



Nova  
Group

Inspired Solutions  
by Nova Group

# LIMITED INDOOR AIR QUALITY SURVEY

## Property

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Fire Station #6  
3112 Chapel Hill Road  
Columbia, MO 65203

## Prepared For

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City of Columbia  
701 E. Broadway  
Columbia, MO 65205

## Prepared By

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Nova Group, GBC  
5320 West 23rd Street, Suite 270  
St. Louis Park, MN 55416

Web: [novagroupgbc.com](http://novagroupgbc.com)

Rick Leines  
VP - Industrial Hygiene Services

Nova Project No: Q23-8090  
Inspection Date: October 18, 2023



[novagroupgbc.com/carbonneutral](http://novagroupgbc.com/carbonneutral)



October 31, 2023

City of Columbia  
Attn: Kent Hayes  
701 E. Broadway  
Columbia, MO 65205

**Re: Limited Indoor Air Quality Survey  
Fire Station #6  
3112 Chapel Hill Road  
Columbia, MO 65203  
Nova Project No.: Q23-8090**

In accordance with our agreement, Nova Group, GBC (Nova) has performed a Limited Indoor Air Quality (IAQ) Survey at the above referenced property in accordance with the authorized scope of work. Please find a copy of the report enclosed.

Should you have any questions, please contact us at your earliest convenience.

Respectfully submitted,

**Nova Group, GBC**

Reviewed by:

A handwritten signature in blue ink, appearing to read "Rick Leines".

Rick Leines  
VP - Industrial Hygiene Services

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## 1.0 EXECUTIVE SUMMARY

Nova conducted a Limited Indoor Air Quality (IAQ) Survey of the Fire Station #6 facility located at 3112 Chapel Hill Road in Columbia, Missouri.

**NOTE:** There are currently no Federal standards regarding permissible levels of airborne fungi that may be present in buildings.

The following summary provides an overview of activities conducted, findings, and conclusions. This report should be read in its entirety.

- Fire Station #6 was unoccupied during Nova's site visit.
- Ceiling panels and drywall were observed with water stains and areas of suspect fungal growth.
- Staining of carpet was observed.
- Plaster wall cracks and damage was observed.
- Standing water was observed (around washing machine).
- Interior duct insulation was observed with dust accumulation.
- General poor housekeeping and the presence of dust accumulation observed on window ledges, HVAC louvers, personal items, equipment (humidifier/fan) was observed.
- Temperature, Relative Humidity, and Carbon Dioxide were reported with ASHRAE and EPA recommended levels.
- No elevated moisture meter readings were observed.
- Four interior ambient air samples plus two exterior comparison samples were collected and submitted to an AIHA laboratory for mold analysis. Molds most commonly associated with indoor mold growth in buildings with long-term water intrusion issues, reported as Water Indicator, were not reported in the samples collected from the Bedroom/Dormitory, Locker Room or Engine Bay. The Kitchen sample reported one raw mold spore of Chaetomium, a water indicator (common habitats include cellulose-containing materials, soil, seeds, dung). Background debris in the interior ambient air samples were reported as Light and Moderate. The presence of one raw count of these spores is not considered a building mold growth concern as the spore likely came from the building exterior.
- Five surface samples were collected and submitted to an AIHA laboratory for mold analysis. Background debris in the surface samples were reported as Trace and Moderate. Surface sample molds were reported with MGR's ranging from 0 to 5.

## **RECOMMENDATIONS:**

Given the above information/observations, Nova recommends the following:

- Maintain temperatures within ASHRAE recommended levels (meaning, maintain the bedroom temperature similar to other areas within the building to avoid condensation)
- Although not in use during Nova's site visit, minimize the usage of the humidification machine within the bedroom during warm weather
- Interior water impacted and damaged building materials should be further evaluated to determine the source and extent of water intrusion. Damaged materials that cannot be cleaned should be removed and replaced.
- Investigation of the roof and associated sealants for effective water barriers.
- Interior areas of water impact and suspect fungal growth on building materials should be cleaned and then coated with an EPA registered antimicrobial solution to aide in the prevention of potential mold growth.
- Installation of duct insulation in efforts to minimize condensation
- After removal/replacement of water impacted materials and the installation of insulation, interior duct cleaning and HVAC filter(s) replacement is recommended, and
- Additional housekeeping/cleaning and carpet cleaning is recommended.
- Investigate exterior sealants and repair as necessary.
- Investigate roof gutter drainage and associated landscaping to ensure appropriate drainage away from building.

## 2.0 INTRODUCTION

On October 18, 2023, Nova Group, GBC (Nova) conducted a Limited Indoor Air Quality (IAQ) Survey of the Fire Station #6 facility located at 3112 Chapel Hill Road in Columbia, MO. The purpose of the investigation was to evaluate potential building-associated problems related to water infiltration and evidence of suspect fungal growth. The investigation was conducted by Rick Leines.

Nova's observations and test results can be found in the following text.

### 2.1 Scope of Work

Nova provided an industrial hygienist to conduct a limited indoor air quality survey in accordance with our October 16, 2023 proposal.

The survey included a limited visual assessment of the building interior, the collection of random moisture meter readings, the collection of comfort parameter readings, and the collection of random surface and ambient air samples for mold analysis by an accredited laboratory.

If specific areas of water/moisture intrusion or suspect mold growth were observed, these areas were photographed.

### 2.2 Facility Usage

Fire Station #6 was unoccupied during Nova's site visit. Nova understands that the building was vacated two days prior to Nova's visit. The building is slab on grade construction and consisted of a living room, office, squad room (referred to as "locker room" in the report), restrooms, kitchen, dormitory, utility room and apparatus bay (truck bay).

## 3.0 VISUAL INSPECTION

### 3.1 Exterior

The survey focused on the building interior due to information provided by the client. The building exterior is constructed of brick with a sloped roof. The roof was not accessed.

### 3.2 Interior

Nova did not observe any evidence of damp or musty odors during the site visit on October 18, 2023.

Nova did observe evidence of water intrusion/staining:

- Approximately thirty-three (33) ceiling panels were observed with water stains and areas of suspect fungal growth throughout the building interior.
- Plaster wall cracks and damage were observed in the dormitory (bedroom) along the north wall.
- A small area of suspect fungal growth was observed on the drywall ceiling around the shower light. The nearby fire sprinkler head (ceiling) was observed with rust staining.
- Staining of carpet was observed.
- Standing water was observed by the washing machine (Apparatus Bay)

The water staining on the ceiling panels appeared in random locations with no obvious source of origination (i.e., roof, piping, rust). Nova believes that the staining is related to condensation of HVAC ductwork and observed residue.

In the area of the dormitory, the ceiling panels are located near the metal roof decking (interstitial space is approximately 18-24 inches with layed-in fiberglass insulation). Nova understands that the dormitory thermostat is set at 62-degrees at times. During high outdoor temperatures and cooler interior temperatures condensation may occur. Also noted within the dormitory was a humidifier (not in operation during Nova's visit).

The interior return ductwork was lined with insulation and observed with dust accumulation.

General poor housekeeping and the presence of dust accumulation observed on window ledges, HVAC louvers, personal items, equipment (humidifier/fan) was observed.

### 3.3 HVAC System

The HVAC system was located within the utility room accessed through the apparatus bay. As mentioned above, the interior return duct system was insulated and was observed with dust accumulation.

Water evaporation stains/residue was noted on the supply ductwork located above the ceiling panels.

## Carbon Dioxide, Temperature, and Relative Humidity

Environmental conditions including temperature, relative humidity and carbon dioxide were monitored using a TSI IAQ Calc air quality monitor. The purpose of these tests was to determine if carbon dioxide levels were present above recommended levels, or if temperature and humidity were at levels to promote the growth of microorganisms.

Below is a table summarizing the findings of the site visit direct-readings. Results were then compared to the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) and Environmental Protection Agency (EPA) recommended levels.

Readings in bold font were reported to exceed ASHRAE and EPA recommended levels.

TSI IAQ-CALC INDOOR AIR QUALITY MONITORING RESULTS			
Location	Temperature (°F)	Relative Humidity (%)	Carbon Dioxide (parts per million-ppm)
Bedroom - West	68.2	46.4	633
Bedroom - East	68.1	45.7	627
Kitchen	68.3	45.7	657
Living Room	68.3	46.3	680
Bathroom (South)	68.2	46.1	653
Office	68.2	45.3	618
Locker Room	68.4	45.4	699
Apparatus (Truck) Bay	68.8	44.7	480
Outside - NE Entrance	70.3	46.0	407

### Recommended Levels:

Carbon Dioxide	<1000 ppm	Recommended by ASHRAE
Temperature	65-75 degrees	ASHRAE Comfort Zone
Relative Humidity	30-60%	ASHRAE Comfort Zone



## 4.0 MOISTURE TESTING

Sheetrock on exterior wall surfaces was tested with the Demhorst BD-2100 by inserting the sensor probes into the material. Digital readouts provide percent moisture readings. 0-0.5% indicates a sufficiently dry moisture level, 0.5-1.0% indicates a borderline situation and greater than 1% is considered wet. Prolonged periods of wet conditions are favorable to mold growth.

Random readings collected throughout the building indicated dry conditions.

## 5.0 FUNGI SAMPLING

### 5.1 Spore Trap Air Samples for Mold Spores

Ambient air samples were collected on October 18, 2023.

A total of four (4) interior ambient air samples were collected, plus two (2) outside (exterior of building) comparison samples. Samples are interpreted by comparing sample results of the interior samples to that of the exterior control. Interior samples should exhibit like fungal types to the exterior, but in lower overall concentrations.

Please refer to the bold font concentration numbers presented in the table below for: a) spore types that were not reported in the outside comparison samples; and b) spore types that were reported above the outside comparison samples. Spore concentrations are measured in spore counts per meter cubed (spore/m<sup>3</sup>).

Laboratory results are included in Appendix A.

SPORE TRAP AIR SAMPLES FOR MOLD SPORES			
Sample Number	Location	Concentration	Spore Type
6A	Exterior Comparison - Outside (West)	1080 7920 240 80 2840 12000	Ascospores Basidiospores <i>Periconia/Smuts</i> <i>Aspergillus/Penicillium</i> <i>Cladosporium</i> TOTAL Fungi
6B	Bedroom	40 240 2960 3200	Ascospores Basidiospores <i>Cladosporium</i> TOTAL Fungi
6C	Kitchen/Living Room	160 280 <b>40</b> 40 <b>40</b> <b>360</b> 1040 <b>40</b> 2000	Ascospores Basidiospores <b>Epicoccum</b> <i>Periconia/Smuts</i> <b>Unspecified spores</b> <b>Aspergillus/Penicillium</b> <i>Cladosporium</i> <b>Chaetomium</b> TOTAL Fungi

SPORE TRAP AIR SAMPLES FOR MOLD SPORES			
Sample Number	Location	Concentration	Spore Type
6D	Locker Room	<b>40</b> 200 640 80 400 1400	<b><i>Alternaria</i></b> Ascospores Basidiospores <i>Aspergillus/Penicillium</i> <i>Cladosporium</i> <b>TOTAL Fungi</b>
6E	Engine Room	680 4720 160 1440 7000	Ascospores Basidiospores <i>Aspergillus/Penicillium</i> <i>Cladosporium</i> <b>TOTAL Fungi</b>
6F	Exterior Comparison - Outside (West)	1480 8720 80 10200 20000	Ascospores Basidiospores <i>Aspergillus/Penicillium</i> <i>Cladosporium</i> <b>TOTAL Fungi</b>

## 5.2 Surface Lift Samples for Fungi

Surface samples were collected on October 18, 2023.

The purpose for collecting surface samples is to confirm the presence of mold growth and to identify the general area of visible growth on a surface.

Nova collected a total of five (5) surface samples from areas of suspected fungal growth. The summary table below identifies the sample number, approximate sample location, reported background debris, mold growth factor, and spore type.

Laboratory results are included in Appendix A.

SURFACE LIFT SAMPLES FOR FUNGI				
Sample Number	Location	Background Debris	Mold Growth Rating (MGR)	Spore Identification
6G	Locker Area - Ceiling Tile	1	4 4 3	<i>Ulocladium</i> Fungal mycelial fragments <i>Alternaria</i>

SURFACE LIFT SAMPLES FOR FUNGI				
Sample Number	Location	Background Debris	Mold Growth Rating (MGR)	Spore Identification
6H	Main Entry - Ceiling Tile	1	4 3 3	<i>Cladosporium</i> <i>Aspergillus/Penicillium</i> Fungal mycelial fragments
6I	Bedroom - Ceiling Tile	1	5 2	<i>Cladosporium</i> Fungal mycelial fragments
6J	Kitchen	1	4 2 3	<i>Alternaria</i> <i>Ulocladium</i> Fungal mycelial fragments
6K	Bedroom - Plaster (from damaged painted black area)	3	0	No Fungi Detected

The laboratory defines Background Debris as the amount of non-fungal particulates present in the trace including dust, fibers, skin scales, dust mites, and insect parts. Background Debris reported values are defined below:

- 0 = None Detected. No debris observed.
- 1 = Trace. Field of view obscured < 5%.
- 2 = Light. Field of view obscured 5% to 25%.
- 3 = Moderate. Field of view obscured 25% to 75%.
- 4 = Heavy. Field of view obscured 75% to 90%.
- 5 = Very Heavy. Field of view obscured > 90%.

The laboratory report defines Mold Growth Rating (MGR) values as defined below:

- 0 = No fungal matter was detected
- 1 = Trace amounts of fungal matter detected
- 2 = Up to 25% of sample surface is covered with fungal matter; Probably indicates active growth at some point in time.

3 = 26-50% of sample surface is covered with fungal matter; Indicates active growth at some point in time.

4 = 51-75% of sample surface is covered with fungal matter; Indicates active growth at some point in time.

5 = >75% of sample surface is covered with fungal matter; Indicates active growth at some point in time.

## 6.0 CONCLUSION AND RECOMMENDATIONS

Nova performed a Limited IAQ Survey of Fire Station #6 located in Columbia, Missouri.

There is not a regulatory standard that has been set that states what level of mold is safe or can affect health as every individual is different with different susceptibilities.

**NOTE:** There are currently no Federal standards regarding permissible levels of airborne fungi that may be present in buildings. Mold spores are ubiquitous and it is expected that some spores will be present in normal indoor environments. A general guideline that is widely accepted in the industrial hygiene industry is that the types and number of mold spores present in the indoor environment should be similar to those present in the outdoor environment. If the inside spore counts are substantially higher than outside counts, this may indicate a potential mold problem. The comparison of outdoor and indoor spore types and concentrations is a useful tool in assessing abnormal mold contamination; however, it should not be the sole determining factor in evaluating health risks and remediation strategies.

Based upon the information obtained from the laboratory analysis of the samples collected during the investigation and our observations during the October 18, 2023, site visit, Nova concludes the following:

- ▶ Generally, interior ambient air samples exhibited like fungal types to the exterior and in lower overall concentrations within the interior bedroom area, the locker room area, and the engine room/garage (truck bay).
  - ▶ The ambient air sample collected within the Kitchen/Living Room area reported one raw count of *Epicoccum*, Unspecified spores, and *Chaetomium*, which were not reported in the outside comparison samples. The presence of one raw count of these spores is not considered a building mold growth concern as the spore likely came from the building exterior. *Epicoccum* (common habitat being plants, soil, seeds, carpet, air) and Unspecified spores (common habitat being various) are predominantly found outdoors. The presence of *Chaetomium* (common habitat being cellulose-containing materials, soil, seeds, dung) is considered a water indicator. *Aspergillus/Penicillium* was reported above the outside comparison samples. *Aspergillus/Penicillium* (common habitat being soil, food, carpet, HVAC, air) commonly found in both indoor and outdoor environments.
  - ▶ The ambient air sample collected within the Locker Room area reported one raw count of *Alternaria* which was not reported in the outside comparison samples. *Alternaria* (common habitat being soil, seeds, plants, carpet, textiles, window frames, air) is predominantly found outdoors.
- ▶ Surface sample results:
  - ▶ Sample 6G – Locker Area (ceiling tile): reported “trace” amounts of background debris with Mold Growth Rating (MGR) of 4 (*Ulocladium* - common habitat soil, grasses, wood, paper - water indicator), 4 (Fungal mycelial fragments - connectivity with mold spores) and 3 (*Alternaria* - common habitat soil, seeds, plants, carpet, textiles, window frames, air - found predominantly outdoors).

- Sample 6H – Main Entry (ceiling tile): reported “trace” amounts of background debris with MGR of 4 (*Cladosporium* - common habitat plants, food, soil, paint, textiles, carpet, HVAC, air - found indoors and outdoors), 3 (*Aspergillus/Penicillium* (common habitat being soil, food, carpet, HVAC, air) commonly found in both indoor and outdoor environments. ) and 3 (Fungal mycelial fragments - refer to above)
- Sample 6I – Bedroom (ceiling tile): reported “trace” amounts of background debris with MGR of 5 (*Cladosporium* - refer to above) and 2 (Fungal mycelial fragments - refer to above)
- Sample 6J – Kitchen (above doorway to bedroom): reported “trace” amounts of background debris with MGR of 4 (*Alternaria* - refer to above), 2 (*Ulocladium* - refer to above) and 3 (Fungal mycelial fragments - refer to above)
- Sample 6K – Bedroom (damaged plaster area): reported “moderate” amounts of background debris with MGR of 0 (No Fungi Detected)

In addition:

- Several stained ceiling panels/tiles (with suspect fungal growth) were observed within the building interior, including the drywall around the shower light fixture.
- No elevated moisture readings were observed.
- No musty odors were observed.
- Collected interior temperature readings were reported within ASHRAE Comfort Zone levels of 65-75 degrees
- Collected interior relative humidity were reported within ASHRAE Comfort Zone levels of 30-60%
- Collected interior Carbon Dioxide were reported within ASHRAE recommended level of <1,000 ppm
- Standing water in a bucket (labelled with a bio-hazard sticker) was observed in the Apparatus Bay
- Standing water was observed near the washing/laundry equipment
- Exterior - Open hole was observed in former dryer vent perimeter wall penetration
- Exterior - evidence of poor drainage, elevated landscaping (above concrete foundation), exterior rust on metal door threshold, and concrete settlement was observed

## **RECOMMENDATIONS:**

Given the above information/observations, Nova recommends the following:

- Maintain temperatures within ASHRAE recommended levels (meaning, maintain the bedroom temperature similar to other areas within the building to avoid condensation)
- Although not in use during Nova’s site visit, minimize the usage of the humidification machine within the bedroom during warm weather

- Interior water impacted and damaged building materials should be further evaluated to determine the source and extent of water intrusion. Damaged materials that cannot be cleaned should be removed and replaced.
- Investigation of the roof and associated sealants for effective water barriers.
- Interior areas of water impact and suspect fungal growth on building materials should be cleaned and then coated with an EPA registered antimicrobial solution to aide in the prevention of potential mold growth.
- Installation of duct insulation in efforts to minimize condensation
- After removal/replacement of water impacted materials and the installation of insulation, interior duct cleaning and HVAC filter(s) replacement is recommended, and
- Additional housekeeping/cleaning and carpet cleaning is recommended.
- Investigate exterior sealants and repair as necessary.
- Investigate roof gutter drainage and associated landscaping to ensure appropriate drainage away from building.



## 7.0 LIMITATIONS

Information contained herein was obtained by means of on-site observations and analytical data. Conclusions of this survey are based on reasonably accessible information pertaining specifically to this survey. However, this is not to suggest that the information obtained is a complete compilation of all existing information that may be pertinent to this site. The intent of this survey is to sample the indoor atmospheric conditions as they relate to the intent of the building's structure and content to ensure that conditions remain parallel to comfort levels established by regulatory agencies which govern indoor atmospheric conditions. This survey is not intended to represent an exhaustive research of all-potential hazards or conditions that may exist.

This report does not purport to represent future indoor conditions or events. Situations or activities that transpire subsequent to this report that result in adverse environmental, construction and/or engineering impacts are not to be construed as relevant to this study.

The scope of services performed in execution of the evaluation may not be appropriate to satisfy the needs of other users, and the use or re-use of this document or the finding, conclusions, or recommendations is at the risk of said user.

We appreciate the opportunity to be of service to you on this project.

Prepared By:

**Nova Group, GBC**



Rick Leines  
VP - Industrial Hygiene Services

# **APPENDIX A: LABORATORY RESULTS**

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## MOLD SPORE TRAP REPORT

### Nonviable Direct Microscopy

Prepared for

**Nova Group GBC**

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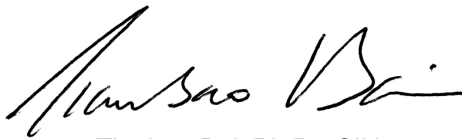
CLIENT PROJECT: F.S. #6, Q23-

LAB CODE: M234559

TEST METHOD: CEI Method 110

RECEIVED DATE: 10/19/23

REPORT DATE: 10/23/23



Tianbao Bai, Ph.D., CIH  
Laboratory Director

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All samples received in acceptable condition. Information provided by customer includes customer sample ID, location and volume. Analytical results are not corrected for field and laboratory blanks.

Test results relate only to the items tested and cannot be extrapolated to anything larger than their original intent. This report may not be reproduced, except in full, without written approval by Eurofins CEI (CEI). CEI bears no responsibility for client sampling methods and makes no warranty representation regarding the accuracy of client-supplied information in preparing and presenting analytical results. CEI maintains liability limited to the cost of analysis, except for CEI's own willful misconduct or gross negligence. Interpretation of the analytical results is the sole responsibility of the customer.

The overall intralaboratory relative standard deviation (Sr) for the lab = 0.26.

The intralaboratory Sr for each spore range are as follows:  
10-100 spores: 0.35; 101-350 spores: 0.12 >350 spores: 0.13



**MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY**

**CLIENT** Nova Group GBC  
 5320 West 23rd St, Suite 270  
 St. Louis Park, MN 55416

**Lab Code:** M234559  
**Date Received:** 10-19-23  
**Date Analyzed:** 10-23-23  
**Date Reported:** 10-23-23

**PROJECT:** F.S. #6, Q23-

	Client ID	6A				6B				6C			
	Lab ID	M015420				M015421				M015422			
	Location	Outside (West)				Bedroom				Kitchen/Living Room			
	Volume (L)	25				25				25			
IDENTIFICATION		Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total	Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total	Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total
Predominantly Outdoor	<i>Alternaria</i>												
	<i>Arthrinium</i>												
	Ascospores	27	100	1080	9	1	100	40	1	4	100	160	8
	Basidiospores	198	100	7920	65	6	100	240	7	7	100	280	14
	<i>Bipolaris/Drechslera</i>												
	<i>Cercospora</i>												
	<i>Curvularia</i>												
	<i>Epicoccum</i>									1	100	40	2
	<i>Helicomyces*</i>												
	<i>Nigrospora</i>												
	<i>Oidium/Peronospora</i>												
	<i>Periconia/Smuts**</i>	6	100	240	2					1	100	40	2
	<i>Pithomyces</i>												
	Rusts												
	<i>Spegazzinia</i>												
	<i>Stemphylium</i>												
<i>Tetraploa</i>													
<i>Torula</i>													
Unspecified spores										1	100	40	2
Indoor / Outdoor	<i>Aspergillus/Penicillium</i>	2	100	80	1					9	100	360	18
	<i>Cladosporium</i>	71	100	2840	23	74	100	2960	91	26	100	1040	52
	<i>Fusarium</i>												
Water Indicator	<i>Chaetomium</i>									1	100	40	2
	<i>Stachybotrys</i>												
	<i>Trichoderma</i>												
	<i>Ulocladium</i>												
<b>Total</b>		<b>300</b>		<b>12000</b>	<b>100%</b>	<b>81</b>		<b>3200</b>	<b>100%</b>	<b>50</b>		<b>2000</b>	<b>100%</b>
<b>Background Debris</b>		2				3				2			
<b>Pollen Count</b>													
<b>Hyphal Fragments</b>		3				1				2			
<b>Analytical Sensitivity (Spores/m<sup>3</sup>)</b>		40				40				40			

\* *Helicomyces* includes *Helicosporium*; \*\* *Periconia/Smuts* includes *Myxomycetes*

Spores per m<sup>3</sup> ( final counts ) reported to 2 significant figures

Spores of *Aspergillus*, *Penicillium*, and others are small with few distinguishing features and therefore can not be differentiated.

If % analyzed is <100%, spores per m<sup>3</sup> is based on extrapolation and not actual count.

Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

**ANALYST:** \_\_\_\_\_

*Vidya Natarajan*  
Vidya Natarajan

**APPROVED BY:** \_\_\_\_\_

*Tianbao Bai*  
Tianbao Bai, Ph.D., Laboratory Director

**MOLD SPORE TRAP REPORT: NONVIABLE DIRECT MICROSCOPY**

**CLIENT** Nova Group GBC  
 5320 West 23rd St, Suite 270  
 St. Louis Park, MN 55416

**Lab Code:** M234559  
**Date Received:** 10-19-23  
**Date Analyzed:** 10-23-23  
**Date Reported:** 10-23-23

**PROJECT:** F.S. #6, Q23-

	Client ID	6D				6E				6F			
	Lab ID	M015423				M015424				M015425			
	Location	Locker Room				Engine Bay				Outside (West)			
	Volume (L)	25				25				25			
IDENTIFICATION		Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total	Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total	Raw Counts	% Analyzed	Spores per m <sup>3</sup>	% of Total
Predominantly Outdoor	<i>Alternaria</i>	1	100	40	3								
	<i>Arthrinium</i>												
	Ascospores	5	100	200	15	17	100	680	10	37	100	1480	7
	Basidiospores	16	100	640	47	118	100	4720	67	218	100	8720	43
	<i>Bipolaris/Drechslera</i>												
	<i>Cercospora</i>												
	<i>Curvularia</i>												
	<i>Epicoccum</i>												
	<i>Helicomyces*</i>												
	<i>Nigrospora</i>												
	<i>Oidium/Peronospora</i>												
	<i>Periconia/Smuts**</i>												
	<i>Pithomyces</i>												
	Rusts												
	<i>Spegazzinia</i>												
	<i>Stemphylium</i>												
	<i>Tetraploa</i>												
<i>Torula</i>													
Unspecified spores													
Indoor / Outdoor	<i>Aspergillus/Penicillium</i>	2	100	80	6	4	100	160	2	2	100	80	<1
	<i>Cladosporium</i>	10	100	400	29	36	100	1440	21	255	100	10200	50
	<i>Fusarium</i>												
Water Indicator	<i>Chaetomium</i>												
	<i>Stachybotrys</i>												
	<i>Trichoderma</i>												
	<i>Ulocladium</i>												
<b>Total</b>		<b>34</b>		<b>1400</b>	<b>100%</b>	<b>180</b>		<b>7000</b>	<b>100%</b>	<b>510</b>		<b>20000</b>	<b>100%</b>
<b>Background Debris</b>		2				2				2			
<b>Pollen Count</b>													
<b>Hyphal Fragments</b>		4				1							
<b>Analytical Sensitivity (Spores/m<sup>3</sup>)</b>		40				40				40			

\* *Heliocomyces* includes *Helicosporium*; \*\* *Periconia/Smuts* includes *Myxomycetes*

Spores per m<sup>3</sup> ( final counts ) reported to 2 significant figures

Spores of *Aspergillus*, *Penicillium*, and others are small with few distinguishing features and therefore can not be differentiated.

If % analyzed is <100%, spores per m<sup>3</sup> is based on extrapolation and not actual count.

Information provided by customer includes customer sample ID, location, volume and area as well as date and time of sampling.

**ANALYST:**

Vidya Natarajan

**APPROVED BY:**

Tianbao Bai, Ph.D., Laboratory Director

## SPORE CLASSIFICATION:

For purposes of this report, identified mold spores are classified into three general categories depending on environmental conditions the spore is most commonly associated with:

- 1) **PREDOMINANTLY OUTDOOR:** Most commonly found growing outdoors and are not usually associated with indoor mold sources.
- 2) **INDOOR / OUTDOOR:** Commonly grow in both indoor and outdoor environments.
- 3) **WATER INDICATOR:** Most commonly associated with indoor mold growth in buildings with long-term water intrusion issues.

**PREDOMINANTLY  
OUTDOOR**

**INDOOR / OUTDOOR**

**WATER  
INDICATOR**

## BACKGROUND DEBRIS:

Background debris is the amount of non-fungal particulates present in the trace including dust, fibers, skin scales, dust mites, and insect parts. A debris rating is assigned each trace from 0 (lowest) to 5 (highest). A higher debris rating means samples are more difficult to analyze, and spores, especially smaller spores like *Aspergillus* / *Penicillium*, may be obscured. Counts with debris ratings of 4 or 5 should be regarded as minimal counts with actual counts assumed to be significantly higher. A further explanation of the debris rating is listed below:

- 0 - **None Detected.** No debris observed.
- 1 - **Trace.** Field of view obscured < 5%. Counts unaffected.
- 2 - **Light.** Field of view obscured 5% to 25%. Counts slightly affected.
- 3 - **Moderate.** Field of view obscured 25% to 75% . Actual counts may be higher than reported counts.
- 4- **Heavy.** Field of view obscured 75% to 90% . Actual counts may be significantly higher than reported counts.
- 5 - **Very Heavy.** Field of view obscured > 90% . Actual counts may be significantly higher than reported counts. Resampling may be necessary.

## DEFINITION OF TERMS:

**Analytical Sensitivity:** Spore per cubic meter (concentration) divided by raw count.

**Limit of Detection:** One Spore

**Hyphal Fragments:** Hyphal fragments are broken pieces of fungal hyphae and constitute the vegetative structure of the fungus.

**Pollen Count:** Pollen grains (Pollen) are the male reproductive structures of Angiosperm plants. These are counted only as pollen and not classified to Genus level.

**Raw Counts:** The number of spores counted by the analyst.

**% Analyzed:** The amount of the trace that was analyzed for each individual spore type. If large amounts of any spore type(s) exist, counts may be extrapolated.

**% of Total:** Percentage of the sample that is made up of each spore type.

## INDOOR AND OUTDOOR COMPARISONS:

There are no current Federal standards regarding permissible levels of airborne fungi that may be present in buildings. Mold spores are ubiquitous to our planet and it is expected that some spores will be present in normal indoor environments. A general guideline that is widely accepted in the industrial hygiene industry is that the types and numbers of mold spores present in the indoor environment should be similar to those present in the outdoor environment. If inside spore counts are significantly higher than outside counts this may indicate a potential mold problem. The comparison of outdoor and indoor spore types and concentrations is a useful tool in assessing abnormal mold contamination; however, it should not be the sole determining factor in evaluating health risks and remediation strategies.

	SPORE NAME	COMMON HABITAT	ALLERGENIC POTENTIAL	MYCOTOXIN POTENTIAL
Predominantly Outdoor	<i>Alternaria</i>	Soil, seeds, plants, carpet, textiles, window frames, air	X	X
	<i>Arthrinium</i>	Soil, plant materials, decaying wood	X	
	Ascospores	Plants, soil, cellulose-containing materials, air		
	Basidiospores	Soil, plants, wood, cellulose-containing materials, air		
	<i>Bipolaris/Drechslera</i>	Grasses, plant material, decaying food, soil		
	<i>Cercospora</i>	Plants		
	<i>Curvularia</i>	Soil, plant materials, cellulose-containing materials	X	
	<i>Epicoccum</i>	Plants, soil, seeds, carpet, air	X	
	<i>Helicomyces*</i>	Plants		
	<i>Nigrospora</i>	Plants, soil		
	<i>Oidium/Peronospora</i>	Plants		
	<i>Periconia/Smuts**</i>	Plants, air	X	
	<i>Pithomyces</i>	Soil, plant material, air		
	Rusts	Grasses, trees, other plants	X	
	<i>Spegazzinia</i>	Soil, plants		
	<i>Stemphylium</i>	Dead plants, cellulose-containing materials		
	<i>Tetraploa</i>	Plants		
	<i>Torula</i>	Soil, plants		
Unspecified spores	Various			
* <i>Helicomyces</i> includes <i>Helicosporium</i> ; * <i>Periconia/Smuts</i> includes <i>Myxomycetes</i>				
Indoor / Outdoor	<i>Aspergillus/Penicillium</i>	Soil, food, carpet, HVAC, air	X	X
	<i>Cladosporium</i>	Plants, woody plants, food, soil, paint, textiles, carpet, HVAC, air	X	
	<i>Fusarium</i>	Soil, plants, seed, fruits, grains		X
Water Indicator	<i>Chaetomium</i>	Cellulose-containing materials, soil, seeds, dung	X	X
	<i>Stachybotrys</i>	Paper, wallpaper, gypsum board	X	X
	<i>Trichoderma</i>	Soil, decaying wood, plant material, cellulose-containing materials	X	X
	<i>Ulocladium</i>	Soil, grasses, wood, paper		



# MOLD / MATERIALS IDENTIFICATION CHAIN OF CUSTODY

6

CEI

730 SE Maynard Road, Cary, NC 27511  
Tel: 866-481-1412; Fax: 919-481-1442

LAB USE ONLY:
ECEI Lab Code: M234559
ECEI Lab I.D. Range: M015420

COMPANY INFORMATION	PROJECT INFORMATION
ECEI CLIENT #:	Job Contact: Rick Leims
Company: Nova Group GBC	Email / Tel: 3900E
Address:	Project Name: F.S. #6
51. Lewis Park, MN	Project ID# Q23-
Email: rick.leims@novagroupgbc.com	PO #:
Tel: 913-297-4733 Fax:	STATE SAMPLES COLLECTED IN: MO

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

MICROBIOLOGY	METHOD	TURN AROUND TIME						
		4 HR*	8 HR*	24 HR	2 DAY	3 DAY	5 DAY	7-10 DAY
MOLD NON-VIABLE *	TAPE LIFT, BULK, SWAB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MOLD NON-VIABLE *	SPORETRAP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MOLD VIABLE	IMPACTOR							<input type="checkbox"/>
MOLD VIABLE	BULK, SWAB, DUST							<input type="checkbox"/>
DUST CHARACTERIZATION	PLM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PARTICLE IDENTIFICATION	PLM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMBUSTION-BY-PRODUCTS	ASTM D6602-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMBUSTION-BY-PRODUCTS WITH TEM CONFIRMATION OF SOOT	ASTM D6602-13		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*Blanks should be taken from the same sample lot as field samples.

FIELD ID #	SAMPLE LOCATION	AREA (in <sup>2</sup> )	VOLUME(L)
6A	Outside (west)		25L
6B	Bedroom		↓
6C	kitchen/living room		
6D	Locker Room		
6E	Engine Bay		

REMARKS:

BMB Accept Samples  
 Reject Samples

Relinquished By:	Date/Time	Received By:	Date/Time
[Signature]	10/18/23 17:00	BMB	10/19/23 9:30

By submitting samples, you are agreeing to ECEI's Terms and Conditions.  
Samples will be disposed of 30 days after analysis.





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## MOLD BULK REPORT

### Nonviable Methodology

Prepared for

## Nova Group GBC

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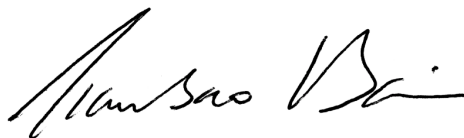
CLIENT PROJECT: F.S. #6, Q23-

LAB CODE: M234552

TEST METHOD: CEI Method 120

RECEIVED DATE: 10/19/23

REPORT DATE: 10/23/23



Tianbao Bai, Ph.D., CIH  
Laboratory Director

---

All samples received in acceptable condition. Information provided by customer includes customer sample ID and location. Analytical results are not corrected for field and laboratory blanks.

Test results relate only to the items tested and cannot be extrapolated to anything larger than their original intent. This report may not be reproduced, except in full, without written approval by Eurofins CEI (CEI). CEI bears no responsibility for client sampling methods and makes no warranty representation regarding the accuracy of client supplied information in preparing and presenting analytical results. CEI maintains liability limited to the cost of analysis, except for CEI's own willful misconduct or gross negligence. Interpretation of the analytical results is the sole responsibility of the customer.



**CLIENT:** Nova Group GBC  
 5320 West 23rd St, Suite 270  
 St. Louis Park, MN 55416

**PROJECT:** F.S. #6, Q23-

**Lab Code:** M234552  
**Date Received:** 10-19-23  
**Date Analyzed:** 10-23-23  
**Date Reported:** 10-23-23  
**Sampling Method:** Tape/Bulk/Swab

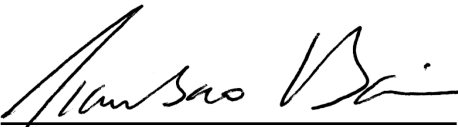
LAB ID	CLIENT ID	SAMPLE LOCATION	BACKGROUND			IDENTIFICATION
			DEBRIS	MGR		
M015402	6G	Locker Area - Ceiling Tile	1	4	<i>Ulocladium</i>	
				4	Fungal mycelial fragments	
				3	<i>Alternaria</i>	
M015403	6H	Main Entry - Ceiling Tile	1	4	<i>Cladosporium</i>	
				3	<i>Aspergillus/Penicillium</i>	
				3	Fungal mycelial fragments	
M015404	6I	Bedroom - Ceiling Tile	1	5	<i>Cladosporium</i>	
				2	Fungal mycelial fragments	
M015405	6J	Kitchen	1	4	<i>Alternaria</i>	
				2	<i>Ulocladium</i>	
				3	Fungal mycelial fragments	
M015406	6K	Bedroom - Plaster	3	0	No Fungi Detected	

<b>CLIENT:</b> Nova Group GBC 5320 West 23rd St, Suite 270 St. Louis Park, MN 55416  <b>PROJECT:</b> F.S. #6, Q23-	<b>Lab Code:</b> M234552 <b>Date Received:</b> 10-19-23 <b>Date Analyzed:</b> 10-23-23 <b>Date Reported:</b> 10-23-23 <b>Sampling Method:</b> Tape/Bulk/Swab
--	--

LAB ID	CLIENT ID	SAMPLE LOCATION	BACKGROUND DEBRIS	MGR	IDENTIFICATION
--------	-----------	-----------------	-------------------	-----	----------------

\* Periconia/Smuts includes Myxomycetes

ANALYST:   
 Vidya Natarajan

APPROVED BY:   
 Tianbao Bai, Ph.D.  
 Laboratory Director

**MGR = MOLD GROWTH RATING**

- 0 - No fungal matter was detected; Debris present is not consistent with fungal matter.
- 1 - Trace amount of fungal matter detected; A few random appearances of fungal matter indicated. Probably due to settling. Does not indicate active growth.
- 2 - Up to 25% of the sample surface is covered with fungal matter; Probably indicates active growth at some point in time.
- 3 - 26%-50% of the sample surface is covered with fungal matter; Indicates active growth at some point in time.
- 4 - 51%-75% of the sample surface is covered with fungal matter; Indicates active growth at some point in time.
- 5 - >75% of the sample surface is covered with fungal matter; Indicates active growth at some point in time.

**BACKGROUND DEBRIS**

- 0 - **None Detected.** No debris observed.
- 1 - **Trace.** Field of view obscured < 5%.
- 2 - **Light.** Field of view obscured 5% to 25%.
- 3 - **Moderate.** Field of view obscured 25% to 75%.
- 4 - **Heavy.** Field of view obscured 75% to 90%.
- 5 - **Very Heavy.** Field of view obscured >90%.



# MOLD / MATERIALS IDENTIFICATION CHAIN OF CUSTODY

5

730 SE Maynard Road, Cary, NC 27511  
Tel: 866-481-1412; Fax: 919-481-1442

CEI

LAB USE ONLY:

ECEI Lab Code: M23L552  
ECEI Lab I.D. Range: M015402

COMPANY INFORMATION	PROJECT INFORMATION
ECEI CLIENT #:	Job Contact: Rick Loixms
Company: Novy Group GBC	Email / Tel: 5700
Address: St. Louis Park, MN	Project Name: F.S. #6
Email: rick.loixms@novygroupgbc.com	Project ID# Q23-
Tel: 913-297-4733 Fax:	PO #:
	STATE SAMPLES COLLECTED IN: MO

IF TAT IS NOT MARKED STANDARD 3 DAY TAT APPLIES.

MICROBIOLOGY	METHOD	TURN AROUND TIME						
		4 HR*	8 HR*	24 HR	2 DAY	3 DAY	5 DAY	7-10 DAY
MOLD NON-VIABLE *	TAPE LIFT, BULK, SWAB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MOLD NON-VIABLE *	SPORETRAP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MOLD VIABLE	IMPACTOR							<input type="checkbox"/>
MOLD VIABLE	BULK, SWAB, DUST							<input type="checkbox"/>
DUST CHARACTERIZATION	PLM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PARTICLE IDENTIFICATION	PLM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMBUSTION-BY-PRODUCTS	ASTM D6602-13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COMBUSTION-BY-PRODUCTS WITH TEM CONFIRMATION OF SOOT	ASTM D3602-13		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER:		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*Blanks should be taken from the same sample lot as field samples.

FIELD ID #	SAMPLE LOCATION	AREA (in <sup>2</sup> )	VOLUME(L)
6A	Outside (west)		25L
6B	Bedroom		↓
6C	Kitchen/Living Room		
6D	Locker Room		
6E	Engine Bay		

REMARKS:

BMB Accept Samples  
 Reject Samples

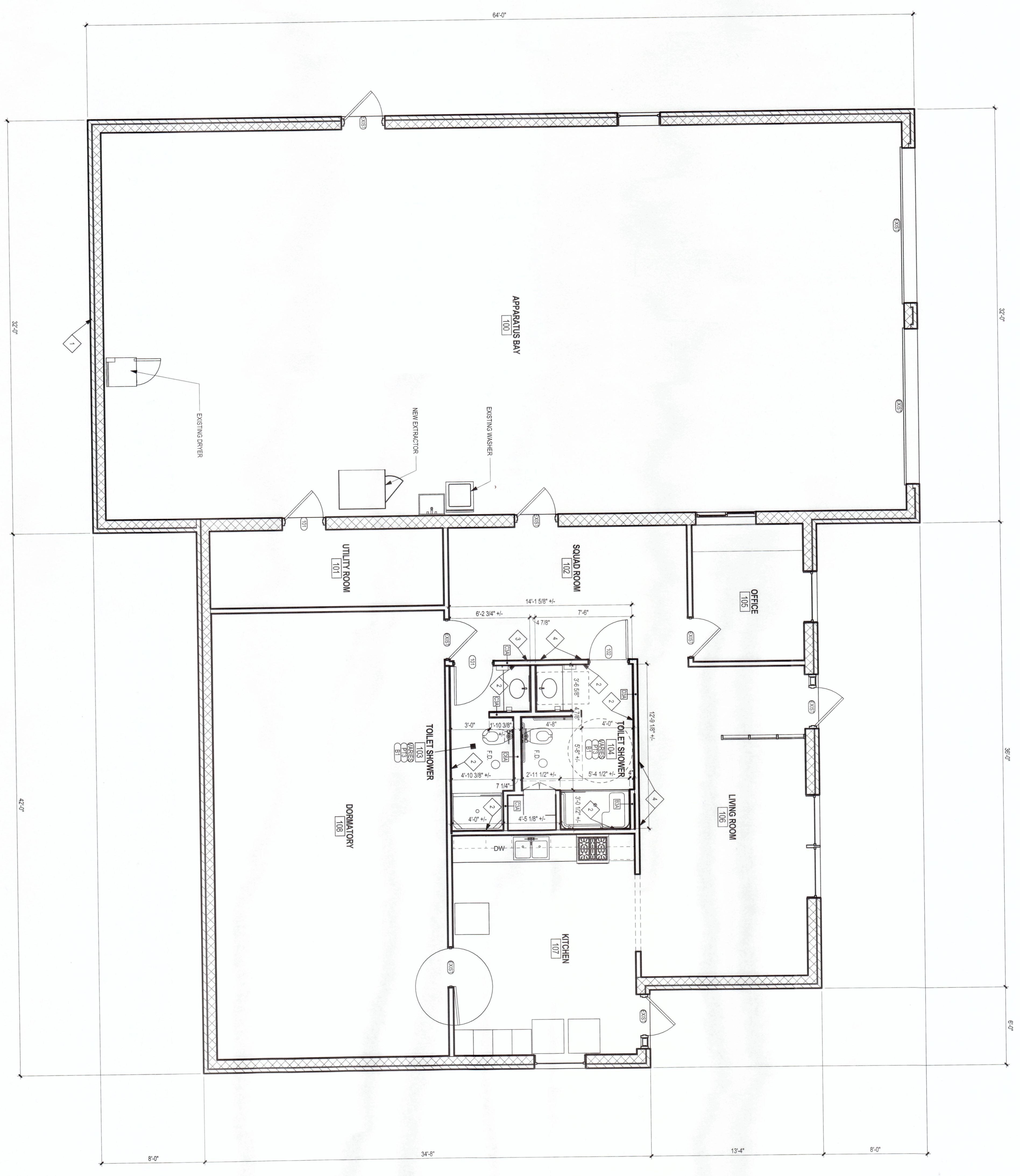
Relinquished By:	Date/Time	Received By:	Date/Time
<i>[Signature]</i>	10/18/23 17:00	BMB	10/19/23 9:30

By submitting samples, you are agreeing to ECEI's Terms and Conditions.  
Samples will be disposed of 30 days after analysis.



# APPENDIX B: BUILDING PLANS

1 RENOVATION FLOOR PLAN  
 1/16" = 1'-0"



PLAN KEYED NOTES	
MARK	DESCRIPTION
1	REMOVE EXISTING WALL TO MATCH EXISTING WALL CONSTRUCTION. TOOTH IN CMU / BRICK AS REQUIRED.
2	REMOVE NEW SOUND BATT INSULATION AND NEW DRYWALL ON ROOM SIDE OF EXISTING WALL. PREP WALL FOR NEW FINISHES.
3	REMOVE GYPSUM BOARD / PLASTER AND STUDS WALL TO MATCH EXISTING WALL CONSTRUCTION.
4	REMOVE EXISTING WALL SURFACE.
5	NOT USED.
6	NOT USED.

Sheet No.  
**A101**  
 Project No.  
**16071.3**  
 Date  
**01/16/2018**

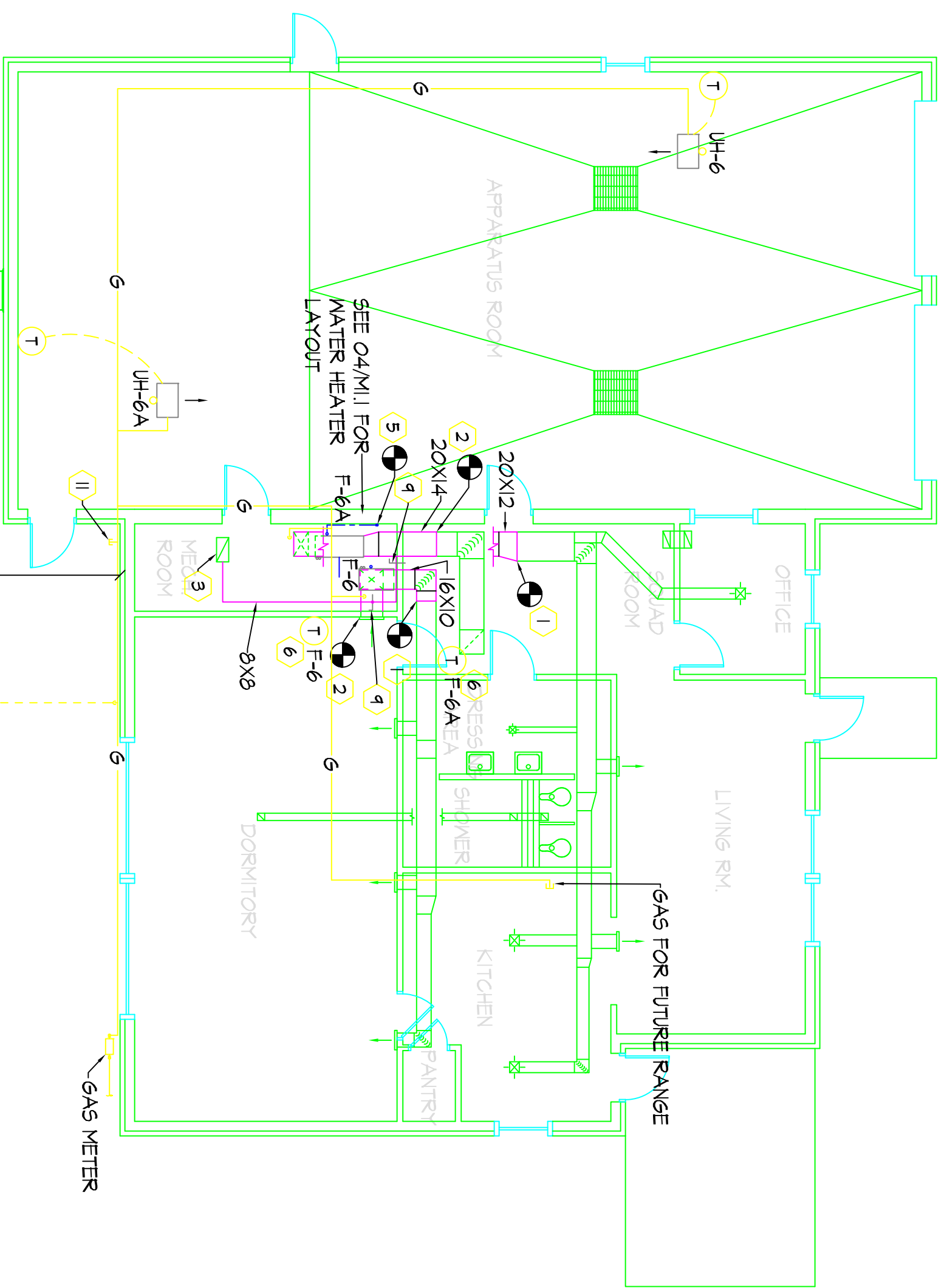
No.	Date	Revision
1	10-03-17	ADDENDUM #1

Proposed:  
**Fire Station #6 - Interior Renovations**  
 3112 Chapel Hill Road  
 Columbia, Missouri 65203

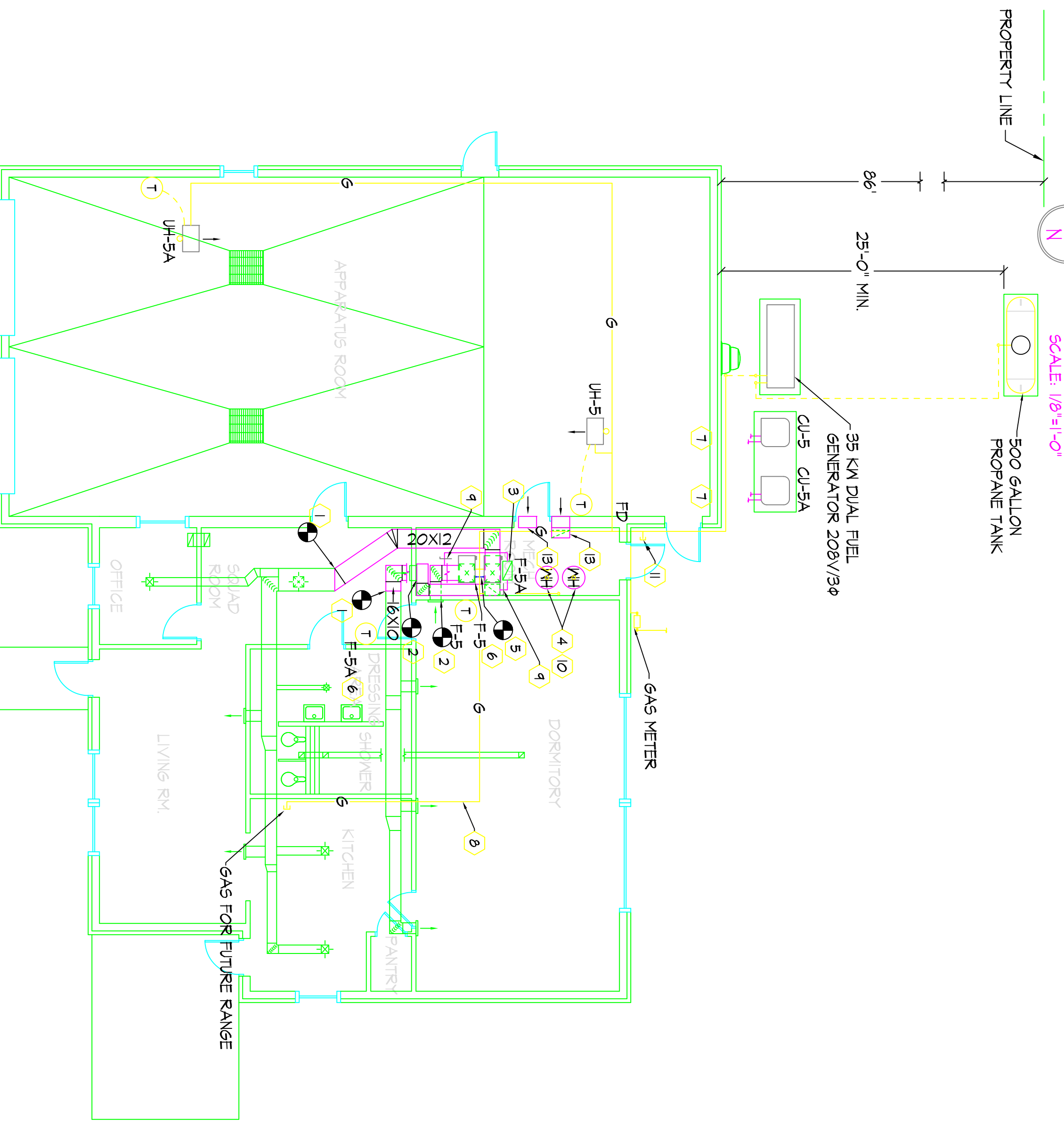
**Archimages**  
 architecture | interiors  
 MO Architectural Corporation    Archimages, Inc. # 000650  
 143 West Clinton Place    St. Louis, Missouri 63122  
 www.archimages-stl.com    p: [314] 965-7445    f: [314] 965-7477



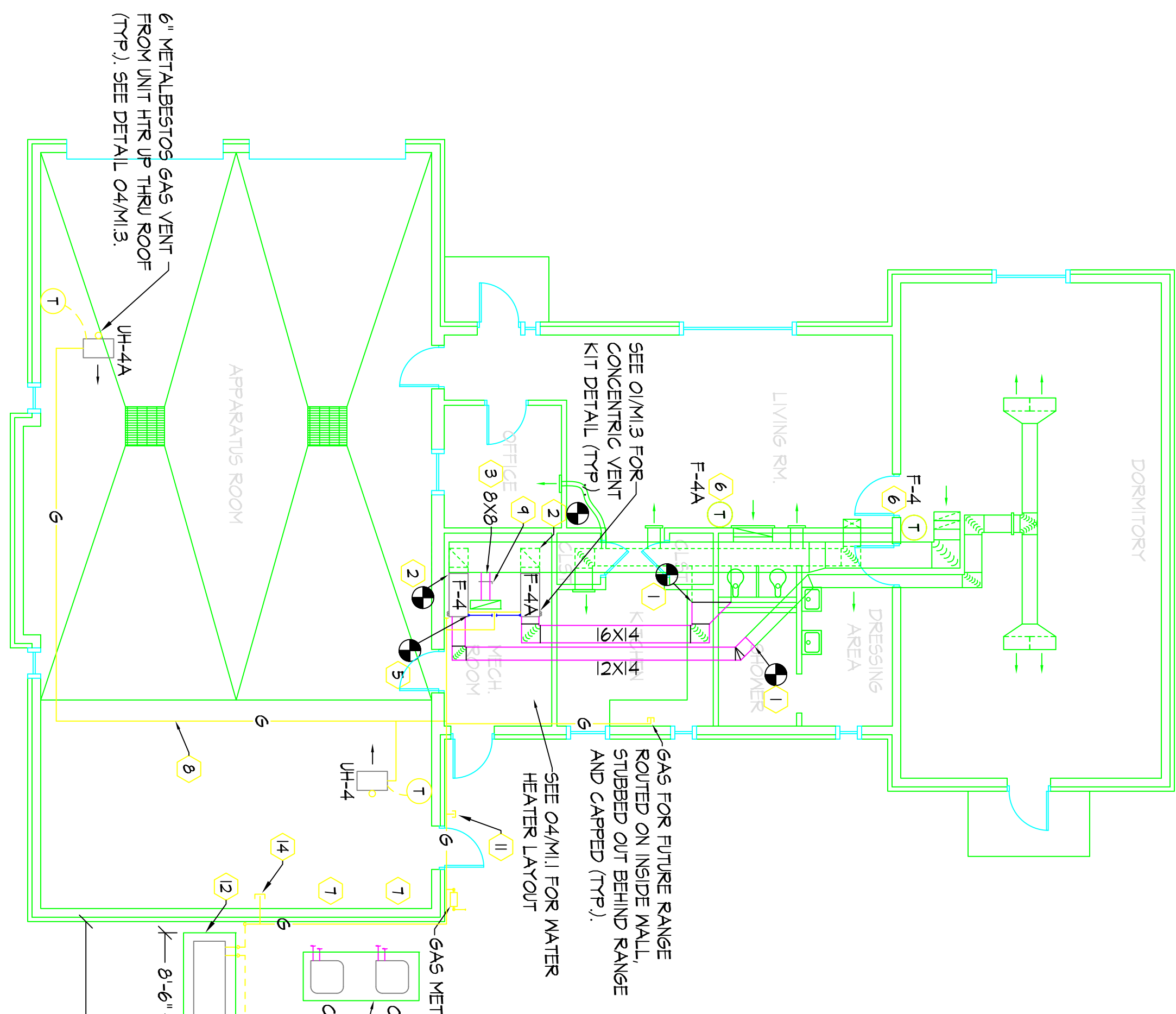




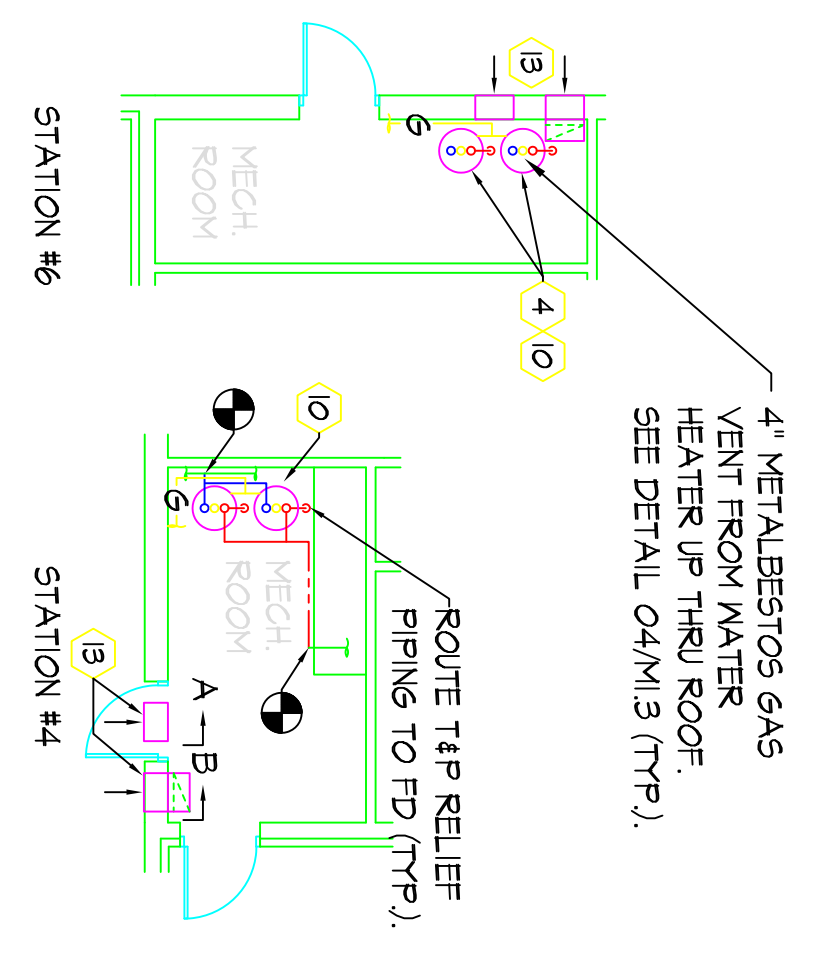
01 STATION NO. 6 MECHANICAL RENOVATION PLAN  
SCALE: 1/8"=1'-0"



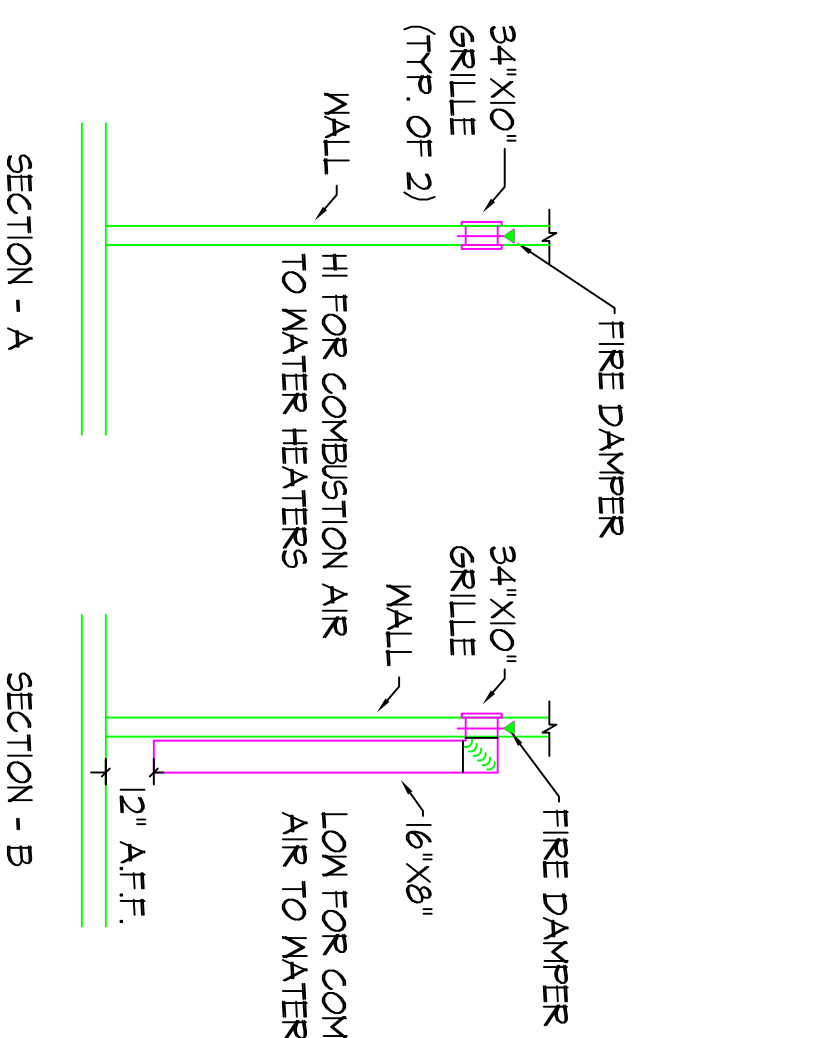
02 STATION NO. 5 MECHANICAL RENOVATION PLAN  
SCALE: 1/8"=1'-0"



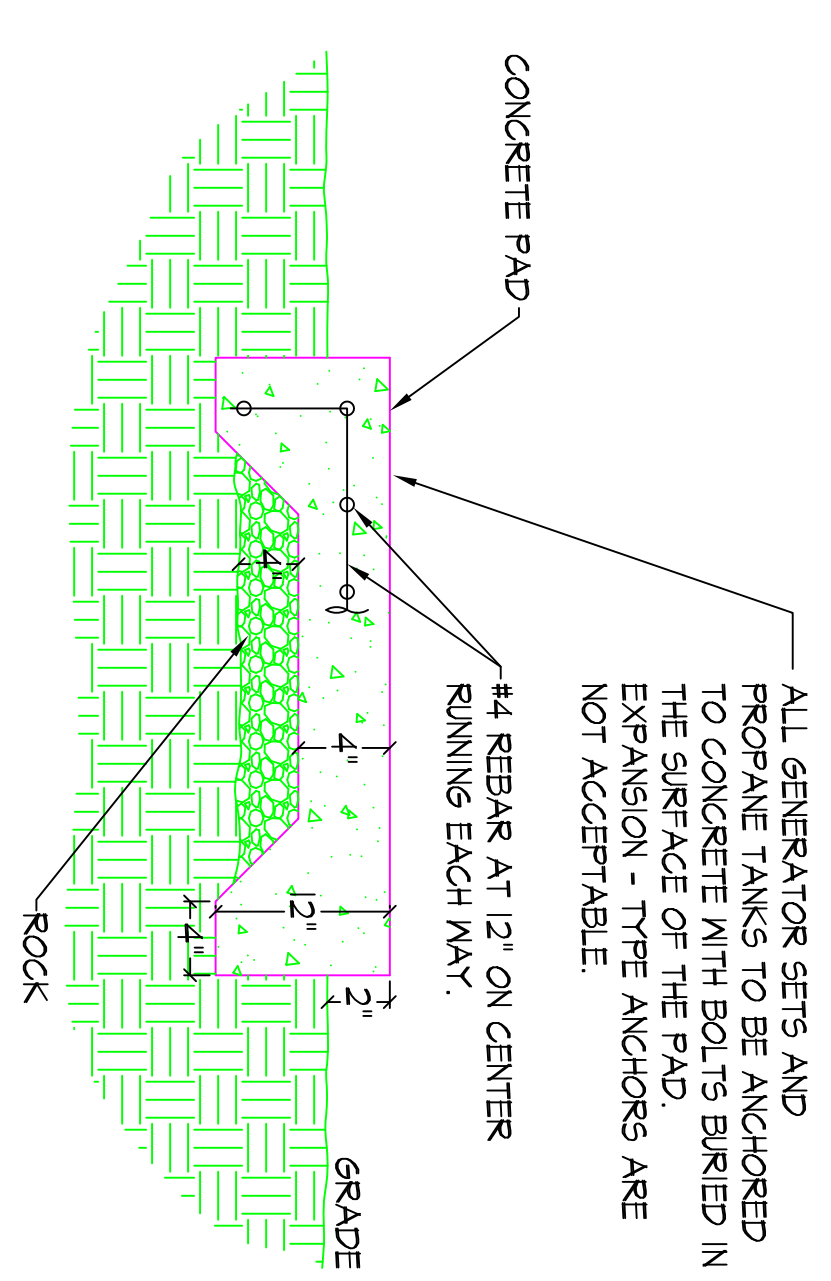
03 STATION NO. 4 MECHANICAL RENOVATION PLAN  
SCALE: 1/8"=1'-0"



04 WATER HEATER LAYOUT  
SCALE: 1/8"=1'-0"



06 HI/LO SECTION (TYP. OF 3)  
NO SCALE



05 CONCRETE PAD FOR GENERATOR AND PROpane TANK  
NO SCALE

- NOTES:
- 1 THE NEW 9A DUCT INTO EXISTING. CONTRACTOR TO FIELD VERIFY SIZE/LOCATION OF EXISTING DUCT.
  - 2 THE NEW 8A DUCT INTO EXISTING. CONTRACTOR TO FIELD VERIFY SIZE/LOCATION OF EXISTING DUCT.
  - 3 THE NEW 8A DUCT INTO EXISTING. CONTRACTOR TO FIELD VERIFY SIZE/LOCATION OF EXISTING DUCT.
  - 4 CONNECT EXISTING HVAC PIPING INTO NEW WATER HEATER.
  - 5 INSTALL 1/2" CONDENSATE PIPING FROM UNIT DOWN TO EXISTING FLOOR DRAIN. REMOVE.
  - 6 INSTALL NEW THERMOSTAT AT SAME LOCATION OLD THERMOSTAT WAS REMOVED.
  - 7 FIELD VERIFY ROUTING OF REFRIGERATION PIPING FROM CONDENSING UNIT TO FURNACE.
  - 8 CONTRACTOR TO FIELD VERIFY EXACT ROUTING OF GAS PIPING.
  - 9 MVD SET AT 210 CFM OA.
  - 10 RUD PAGERMAKER MODEL #P90-6A GAS WATER HEATER 50 GAL. CAPACITY, 60000 BTUH INPUT, 60.6 GPM/RECOVERY @40" RISE, WITH 1 1/2" RELIEF VALVE (TYP. OF 2).
  - 11 PROVIDE A TEE AND CAP FOR FUTURE AT PATIO AREA.
  - 12 VERIFY EXACT SIZE OF CONCRETE PAD WITH EQUIPMENT SUPPLIER. SEE SECTION 05/M1 FOR CONSTRUCTION OF PAD.
  - 13 CONTRACTOR TO REMOVE (4) CONCRETE BLOCKS (2 FOR EACH WALL PENETRATION) AT APPROX. 1'-0" BELOW ROOF STRUCTURE AND INSTALL (1) SHEET METAL SLEEVE (2) TTUS 395 RL 34"X10" GRILLES AND (1) 32"X8" TYPE "A" RISKIN FIRE DAMPER AT 1ST WALL PENETRATION AND IN THE SECOND PENETRATION INSTALL (1) SHEET METAL SLEEVE, (1) TTUS 395RL 34"X10" GRILLE, (1) 32"X8" TYPE "A" RISKIN FIRE DAMPER AND A 6"X8" DUCT ROUTED DOWN TO 12" A.F.F. (CONTRACTOR TO FIELD VERIFY LOCATION) TO PROVIDE COMBUSTION AIR FOR WATER HEATERS THROUGH A HI/LO.
  - 14 3/4" GAS PIPING INTO APPARATUS BAY NEXT TO EXISTING GAS PIPE PENETRATION FOR HOSE DRYER AND CAP FOR FUTURE.

ALL GENERATOR SETS AND PROpane TANKS TO BE ANCHORED TO CONCRETE WITH BOLTS BARRIED IN THE SURFACE OF THE PAD EXPANSION-TYPE ANCHORS ARE NOT ACCEPTABLE.



# APPENDIX C: PHOTOGRAPHS



1. Fire Station #6



2. Fire Station #6



3. Living Room



4. Office



5. Locker Area



6. Locker Area



7. Dormitory (Bedroom)



8. Dormitory (Bedroom)



9. Windows in Dormitory



10. Stained Ceiling Panels and Damaged Plaster (Bedroom)



11. Damaged Plaster



12. Stained Ceiling Panels (Locker Room)



13. Stained Ceiling Panels (Kitchen)



14. Stained Ceiling Panel and Diffuser



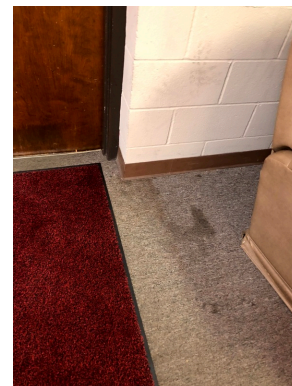
15. Stained Ceiling Panels (Locker Room)



16. Stained Ceiling Panel (Locker Room)



17. Stained File Cabinet and Carpet (Locker Room)



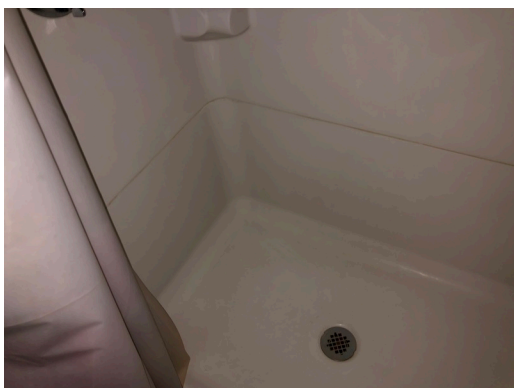
18. Stained Carpet (Locker Room)



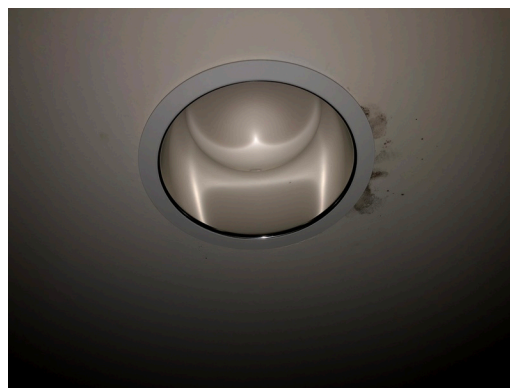
19. Previous Moisture Damage (beneath Kitchen sink)



20. Bathroom



21. Shower



22. Stained Drywall above Shower



23. Fire Sprinkler rust in Shower area



24. Dust accumulation on Bag/Luggage



25. Stained Ceiling Panel - Location of Surface Sample 6G (Locker Area)



26. Stained Ceiling Panel - Location of Surface Sample 6H (Living Room)



27. Stained Ceiling Panel - Location of Surface Sample 6I (Dormitory)



28. Stained Ceiling Panel - Location of Surface Sample 6J (Kitchen)



29. Damaged Plaster - Location of Surface Sample 6K (Dormitory)



30. Damaged Plaster Area (Dormitory)



31. Dirt accumulation on Window Ledge



32. Dirt accumulation on Humidifier (Dormitory)



33. Dirt accumulation on HVAC Louver



34. HVAC Return Louver and Filter



35. HVAC Supply Louver



36. Interior duct insulation and dirt accumulation





37. Above Ceiling Panels at Insulation and Metal Roof Decking



38. Above Ceiling Panels at Insulation and Metal Roof Decking



39. View above Ceiling Panel at Metal Roof Decking



40. View above Ceiling Panel at Metal Roof Decking and Ductwork



41. Ductwork



42. Above Ceiling Panel Ductwork



43. Apparatus Bay with Floor Drains



44. Full Bucket of Liquid with Hose (Bucket labelled as BioHazard)



45. Laundry Area within Apparatus Bay



46. HVAC Room



47. Former Dryer Vent Exhaust



48. Water Accumulation and Staining in Apparatus Bay



49. Laundry and Weight Area located within Apparatus Bay



50. Poor drainage and landscaping



51. Threshold rust and elevated landscaping



52. Elevated landscaping



53. Concrete settlement



54. Location of former dryer vent



Nova  
Group

# Carbon Neutral Report

[novagrouppbc.com/carbonneutral](http://novagrouppbc.com/carbonneutral)