JERSEY INFRARED CONSULTANTS

P.O. Box 39
Burlington, NJ 08016
Phone: (609) 386-1281
Fax: (609) 387-4334

Infrared Inspection Report

for

ACME Manufacturing Company
100 Main Street
My Town, Any State 00000

at

Shamrock Sheet Metal Corporation
6789 Old Bridge Road
Montclair, NJ 07042

Report Date: 04/16/2021

Job Number: 21-1234.23

JERSEY INFRARED CONSULTANTS

P.O. Box 39
Burlington, NJ 08016
Phone: (609) 386-1281
Fax: (609) 387-4334

April 16, 2021

Mr. Stephen Murphy
ACME Manufacturing Company
100 Main Street
My Town, Any State 00000

RE: INFRARED BUILDING ENVELOPE SURVEY REPORT
OUR JOB NUMBER: 21-1234.23

Dear Mr. Murphy:

Here is our completed report in hard copy and electronic format for the Infrared Building Envelope Survey performed for ACME Manufacturing Company at the Shamrock Sheet Metal Corporation facility located at 6789 Old Bridge Road in Montclair, NJ on April 12, 2021.

Thank you for this opportunity to serve you. If you have any questions or if we can be of further assistance, please feel free to call.

Very truly yours,

Wesley B. Witty
Level III
Infraspection Institute Certified Infrared Thermographer # 10598

WBW:sb

Enclosure

JERSEY INFRARED CONSULTANTS

P.O. Box 39
Burlington, NJ 08016
Phone: (609) 386-1281
Fax: (609) 387-4334

INTRODUCTION TO THE INFRARED BUILDING ENVELOPE SURVEY (INTERIOR/EXTERIOR)

Infrared thermography is a form of non-contact, non-destructive testing used to detect and document thermal patterns and associated temperatures across a given surface. Infrared thermography can be used as a quality assurance and/or diagnostic tool to find latent failures or defects within the building envelope.

Two types of energy loss can occur within a building envelope. The first type of loss is conduction. Conduction losses are most often due to missing or damaged insulation within the building walls and/or roof. Conduction heat losses may also be caused due to entrapped moisture within the building sidewalls. The second type of heat loss is air infiltration/exfiltration. Air infiltration/exfiltration can occur at numerous locations within a building envelope through seemingly insignificant cracks and uncaulked openings. Air infiltration can be detected when Surveys are performed from the interior of the building. Air exfiltration can be detected when Surveys are performed from the exterior of the building.

Our Infrared Surveys are performed by Certified Thermographers using a portable thermal imaging system called FLIR ThermaCAM. This equipment detects infrared energy emitted from an object and converts it into an image which is displayed on a monitor screen.

Because infrared energy is a direct and proportional function of temperature, the displayed image is designed to depict temperature levels on the monitor in either black and white or color. In the black and white mode, the thermal image looks very similar to a black and white television picture where the various shades of gray represent different temperature levels throughout the chosen temperature range. Black corresponds to a lower temperature, and white indicates a higher temperature. In the color mode, colors are matched to the reference temperature bar at the side of the Thermogram. Colors which appear closer to the top of the reference bar correspond to higher temperatures. Colors appearing closer to the bottom of the reference bar correspond to lower temperatures.

Our FLIR equipment has the capability to sense object temperatures from -10° Celsius to +1500° Celsius, with sensitivity of as little as 0.07 Celsius degrees.

When viewed through the infrared imager, air infiltration/exfiltration generally appear as amorphous thermal signatures appearing around windows, doors and other penetrations or openings in the building envelope. Conduction heat losses generally appear as amorphous or square edge patterns throughout the building envelope.

Once the location of a problem area has been noted, the thermal image displayed on the FLIR monitor is recorded to electronic media. Thermograms are then made from the stored images and incorporated into our report, along with a description of the problem area.

JERSEY INFRARED CONSULTANTS

P.O. Box 39
Burlington, NJ 08016
Phone: (609) 386-1281
Fax: (609) 387-4334

April 16, 2021

ACME Manufacturing Company
100 Main Street
My Town, Any State 00000

THERMOGRAPHER'S COMMENTS
OUR JOB NUMBER: 21-1234.23

On April 12, 2021, an Infrared Building Envelope Survey was performed for ACME Manufacturing Company at the Shamrock Sheet Metal Corporation facility located at 6789 Old Bridge Road in Montclair, NJ.

The Survey covered the exterior walls, windows, and doors of the building listed above. The Survey was conducted from the exterior of the building in an attempt to locate moisture infiltration.

The Survey was performed by an Infraspection Institute Certified Infrared Thermographer using an E-60, Thermal Imaging System, Serial # 64523278.

FINDINGS: All thermal data collected during our Survey was stored on a digital media SD card. Thermograms were then made from the digital media and appear on the following pages along with a brief description of documented areas.

RECOMMENDATIONS: We recommend that the cause of all thermal anomalies be investigated and that the proper corrective measures be taken. A follow-up Survey should then be performed once repairs have been made.

Please note that all inspections are performed with the building in an "as found" condition. No attempt is made to verify that the building is under normal operating condition at the time of the Infrared Survey.

This report depicts thermal patterns in the building envelope at the time of the Infrared Survey. No information regarding the structural integrity of the building or the building components is provided or implied in this report.

If you should have any questions or if we can be of further assistance, please feel free to call.

Very truly yours,

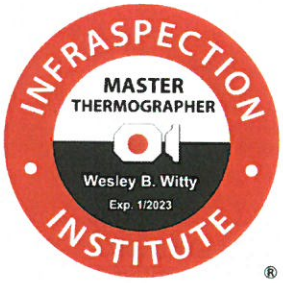
Wesley B. Witty
Level III
Infraspection Institute Certified Infrared Thermographer # 10598

WBW:sb

Customer Name: ACME Manufacturing Company
Job Name: Shamrock Sheet Metal Corporation
Job Number: 21-1234.23

Report Summary

Report Date:	04/16/2021
Job Number:	21-1234.23
Type of Inspection:	Building Envelope
Purpose of Inspection:	Condition Assessment
Date of Inspection:	04/12/2021
End User:	Stephen Murphy
Project Location:	Shamrock Sheet Metal Corporation 6789 Old Bridge Road Montclair, NJ 07042
Thermographer:	Witty, Wesley B.
Certification Number:	10598
Certification Level:	Level III
Qualified Assistant(s):	
Equipment Used:	FLIR E-60 BX S/N 64523278
# of Image Pages:	14
Comments:	
Weather History:	



04/12/2021

Day Skies: Mostly Sunny — Night Skies: Clear

Day Highs: Low 70's — Night Lows: Low 60's

Last Precipitation: 04/06/2021

Customer Name: ACME Manufacturing Company
Job Name: Shamrock Sheet Metal Corporation
Job Number: 21-1234.23

Summary of Images

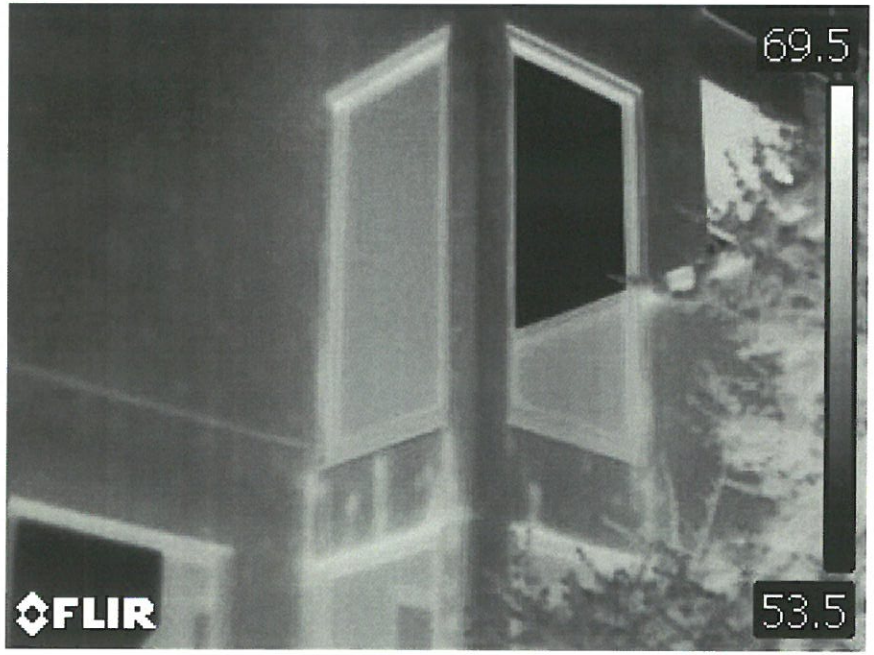
Picture	Location	Equipment ID	Priority
1	Bottom of NE 2nd Floor, Window Front Side	Exterior Wall	
2	1st Floor, NE below Window	Exterior Wall	
3	Window above Balcony, SE Corner	Exterior Wall	
4	1st Floor, Upper Level Windows	Exterior Wall	
5	Below and Around 1st Floor Windows, SE Corner	Exterior Wall	
6	South Side, around 2nd Floor Window	Exterior Wall	
7	South Side, SE Corner around 1st Floor Windows	Exterior Wall	
8	South Side, SW Section of Column	Exterior Wall	
9	South Side, SW Section above Garage, 1st Ring of Column	Exterior Wall	
10	West Side, Seam between 2nd & 3rd Floor, above Garage Balcony	Exterior Wall	
11	West Side, between 2nd & 3rd Floor Windows above Rear Balcony	Exterior Wall	
12	North Side, NW Section below 1st Floor Window	Exterior Wall	
13	North Side, along Seam below 1st Floor Window Center Section	Exterior Wall	
14	North Side, NE Section below 1st Floor Window	Exterior Wall	

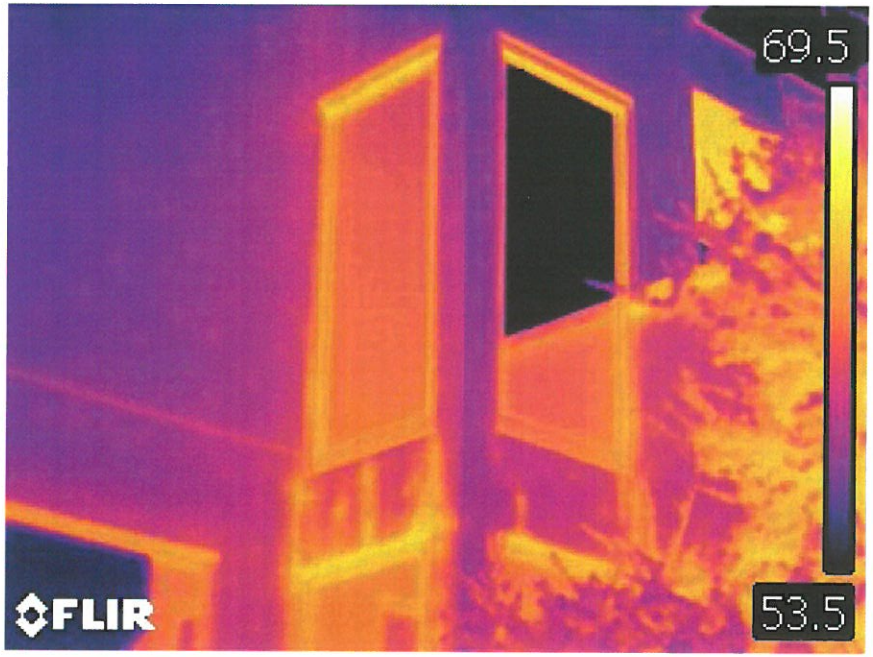
Area/Image No. 1 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 18:54
Location Bottom of NE 2nd Floor, Window Front Side
Equipment Exterior Wall

Ambient Temp 65 °F **Sky** Clear
Wind Speed 5 mph **From** West **Distance** 20'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:

Subj. Priority



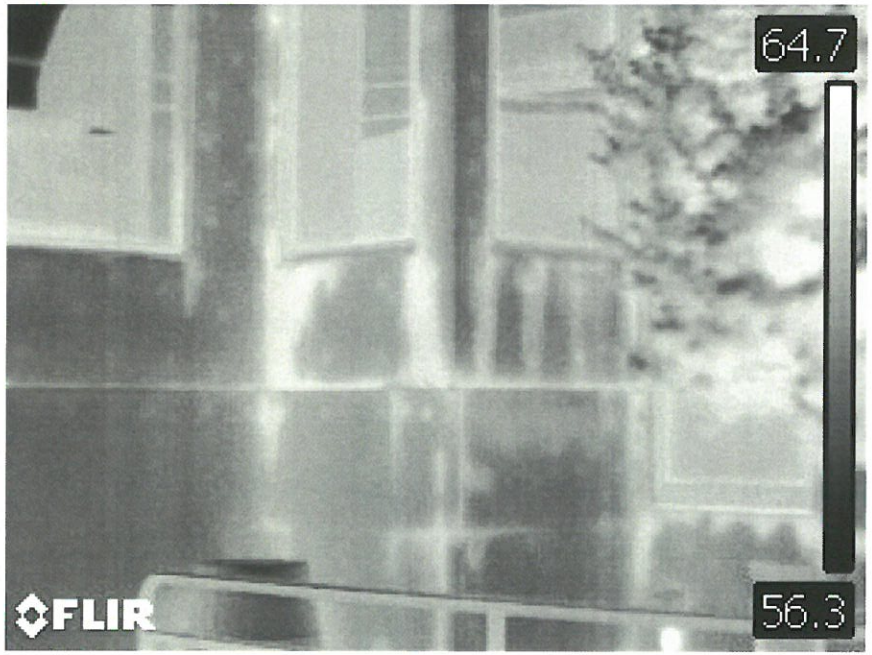


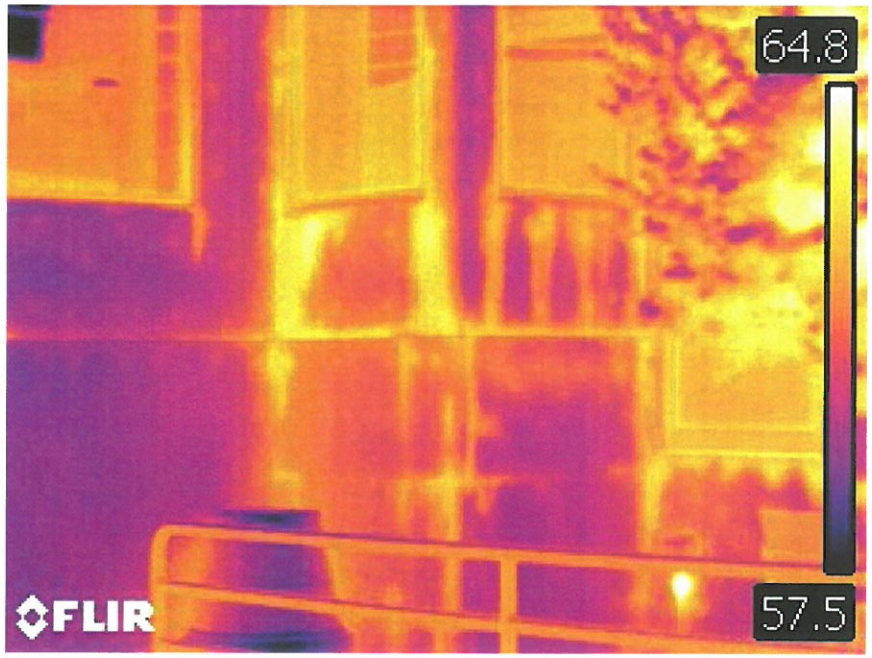
Area/Image No. 2 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 18:55
Location 1st Floor, NE below Window
Equipment Exterior Wall

Ambient Temp 65 °F **Sky** Clear
Wind Speed 5 mph **From** West **Distance** 20'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:

Subj. Priority



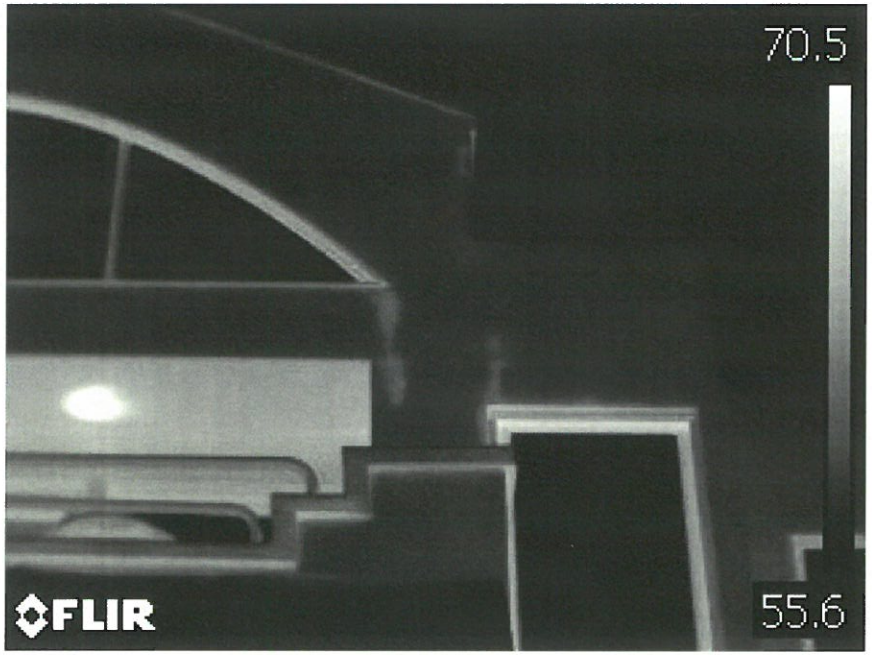


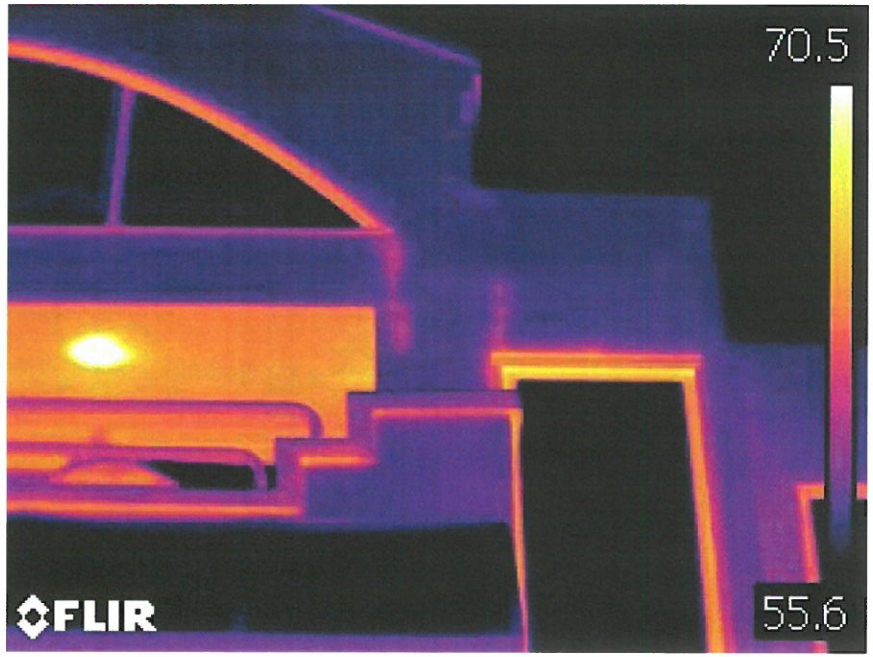
Area/Image No. 3 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 18:57
Location Window above Balcony, SE Corner
Equipment Exterior Wall

Ambient Temp 65 °F **Sky** Clear
Wind Speed 5 mph **From** West **Distance** 30'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:

Subj. Priority

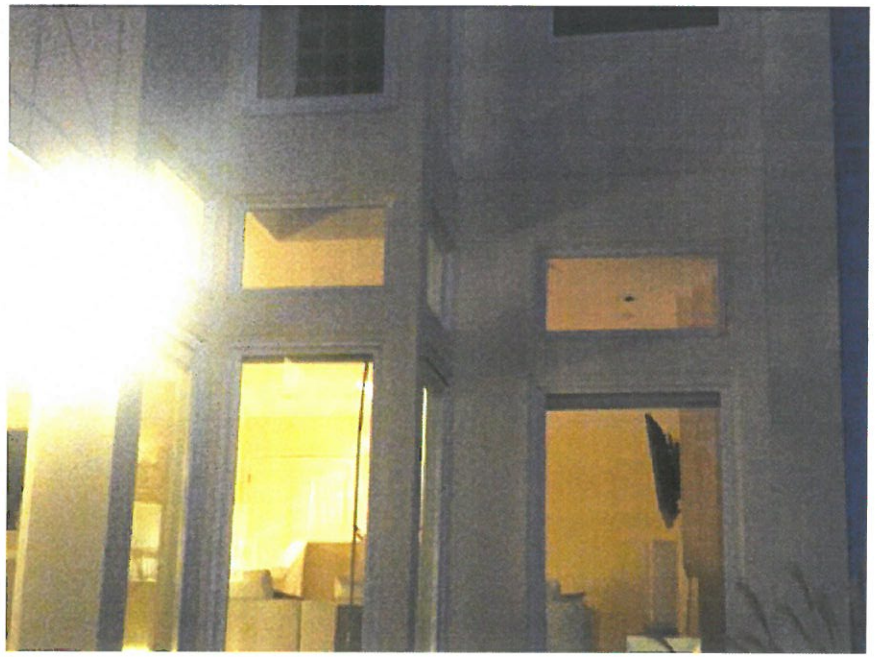




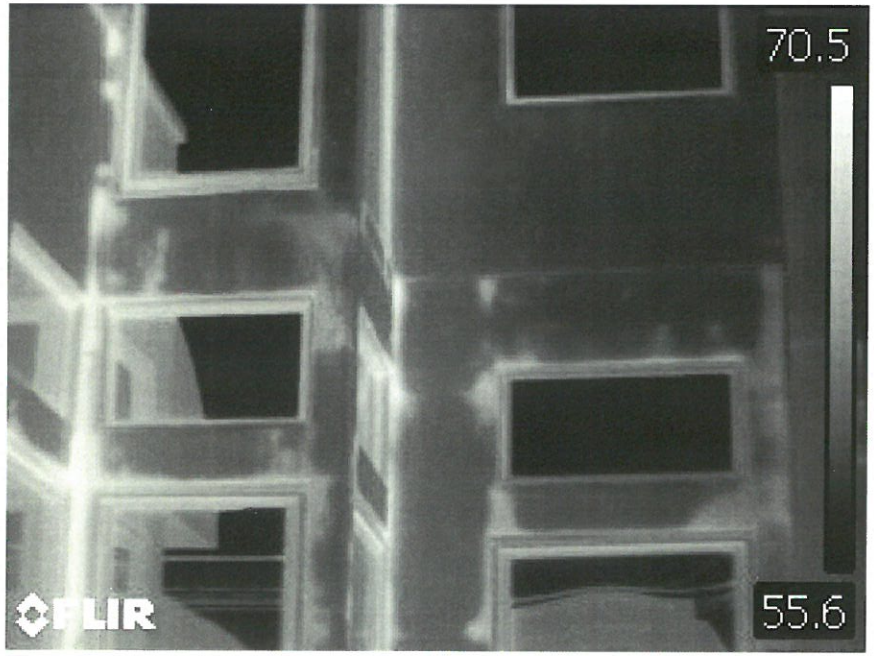
Area/Image No. 4 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 19:03
Location 1st Floor, Upper Level Windows
Equipment Exterior Wall

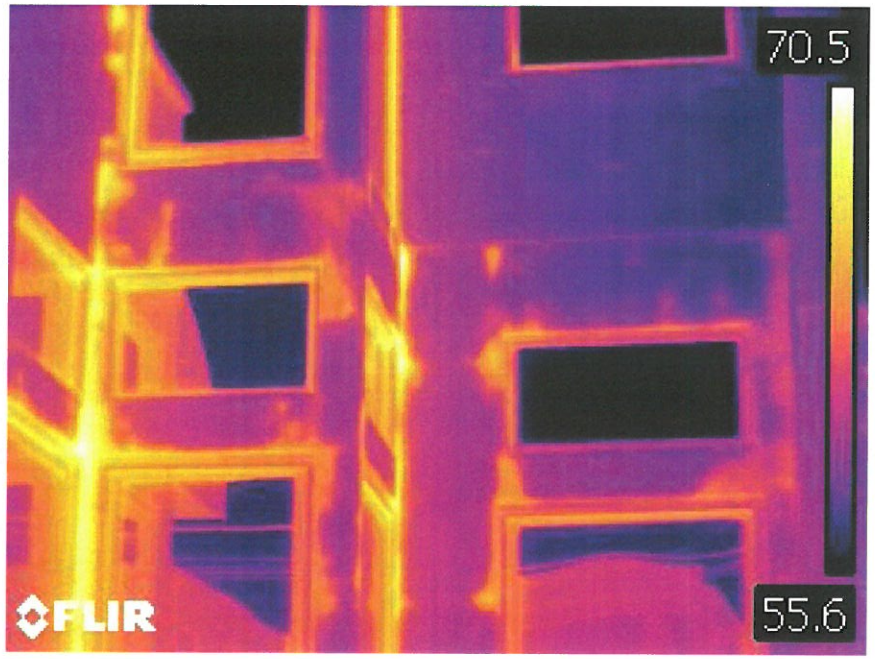
Ambient Temp 65 °F **Sky** Clear
Wind Speed 5 mph **From** West **Distance** 20'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:



Subj. Priority



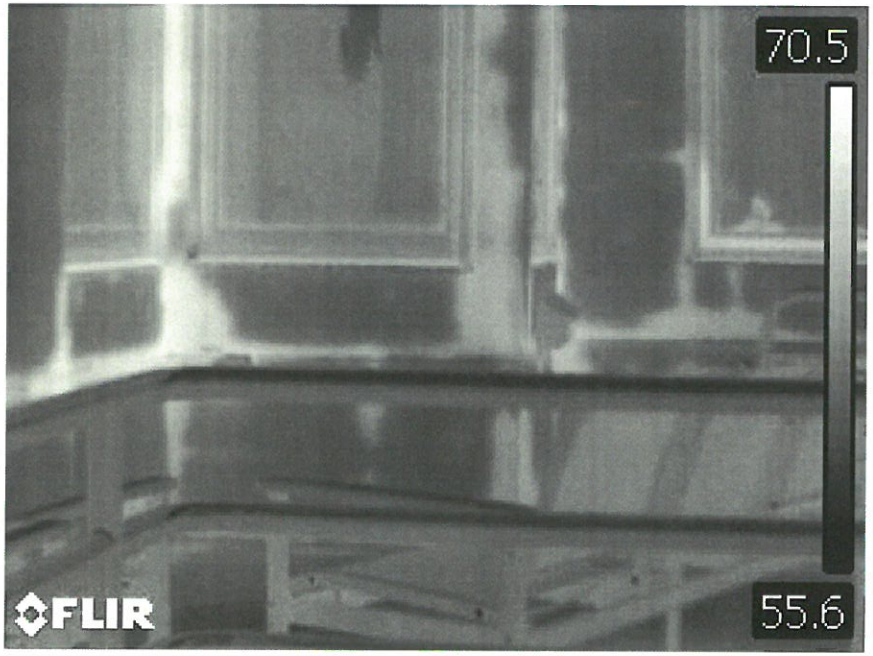


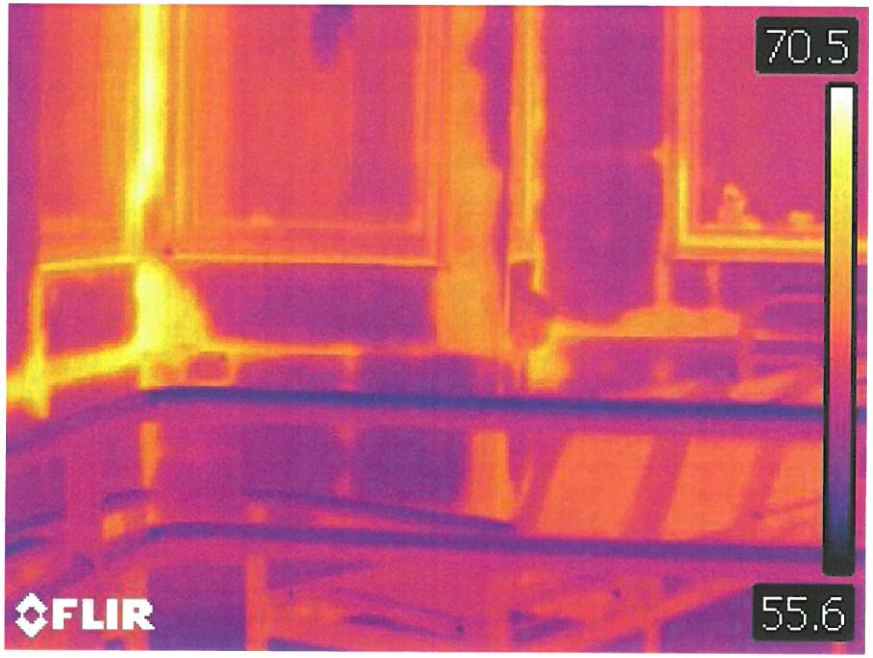
Area/Image No. 5 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 19:04
Location Below and Around 1st Floor Windows, SE Corner
Equipment Exterior Wall

Ambient Temp 65 °F **Sky** Clear
Wind Speed 5 mph **From** West **Distance** 20'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:

Subj. Priority

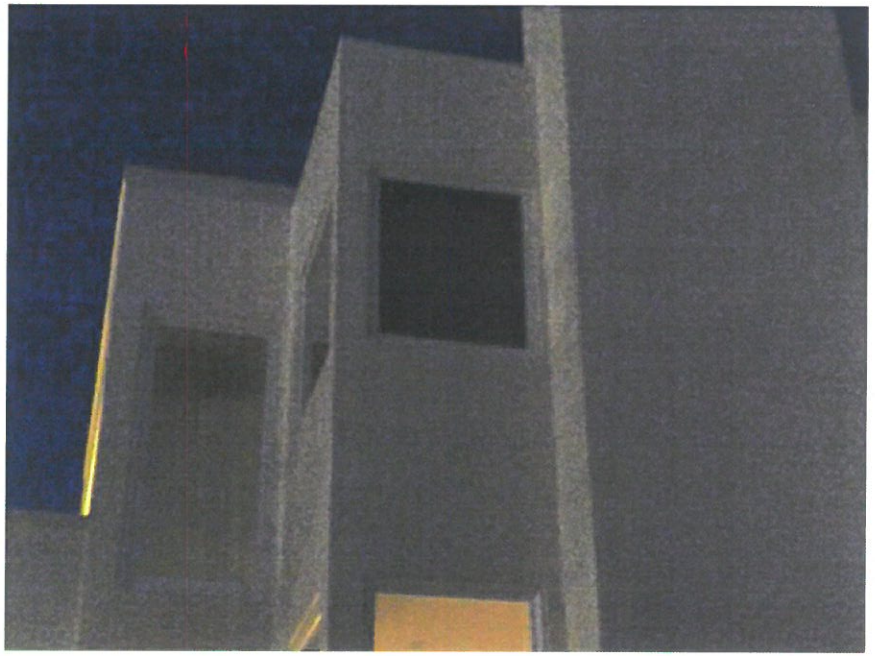




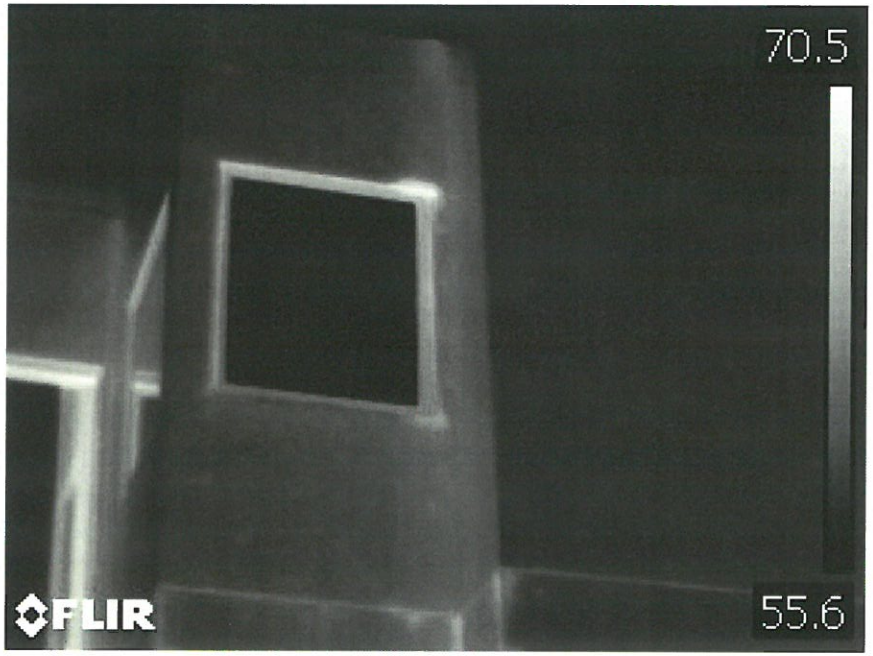
Area/Image No. 6 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 19:05
Location South Side, around 2nd Floor Window
Equipment Exterior Wall

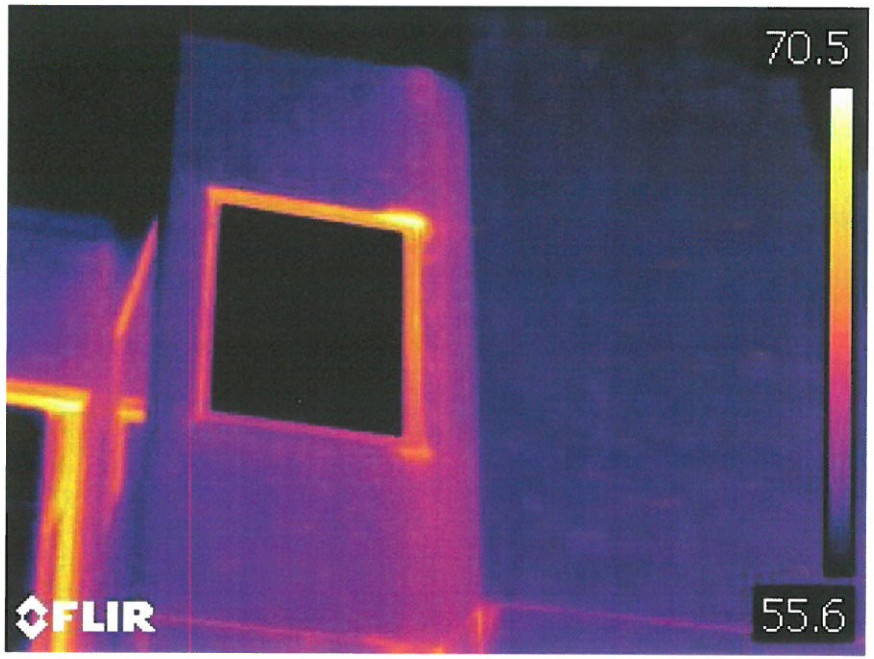
Ambient Temp 65 °F **Sky** Clear
Wind Speed 5 mph **From** West **Distance** 30'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:



Subj. Priority



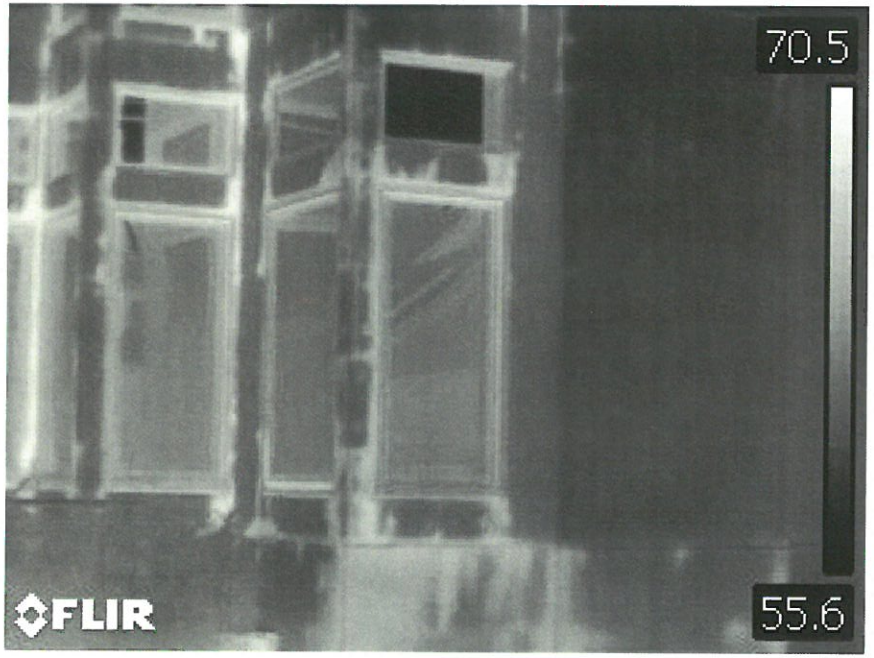


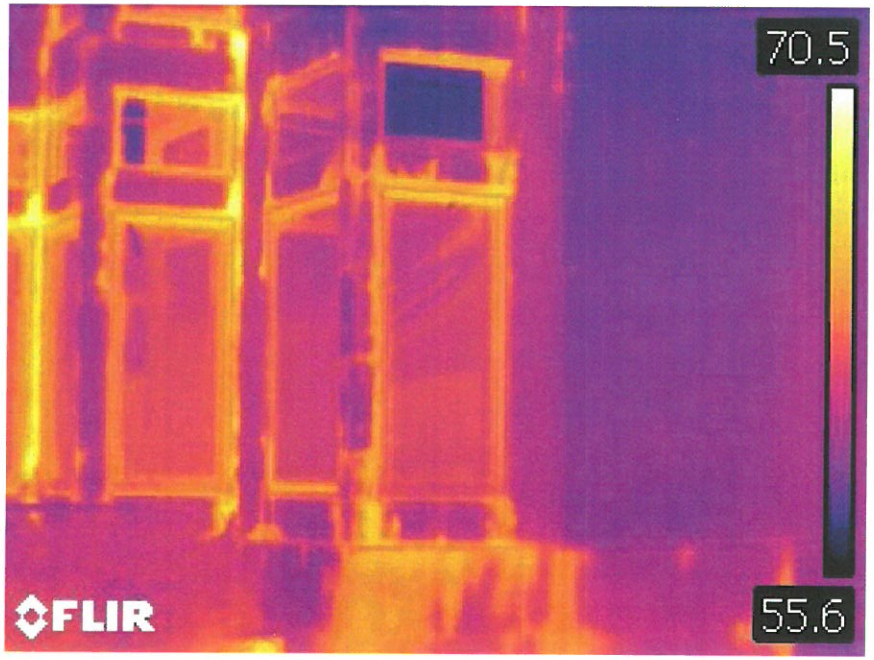
Area/Image No. 7 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 19:06
Location South Side, SE Corner around 1st Floor Windows
Equipment Exterior Wall

Ambient Temp 65 °F **Sky** Clear
Wind Speed 5 mph **From** West **Distance** 40'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:

Subj. Priority



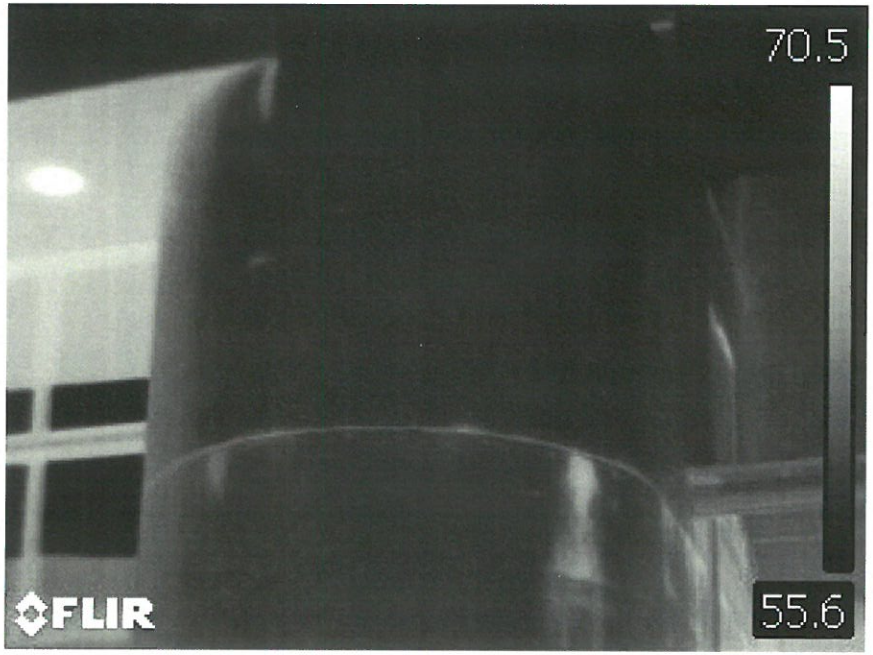


Area/Image No. 8 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 19:07
Location South Side, SW Section of Column
Equipment Exterior Wall

Ambient Temp 65 °F **Sky** Clear
Wind Speed 5 mph **From** West **Distance** 25'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:

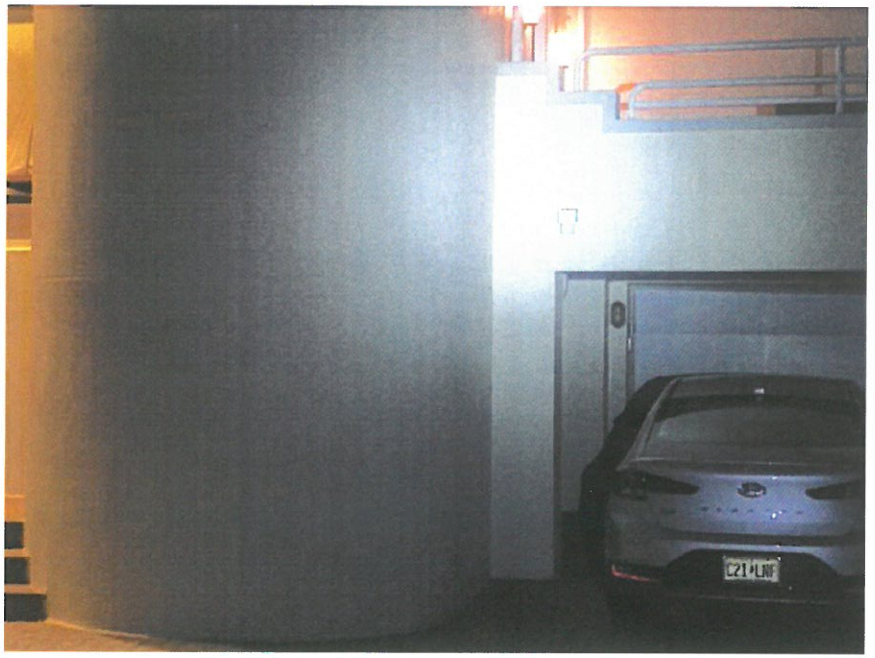
Subj. Priority



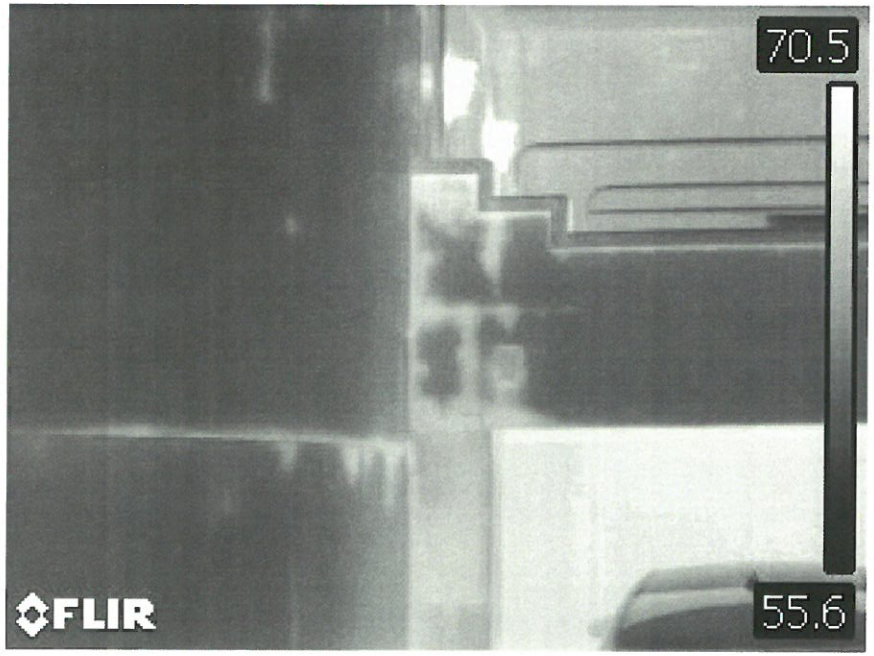
Area/Image No. 9 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 19:11
Location South Side, SW Section above Garage, 1st Ring of Column
Equipment Exterior Wall

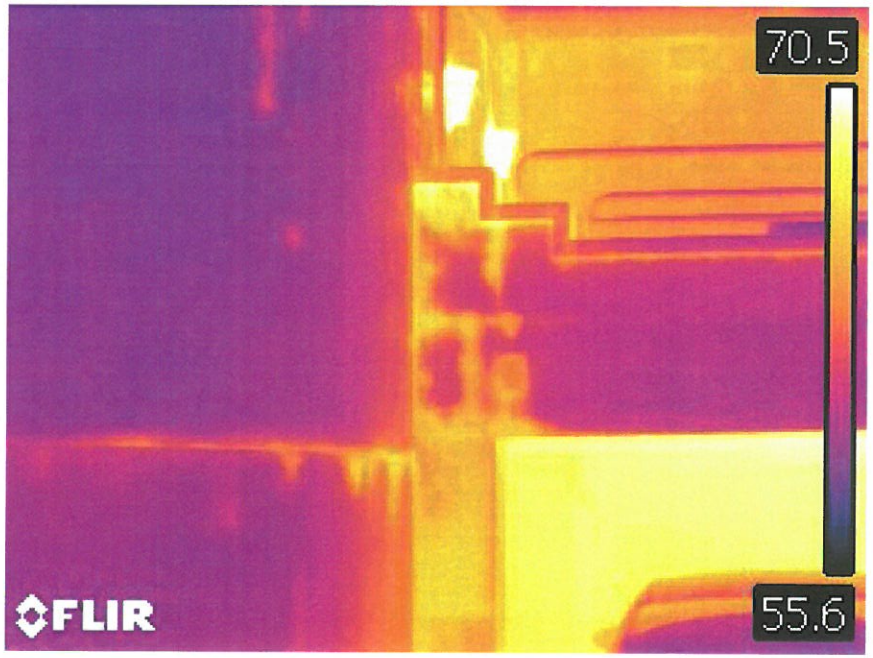
Ambient Temp 64 °F **Sky** Clear
Wind Speed 4 mph **From** West **Distance** 25'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:



Subj. Priority



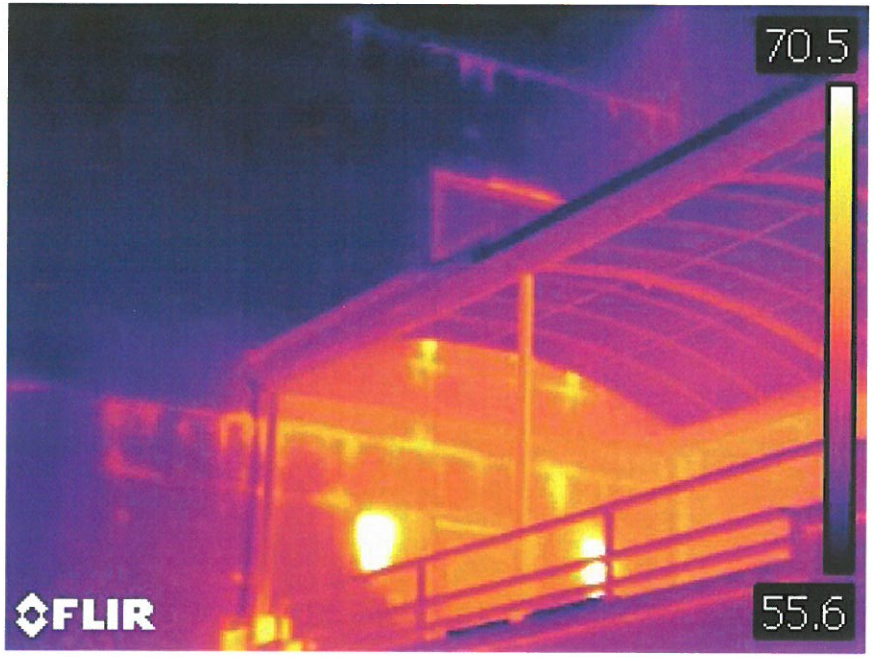


Area/Image No. 10 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 19:14
Location West Side, Seam between 2nd & 3rd Floor, above Garage Balcony
Equipment Exterior Wall

Ambient Temp 64 °F **Sky** Clear
Wind Speed 4 mph **From** West **Distance** 50'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:
Area below 2nd Floor and above Garage Balcony Doorway

Subj. Priority

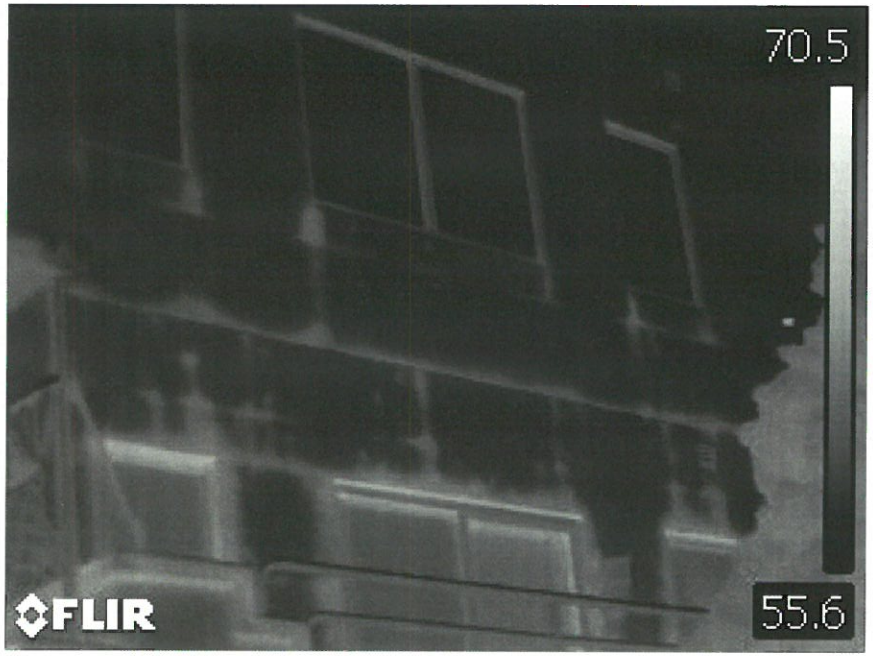


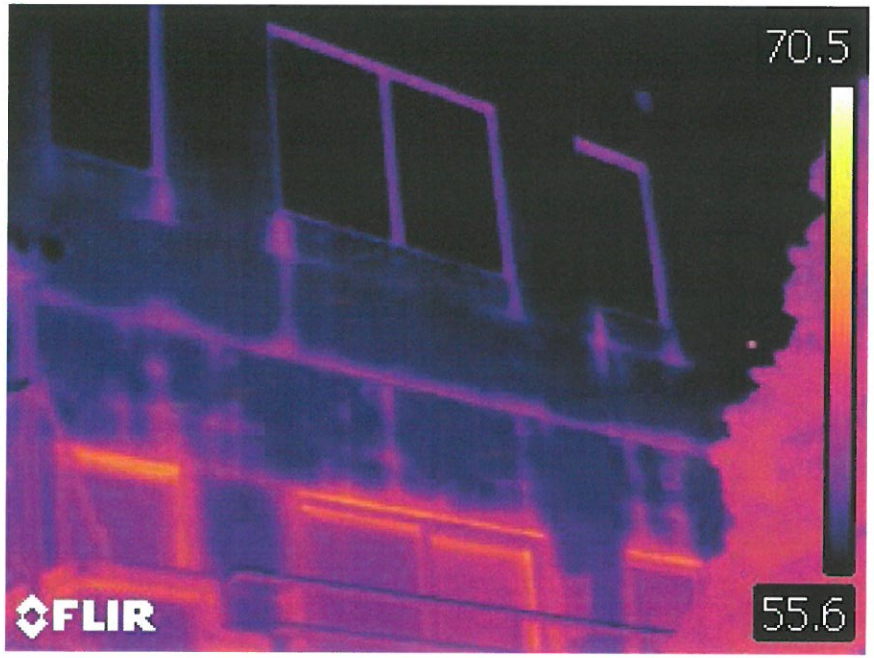
Area/Image No. 11 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 19:16
Location West Side, between 2nd & 3rd Floor Windows above Rear Balcony
Equipment Exterior Wall

Ambient Temp 63 °F **Sky** Clear
Wind Speed 4 mph **From** West **Distance** 45'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:

Subj. Priority



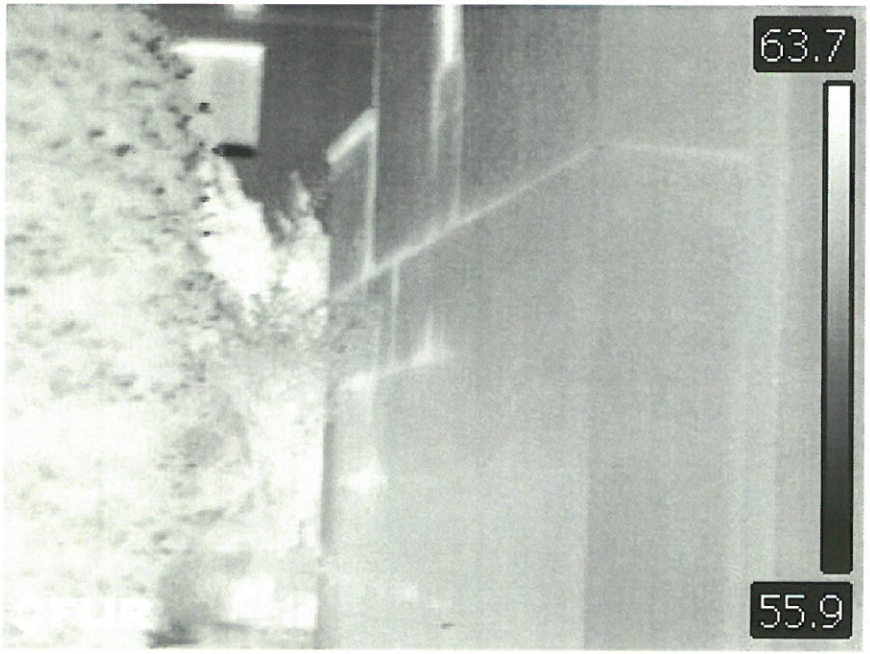


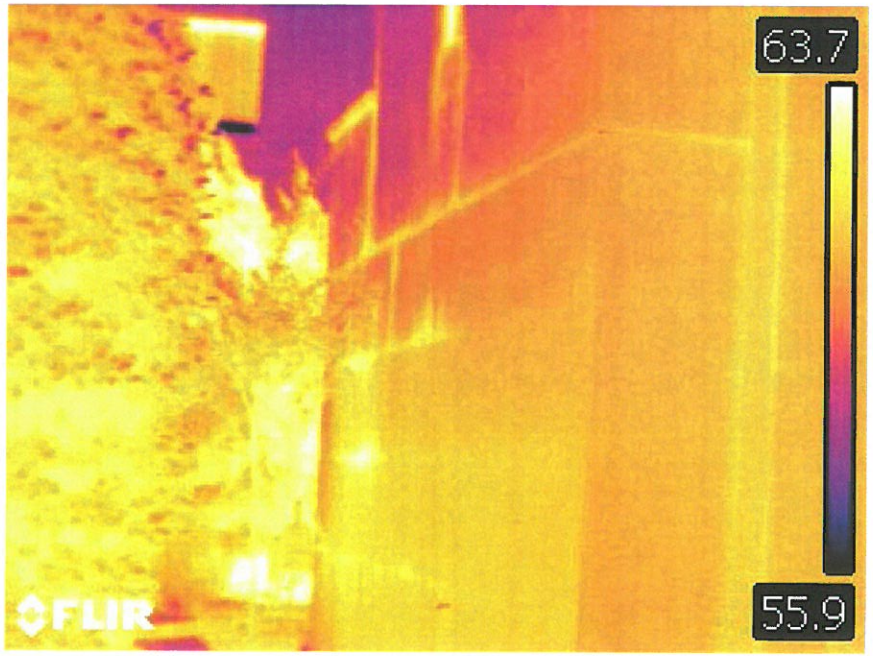
Area/Image No. 12 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 19:18
Location North Side, NW Section below 1st Floor Window
Equipment Exterior Wall

Ambient Temp 63 °F **Sky** Clear
Wind Speed 4 mph **From** West **Distance** 25'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:

Subj. Priority



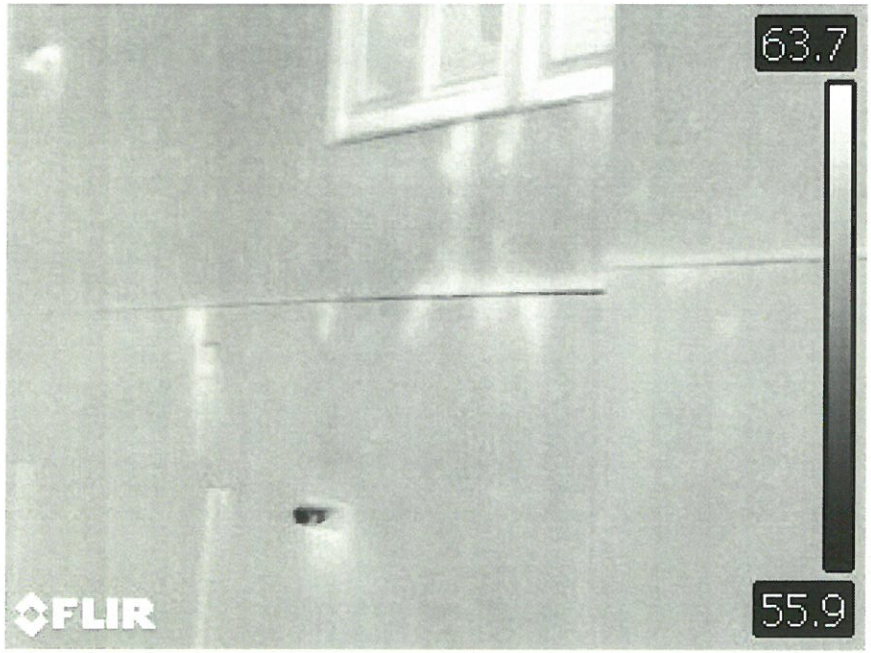


Area/Image No. 13 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 19:19
Location North Side, along Seam below 1st Floor Window Center Section
Equipment Exterior Wall

Ambient Temp 63 °F **Sky** Clear
Wind Speed 4 mph **From** West **Distance** 25'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:

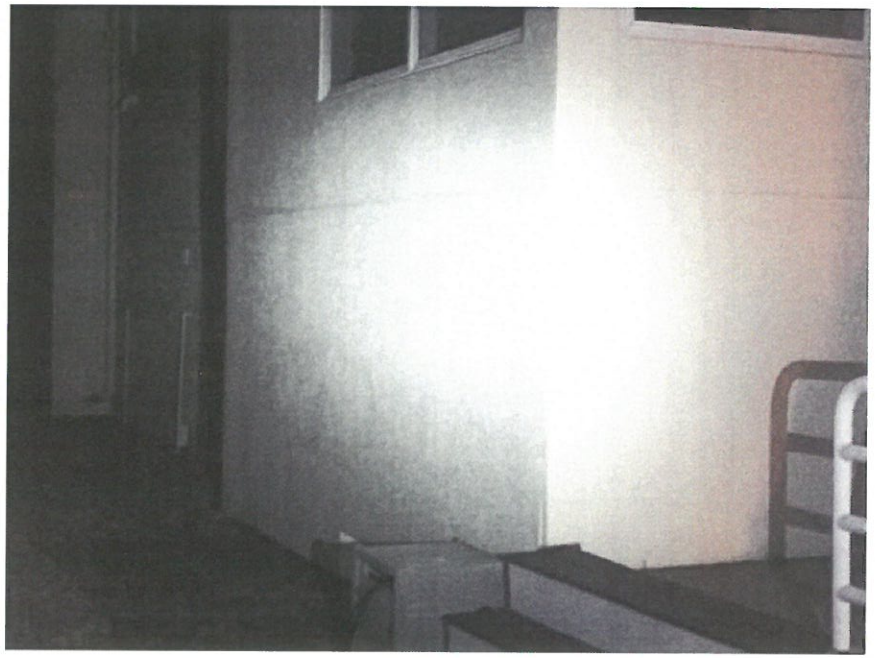
Subj. Priority



Area/Image No. 14 **Job No.** 21-1234.23
Date 04/12/2021 **Time** 19:30
Location North Side, NE Section below 1st Floor Window
Equipment Exterior Wall

Ambient Temp 63 °F **Sky** Clear
Wind Speed 4 mph **From** West **Distance** 20'
E 1.00 **R/T** N/A **Lens** 1x **Filter** N/A **Window T %** N/A

Comments:



Subj. Priority