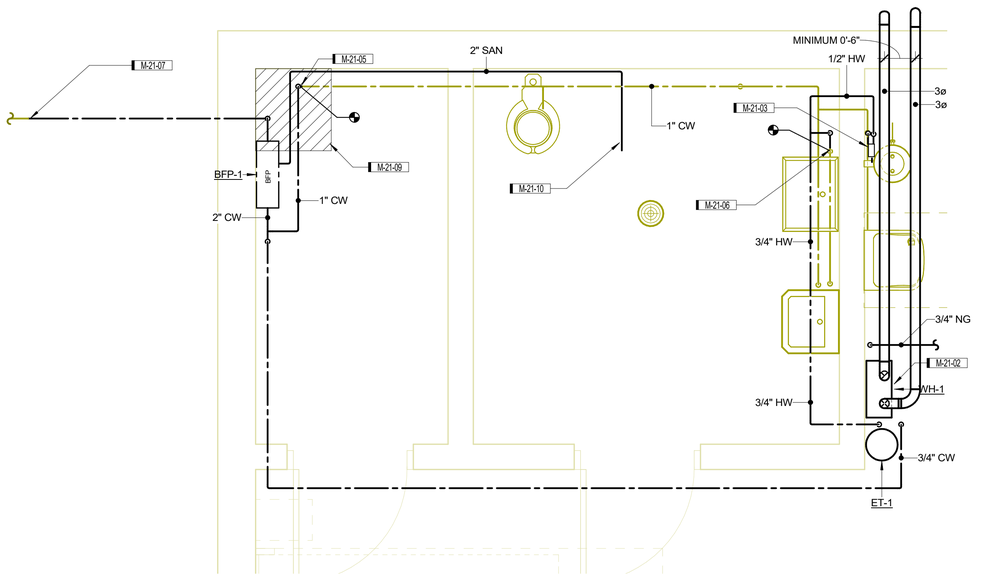
A3 TANKLESS WATER HEATER DETAIL
NOT TO SCALE



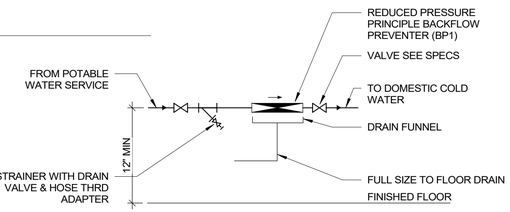
B5 GAS PIPING SCHEMATIC
NOT TO SCALE



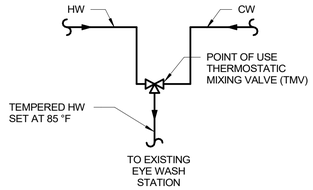
B3 GAS UNIT HEATER DETAIL
NOT TO SCALE



A1 ENLARGED RESTROOM PLAN
1/2" = 1'-0" 0 3'



C4 BACKFLOW PREVENTER DETAIL
NOT TO SCALE



D5 MIXING VALVE DETAIL
NOT TO SCALE

KEYNOTE LEGEND

KEY	NOTE
M-21-02	INSTALL TANKLESS WATER HEATER MOUNTED ON WALL. ROUTE CONDENSATE LINE TO NEAREST FLOOR DRAIN.
M-21-03	INSTALL THERMOSTATIC MIXING VALVE AND CONNECT 1/2" CW AND 1/2" HW LINES. ROUTE TEPID WATER FROM THERMOSTATIC MIXING VALVE TO EXISTING EYE WASH STATION.
M-21-04	INSTALL NEW THERMOSTAT TO CONTROL UH-1 AND UH-2 SIMULTANEOUSLY. MOUNT 60" AFF.
M-21-05	CONNECT TO EXISTING COLD WATER LINE.
M-21-06	CONNECT TO EXISTING HOT WATER LINE.
M-21-07	CONNECT TO WATER MAIN INSTALLED UNDER PREVIOUS PHASE.
M-21-08	NEW NATURAL GAS METER PROVIDED AND INSTALLED BY LOCAL UTILITY COMPANY. ALL WORK DOWNSTREAM OF METER BY MECHANICAL CONTRACTOR.
M-21-09	INFILL SLAB TO MATCH EXISTING FLOOR.
M-21-10	ROUTE DRAIN LINE FROM BACKFLOW PREVENTER AND TERMINATE NEAR FLOOR DRAIN.

NOTE: EQUIVALENT PRODUCTS BY MANUFACTURERS WHICH ARE NOT LISTED IN SCHEDULES OR IN SPECIFICATIONS MAY BE USED WITH PRE-APPROVAL FROM ENGINEER. SEE SPECIFICATIONS FOR SUBSTITUTION REQUEST INSTRUCTIONS.

PLUMBING FIXTURE SCHEDULE:

BFP-1 (REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER):

FIXTURE: WATTS, LF009 SERIES, LEAD FREE, FULL LINE SIZE, REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER, TWO INDEPENDENTLY OPERATING CHECK VALVES SEPARATED BY A RELIEF VALVE, AIR-IN/WATER-OUT RELIEF VALVE CONCEPT, BALL VALVE TEST COCKS, COMPLIANT WITH USCFCC MANUAL FOR CROSS CONNECTION CONTROL, ASSE STANDARD 1013, AWWA STANDARD C511. PROVIDE WATTS DRAIN CONNECTION WITH AIR GAP.

TMV1 (THERMOSTATIC MIXING VALVE): [VERIFY GPM AND PRESSURE DROP REQMTS]

FIXTURE: WATTS HYDROGUARD XP150 SERIES THERMOSTATIC MIXING VALVE, ADJUSTABLE LIMIT STOPS SET FOR 85 DEG F, CHECK STOPS, 1/2" BALL VALVE INLETS x 1/2" BALL SHUT-OFF OUTLET, (BASED ON 1 GPM MINIMUM FLOW AND 5 GPM AT 10 PSIG PRESSURE DROP), PRESSURE REGULATING VALVE WITH PRESSURE GAUGE, ROUGH BRONZE FINISH, FACTORY PRE-ASSEMBLED AND TESTED

PLUMBING EXPANSION TANK SCHEDULE

MARK	SYSTEM SERVED	TYPE	TANK CAPACITY (GAL)	ACCEPTANCE CAPACITY (GAL)	RELIEF VALVE		DESIGN BASIS	REMARKS
					RELIEF AT (PSI)	FILL AT (PSI)		
ET-1	DOMESTIC WATER	DIAPHRAGM	2.1	0.9	125.00	12.00	PTA-5	

INSTANTANEOUS WATER HEATER SCHEDULE

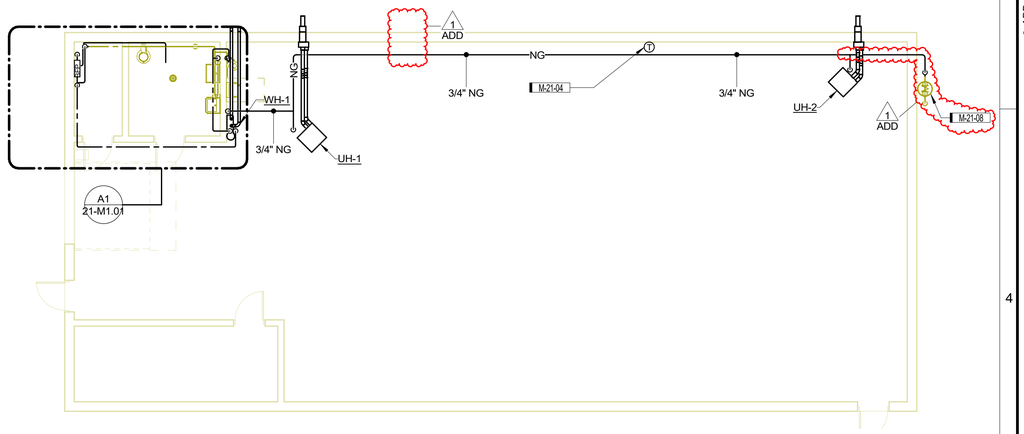
NOTES:
1. MANUFACTURER SHALL PROVIDE CORD AND PLUG FOR POWER. COORDINATE WITH ELECTRICAL CONTRACTOR FOR RECEPTACLE REQUIREMENTS.
2. PROVIDE CONDENSATE NEUTRALIZER KIT AND ROUTE CONDENSATE TO FLOOR DRAIN.

MARK	FLOW RATE (GPM)	MINIMUM INLET WATER TEMPERATURE (°F)	TEMPERATURE RISE (°F)	ELECTRICAL DATA		GAS DATA			DESIGN BASIS	REMARKS
				VOLTS	PHASE	MBH	MIN PRESSURE (IN WC)	MAX PRESSURE (IN WC)		
WH-1	3	40	100	115	1	160	4	10.5	AO SMITH ATI-240H-N	

UNIT HEATER SCHEDULE - GAS

NOTES:
1. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH.
2. PROVIDE 2-STAGE GAS VALVE AND WALL-MOUNTED CONCENTRIC VENT KIT.
3. PROVIDE MANUFACTURER'S 2-STAGE THERMOSTAT WITH PROGRAMMABLE SETBACK. SEE DRAWINGS FOR LOCATION.
4. UNITS SHALL COME WITH MANUFACTURER'S MULTIPLE HEATER CONTROLS TO BE CONTROLLED WITH A SINGLE T-STAT.

MARK	CFM	EAT (°F)	LAT (°F)	MINIMUM GAS PRESSURE		MOUNTING HEIGHT (FT)	FAN MOTOR DATA			DESIGN BASIS	REMARKS
				HEATING INPUT (MBH)	HEATING OUTPUT (MBH)		HP	VOLTS	PHASE		
UH-1	629	50	105	45	37.4	10' - 0"	1/40	115	1	REZNOR UDAS 45	
UH-2	629	50	105	45	37.4	10' - 0"	1/40	115	1	REZNOR UDAS 45	



C1 GENERAL SUPPLY MECHANICAL LAYOUT
1/8" = 1'-0" 0 12'

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ADD	DATE	DESCRIPTION
1	02-06-2020	ADDENDUM 01

DRAWN: JDB
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ISSUED FOR: CONSTRUCTION DOCUMENTS
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GENERAL SUPPLY MECHANICAL PLAN

21-M1.01