WESTERN FIRE CENTER, INC.
2204 Parrott Way, Kelso, Washington 98626
Phone: 360-423-1400 | Fax: 360-423-5003

Fire Testing of Exterior Wall Systems

Investigative testing conducted in accordance with the test methodology described in CSFM 12-7A-1, Materials and construction methods for exterior wildfire exposure – Exterior wall siding and sheathing

Conducted For:

Nova USA Wood Products
3821 24th Ave
Forest Grove, OR 97116

Material:

Nominal 1x6 T&G Nickel Gap/Reverse Thermo Ambara (Ayous/Obeche)
$^{7}/_{16}$" OSB Sheathing

WFCi Report #25068

Test Date: November 7, 2025

Report Issued: November 24, 2025

IAS ACCREDITED Testing Laboratory TL-180

TABLE OF CONTENTS

INTRODUCTION

The report summarized the California State Fire Marshal (CSFM) testing of an exterior system (Nominal 1×6 T&G Nickel Gap/Reverse Thermo Ambara [Ayous/Obeche]) for Nova USA tested at Western Fire Center, Inc. (WFCi). The purpose of this test was to evaluate the fire test performance characteristics of the exterior products in accordance with CSFM 12-7A-1, *Materials and construction methods for exterior wildfire exposure – Exterior wall siding and sheathing*. The standard requires that these tests be performed in triplicate and monitored for burn-though of the assembly.

SUMMARY OF TEST METHOD

Direct flame from a 4”×39” gas sand burner at 150 kW is provided to a 4’×8’ exterior wall assembly for a period of 10 min. This test method measures the ability of the sample to resist fire penetration of the material for a 60 min period following direct flame exposure. Assembly dimensions and burner locations are described in Figure 1. Criteria for this test are as follows (as defined in 12-7A-1.11):

1. Absence of flame penetration through the wall assembly
2. Absence of evidence of glowing combustion on the interior surface of the assembly at the end of the 70-minute test.

Qualitative observations were recorded regarding the burning material and fire penetration. An infrared (IR) pyrometer is also used in each test to determine possible hidden combustion and associated temperature changes on the back side of the assembly. Tests are conducted under the WFCi large hood collection assembly at ambient airflow conditions. The burner heat output is verified before each day of testing.

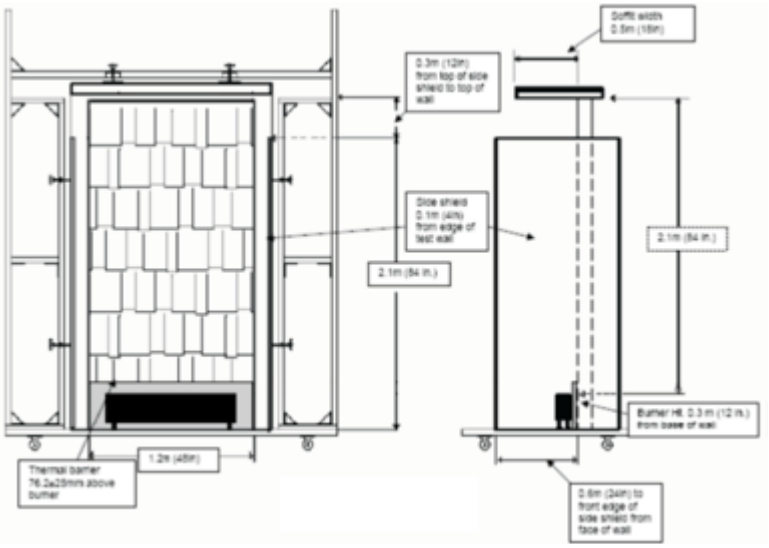


Figure 1. Test assembly showing burner location and wall dimensions.

SAMPLE DESCRIPTION

For testing purposes, a 4'×8' representation of an exterior wall assembly used for the CSFM 12-7A-1 test. Three walls were built (Figure 2), which consisted of a nominal 2×4 wood frame with studs spaced at 16" on center. A layer of $^{7}/_{16}$" OSB sheathing was nailed to the studs with 8d nails at 6" on edge and 12" in the field spacing with an ⅛" vertical gap was placed along one of the interior studs. The outer siding consisted of a nominal 1×6 T&G nickel gap/reverse siding of thermo ambara wood (ayous/obeche), fastened horizontally to the sheathing with 6d ring-shank nails with tight vertical joints, a single nail per stud just below the horizontal joint.

The profile was tested as the nickel gap exposed to the flame. Based on the results of this particular profile, the data can be extended to other similar profiles as will be discussed in the conclusion.

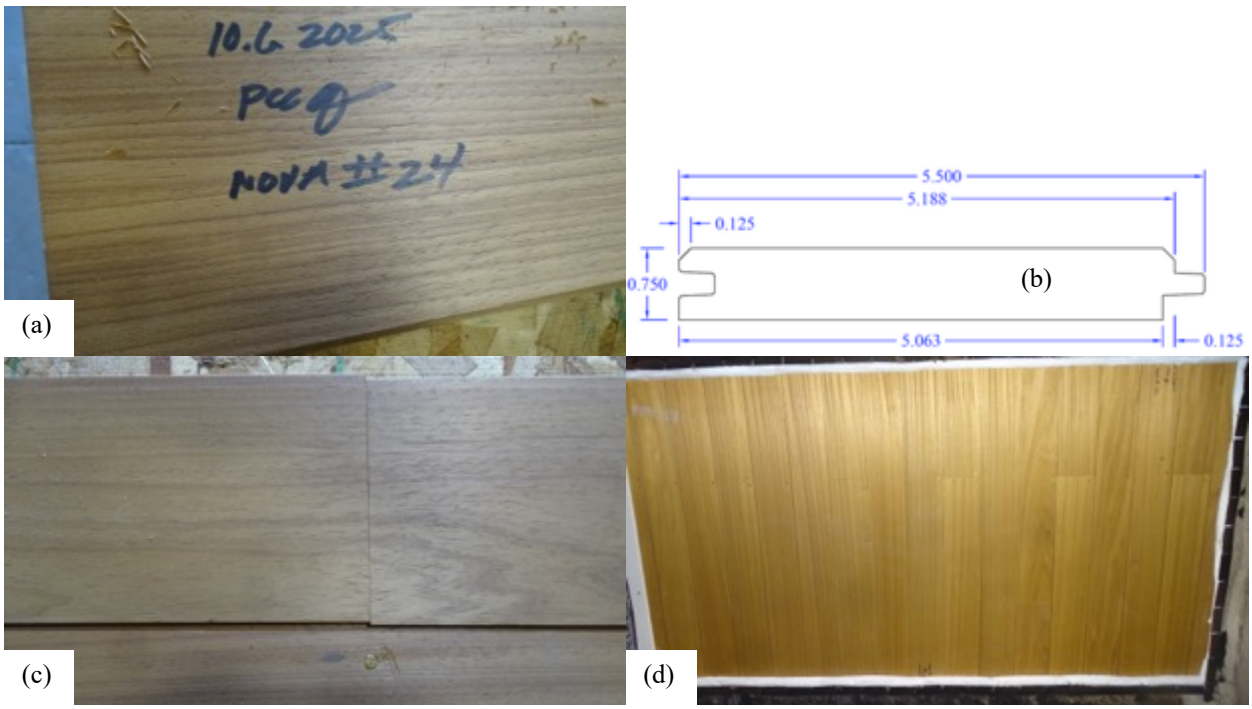


Figure 2. Wall system showing (a) identification, (b) profile, (c) joint, and (d) complete assembly.

The siding was received by WFCi on October 30, 2025. The cladding was conditioned at 70°F and 50% RH until the mass of the material stopped changing. The moisture content of the cladding was measured to be 10.0%. The sides of the assembly were protected with 1" Kaowool around the perimeter of the when fit within the sample holder. WFCi did not select the sample components and has not verified the manufacturing techniques or accuracy of the products and labeling. A chain of custody document provided by the client is shown in APPENDIX A: CHAIN OF CUSTODY.

TEST RESULTS

Testing was performed on November 7, 2025 with heat source verification (148.3 ± 2.8 kW) performed before testing on that day.

A typical test had initial flaming along the face, but the flames self-extinguished after the burner was turned off. During the observation period, glowing on the face continued for a period of time before also self-extinguishing. If no signs of combustion were observed on the sample and the unexposed temperature was below 100°C and decreasing, the test was terminated prior to the 60 min observation time. At the end of the observation period, there were no signs of combustion (flaming, glowing, smoking) observed on the backside of the wall. Individual observations are included in the tables below for each test; photographs are included in the figures below.

Test 1

Nominal 1×6 T&G Nickel Gap/Reverse Thermo Ambara (Ayous/Obeche): **Passed**

Test Date & Time: November 7, 2025 – 10:20 AM (18°C, 58% RH)

Table 1. Observations for Test 1.

Test Time (mm:ss)		**Event**	**Test Time** (mm:ss)		**Event**
00:00		Start test – 150 kW burner on	00:45		Darkening of boards with attached flames
01:30		Flames reached to top of wall	05:00		No significant change
10:00		Burner off – flames self-extinguished	10:30		IR 59°C (maximum on backside)
12:00		IR 62°C	15:45		Minimal glowing on face
16:15		IR 63°C	18:50		IR 65°C
23:45		IR 73°C	33:25		IR 80°C
42:25		IR 74°C	45:00		IR 70°C
47:30		IR 65°C	50:30		IR 60°C – no signs of combustion on sample – **Passed**

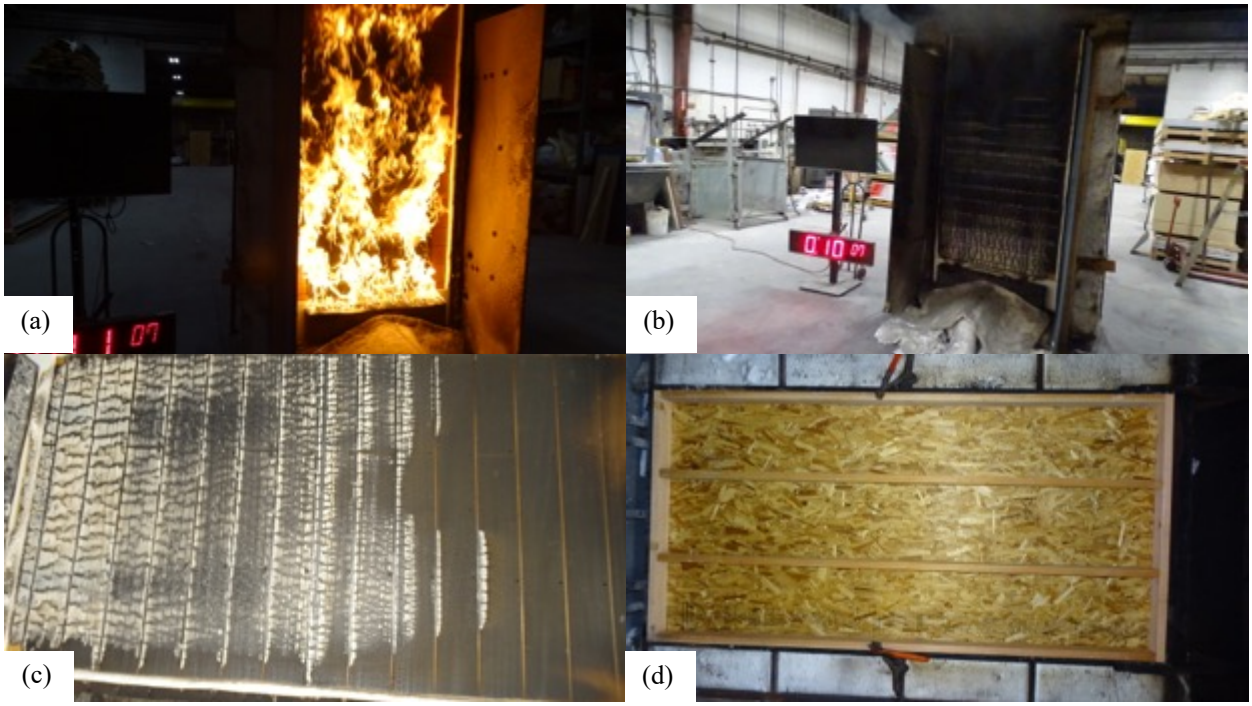


Figure 2. Test 1 showing (a) flames up face, (b) burner off, and (c-d) after test.

Test 2

Nominal 1×6 T&G Nickel Gap/Reverse Thermo Ambara (Ayous/Obeche): **Passed**

Test Date & Time: November 7, 2025 – 11:20 AM (18°C, 58% RH)

Table 2. Observations for Test 2.

Test Time (mm:ss)		**Event**	**Test Time** (mm:ss)		**Event**
00:00		Start test – 150 kW burner on	00:30		Boards starting to darken
00:45		Attached flames	01:20		Flames to top of wall
10:00		Burner off	11:30		IR 60°C (maximum on backside)
14:00		IR 65°C	31:00		IR 84°C
45:00		IR 87°C	46:00		IR 89°C
47:15		IR 90°C	56:30		IR 93°C
1:00:00		IR 85°C	1:05:00		IR 100°C
1:10:00		IR 103°C – terminate test – no glowing or darkening on backside of wall – **Passed**			

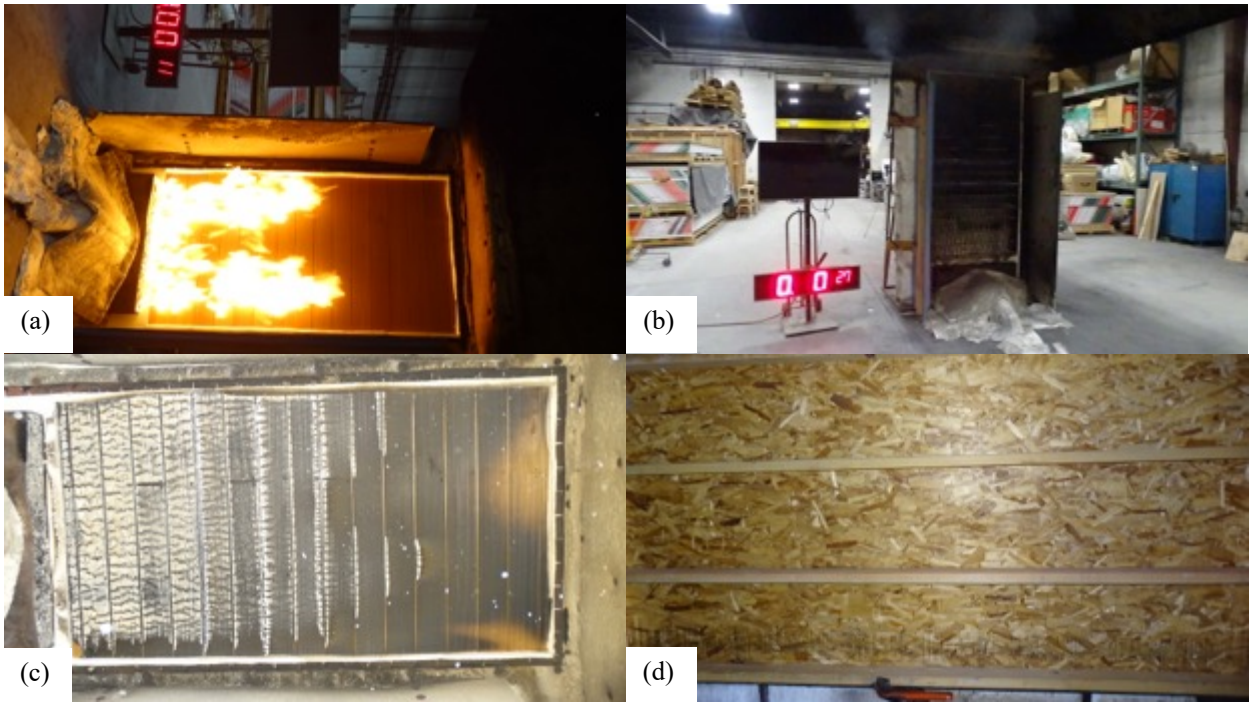


Figure 3. Test 2 showing (a) burner on, (b) burner off, and (c-d) after test.

Test 3

Nominal 1×6 T&G Nickel Gap/Reverse Thermo Ambara (Ayous/Obeche): **Passed**

Test Date & Time: November 7, 2025 – 2:10 AM (19°C, 57% RH)

Table 4. Observations for Test 3.

Test Time (mm:ss)		**Event**	**Test Time** (mm:ss)		**Event**
00:00		Start test – 150 kW burner on	00:45		Attached flames on wall
01:30		Flames at top of wall	05:00		Whole face is darkened
10:00		Burner off – IR 55°C (maximum on backside)	13:45		IR 62°C
21:00		IR 63°C	29:30		IR 65°C
37:25		IR 61°C	45:20		IR 52°C
50:00		IR 48°C – terminate test – no signs of combustion – **Passed**			

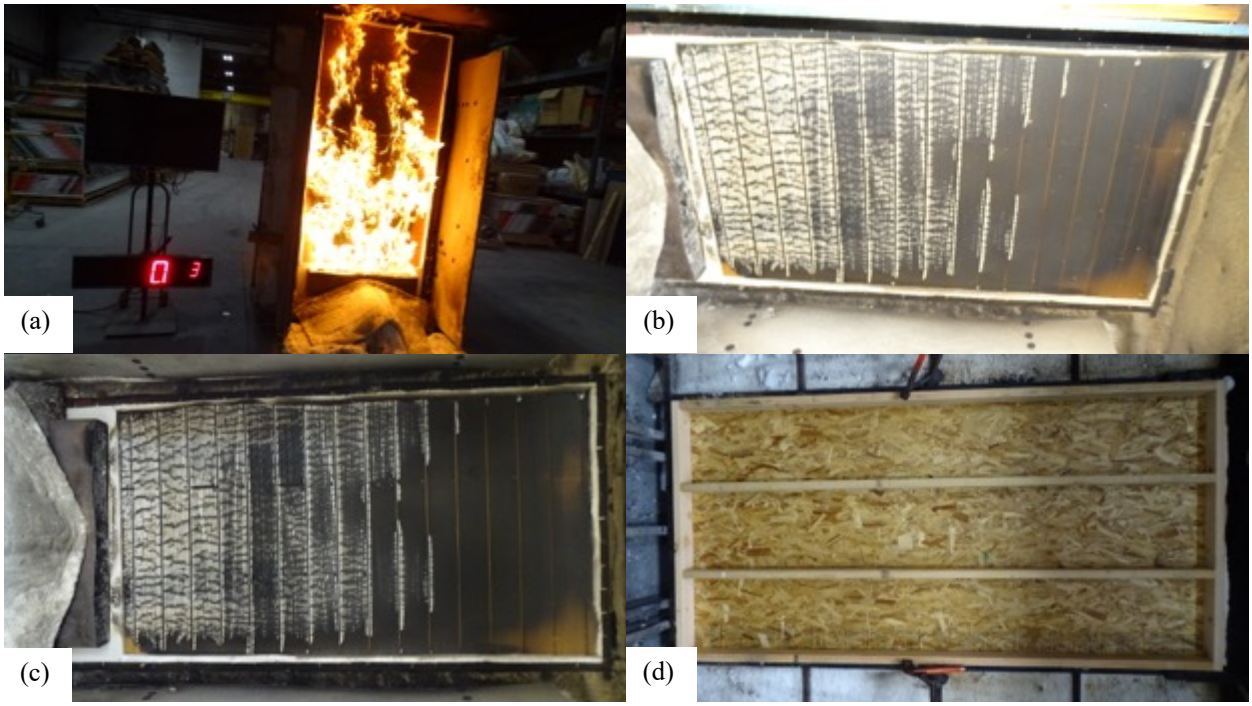


Figure 4. Test 3 showing (a) burner on, (b) burner off, and (c-d) after test.

CONCLUSION

The sample exterior walls (Horizontal Nominal 1×6 T&G Nickel Gap/Reverse Thermo Ambara [Ayous/Obeche], 7/16" OSB sheathing) as described above in this report met the criteria for CSFM 12-7A-1 for wall assemblies. Three replicate test results fulfill requirements of Chapter 7A of the California Building Code. It should be noted that the siding was in the horizontal orientation with 7/16" OSB sheathing.; the horizontal orientation was not tested.

The nominal 1×6 siding was tested with the nickel gap exposed to the flames, but the reverse (V-cut) is also applicable. Additionally, similar profiles (e.g, T&G, thickness, width, etc.) from two different siding pattern publications are also applicable for certification as follows:

- Western Wood Products Associations (WWPA), Standard Patterns
  - All nominal 1×6, 1×8, 1×10, 1×12 (not 1×4)
  - Paneling & Siding
    - WP-2, WP-4, WP-8, WP-10, WP-12, WP-14, WP-16, WP-18, WP-20
  - Siding
    - 116
- Redwood Lumber Patterns No. 17
  - All nominal 1×6 and wider (not 1×4)
    - 16, 17, 18
    - 633, 634, 633EE, 634EE
    - 708, 715, 716, 708R, 715R, 716R
    - 616, 617
    - 711, 712, k713, 711R, 712R, 713R
    - 733R, 734R

SIGNATURES

Testing performed by,

Brent M. Pickett, Ph.D.

Technical Director

Reviewed and approved by,

Mike White

Laboratory Manager

WESTERN FIRE CENTER AUTHORIZES THE CLIENT NAMED HEREIN TO REPRODUCE THIS REPORT ONLY IF REPRODUCED IN ITS ENTIRETY

This decision was determined by simple acceptance to the requirements in the standard. Fire performance uncertainty is estimated to be 3% of the reported value.

The test specimen identification is as provided by the client and WFCi accepts no responsibilities for any inaccuracies therein. WFCi did not select the specimen and has not verified the composition, manufacturing techniques or quality assurance procedures.

Version	Date Issued	Document Number	Changes
Original	November 24, 2025	25068	Original report

APPENDIX A: CHAIN OF CUSTODY

1

Product Certification Consultants LLC
Making A Difference In Your Business

1676 Tapolo Drive
San Jose, CA 95124
Phone: 408-234-2418
Email: garrett@productcc.com

Report: 2025NOVAWOODCOC1
Date: October 12, 2025
Page 1 of 5

REPORT FOR

Nova USA Wood Products LLC
3821 24th Avenue
Forest Grove, OR 97116

Email: garrett@productcc.com
Website: www.productcc.com

1

INSPECTION FOR NOVA USA WOOD PRODUCTS LLC

The product and information described in this Report are representative samples of the product supplied by the Applicant and submitted for this investigation by the Applicant.

Product Description: The product is comprised of milled siding designated Thermo Ambara. The wood species is known as Ayous or Obeche.

Date of Inspection: October 6, 2025

Location of Inspection: Nova USA Wood Products LLC (Supplier)
3821 24th Avenue
Forest Grove, OR 97116
Contact: Micah Sutfin

Creative Woodworking N. W. Inc. (Mill)
1036 S. E. Taylor
Portland, OR 97214
Contact: Blake Redmond

PCC LLC Inspector: Mr. Garrett S Tom P.E.

Sample Description:

Twenty-five (25) milled siding lengths 3/4 x 5-1/2 tongue and groove.
See detail below.

The rough sawn boards were received from Nova USA Wood Products LLC and measured approximately 1 x 6 inches before being milled.

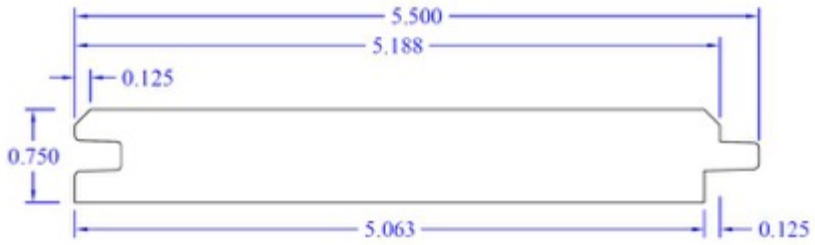
The rough sawn boards were fed thru a planer to mill to the finished profile.

The finished milled samples were identified with the following information:

10.6.2025 PCC GT(cursive initials of inspector) NOVA #1 thru #25

3

Report: 2025NOVAWOODCOC1
Date: October 6, 2025
Page 3 of 5



SCOPE OF INVESTIGATION

The investigation as specified in this Report has been conducted to provide a chain of custody inspection for the product. The product is to be shipped to Western Fire Center, Inc. in Kelso, WA for fire testing.

DIMENSIONS OF FINISHED PRODUCT:

Boards #1-25 measured 3/4 x 5-1/2 inches.

Report By

Product Certification Consultants LLC

By: Garrett S. Tom

Garrett S. Tom, LLC Manager

3

4

Report: 2025NOVAWOODCOC1
Date: October 12, 2025
Page 4 of 5

INSPECTION PHOTOS

Photo 1 Rough Sawn Stock

Photo 2 Finished Milled Deck Board

4

5

Report: 2025NOVAWOODCOC1
Date: October 12, 2025
Page 5 of 5

INSPECTION PHOTOS

Photo 3 & 4—Inspection Markings on Siding

5