

**DOCUMENT 00 90 00**  
**ADDENDUM**

**ADDENDUM NO. [3]                      Date: October 14, 2019**

**RE:                      LANESBORO PUBLIC SCHOOLS**  
**ADDITION AND REMODEL REBID**  
**100 KIRKWOOD ST EAST**  
**LANESBORO, MN 55949**  
**HSR 18063**

**FROM:                  HSR Associates, Inc**  
**100 Milwaukee Street**  
**La Crosse, WI 54603**  
**(608) 784-1830**

**To:    Prospective Bidders**

This addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated September 2019. Acknowledge receipt of this Addendum in the space provided on the bid form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of [2] pages, [1] Specification Section and [11] 30 x 42 drawings.

**CHANGES TO PREVIOUS ADDENDUM:**

1. Item 8 Section 07 72 00 ROOF ACCESSORIES
  - a. Paragraph c: Change "The Vault AW-201412. 20 ½" l x 14 ½" w x 12" h" to "The Vault AW Mega Vault-343424. 34" l x 34" w x 24" h."
2. Item 51, Sheet E001: The transformer pad and vault shall be provided by the Electric Utility.

**CHANGES TO SPECIFICATIONS:**

3. Section 26 05 19 LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLE
  - a. Section reissued and attached hereto with information regarding allowing aluminum conductors.

**CHANGES TO DRAWINGS**

4. EIFS Location: EIFS application is shown on 3A200 at exposed foundation and on the north wall of the area well off Mech 124, Sheet A102, Addendum 2. The detail reference showing EIFS is 13A511 and is referred to as "cementitious coating".
5. Sheet P000 - SYMBOLS, ABBREVIATIONS AN SCHEDULES – PLUMBING 30 x 42 attached hereto
  - a. Revisions clouded on Drawing.
  - b. .Add sink S-8 to Plumbing Fixture Schedule.
6. Sheet P097 – UPPER LEVEL DEMO – SEG B – PLUMBING 30 x 42 attached hereto
  - a. Revisions clouded on Drawing.
  - b. Demolish classroom sink.

7. Sheet P098 - UPPER LEVEL DEMO – SEG C – PLUMBING 30 x 42 attached hereto
  - a. Revisions clouded on Drawing.
  - b. Demolish classroom sink.
  
8. Sheet P107 – UPPER LEVEL – SEG B – PLUMBING 30 x 42 attached hereto
  - a. Revisions clouded on Drawing.
  - b. Add scheduled sink in new classroom countertop at location of demolished sink.
  
9. Sheet P108 – UPPER LEVEL – SEG C – PLUMBING 30 x 42 attached hereto
  - a. Revisions clouded on Drawing.
  - b. Add scheduled sink in new classroom countertop at location of demolished sink.
  
10. Sheet M101 LOWER LEVEL DUCTWORK REMODEL SEG B 30 x 42 attached hereto
  - a. Revisions clouded on Drawing.
  
11. Sheet M102 LOWER LEVEL DUCTWORK REMODEL SEG C 30 x 42 attached hereto
  - a. Revisions clouded on Drawing.
  - b. Required fire damper locations.
  
12. Sheet M104 UPPER LEVEL DUCTWORK REMODEL SEG B 30 x 42 attached hereto
  - a. Revisions clouded on Drawing.
  - b. Required fire damper locations
  
13. Sheet M602 HVAC SCHEDULES AND DETAILS 30 x 42 attached hereto
  - a. Revisions clouded on Drawing.
  - b. Dryer duct labeling identified.
  
14. Sheet E001 SITE PLAN – ELECTRICAL 30 x 42 attached hereto
  - a. Revisions clouded on Drawing.
  - b. Add greenhouse panel to feed all greenhouse power and lighting.
  
15. Sheet E801 – SCHEDULES – ELECTRICAL 30 x 42 attached hereto
  - a. Revisions clouded on Drawing.
  - b. Add connection for new greenhouse feeder from existing Panel C€.

**END OF DOCUMENT 00 90 00**

1  
2                                   **SECTION 26 05 19**  
3                                   **LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLE**

4  
5                                   **PART 1 - GENERAL**

6  
7                                   **SCOPE**

8                                   The work under this section includes furnishing and installing required wiring and cabling systems  
9                                   including pulling, terminating and splicing. Included are the following topics:

10  
11                                  **PART 1 - GENERAL**

- 12                                  Scope
- 13                                  Related Work
- 14                                  References
- 15                                  Submittals
- 16                                  Project Conditions

17  
18                                  **PART 2 - PRODUCTS**

- 19                                  General
- 20                                  Building Wire
- 21                                  Service Entrance Conductors
- 22                                  Variable Frequency Drive (VFD) Wire
- 23                                  Aboveground Wire for Exterior Work
- 24                                  Underground Wire for Exterior Work
- 25                                  Wiring Connectors

26  
27                                  **PART 3 - EXECUTION**

- 28                                  General Wiring Methods
- 29                                  Wiring Installation in Raceways
- 30                                  Wiring Connections and Terminations
- 31                                  Field Quality Control
- 32                                  Wire Color
- 33                                  Branch Circuits

34  
35                                  **RELATED WORK**

36                                  Applicable provisions of Division 1 govern work under this Section.

37  
38                                  Section 26 05 33 – Raceway and Boxes for Electrical Systems.

39                                  Section 26 05 53 – Identification for Electrical Systems.

40  
41                                  **REFERENCES**

42                                  Minnesota State Building Code

43  
44                                  **SUBMITTALS**

45                                  Submit product data: Provide for each cable assembly type.

46  
47                                  Submit factory test reports: Indicate procedures and values obtained.

48  
49                                  Submit shop drawings for modular wiring system including layout of distribution devices, branch  
50                                  circuit conduit and cables, circuiting arrangement, and outlet devices.

51  
52                                  Submit manufacturer's installation instructions. Indicate application conditions and limitations of  
53                                  use stipulated by product testing agency specified under Regulatory Requirements.

54  
55                                  **PROJECT CONDITIONS**

56                                  Verify that field measurements are as shown on Drawings.

1  
2 Conductor sizes are based on copper.

3  
4 Wire and cable routing shown on Drawings is approximate unless dimensioned. Route wire and  
5 cable as required to meet project conditions.

6  
7 Where wire and cable routing is not shown, and destination only is indicated, determine exact  
8 routing and lengths required.

9  
10 **PART 2 - PRODUCTS**

11  
12 **GENERAL**

13 All wire shall be new, delivered to the site in unbroken cartons and shall be less than one year old  
14 out of manufacturer's stock.

15  
16 All conductors shall be copper. Aluminum conductors size #1/0 and larger may be substituted for  
17 copper and used for phase and neutral conductors for transformer feeders, switchboard feeders,  
18 and panelboard feeders. All ground conductors shall be copper.

19  
20 Aluminum conductors shall not be used for serving individual motors, chillers, VFD's and motor  
21 controllers.

22  
23 The following requirements shall be met when aluminum conductors are used:

24  
25 Aluminum alloy conductors shall be compact stranded conductors of a recognized  
26 Aluminum Association 8000 Series aluminum alloy conductor material (AA-8000 series  
27 alloy).

28  
29 It is the responsibility of the contractor to increase the size of the conduit, wire gutter, or  
30 enclosure, if necessary, to accommodate the aluminum conductors and meet allowable  
31 code requirements.

32  
33 It is the responsibility of the contractor to increase the size of the aluminum conductor  
34 and associated termination lugs to match the ampacity of the copper conductor circuit  
35 shown on the Drawings.

36  
37 The contractor shall submit a feeder schedule to the Engineer for all conductor  
38 substitutions indicating the aluminum conductor wire size and the conduit size. The  
39 contractor shall not begin the installation until written approval is granted by the Engineer.

40  
41 All aluminum conductors shall terminate on a mechanical screw-type connector or  
42 mechanical compression-type connector. Connector shall be dual rated (AL7CU or  
43 AL9CU) and Listed by UL for use with aluminum and copper conductors, and sized to  
44 accept aluminum conductors of the required ampacity. When using compression-type  
45 connectors, the lugs shall be marked with wire size, die index, number and location of  
46 crimps and shall be suitably color-coded. Using a suitable stripping tool, remove  
47 insulation from the required length of the conductor. Wire brush the conductor and apply  
48 a Listed joint compound. Tighten or crimp the connection per the connector  
49 manufacturer's recommendation. Wipe off any excess joint compound.

50  
51 When terminating aluminum conductors to aluminum bus, prepare a mechanical screw-  
52 type or compression-type connection. Bolts shall be anodized alloy and conform to  
53 current ANSI and ASTM chemical and mechanical property limits. Nuts shall be  
54 aluminum alloy and conform to current ANSI standards. Washers shall be flat aluminum  
55 alloy, Type A plain, standard wide series conforming to current ANSI standards.  
56 Lubricate and tighten the hardware per manufacturer's recommendations.

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When terminating aluminum conductors to copper bus, prepare a mechanical screw-type or compression-type connection. Bolts shall be plated or galvanized medium carbon steel; heat treated, quenched and tempered equal to current ASTM standard or SAE grade 5. Nuts shall conform to current ANSI standards. Washers shall be steel, Type A plain, standard wide series conforming to current ANSI standards. Belleville conical spring washers shall be of hardened steel, cadmium plated or silicone bronze. Lubricate and tighten the hardware per manufacturer's recommendations.

The final tightening torque shall be recorded for all aluminum conductor mechanical screw-type connections and provided in report form, in the completed O&M manuals.

The contractor shall perform an infrared survey of all aluminum conductor connections after the installation is complete and in normal service. Infrared surveys shall be performed during periods of maximum possible loading with at least 30% of rated load of the equipment being inspected. All connections with elevated temperatures shall be corrected by the contractor. The infrared survey results shall be provided in report form, in the completed O&M manuals.

**No copper-to-aluminum transitions permitted when splicing onto existing copper feeders.**

Insulation shall have a 600 volt rating.

All conductors shall be stranded.

Stranded conductors may only be terminated with UL OR ETL Listed type terminations or methods: e.g. stranded conductors may not be wrapped around a terminal screw but must be terminated with a crimp type device or must be terminated in an approved back wired method.

**BUILDING WIRE**

Description: Single conductor insulated wire 90 degree C.

Insulation: Type THHN/THWN-2, XHHW-2 insulation.

**SERVICE ENTRANCE CONDUCTORS**

Description: Single conductor or multi-conductor insulated wire. 90 degree C sized at the 75 degree C table.

Insulation: Type USE-2, XHHW-2 insulation for service entrance conductors routed from exterior source to exterior termination location.

Type XHHW-2 insulation for services entrance conductors routed from exterior source to interior termination location.

**VARIABLE FREQUENCY DRIVE (VFD) WIRE**

All power wiring from the VFD output to the motor shall be type XHHW-2 insulation, single conductor wire.

**ABOVE GROUND WIRE FOR EXTERIOR WORK**

Description: Single conductor insulated wire, 90 degree C.

Insulation: Type THHN/THWN-2, XHHW-2 insulation.

**UNDERGROUND WIRE FOR EXTERIOR WORK**

Description: Stranded single or multiple conductor insulated wire, 90 degree C.

1  
2 Insulation: Type USE-2, XHHW-2, RHW-2 insulation.  
3

4 This wiring shall be used in all underground feeder and branch circuit applications, except  
5 THHN/THWN-2 is permitted when run in a concrete-encased ductbank.  
6

### 7 **WIRING CONNECTORS**

8 Split Bolt Connectors: Not acceptable.  
9

10 Solderless Pressure Connectors: High copper alloy terminal. May be used only for cable  
11 termination to equipment terminals. Not approved for splicing.  
12

13 Twist Type Wire Connectors: Solderless twist type spring connector (wire-nut) with insulating  
14 cover for copper wire splices and taps. Use for conductor sizes 10 AWG and smaller. The  
15 manufacturer's wire fill capacity must be followed.  
16

17 All wire connectors used in underground or exterior pull boxes or hand holes shall be gel  
18 filled twist connectors or a connector designed for damp and wet locations. Gel filled twist  
19 type connectors can be used for copper conductor sizes 6 AWG and smaller for site  
20 lighting applications. The manufacturer's wire fill capacity must be followed.  
21

22 Mechanical Connectors: Bolted type tin-plated; high conductivity copper alloy; spacer between  
23 conductors; beveled cable entrances.  
24

25 Compression (crimp) Connectors: Long barrel; seamless, tin-plated electrolytic copper tubing;  
26 internally beveled barrel ends. Connector shall be clearly marked with the wire size and type and  
27 proper number and location of crimps. Connector must be installed with a crimper tool listed for  
28 use with the manufacturer and type of compression connector.  
29

30 Insulation Piercing Connectors: Molded insulated body, copper teeth, wrench tightened, UL 486B  
31 Listed. May be used only for connection of a tap conductor in run and tap type applications when  
32 main conductor is 8 AWG and larger.  
33

## 34 **PART 3 - EXECUTION**

### 35 **GENERAL WIRING METHODS**

36 All wire and cable shall be installed in conduit.  
37

38 Do not use wire smaller than 12 AWG for power and lighting circuits.  
39

40 All phase, neutral and ground conductors shall be sized to prevent excessive voltage drop at  
41 rated circuit ampacity. As a minimum use 10 AWG conductors for 20 ampere, 120 volt branch  
42 circuit home runs longer than 100 feet (30 m), and for 20 ampere, 277 volt branch circuit home  
43 runs longer than 200 feet (61 m).  
44

45 Make conductor lengths for parallel conductors equal.  
46

47 Splice only in junction or outlet boxes.  
48

49 No conductor less than 10 AWG shall be installed in exterior underground conduit.  
50

51 Identify ALL low voltage wire, 600V and lower, per section 26 05 53.  
52

53 Neatly train and lace wiring inside boxes, equipment, and panelboards.  
54

### 55 **WIRING INSTALLATION IN RACEWAYS** 56

1 Pull all conductors into a raceway at the same time. Use Listed water or silicone based wire  
2 pulling lubricant for pulling 4 AWG and larger wires and for other conditions when necessary.  
3 Wax based lubricants are not allowed. Pulling lubricant is not required for low friction type  
4 products where the cable manufacturer recommends that cables be pulled without lube.

5  
6 Install wire in raceway after interior of building has been physically protected from the weather  
7 and all mechanical work likely to injure conductors has been completed.

8  
9 Completely and thoroughly swab raceway system before installing conductors.

10  
11 Place all conductors of a given circuit (this includes phase wires, neutral (if any), and ground  
12 conductor) in the same raceway. If parallel phase and/or neutral wires are used, then place an  
13 equal number of phase and neutral conductors in same raceway or cable.

14  
15 VFD Installations: Install VFD input wiring and output wiring in separate conduit systems. Do not  
16 mix VFD input power and output power, or control wiring in a common raceway.

17  
18 In high ambient spaces, mechanical rooms, utility rooms and exterior exposed conduit, 90 degree  
19 C conductors shall be utilized.

## 20 21 **WIRING CONNECTIONS AND TERMINATIONS**

22 Splice only in accessible junction boxes.

23  
24 Wire splices and taps shall be made firm, and adequate to carry the full current rating of the  
25 respective wire without soldering and without perceptible temperature rise.

26  
27 All splices shall be so made that they have an electrical resistance not in excess of two feet (600  
28 mm) of the conductor.

29  
30 Use solderless twist type spring connectors (wire nuts) with insulating covers for wire splices and  
31 taps, 10 AWG and smaller.

32  
33 Use mechanical or compression connectors for wire splices and taps, 8 AWG and larger. Tape  
34 uninsulated conductors and connectors with electrical tape to 150 percent of the insulation value  
35 of the wiring.

36  
37 Thoroughly clean wires before installing lugs and connectors.

38  
39 At all splices and terminations, leave tails long enough to cut splice out and completely re-splice.

## 40 41 **FIELD QUALITY CONTROL**

42 Field inspection and testing will be performed under provisions of Section 26 05 04.

43  
44 **Additional testing as follows shall be performed if aluminum conductors are used:**

45  
46 **Feeders terminated with aluminum conductors shall be tested with a thermal imager and**  
47 **recorded.**

48  
49 **Conductors shall be closely checked for loose or poor connections, and for signs of**  
50 **overheating or corrosion.**

51  
52 **Test procedures shall meet NETA guidelines.**

53  
54 **Test results and report shall be provided to the engineer and included in O&M manual**  
55 **under AL conductors/ tests.**

56

1 Contractor shall correct all deficiencies reported in the test report.  
2

3 **WIRE COLOR**

4 General:

5 Solid colored insulation is required for all THHN/THWN-2 wire. For other wire types use  
6 colored wire or identify wire with colored tape at all terminals, splices and boxes. Wire  
7 shall be colored as indicated below.

8  
9 In existing facilities, use existing color scheme.

10  
11 Switch legs shall be the same color as their associated circuit, except for the second  
12 switch leg used for dual-level switching. The second switch leg shall be the next phase  
13 color, e.g. if the first switch leg is brown (277/480V phase A), the second switch leg shall  
14 be orange (277/480V phase B).

15  
16 Traveler conductors run between 3 and 4 way switches shall be colored pink or purple.

17  
18 Neutral Conductors: White for 120/208V and 120/240V systems, Gray for 277/480V systems.  
19 Where there are two or more neutrals in one conduit, each shall be individually identified with a  
20 different stripe.

21  
22 Branch Circuit Conductors: Three or four wire home runs shall have each phase uniquely color  
23 coded.

24  
25 Feeder Circuit Conductors: Each phase shall be uniquely color coded.

26  
27 Ground Conductors: Green colored insulation for THHN/THWN-2 wire. For other wire types use  
28 green colored wire or identify wire with green tape at both ends and at all access points, such as  
29 panelboards, motor starters, disconnects and junction boxes. When isolated grounds are  
30 required, contractor shall provide green with yellow tracer.

31  
32 **BRANCH CIRCUITS**

33 The use of single-phase, multi-wire branch circuits with a common neutral is not permitted. All  
34 single-phase branch circuits shall be furnished and installed with an individual accompanying  
35 neutral, sized the same as the phase conductors.

36  
37 END OF SECTION





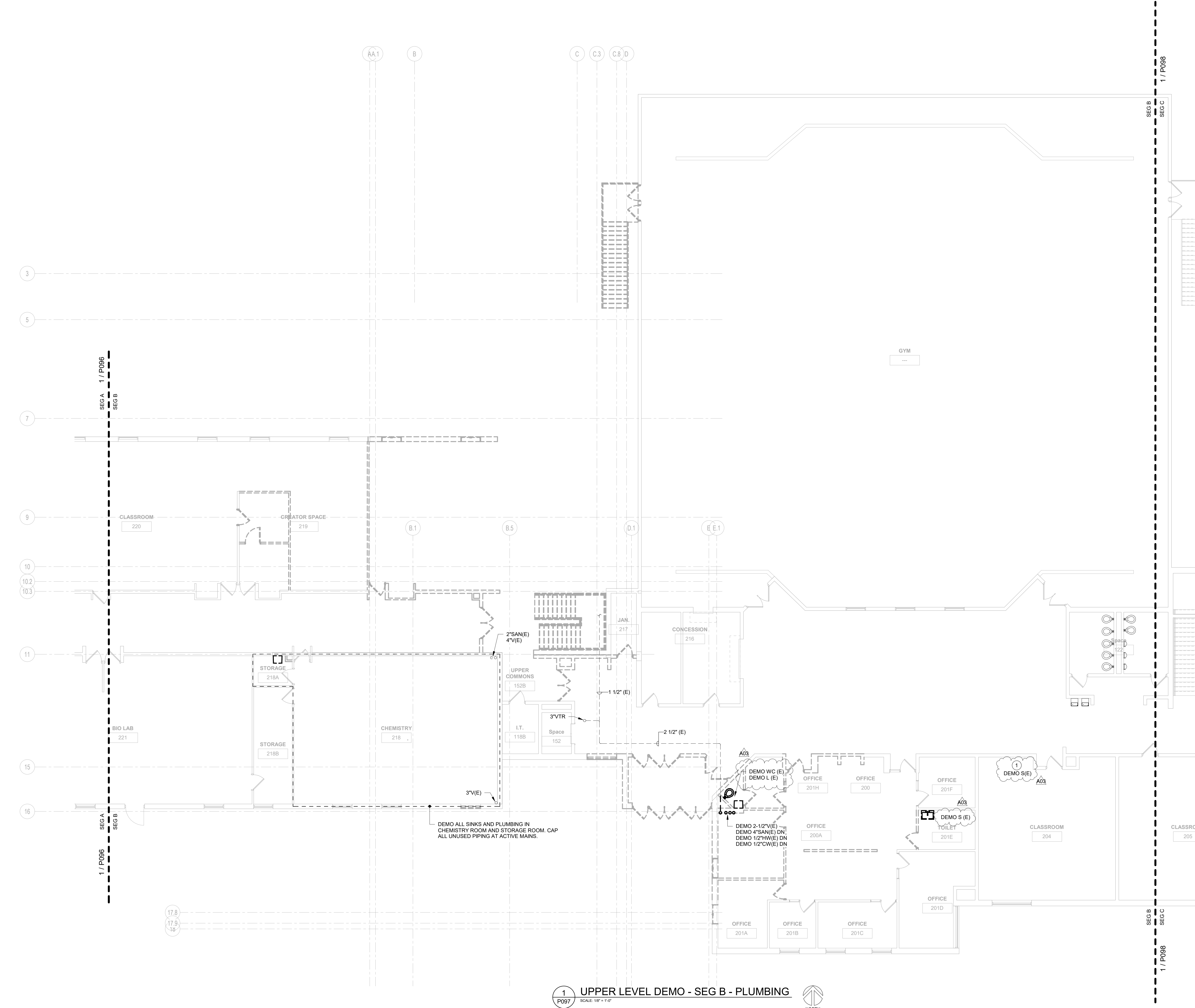


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JDR PROJECT NO. 19.0052

**ENGINEER CERTIFICATION**  
I hereby certify that this Plan, Specification or Report was prepared by me or under my direct supervision and that I am a duly licensed Engineer under the laws of the State of Wisconsin.  
*Robert C. Stone*  
Robert C. Stone  
Date: July 5, 2019 Lic. No. 42791  
This drawing is conditionally issued and reproductions or use of any technical design information is strictly forbidden without written agreement from the responsible Engineer.

- GENERAL NOTES:**
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE A/E PRIOR TO COMMENCING WORK OR ORDERING MATERIALS.
- KEYED NOTES:**
- DEMOLISH EXISTING SINK, P-TRAP, SUPPLIES, AND STOPS COMPLETE. INSTALL NEW SINK IN SIMILAR LOCATION. REFER TO P108 FOR NEW SINK.



**1**  
**P097**  
UPPER LEVEL DEMO - SEG B - PLUMBING  
SCALE: 1/8" = 1'-0"  
NORTH

**LANESBORO PUBLIC SCHOOLS**  
**ADDITION & REMODEL - REBID**  
Project Location: 204 KIRKWOOD ST EAST  
LANESBORO, MN 55949  
Sheet Title: **UPPER LEVEL DEMO - SEG B - PLUMBING**

Project Number: **18063**  
Project Date: **9-26-19**  
Drawn By: **JDR**

Key Plan:

**KEY PLAN**

Revisions:

No.	Description	Date
A03	ADDENDUM #03	10-11-19

Graphic Scale:  
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Last Update:  
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**P097**



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**1**  
**P098** UPPER LEVEL DEMO - SEG C - PLUMBING  
SCALE: 1/8" = 1'-0"  
R 5 S 5 V Y

**LANESBORO PUBLIC SCHOOLS**  
**ADDITION & REMODEL - REBID**  
Project Location: 204 KIRKWOOD ST EAST  
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Sheet Title: **UPPER LEVEL DEMO - SEG C - PLUMBING**

Project Title: **LANESBORO PUBLIC SCHOOLS**  
HSR Project Number: **18063**  
Project Date: **9-26-19**  
Drawn By: **JDR**  
Key Plan:  
  
**KEY PLAN**

Revisions:

No.	Description	Date
A03	ADDENDUM #03	10-11-19

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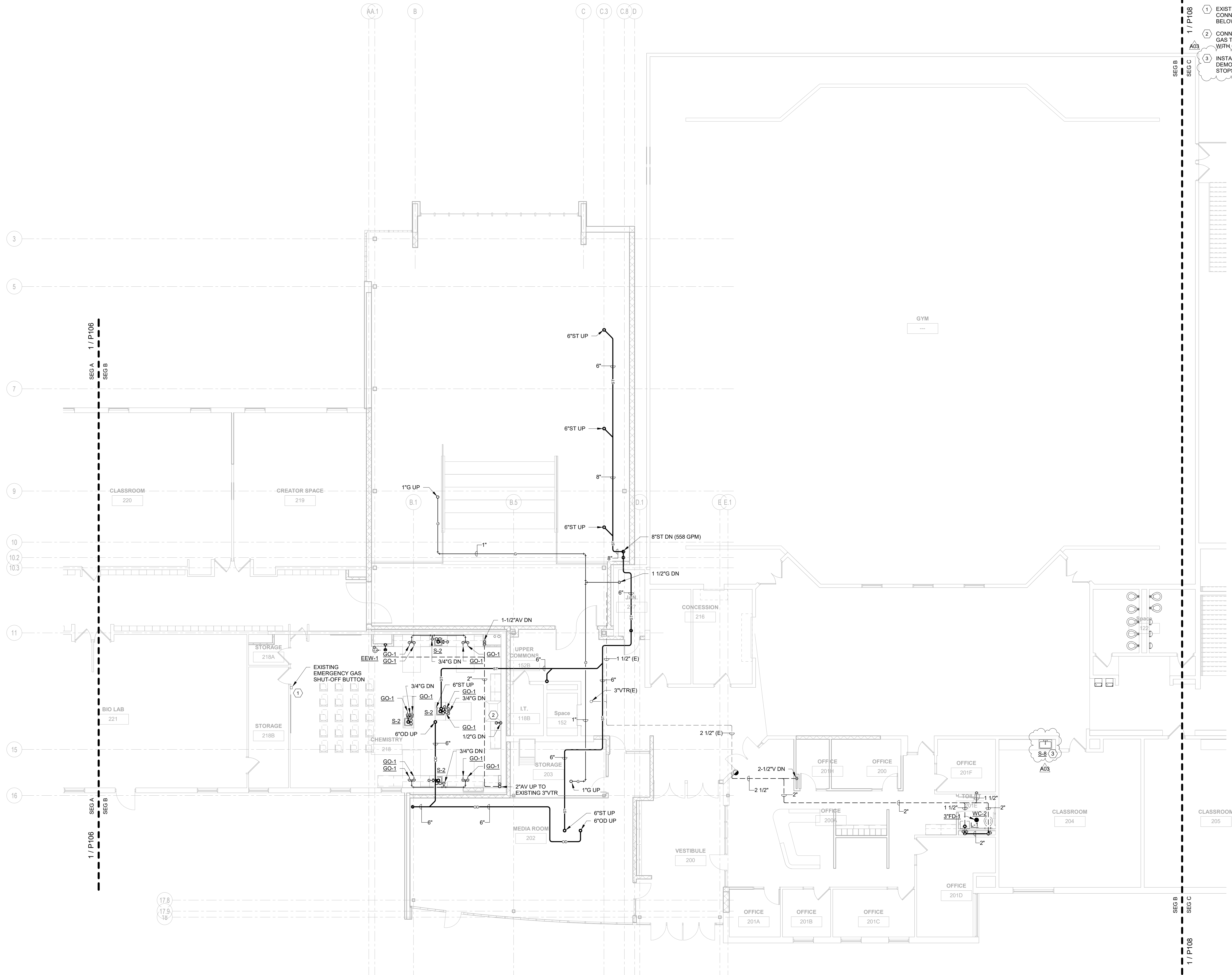
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- GENERAL NOTES:**
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- KEYED NOTES:**
- EXISTING EMERGENCY GAS SHUT-OFF BUTTON TO REMAIN CONNECTED TO EXISTING SOLENOID VALVE IN CEILING BELOW.
  - CONNECT LAB WASTE, LAB VENT, P-TRAP, COLD WATER, AND GAS TO FUME HOOD. COORDINATE EXACT CONNECTIONS WITH GC.
  - INSTALL NEW SINK (S-8) IN SIMILAR LOCATION AS EXISTING DEMOLISHED SINK. PROVIDE NEW P-TRAP, SUPPLIES, AND STOPS AND CONNECT TO EXISTING SERVICES AT WALL.

**1 UPPER LEVEL - SEG B - PLUMBING**  
SCALE: 1/8" = 1'-0"  
NORTH

**LANESBORO PUBLIC SCHOOLS**  
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HSR Project Number: **18063**  
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Key Plan:

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Revisions:

No.	Description	Date
A03	ADDENDUM #03	10-11-19

Graphic Scale: **VARIES**  
Last Update: **10/14/2019 1:54:05 PM**

**P107**

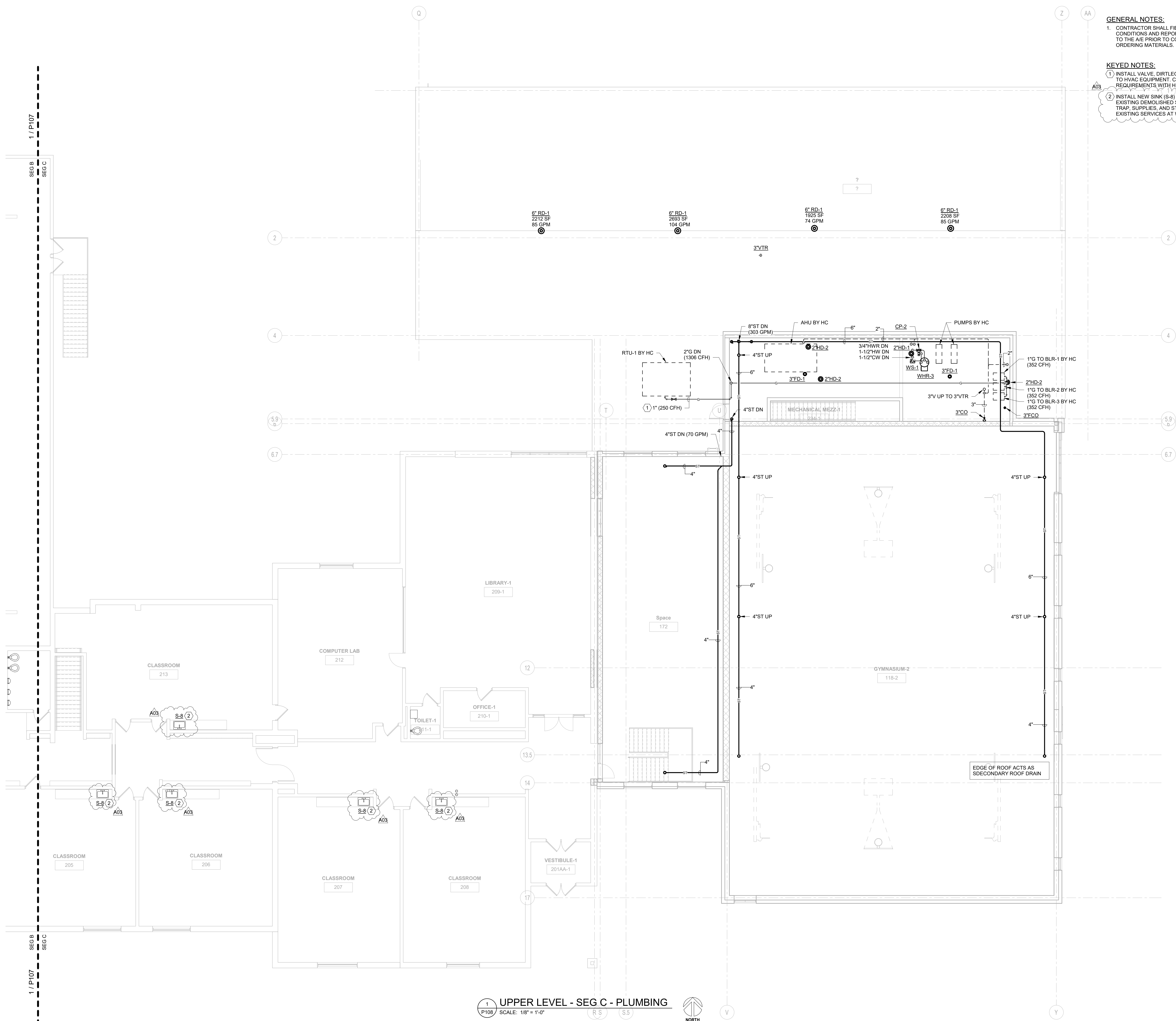


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- KEYED NOTES:**
- INSTALL VALVE, DIRTLEG AND GAS REGULATOR TO HVAC EQUIPMENT. COORDINATE PRESSURE REQUIREMENTS WITH H.C.
  - INSTALL NEW SINK (S-8) IN SIMILAR LOCATION AS EXISTING DEMOLISHED SINK. PROVIDE NEW P-TRAP, SUPPLIES, AND STOPS AND CONNECT TO EXISTING SERVICES AT WALL.



1 UPPER LEVEL - SEG C - PLUMBING  
SCALE: 1/8" = 1'-0"

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Sheet Title: UPPER LEVEL - SEG C - PLUMBING

HSR Project Number: 18063  
Project Date: 9-26-19  
Drawn By: JDR  
Key Plan: [Diagram showing SEG A, SEG B, and SEG C]

Revisions:

No.	Description	Date
A02	ADDENDUM #02	10-9-19
A03	ADDENDUM #03	10-11-19

Graphic Scale: 0' 2' 4' 8' 12'  
Last Update: 10/14/2019 1:54:06 PM

◇ KEYNOTES - REMODEL M101	
Keynote Number	Keynote Description
1	Connect 23x10 exhaust duct to kitchen hood opening. Typical for 2. Kitchen hood provided by others.
2	Connect 26x10 supply duct to kitchen hood opening. Balance to 660 CFM. Typical for 6. Kitchen hood provided by others.
3	14x4 down. Connect to relocated dishwasher. Provide volume dampers. Balance load side to 200 cfm and unload side 400 cfm.

ARCHITECTURE  
ENGINEERING  
INTERIOR DESIGN

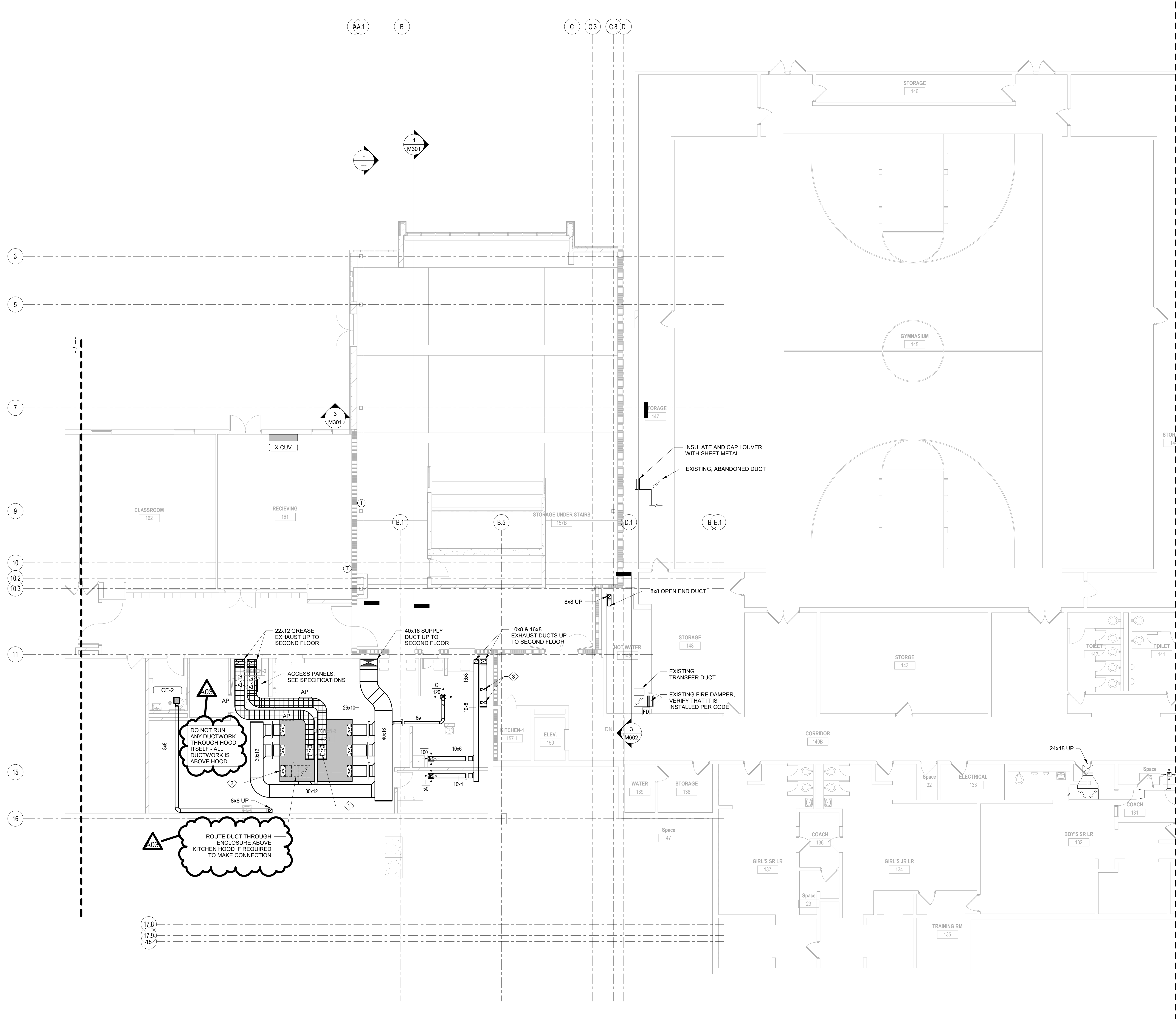


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Consultant:

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*Jim Temple*  
Date: July 9, 2019 Lic. No. 11311  
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I hereby certify that this Plan, Specification or Report was prepared by me or under my direct supervision and that I am a duly licensed Architect under the laws of the state of Minnesota.  
*Christi A.*  
Date: July 9, 2019 Lic. No. 58867  
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**LANESBORO SCHOOL DISTRICT**  
**ADDITION & REMODEL - REBID**  
 204 KIRKWOOD ST EAST  
 LANESBORO, MN 55949  
**LOWER LEVEL DUCTWORK REMODEL - SEG. B**

HSR Project Number: **18063**

Project Date: **09/26/2019**

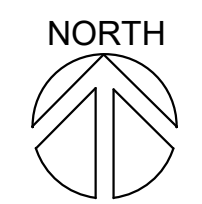
Drawn By: **BSI/SJK**

Key Plan:

No.	Description	Date
A03	Addendum #3	10-14-2019

Graphic Scale: **VARIES**

Last Update: **10/14/2019 11:55:01 AM**



**1 LOWER LEVEL DUCTWORK REMODEL PLAN - SEG. B**

1/8" = 1'-0"

**M101**

KEYNOTES - REMODEL M102

Keynote Number	Keynote Description
1	New location of existing diffuser. Provide new connection to existing branch duct and balance to airflow shown.
2	Open end transfer duct through full height wall.
3	Connect to return grille at floor level.
4	Open ended duct.
5	4" dryer exhaust. Connect to dryer at floor level. Terminate duct through roof with roof jack. Refer to Detail 4 on Drawing M602.
6	Route duct through truss webbing. Refer to Section 2 on Drawing M301.
7	Install and offset duct to match ceiling angle. Install duct between trusses. Refer to Section 2 on Drawing M301.
8	Install duct between trusses.
9	Offset branch duct over main duct. Install duct between trusses.
10	Install open end transfer duct between trusses, light to structure above.

ARCHITECTURE  
ENGINEERING  
INTERIOR DESIGN



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LANESBORO SCHOOL DISTRICT  
ADDITION & REMODEL - RBID  
204 KIRKWOOD ST EAST  
LANESBORO, MN 55949  
LOWER LEVEL DUCTWORK REMODEL - SEG. C

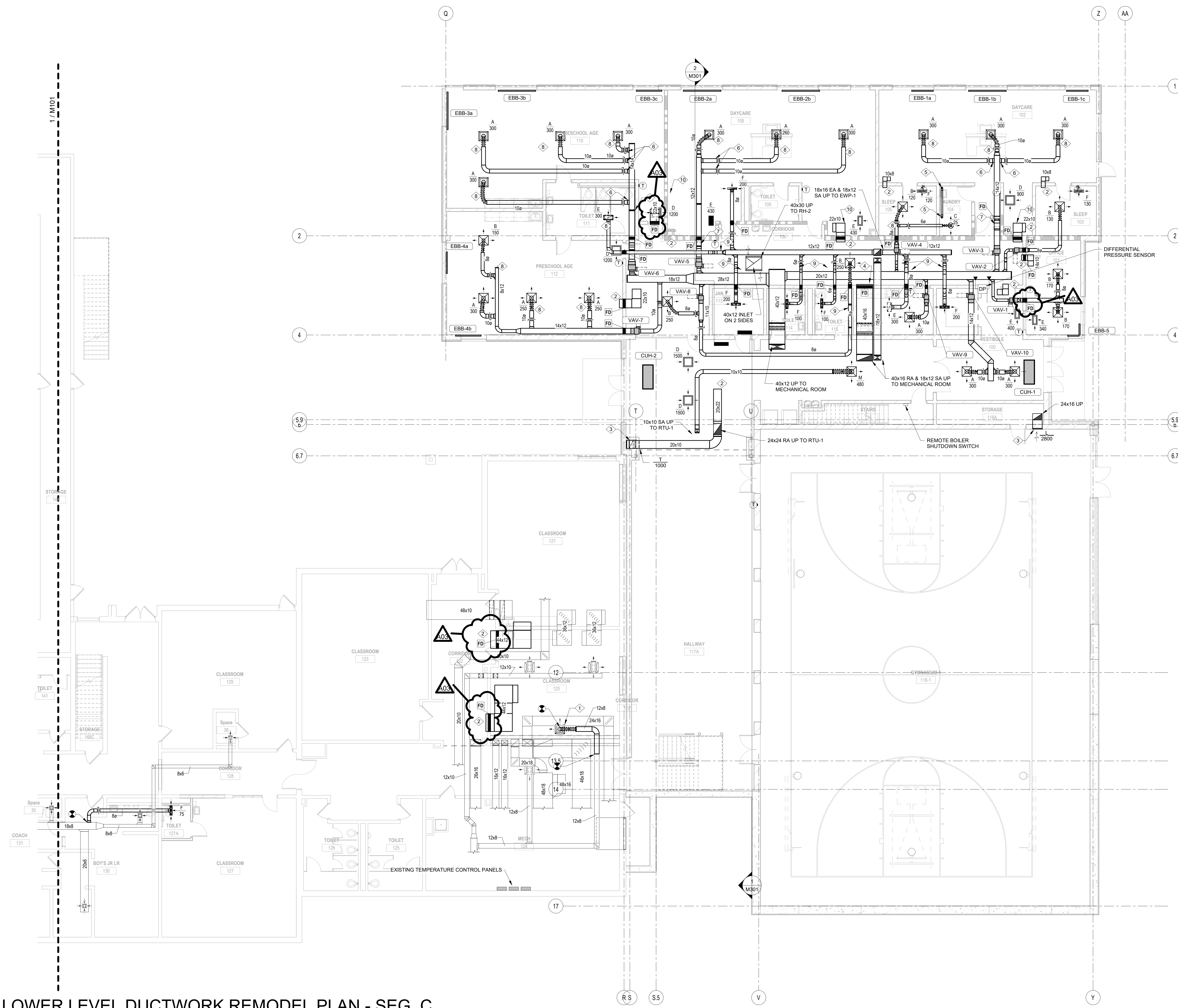
HSR Project Number: 18063  
Project Date: 09/26/2019  
Drawn By: BSJ/SJK  
Key Plan:

No.	Description	Date
AD3	Addendum #3	10-14-2019

Graphic Scale: VARIES

Last Update: 10/14/2019 11:55:03 AM

M102



KEYNOTES - REMODEL M104	
Keynote Number	Keynote Description
1	Open end duct above ceiling.
2	Offset duct as required to route duct through trusses. Refer to Section 3 on Drawing 301.
3	Connect 12x12 duct to existing fan. Transition to outlet as required.
4	Fan manufacturer wall cap.
5	Offset duct as required to route duct to linear diffuser. Typical for all linear diffusers.
6	Existing exhaust fan to be rebalanced to airflow taken prior to the start of construction plus 75 CFM.
7	Existing duct to remain and be reused.
8	Provide inactive lengths of linear diffuser between active lengths for continuity.

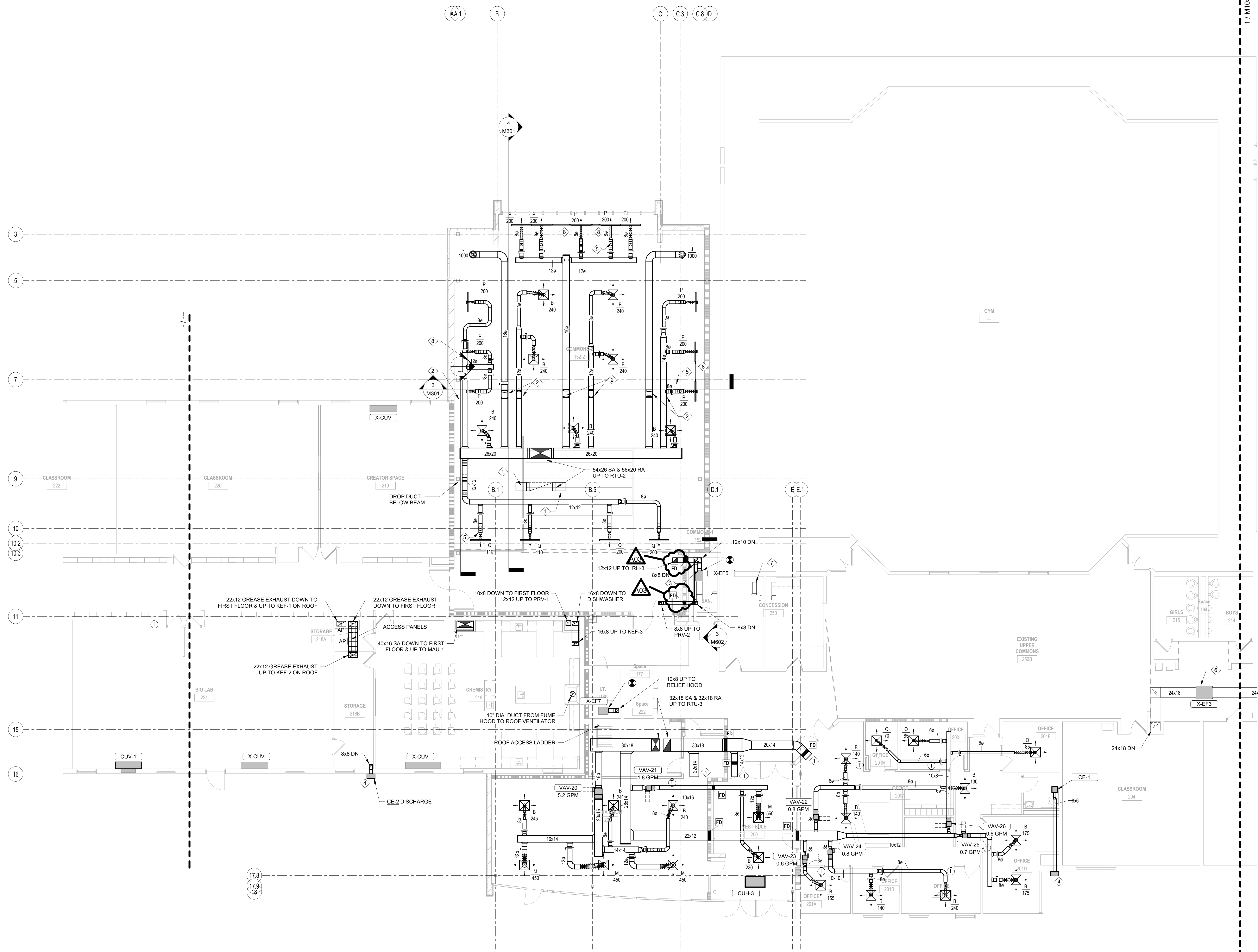


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**1 UPPER LEVEL DUCTWORK REMODEL PLAN - SEG. B**  
 1/8" = 1'-0"

**LANESBORO SCHOOL DISTRICT**  
**ADDITION & REMODEL - REBID**  
 Project Location: 204 KIRKWOOD ST EAST LANESBORO, MN 55949  
 Sheet Title: UPPER LEVEL DUCTWORK REMODEL - SEG. B

HSR Project Number: **18063**  
 Project Date: **09/26/2019**  
 Drawn By: **BSI/SJK**  
 Key Plan:

No.	Description	Date
A03	Addendum #3	10-14-2019

Graphic Scale: **VARIES**  
 Last Update: **10/14/2019 11:55:05 AM**

**M104**



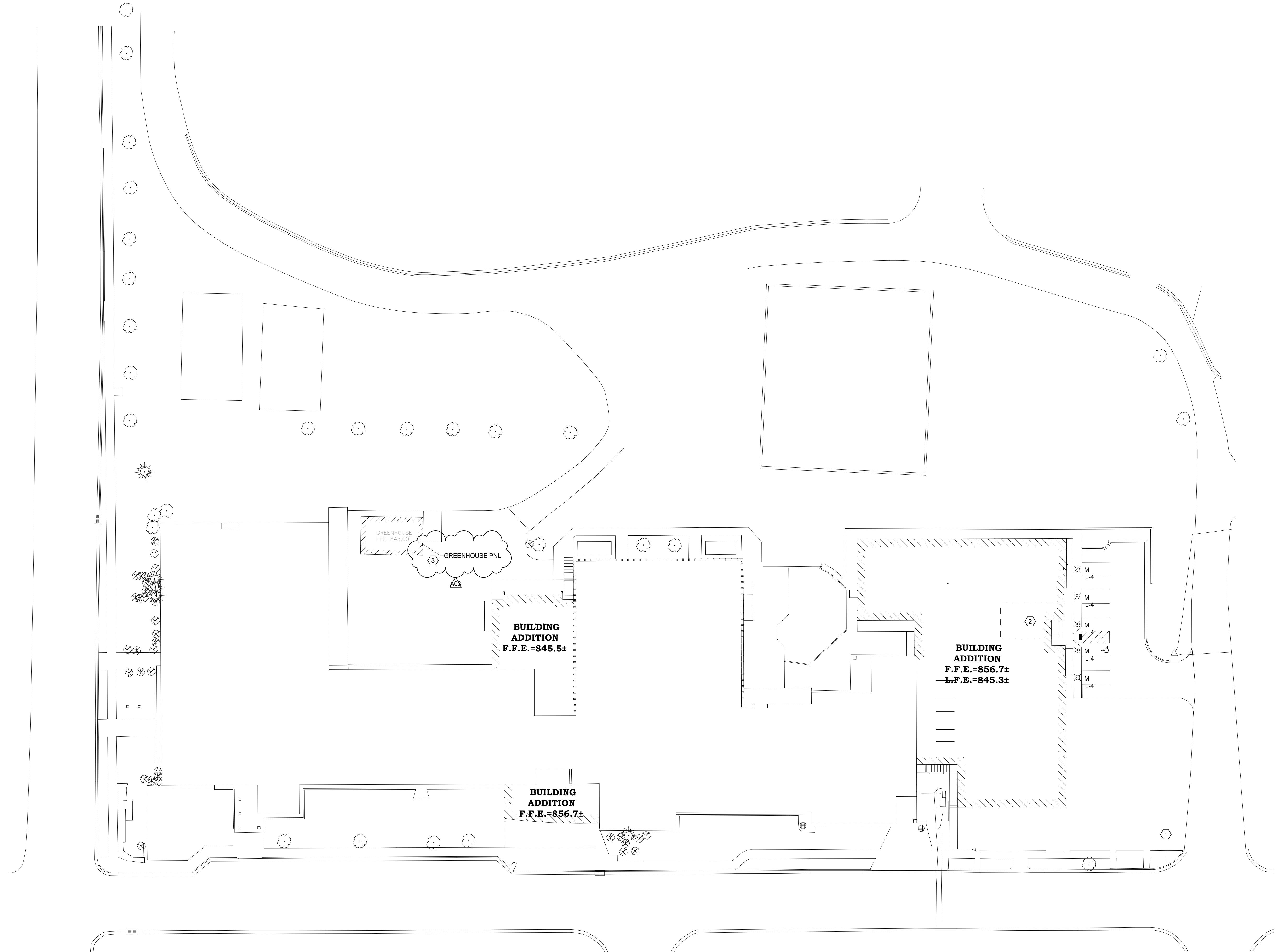




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**JDR**  
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JDR PROJECT NO. 19.0052

**ENGINEER CERTIFICATION**  
I hereby certify that this Plan, Specification or Report was prepared by me or under my direct supervision and that I am a duly licensed Engineer under the laws of the State of Wisconsin.  
*Robert C. Stone*  
Robert C. Stone  
Date: July 5, 2019 Lic. No.: 42791  
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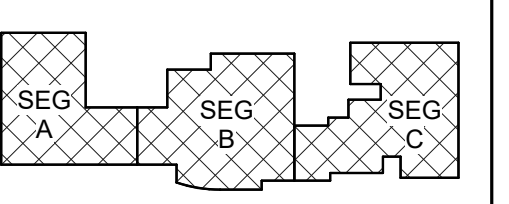
Project Title: **LANESBORO PUBLIC SCHOOLS  
ADDITION & REMODEL - REBID**  
Project Location: **204 KIRKWOOD ST EAST  
LANESBORO, MN 55949**  
Sheet Title: **SITE PLAN - ELECTRICAL**

HSR Project Number: **18063**

Project Date: **9-26-19**

Drawn By: **JDR**

Key Plan:



KEY PLAN

Revisions:

No.	Description	Date
A02	ADDENDUM #02	10-9-19
A03	ADDENDUM #03	10-11-19

Graphic Scale:  
0' 7.5' 15' 30' 45'

Last Update:  
**10/14/2019 10:30:00 AM**

**E001**

**1 SITE PLAN - ELECTRICAL**  
E001 SCALE

- GENERAL NOTES:
- REFER TO SHEET E000 FOR ALL SYMBOLS, SCHEDULES, AND DETAILS.
  - REFER TO ARCHITECTURAL PLANS, SECTIONS, ELEVATIONS, AND REFLECTED CEILING PLANS FOR EXACT LOCATION AND COORDINATION OF ALL LIGHT FIXTURE INSTALLATIONS.

- KEY PLAN NOTES:
- NEW UTILITY TRANSFORMER TO BE LOCATED IN THIS APPROXIMATE LOCATION. COORDINATE EXACT LOCATION AND ALL OTHER REQUIREMENTS WITH LOCAL UTILITY, INCLUDING CONDUCTORS (COPPER OR ALUMINUM), RACEWAYS, CT/METERING, CONCRETE PAD, VAULT, ETC.
  - EXISTING GREENHOUSE TO BE RELOCATED. REFER TO 000 FOR EXACT LOCATION OF EXISTING GREENHOUSE.
  - EXISTING GREENHOUSE LOAD CENTER TO BE RELOCATED. FIELD VERIFY EXACT LOCATION IN GREENHOUSE. PROVIDE NEW FEEDER FROM EXISTING METALS PANEL (CIE). REFER TO E000P AND E001 FOR MORE INFORMATION.

