



COMcheck Software Version COMcheckWeb

Envelope Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: PBS Office
Location: Yadkinville, North Carolina
Climate Zone: 4a
Project Type: New Construction
Vertical Glazing / Wall Area: 8%
Permit Date: 2/1/22
Permit No. BCOM2202-0005

Construction Site: 11496 US Hwy 401 North
Fuquay Varina, North Carolina
27526

Owner/Agent: Barry Barbour
Paul Barbour and Son Inc
PO Box 1129
Fuquay Varina, North Carolina
27526
9105208205
barbourb@pbarbourandson.com

Designer/Contractor:

Additional Efficiency Package(s)

Credits: 10.0 Required 10.5 Proposed
Dedicated outdoor air, 5.0 credit
10% cooling efficiency improvement, 5.5 credit
10% heating efficiency improvement, 0.0 credit

Building Area

Floor Area

| | |
|------------------------------------|------|
| 1-Office (Office) : Nonresidential | 2280 |
|------------------------------------|------|

Envelope Assemblies

| Assembly | Gross Area or Perimeter | Cavity R-Value | Cont. R-Value | Proposed U-Factor | Budget U-Factor ^(a) |
|---|-------------------------|----------------|---------------|-------------------|--------------------------------|
| Roof: Attic Roof, Wood Joists, [Bldg. Use 1 - Office] | 2280 | 33.0 | 6.5 | 0.026 | 0.021 |
| Floor: Unheated Slab-On-Grade, Vertical 2 ft., [Bldg. Use 1 - Office] (c) | 392 | --- | 15.0 | 0.520 | 0.520 |
| <u>NORTH</u> | | | | | |
| Ext. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Office] | 1140 | 15.0 | 0.9 | 0.076 | 0.064 |
| Door: Glass (over 50% glazing): Nonmetal Frame, Entrance Door, Perf. Specs.: Product ID 55, SHGC 0.20, [Bldg. Use 1 - Office] (b) | 22 | --- | --- | 0.290 | 0.630 |
| <u>EAST</u> | | | | | |
| Ext. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Office] | 722 | 15.0 | 0.9 | 0.076 | 0.064 |
| Door: Insulated Metal, Swinging, [Bldg. Use 1 - Office] | 22 | --- | --- | 0.160 | 0.370 |
| Door: Glass (over 50% glazing): Nonmetal Frame, Entrance Door, Perf. Specs.: Product ID 55, SHGC 0.20, [Bldg. Use 1 - Office] (b) | 22 | --- | --- | 0.290 | 0.630 |
| <u>SOUTH</u> | | | | | |
| Ext. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Office] | 1140 | 15.0 | 0.9 | 0.076 | 0.064 |
| <u>WEST</u> | | | | | |
| Ext. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Office] | 722 | 15.0 | 0.9 | 0.076 | 0.064 |

| Assembly | Gross Area or Perimeter | Cavity R-Value | Cont. R-Value | Proposed U-Factor | Budget U- Factor ^(a) |
|---|-------------------------------|-------------------|------------------|----------------------|------------------------------------|
| Window: Vinyl Frame: Fixed, Perf. Specs.: Product ID 55, SHGC 0.22, [Bldg. Use 1 - Office] (b) | 97 | --- | --- | 0.260 | 0.360 |
| Window: Vinyl Frame: Operable, Perf. Specs.: Product ID 55, SHGC 0.20, [Bldg. Use 1 - Office] (b) | 162 | --- | --- | 0.290 | 0.450 |

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.

(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope **PASSES**: Design 1% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

Date



COMcheck Software Version COMcheckWeb

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: PBS Office
Project Type: New Construction
Permit Date: 2/1/22
Permit No. BCOM2202-0005

Construction Site: 11496 US Hwy 401 North
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9105208205
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Designer/Contractor:

Additional Efficiency Package(s)

Credits: 10.0 Required 10.5 Proposed
Dedicated outdoor air, 5.0 credit
10% cooling efficiency improvement, 5.5 credit
10% heating efficiency improvement, 0.0 credit

Allowed Interior Lighting Power

| A Area Category | B Floor Area (ft ²) | C Allowed Watts / ft ² | D Allowed Watts |
|-----------------------|---------------------------------------|---|--------------------|
| 1-Office (Office) | 2280 | 0.64 | 1459 |
| Total Allowed Watts = | | | 1459 |

Proposed Interior Lighting Power

| A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast | B Lamps/ Fixture | C # of Fixture | D Fixture Watt. | E (C X D) |
|---|------------------------|----------------------|-----------------------|--------------|
| 1-Office (Office) | | | | |
| LED: 1x4: LED Panel 19W: | 1 | 34 | 20 | 680 |
| LED: 2x4: LED Panel 19W: | 1 | 22 | 30 | 660 |
| Total Proposed Watts = | | | 1340 | |

Interior Lighting PASSES: Design 8% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

Date



COMcheck Software Version COMcheckWeb

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: PBS Office
Project Type: New Construction
Permit Date: 2/1/22
Permit No. BCOM2202-0005
Exterior Lighting Zone 2 (Neighborhood business district (LZ2))

Construction Site: 11496 US Hwy 401 North
Fuquay Varina, North Carolina
27526

Owner/Agent: Barry Barbour
Paul Barbour and Son Inc
PO Box 1129
Fuquay Varina, North Carolina
27526
9105208205
barbourb@pbarbourandson.com

Designer/Contractor:

Allowed Exterior Lighting Power

| A Area/Surface Category | B Quantity | C Allowed Watts / | D Tradable Wattage | E Allowed Watts (B X C) |
|---|---------------|-------------------------|--------------------------|-------------------------------|
| Entry (Entry canopy) | 224 ft2 | 0.25 | Yes | 56 |
| Back Enterance (Walkway < 10 feet wide) | 100 ft of | 0.5 | Yes | 50 |
| Total Tradable Watts (a) = | | | 106 | |
| Total Allowed Watts = | | | 106 | |
| Total Allowed Supplemental Watts (b) = | | | 400 | |

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.

(b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

| A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast | B Lamps/ Fixture | C # of Fixture | D Fixture Watt. | E (C X D) |
|--|------------------------|----------------------|-----------------------|--------------|
| Entry (Entry canopy, 224 ft2): Tradable Wattage LED: LED PAR 7W: | 1 | 5 | 8 | 40 |
| Back Enterance (Walkway < 10 feet wide, 100 ft of walkway length): Tradable Wattage LED: LED Panel 19W: | 1 | 1 | 19 | 19 |
| Total Tradable Proposed Watts = | | | | 59 |

Exterior Lighting PASSES: Design 88% better than code

Exterior Lighting Compliance

Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

Date



COMcheck Software Version COMcheckWeb

Mechanical Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: PBS Office
Location: Yadkinville, North Carolina
Climate Zone: 4a
Project Type: New Construction
Permit Date: 2/1/22
Permit No. BCOM2202-0005

Construction Site: 11496 US Hwy 401 North
Fuquay Varina, North Carolina
27526

Owner/Agent: Barry Barbour
Paul Barbour and Son Inc
PO Box 1129
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9105208205
barbourb@pbarbourandson.com

Designer/Contractor:

Additional Efficiency Package(s)

Credits: 10.0 Required 10.5 Proposed

Dedicated outdoor air, 5.0 credit

10% cooling efficiency improvement, 5.5 credit

10% heating efficiency improvement, 0.0 credit

Mechanical Systems List

Quantity System Type & Description

1 HVAC System (Unknown):
Split System Heat Pump
Heating Mode: Capacity = 36000 kBtu/h,
Proposed Efficiency = 5.00 COP, Required Efficiency = 3.20 COP
Cooling Mode: Capacity = 36000 kBtu/h, , Unknown Economizer
Proposed Efficiency = 20.00 EER, Required Efficiency = 9.50 EER
Proposed Part Load Efficiency = 20.00 IEER, Required Part Load Efficiency = 12.50 IEER
SYSTEM COMPLIANCE FAILS: Economizer requirements have not been met.
Total proposed cooling capacity without economizer (108000 kBtu/h) must be <= Total allowable cooling capacity without economizer (0 kBtu/h)

3 HVAC System (Unknown):
Split System Heat Pump
Heating Mode: Capacity = 24000 kBtu/h,
Proposed Efficiency = 5.00 COP, Required Efficiency = 3.20 COP
Cooling Mode: Capacity = 24000 kBtu/h, , Unknown Economizer
Proposed Efficiency = 18.00 EER, Required Efficiency = 9.50 EER
Proposed Part Load Efficiency = 18.00 IEER, Required Part Load Efficiency = 12.50 IEER
SYSTEM COMPLIANCE FAILS: Economizer requirements have not been met.
Total proposed cooling capacity without economizer (108000 kBtu/h) must be <= Total allowable cooling capacity without economizer (0 kBtu/h)

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

Date



Inspection Checklist

Energy Code: 2021 IECC

Requirements: 38.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

| Section # & Req.ID | Plan Review | Complies? | Comments/Assumptions |
|------------------------------|---|--|--------------------------|
| C103.2 [PR1] ¹ | Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C103.2 [PR2] ¹ | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical and service water heating systems and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks. Hot water system sized per manufacturer's sizing guide. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C103.2 [PR4] ¹ | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C103.2 [PR8] ¹ | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C402.4.1 [PR10] ¹ | The vertical fenestration area <= 30 percent of the gross above-grade wall area. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C402.4.1 [PR11] ¹ | The skylight area <= 3 percent of the gross roof area. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

| Section # & Req.ID | Plan Review | Complies? | Comments/Assumptions |
|------------------------------|---|--|--------------------------|
| C402.4.2 [PR14] ¹ | In enclosed spaces > 2,500 ft ² directly under a roof with ceiling heights >15 ft. and used as an office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a) the daylight zone under skylights is >= half the floor area; (b) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40; or a minimum skylight effective aperture >= 1 percent. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C406 [PR9] ¹ | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |

Additional Comments/Assumptions:

| | | | | | |
|---|----------------------|---|------------------------|---|---------------------|
| 1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3) |
|---|----------------------|---|------------------------|---|---------------------|

| Section # & Req.ID | Footing / Foundation Inspection | Complies? | Comments/Assumptions |
|-----------------------------|---|--|---|
| C303.2 [FO4] ² | Slab edge insulation installed per manufacturer's instructions. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C303.2.1 [FO6] ¹ | Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C105 [FO3] ² | Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Envelope Assemblies table for values. |
| C402.2.4 [FO7] ² | Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Envelope Assemblies table for values. |

Additional Comments/Assumptions:

| | | | | | |
|---|----------------------|---|------------------------|---|---------------------|
| 1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3) |
|---|----------------------|---|------------------------|---|---------------------|

| Section # & Req.ID | Framing / Rough-In Inspection | Complies? | Comments/Assumptions |
|--|--|--|---|
| C303.1.3 [FR12] ² | Fenestration products rated in accordance with NFRC certified and as to performance labels or certificates provided. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C402.4.3 [FR10] ¹ | Vertical fenestration SHGC value. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Envelope Assemblies table for values. |
| C402.4.3, C402.4.3. 4 [FR8] ¹ | Installed vertical fenestration U-factor and SHGC consistent with label specifications and as reported in plans and COMcheck reports. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Envelope Assemblies table for values. |
| C402.4.5 [FR14] ² | U-factor of opaque swinging and nonswinging doors associated with the building thermal envelope meets requirements. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Envelope Assemblies table for values. |
| C402.5.1. 3 [FR19] ¹ | The building envelope contains a continuous air barrier that is sealed in an approved manner and material permeability <= 0.004 dfm/ft ² . Air barrier penetrations are sealed in an approved manner. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C402.5.4 [FR18] ³ | Factory-built fenestration and doors are labeled as meeting air leakage requirements. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

Additional Comments/Assumptions:

| Section # & Req.ID | Plumbing Rough-In Inspection | Complies? | Comments/Assumptions |
|---|---|--|----------------------|
| C404.5, C404.5.1, C404.5.2 [PL6] ³ | Heated water supply piping conforms to pipe length and volume requirements. Refer to section details. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

Additional Comments/Assumptions:

| | | | | | |
|---|----------------------|---|------------------------|---|---------------------|
| 1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3) |
|---|----------------------|---|------------------------|---|---------------------|

| Section # & Req.ID | Mechanical Rough-In Inspection | Complies? | Comments/Assumptions |
|-------------------------------|--|--|---|
| C402.2.6 [ME41] ³ | Thermally ineffective panel surfaces of sensible heating panels have insulation \geq R-3.5. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.7.7 [ME58] ³ | Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed. Reference section language for operational details. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.12.3 [ME61] ² | HVAC piping insulation insulated in accordance with Table C403.11.3. Insulation exposed to weather is protected from damage and is provided with shielding from solar radiation. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C403.8.1 [ME65] ³ | HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Mechanical Systems list for values. |
| C403.8.3 [ME117] ² | Fans have a fan energy index (FEI) \geq 1.00. Variable volume fans will have an FEI \geq 0.95. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C403.8.3 [ME117] ² | Fans have a fan energy index (FEI) \geq 1.00. Variable volume fans will have an FEI \geq 0.95. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C403.9 [ME144] ² | Large diameter fans where installed shall be tested and labeled in accordance with AMCA 230. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.13.1 [ME71] ² | Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.3 [ME55] ² | HVAC equipment efficiency verified. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Mechanical Systems list for values. |
| C403.2.2 [ME59] ¹ | Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C403.7.1 [ME59] ¹ | Demand control ventilation provided for spaces >500 ft ² and >15 people/1000 ft ² occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow $>3,000$ cfm. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

| Section # & Req.ID | Mechanical Rough-In Inspection | Complies? | Comments/Assumptions |
|--|--|--|--------------------------|
| C403.7.2 [ME115] ³ | Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.7.6 [ME141] ³ | HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms: Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2). | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.7.4 [ME57] ¹ | Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2). | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.7.5 [ME116] ³ | Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.12.1 , C403.12.2 [ME60] ² | HVAC ducts and plenums insulated in accordance with C403.11.1 and constructed in accordance with C403.11.2, verification may need to occur during Foundation Inspection. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C403.5, C403.5.1, C403.5.2 [ME62] ¹ | Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.5.2 [ME16] ¹ | Economizer operation will not increase heating energy use during normal operation. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.4.3. 3.2 [ME121] ³ | Closed-circuit cooling tower within heat pump loop have either automatic bypass valve or lower leakage positive closure dampers. Open-circuit tower within heat pump loop have automatic valve to bypass all heat pump water flow around the tower. Open- or closed-circuit cooling towers used in conjunction with a separate heat exchanger have heat loss by shutting down the circulation pump on the cooling tower loop. Open- or closed circuit cooling towers have a separate heat exchanger to isolate the cooling tower from the heat pump loop, and heat loss is controlled by shutting down the circulation pump on the cooling tower loop. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

| Section # & Req.ID | Mechanical Rough-In Inspection | Complies? | Comments/Assumptions |
|---|--|--|--------------------------|
| C403.4.1.4 [ME63] ² | Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C408.2.2.1 [ME53] ³ | Air outlets and zone terminal devices have means for air balancing. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C403.11.3 , C403.11.3 .1, C403.11.3 .2 [ME123] ³ | Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.11.3.1 and refrigeration compressor systems that comply with C403.11.3.2.. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

Additional Comments/Assumptions:

| | | | | | |
|---|----------------------|---|------------------------|---|---------------------|
| 1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3) |
|---|----------------------|---|------------------------|---|---------------------|

| Section # & Req.ID | Rough-In Electrical Inspection | Complies? | Comments/Assumptions |
|--|---|--|--------------------------|
| C405.2.3.1 [EL22] ¹ | Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern ≥ 50 percent. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.1, C405.2.1.1 [EL18] ¹ | Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, corridors, warehouse storage areas, and other spaces ≤ 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C405.2.1.2 [EL19] ¹ | Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more within 20 minutes of when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor. Lights not turned off by occupant sensors is done so by time-switch. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.1.3 [EL20] ¹ | Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces ≥ 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas ≤ 600 sq.ft. within the space, 2) general lighting in each zone permitted to turn on upon occupancy in control zone, 3) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 4) are configured so that general lighting power in each control zone is reduced by $\geq 80\%$ of the full zone general lighting power within 20 minutes of all occupants leaving that control zone. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C405.2.2, C405.2.2.1 [EL21] ² | Each area not served by occupancy sensors (per C405.2.1.1) have time-switch controls and functions detailed in sections C405.2.2.1. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

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|---|----------------------|---|------------------------|---|---------------------|
| 1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3) |
|---|----------------------|---|------------------------|---|---------------------|

| Section # & Req.ID | Rough-In Electrical Inspection | Complies? | Comments/Assumptions |
|--|--|--|--------------------------|
| C405.2.4, C405.2.4.1, C405.2.4.2 [EL23] ² | Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.5 [EL27] ¹ | Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.2.7 [EL28] ¹ | Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C405.7 [EL26] ² | Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.8 [EL27] ² | Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist). | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.9.1, C405.9.2 [EL28] ² | Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.10 [EL29] ² | Total voltage drop across the combination of feeders and branch circuits <= 5%. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.1.1 [EL30] ² | At least 90% of dwelling unit permanently installed lighting shall have lamp efficacy >= 65 lm/W or luminaires with efficacy >= 45 lm/W or comply with C405.2.4 or C405.3. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C405.11, C405.11.1 [EL31] ² | 50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations and > 25% of branch circuit feeders for modular furniture will have automatic receptacle control in accordance with C405.11.1. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

Additional Comments/Assumptions:

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|---|----------------------|---|------------------------|---|---------------------|
| 1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3) |
|---|----------------------|---|------------------------|---|---------------------|

| Section # & Req.ID | Insulation Inspection | Complies? | Comments/Assumptions |
|-------------------------------|--|--|---|
| C303.1 [IN3] ¹ | Roof insulation installed per manufacturer's instructions and is labeled with R-value or insulation certificate providing R-value and other relevant data. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C402.2.1 [IN20] ¹ | Roof assembly meets minimal thermal resistance installed between roof framing or in a continuous fashion on the roof assembly as stipulated in Table C402.1.3. Requirements for above deck insulation, minimum thickness, suspended ceilings, staggered joints and skylight curbs will be met. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C303.2 [IN7] ¹ | Above-grade wall insulation installed per manufacturer's instructions. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C105 [IN6] ¹ | Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Envelope Assemblies table for values. |
| C402.2.3 [IN8] ² | Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Envelope Assemblies table for values. |
| C402.2.6 [IN18] ³ | Radiant panels and associated components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C105 [IN2] ¹ | Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Envelope Assemblies table for values. |
| C402.5.1.1 [IN1] ¹ | All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |

Additional Comments/Assumptions:

| Section # & Req.ID | Final Inspection | Complies? | Comments/Assumptions |
|--|---|--|--------------------------|
| C303.3, C408.2.5.2 [FI17] ³ | Furnished O&M instructions for systems and equipment to the building owner or designated representative. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C303.3, C408.2.5.3 [FI18] ³ | Furnished O&M manuals for HVAC systems within 90 days of system acceptance. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C401.3 [FI158] ¹ | A thermal envelope certificate will be supplied and completed by an approved third party. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C402.5.10 [FI126] ³ | Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C402.5.8 [FI137] ¹ | Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.1.1 [FI150] ³ | HVAC systems and equipment design loads calculated in accordance with ANSI/ASHRAE/ACCA Standard 183 or by an approved equivalent computational procedure | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C403.3.1 [FI127] ³ | HVAC systems and equipment capacity does not exceed calculated loads. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C403.4.1 [FI147] ³ | Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C403.4.1.1 [FI142] ³ | Heat pump controls prevent supplemental electric resistance heat from coming on when not needed. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.4.1.2 [FI138] ³ | Thermostatic controls have a 5 °F deadband. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.4.1.3 [FI120] ³ | Temperature controls have setpoint overlap restrictions. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C403.4.2 [FI139] ³ | Each zone equipped with setback controls using automatic time clock or programmable control system. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |

1 High Impact (Tier 1)

2 Medium Impact (Tier 2)

3 Low Impact (Tier 3)

| Section # & Req.ID | Final Inspection | Complies? | Comments/Assumptions |
|--|--|--|--|
| C403.4.2.1, C403.4.2.2 [FI40] ³ | Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C405.5.1 [FI19] ¹ | Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | See the Exterior Lighting fixture schedule for values. |
| C406.2.3 [FI66] ¹ | 10% heating efficiency improvement - all HVAC and Plant heating equipment is 10% more efficient than required by 2021 IECC. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C406.2.4 [FI66] ¹ | 10% cooling efficiency improvement - all HVAC and Plant cooling equipment is 10% more efficient than required by 2021 IECC. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C406.6 [FI52] ¹ | Dedicate outdoor air system efficiency energy credit - Building equipped with independent ventilation system designed to provide 100-percent outdoor air to each individual occupied space, as specified by the IMC. The ventilation system is capable of total energy recovery and includes HVAC system controls that manage temperature resets at least 25 percent of delta design supply-air / room-air temp. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C408.1.1 [FI57] ¹ | Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C408.2.1 [FI28] ¹ | Commissioning plan developed by registered design professional or approved agency. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C408.2.3.1 [FI31] ¹ | HVAC equipment, systems and system-to-system relationships have been tested to ensure proper operation. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C408.2.3.2 [FI10] ¹ | HVAC and service water heating control systems have been tested to ensure proper operation, calibration and adjustment of controls. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C408.2.3.3 [FI32] ¹ | Economizers have been tested to ensure proper operation. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

| Section # & Req.ID | Final Inspection | Complies? | Comments/Assumptions |
|--------------------------------|--|--|--------------------------|
| C408.2.4 [FI29] ¹ | Preliminary commissioning report completed and certified by registered design professional or approved agency. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C408.2.5 [FI7] ³ | Furnished HVAC as-built drawings submitted within 90 days of system acceptance. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | Requirement will be met. |
| C408.2.5 [FI16] ³ | Furnished as-built drawings for electric power systems within 90 days of system acceptance. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C408.2.5.1 [FI43] ¹ | An air and/or hydronic system balancing report is provided for HVAC systems. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C408.2.5.2 [FI30] ¹ | Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |
| C408.3 [FI33] ¹ | Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation. | <input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable | |

Additional Comments/Assumptions: