



# Envelope Compliance Certificate

## Project Information

Energy Code: 2015 IECC  
 Project Title: CARY SERVICES  
 Location: Abilene, Texas  
 Climate Zone: 3b  
 Project Type: New Construction  
 Vertical Glazing / Wall Area: 15%

Construction Site:  
 909 Petroleum Drive  
 Abilene, TX

Owner/Agent:

Designer/Contractor:  
 Jim McCathren  
 McCathren Architects, LLC  
 25 Green Bay Circle  
 Abilene, TX  
 jim@mccathren.com

## Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed  
 Dedicated Outdoor Air System, 1.0 credit

Building Area	Floor Area
1-Office : Nonresidential	6346
2-Warehouse : Nonresidential	6250

## Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor <sup>(a)</sup>
Roof 1: Metal Building, Standing Seam: High Albedo Roof Required, Single Insulation Layer with Thermal Blocks (c), 3-Year-Aged Solar Reflectance Index = 75.00 (d), [Bldg. Use 1 - Office]	6346	0.0	32.2	0.030	0.035
Roof 2: Metal Building, Standing Seam: High Albedo Roof Required, Single Insulation Layer with Thermal Blocks (c), 3-Year-Aged Solar Reflectance Index = 75.00 (d), [Bldg. Use 2 - Warehouse]	6250	0.0	32.2	0.030	0.035
<b><u>NORTH</u></b>					
Exterior Wall 4: Steel-Framed, 24" o.c., [Bldg. Use 1 - Office]	1259	13.0	10.1	0.052	0.064
Window 4: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID 451T, SHGC 0.24, PF 1.00, [Bldg. Use 1 - Office] (b)	556	---	---	0.260	0.460
Door 4: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Product ID 451T, SHGC 0.24, PF 1.00, [Bldg. Use 1 - Office] (b)	21	---	---	0.470	0.600
Exterior Wall 5: Metal Building Wall, Double Layer Mineral Fiber (outer layer compressed at girt), [Bldg. Use 2 - Warehouse]	992	21.0	2.0	0.114	0.079
<b><u>EAST</u></b>					
Exterior Wall 2: Steel-Framed, 24" o.c., [Bldg. Use 1 - Office]	480	13.0	10.1	0.052	0.064
Window 2: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID 451T, SHGC 0.24, [Bldg. Use 1 - Office] (b)	60	---	---	0.260	0.460
Door 2: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Product ID 451T, SHGC 0.24, [Bldg. Use 1 - Office] (b)	21	---	---	0.470	0.600
Exterior Wall 8: Metal Building Wall, Double Layer Mineral Fiber (outer	1488	21.0	2.0	0.114	0.079

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor <sup>(a)</sup>
layer compressed at girt), [Bldg. Use 2 - Warehouse]					
Door 5: Insulated Metal, Non-Swinging, [Bldg. Use 2 - Warehouse]	720	---	---	0.129	0.179
<b>SOUTH</b>					
Exterior Wall 1: Steel-Framed, 24" o.c., [Bldg. Use 1 - Office]	1299	13.0	10.1	0.052	0.064
Window 1: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID 451T, SHGC 0.24, PF 1.00, [Bldg. Use 1 - Office] (b)	779	---	---	0.260	0.460
Door 1: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Product ID 451T, SHGC 0.24, PF 1.00, [Bldg. Use 1 - Office] (b)	21	---	---	0.470	0.600
Exterior Wall 7: Metal Building Wall, Double Layer Mineral Fiber (outer layer compressed at girt), [Bldg. Use 2 - Warehouse]	1764	21.0	2.0	0.114	0.079
<b>WEST</b>					
Exterior Wall 3: Steel-Framed, 24" o.c., [Bldg. Use 1 - Office]	480	13.0	10.1	0.052	0.064
Window 3: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID 451T, SHGC 0.24, [Bldg. Use 1 - Office] (b)	60	---	---	0.260	0.460
Door 3: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Product ID 451T, SHGC 0.24, [Bldg. Use 1 - Office] (b)	21	---	---	0.470	0.600
Exterior Wall 6: Metal Building Wall, Double Layer Mineral Fiber (outer layer compressed at girt), [Bldg. Use 2 - Warehouse]	2750	21.0	2.0	0.114	0.079

- (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) Thermal spacer block with minimum R-3.5 must be installed above the purlin/batt, and the roof deck secured to the purlins.  
(d) High albedo roof requirement options: 1) 3-year aged solar reflectance  $\geq 0.55$  thermal emittance  $\geq 0.75$ , 2) 3-year aged solar reflectance index  $\geq 64.0$ , 3) Initial year aged solar reflectance  $\geq 0.70$  thermal emittance  $\geq 0.75$ , 4) Initial year aged solar reflectance index  $\geq 82.0$ .

**Envelope PASSES: Design 11% 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 2015 IECC requirements in COMcheck Version 4.1.5.4 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Jim McCathren, Architect  3-29-2023  
Name - Title \_\_\_\_\_ Signati \_\_\_\_\_ Date \_\_\_\_\_



# Interior Lighting Compliance Certificate

## Project Information

Energy Code: 2015 IECC  
 Project Title: CARY SERVICES  
 Project Type: New Construction

Construction Site:  
 909 Petroleum Drive  
 Abilene, TX

Owner/Agent:

Designer/Contractor:  
 Jim McCathren  
 McCathren Architects, LLC  
 25 Green Bay Circle  
 Abilene, TX  
 jim@mccathren.com

## Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed  
 Dedicated Outdoor Air System, 1.0 credit

## Allowed Interior Lighting Power

A Area Category	B Floor Area (ft <sup>2</sup> )	C Allowed Watts / ft <sup>2</sup>	D Allowed Watts (B X C)
1-Office	6346	0.82	5204
2-Warehouse	6250	0.66	4125
Total Allowed Watts =			9329

## Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
<u>1-Office</u>				
LED 1: A: Other:	1	32	60	1930
LED 2: B: Other:	1	5	28	142
LED 3: C: Other:	1	4	39	156
LED 4: D: Other:	1	37	29	1088
LED 5: F: Other:	1	8	21	166
LED 6: G: Other:	1	8	20	160
LED 7: H: Other:	1	4	26	102
<u>2-Warehouse</u>				
LED 8: J: Other:	1	6	197	1182
LED 9: K: Other:	1	13	147	1911
LED 10: T: Other:	1	4	18	70
Total Proposed Watts =				6907

**Interior Lighting PASSES: Design 26% 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 2015 IECC requirements in COMcheck Version 4.1.5.4 and to comply with any applicable mandatory

requirements listed in the Inspection Checklist.

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Name - Title

Signature

Date



# Exterior Lighting Compliance Certificate

## Project Information

Energy Code: 2015 IECC  
 Project Title: CARY SERVICES  
 Project Type: New Construction  
 Exterior Lighting Zone: 3 (Other (LZ3))

Construction Site:  
 909 Petroleum Drive  
 Abilene, TX

Owner/Agent:

Designer/Contractor:  
 Jim McCathren  
 McCathren Architects, LLC  
 25 Green Bay Circle  
 Abilene, TX  
 jim@mccathren.com

## Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
FRONT DRIVE (Driveway)	5848 ft2	0.1	Yes	585
PARKING (Parking area)	3888 ft2	0.1	Yes	389
SIDEWALKE (Walkway < 10 feet wide)	182 ft of	0.8	Yes	146
SIDEWALKE (Walkway >= 10 feet wide)	608 ft2	0.16	Yes	97
MAIN DOOR (Main entry)	3 ft of door	30	Yes	90
DOOR (Other door (not main entry))	15 ft of door	20	Yes	300
BACK DRIVE (Driveway)	24880 ft2	0.1	Yes	2488
Entry canopy	1400 ft2	0.4	Yes	560
Total Tradable Watts (a) =				4654
Total Allowed Watts =				4654
Total Allowed Supplemental Watts (b) =				750

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

(b) A supplemental allowance equal to 750 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 Fixtures	D Fixture Watt.	E (C X D)
<u>FRONT DRIVE ( Driveway 5848 ft2): Tradable Wattage</u>				
LED 3: P: Other:	1	2	108	216
<u>PARKING ( Parking area 3888 ft2): Tradable Wattage</u>				
LED 4: P: Other:	1	1	108	108
LED 14: M: Other:	1	2	60	120
<u>SIDEWALKE ( Walkway &lt; 10 feet wide 182 ft of walkway length): Tradable Wattage</u>				
LED 5: M: Other:	1	4	60	240
<u>SIDEWALKE ( Walkway &gt;= 10 feet wide 608 ft2): Tradable Wattage</u>				
LED 6: M: Other:	1	2	60	120
<u>MAIN DOOR ( Main entry 3 ft of door width): Tradable Wattage</u>				

A	B	C	D	E
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	Lamps/ Fixture	# of Fixtures	Fixture Watt.	(C X D)
LED 11: N-EM: Other:	1	1	58	58
<u>DOOR ( Other door (not main entry) 15 ft of door width): Tradable Wattage</u>				
LED 12: M: Other:	1	3	60	180
LED 13: L: Other:	1	1	58	58
<u>BACK DRIVE ( Driveway 24880 ft2): Tradable Wattage</u>				
LED 7: O: Other:	1	1	166	166
LED 8: R: Other:	1	1	70	70
LED 9: S: Other:	1	3	50	150
LED 15: M: Other:	1	4	60	240
LED 16: L: Other:	1	4	58	232
<u>Entry canopy (1400 ft2): Tradable Wattage</u>				
LED 1: N: Other:	1	9	58	526
LED 2: N-EM: Other:	1	4	58	234
Total Tradable Proposed Watts =				2718

### Exterior Lighting PASSES: Design 50% 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 2015 IECC requirements in COMcheck Version 4.1.5.4 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

\_\_\_\_\_  
Name - Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



# Mechanical Compliance Certificate

## Project Information

Energy Code: 2015 IECC  
Project Title: CARY SERVICES  
Location: Abilene, Texas  
Climate Zone: 3b  
Project Type: New Construction

Construction Site:  
909 Petroleum Drive  
Abilene, TX

Owner/Agent:

Designer/Contractor:  
Jim McCathren  
McCathren Architects, LLC  
25 Green Bay Circle  
Abilene, TX  
jim@mccathren.com

## Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed  
Dedicated Outdoor Air System, 1.0 credit

## Mechanical Systems List

### Quantity System Type & Description

- 1 VRV-1 (Single Zone):  
VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump  
Heating Mode: Capacity = 111 kBtu/h,  
No minimum efficiency requirement applies  
Cooling Mode: Capacity = 111 kBtu/h,  
No minimum efficiency requirement applies  
Fan System: None
- 4 FC1-1,2,3A,3B (Single Zone):  
Cooling: 4 each - VRF Zone Fan Unit, Capacity = 16 kBtu/h, No Economizer, Economizer exception: High Efficiency Equipment  
No minimum efficiency requirement applies  
Fan System: None
- 3 FC1-4A,4B,5 (Single Zone):  
Cooling: 3 each - VRF Zone Fan Unit, Capacity = 7 kBtu/h, No Economizer, Economizer exception: High Efficiency Equipment  
No minimum efficiency requirement applies  
Fan System: None
- 4 FC1-6,7,8,9 (Single Zone):  
Cooling: 4 each - VRF Zone Fan Unit, Capacity = 8 kBtu/h, No Economizer, Economizer exception: High Efficiency Equipment  
No minimum efficiency requirement applies  
Fan System: None
- 2 FC1-10,11 (Single Zone):  
Cooling: 2 each - VRF Zone Fan Unit, Capacity = 13 kBtu/h, No Economizer, Economizer exception: High Efficiency Equipment  
No minimum efficiency requirement applies  
Fan System: None
- 1 VRV-2 (Single Zone):  
VRF Condensing Unit, Air Cooled w/ Heat Recovery Heat Pump  
Heating Mode: Capacity = 126 kBtu/h,  
No minimum efficiency requirement applies  
Cooling Mode: Capacity = 139 kBtu/h,  
No minimum efficiency requirement applies  
Fan System: None

**Quantity System Type & Description**

- 1 FC2-1,2,3,4,5,6,7 (Single Zone):  
Cooling: 1 each - VRF Zone Fan Unit, Capacity = 13 kBtu/h, No Economizer, Economizer exception: High Efficiency Equipment  
No minimum efficiency requirement applies  
Fan System: None
- 2 FC2-8,9 (Single Zone):  
Cooling: 2 each - VRF Zone Fan Unit, Capacity = 8 kBtu/h, No Economizer, Economizer exception: High Efficiency Equipment  
No minimum efficiency requirement applies  
Fan System: None
- 1 FC2-10,11A,11B (Single Zone):  
Cooling: 1 each - VRF Zone Fan Unit, Capacity = 11 kBtu/h, No Economizer, Economizer exception: High Efficiency Equipment  
No minimum efficiency requirement applies  
Fan System: None
- 1 FC2-12,13 (Single Zone):  
Cooling: 1 each - VRF Zone Fan Unit, Capacity = 5 kBtu/h, No Economizer, Economizer exception: High Efficiency Equipment  
No minimum efficiency requirement applies  
Fan System: None
- 1 FC2-14 (Single Zone):  
Cooling: 1 each - VRF Zone Fan Unit, Capacity = 6 kBtu/h, No Economizer, Economizer exception: High Efficiency Equipment  
No minimum efficiency requirement applies  
Fan System: None
- 1 VRV-3 (Single Zone):  
VRF Condensing Unit, Air Cooled Heat Pump  
Heating Mode: Capacity = 48 kBtu/h,  
No minimum efficiency requirement applies  
Cooling Mode: Capacity = 51 kBtu/h,  
No minimum efficiency requirement applies  
Fan System: None
- 1 FC3-1 (Single Zone):  
Cooling: 1 each - VRF Zone Fan Unit, Capacity = 48 kBtu/h, No Economizer, Economizer exception: High Efficiency Equipment  
No minimum efficiency requirement applies  
Fan System: None
- 2 GF1H-1,2 (Single Zone):  
Heating: 1 each - Radiant Heater, Gas, Capacity = 100 kBtu/h  
No minimum efficiency requirement applies  
Fan System: None
- 1 GF1H-3 (Single Zone):  
Heating: 1 each - Radiant Heater, Gas, Capacity = 75 kBtu/h  
No minimum efficiency requirement applies  
Fan System: None

**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 2015 IECC requirements in COMcheck Version 4.1.5.4 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

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Name - Title \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_





# Inspection Checklist

Energy Code: 2015 IECC

Requirements: 79.0% 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] <sup>1</sup>	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] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	<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] <sup>1</sup>	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] <sup>1</sup>	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	Requirement will be met.
C402.4.1 [PR10] <sup>1</sup>	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] <sup>1</sup>	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] <sup>1</sup>	In enclosed spaces > 2,500 ft <sup>2</sup> 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] <sup>1</sup>	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)
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Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C303.2.1 [FO6] <sup>1</sup>	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	
C403.2.4.5, C403.2.4.6 [FO9] <sup>3</sup>	Snow/ice melting system sensors for future connection to controls. Freeze protection systems have automatic controls installed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

**Additional Comments/Assumptions:**

1 High Impact (Tier 1)	2 Medium Impact (Tier 2)	3 Low Impact (Tier 3)
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Section # & Req.ID	Framing / Rough-In Inspection	Complies?	Comments/Assumptions
C303.1.3 [FR12] <sup>2</sup>	Fenestration products rated in accordance with NFRC.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C303.1.3 [FR13] <sup>1</sup>	Fenestration products are certified 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] <sup>1</sup>	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] <sup>1</sup>	Vertical fenestration U-Factor.	<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.
C402.4.4 [FR14] <sup>2</sup>	U-factor of opaque 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 [FR16] <sup>1</sup>	The building envelope contains a continuous air barrier that is sealed in an approved manner and either constructed or tested in an approved manner. 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	
C402.5.2, C402.5.4 [FR18] <sup>3</sup>	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	
C402.5.7 [FR17] <sup>3</sup>	Vestibules are installed on all building entrances. Doors have self-closing devices.	<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)
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Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.

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

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.5, C404.5.1, C404.5.2 [PL6] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

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

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.6.3 [PL7] <sup>3</sup>	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

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

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

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



Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

1 High Impact (Tier 1)	2 Medium Impact (Tier 2)	3 Low Impact (Tier 3)
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Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C404.7 [PL8] <sup>3</sup>	Water distribution system that pumps water from a heated-water supply pipe back to the heated-water source through a cold-water supply pipe is a demand recirculation water system. Pumps within this system have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

**Additional Comments/Assumptions:**

1 High Impact (Tier 1)	2 Medium Impact (Tier 2)	3 Low Impact (Tier 3)
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Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C402.5.5, C403.2.4.3 [ME3] <sup>3</sup>	Stair and elevator shaft vents have motorized dampers that automatically close.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12.1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>

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
C403.2.12 .1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12 .1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12 .1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12 .1 [ME65] <sup>3</sup>	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	Requirement will be met. <i>See the Mechanical Systems list for values.</i>
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
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C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.2.12 .3 [ME117] <sup>2</sup>	Fans have efficiency grade (FEG) $\geq$ 67. The total efficiency of the fan at the design point of operation $\leq$ 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Single fans with motor nameplate horsepower of = 5 hp.
C403.2.13 [ME71] <sup>2</sup>	Unenclosed spaces that are heated use only radiant heat.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.3 [ME55] <sup>2</sup>	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.
C403.2.6.1 [ME59] <sup>1</sup>	Demand control ventilation provided for spaces $>$ 500 ft <sup>2</sup> and $>$ 25 people/1000 ft <sup>2</sup> 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	<b>Exception:</b> Requirement does not apply.
C403.2.6.2 [ME115] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C403.2.7 [ME57] <sup>1</sup>	Exhaust air energy recovery on systems meeting Table C403.2.7(1) and C403.2.7(2).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

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
C403.2.8 [ME116] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C403.2.9 [ME60] <sup>2</sup>	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, 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.
C403.2.9 [ME10] <sup>2</sup>	Ducts and plenums sealed based on static pressure and location.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

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
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.2.9.1.3 [ME11] <sup>3</sup>	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.4.2.3.2.1 [ME121] <sup>3</sup>	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.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.4.2.3.2.1 [ME121] <sup>3</sup>	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.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.4.2.3.2.1 [ME121] <sup>3</sup>	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.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>

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
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>

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
C403.4.4.6 [ME110] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply. <i>See the Mechanical Systems list for values.</i>
C408.2.2.1 [ME53] <sup>3</sup>	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	<b>Exception:</b> Fans with fan motors of 1 hp (0.74 kW) or less.
C403.5, C403.5.1, C403.5.2 [ME123] <sup>3</sup>	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 C403.5.1 and refrigeration compressor systems that comply with C403.5.2..	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

**Additional Comments/Assumptions:**

1 High Impact (Tier 1)	2 Medium Impact (Tier 2)	3 Low Impact (Tier 3)
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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.1 [EL15] <sup>1</sup>	Lighting controls installed to uniformly reduce the lighting load by at least 50%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.1 [EL18] <sup>1</sup>	Occupancy sensors installed in required spaces.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.1, C405.2.2.3 [EL23] <sup>2</sup>	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.2.1 [EL22] <sup>2</sup>	Automatic controls to shut off all building lighting installed in all buildings.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.3 [EL16] <sup>2</sup>	Daylight zones provided with individual controls that control the lights independent of general area lighting.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.3.1, C405.2.3.2 [EL20] <sup>1</sup>	Primary sidelighted areas are equipped with required lighting controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.3.1, C405.2.3.3 [EL21] <sup>1</sup>	Enclosed spaces with daylight area under skylights and rooftop monitors are equipped with required lighting controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.4 [EL4] <sup>1</sup>	Separate lighting control devices for specific uses installed per approved lighting plans.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C405.2.4 [EL8] <sup>1</sup>	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	
C405.2.5 [EL25] <sup>null</sup>	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.
C405.3 [EL6] <sup>1</sup>	Exit signs do not exceed 5 watts per face.	<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)
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1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C303.1 [IN3] <sup>1</sup>	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is $\leq 3$ in 12.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C303.1 [IN10] <sup>2</sup>	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C303.2 [IN7] <sup>1</sup>	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	
C303.2.1 [IN14] <sup>2</sup>	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation 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	
C402.2.1 [IN17] <sup>3</sup>	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C104 [IN6] <sup>1</sup>	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.
C402.2.6 [IN18] <sup>3</sup>	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	
C402.3 [IN5] <sup>3</sup>	High-albedo roofs satisfy one of the following: 3-year-aged solar reflectance $\geq 0.55$ and thermal emittance $\geq 0.75$ or 3-year-aged solar reflectance index $\geq 64.0$ .	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C104 [IN2] <sup>1</sup>	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] <sup>1</sup>	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	

**Additional Comments/Assumptions:**

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.2 [FI17] <sup>3</sup>	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 [FI8] <sup>3</sup>	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.
C402.5.3 [FI51] <sup>3</sup>	Where open combustion air ducts provide combustion air to open combustion fuel burning appliances, the appliances and combustion air opening are located outside the building thermal envelope or enclosed in a room, isolated from inside the thermal envelope. Such rooms are sealed and insulated.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C402.5.6 [FI37] <sup>1</sup>	Weatherseals installed on all loading dock cargo doors.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
C402.5.8 [FI26] <sup>3</sup>	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	
C403.2.2 [FI27] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.

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

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1 [FI47] <sup>3</sup>	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.

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

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.2.4.1 [FI47] <sup>3</sup>	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.
C403.2.4.1.1 [FI42] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C403.2.4.1.1 [FI42] <sup>3</sup>	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	<b>Exception:</b> Requirement does not apply.
C403.2.4.1.1 [FI42] <sup>3</sup>	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	
C403.2.4.1.2 [FI38] <sup>3</sup>	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	Requirement will be met.
C403.2.4.1.3 [FI20] <sup>3</sup>	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	Requirement will be met.
C403.2.4.2 [FI39] <sup>3</sup>	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.
C403.2.4.2.1, C403.2.4.2.2 [FI40] <sup>3</sup>	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.
C405.4.1 [FI18] <sup>1</sup>	Interior installed lamp and fixture 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	<i>See the Interior Lighting fixture schedule for values.</i>
C405.5.1 [FI19] <sup>1</sup>	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	<i>See the Exterior Lighting fixture schedule for values.</i>

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

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C406.6 [FI52] <sup>1</sup>	Dedicate outdoor air system efficiency package: Buildings with hydronic and/or multiple-zone HVAC systems are equipped with an independent ventilation system designed to provide $\geq$ 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 $\geq$ 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	
C408.2.1 [FI28] <sup>1</sup>	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] <sup>1</sup>	HVAC equipment has 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] <sup>1</sup>	HVAC 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	Requirement will be met.
C408.2.4 [FI29] <sup>1</sup>	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	Requirement will be met.
C408.2.5.1 [FI7] <sup>3</sup>	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.
C408.2.5.1 [FI16] <sup>3</sup>	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	
C408.2.5.3 [FI43] <sup>1</sup>	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	Requirement will be met.
C408.2.5.4 [FI30] <sup>1</sup>	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	Requirement will be met.
C408.3 [FI33] <sup>1</sup>	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:**

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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## Architectural Barriers Project Registration Online Receipt

Your project has been successfully registered! However, this is only the registration of the construction project. The building/facility owner is ultimately responsible for ensuring that the registration number, project details and construction documents (in the instance that a design professional is not associated with the project) are mailed, scanned, or hand delivered to the Registered Accessibility Specialist (RAS) for the required review and inspection of the project.

Your project registration number is **TABS2023015347**.

**Project Name**

Cary Services

**Project Number**

TABS2023015347

**Receipt Number**

452AB2032436581

**Reference Number**

2032436581

**Receipt Date**

3/29/2023

**Fee Description**

Project Registration Fee

**Amount**

\$175.00

**Billing Name**

james r mccathren

**Address**

25 GREEN BAY CIRCLE

ABILENE TX 79602

US

**Phone Number**

3256692584

**Email**

jim@mccathren.com

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<a href="#">/disclaimer.htm#link)</a>	<a href="#">/index.html)</a>	

# Rosenbaum Engineering, PLLC

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February 12, 2023

**City of Abilene**  
**Department of Engineering**  
1350 Arnold Blvd  
Abilene, Texas 79603

Attn: Scott Chandler – City Engineer

RE: Site Drainage and Hydrology  
Cary Services  
909 Petroleum Dr  
Abilene, Texas

Scott,

Rosenbaum Engineering has been retained to develop the site drainage and hydrology plan for the above referenced project.

The new Cary Services offices will be built on a 2.18-acre tract at 909 Petroleum Dr in Abilene, Taylor County, Texas. See the attached site plan.

I certify that I am familiar with the adopted ordinances and regulations of the City of Abilene governing detention and drainage facilities; that these plans have been prepared under my direct engineering supervision; and that the foregoing drainage plan complies with the intent (general requirements) of the City of Abilene pertaining to detention and drainage facilities to the best of my knowledge, information and belief.

USDA Technical Release 55 (TR-55) Urban Hydrology for Small Watersheds was used as the basis for the following.

## **Site Hydrology**

See the attached Drainage Basin Plan D1 and Site Plan.

The soils are mostly Sagerton Clay Loam with some Colorado and Rotan Clay Loam. A soil map and data are attached.

The site is bounded by Buttonwillow Creek to the south and Petroleum Dr to the north. The site will drain to the south into Buttonwillow Creek.

The drainage basin is 149.3 acres generally bordered by Energy Drive and Treadaway Blvd.

The point of interest for the calculations was selected to be the center of Buttonwillow Creek and at the southeast corner of the property.

The following TR-55 work sheets are attached. These work sheets show Pre-developed and Post-developed 2, 5, 10, 25, 50 and 100 year rainfalls, runoff quantities and tabulated hydrograph times.

The attached Worksheet 5b for the Pre and Post Developed conditions show a Pre-developed peak drainage basin hydrograph time of 12.6 hours and 12.1 hours for the Post-developed peak.

### Present

Worksheet 2: Runoff Curve Number and Runoff – Page 1 and 2  
Worksheet 4: Graphical Peak Discharge Method – Page 1 and 2  
Worksheet 5a: Basic Watershed Data  
Worksheet 5b: Basic Watershed Data with Tabulated Hydrograph

### Developed

Worksheet 2: Runoff Curve Number and Runoff – Page 1 and 2  
Worksheet 4: Graphical Peak Discharge Method – Page 1 and 2  
Worksheet 5a: Basic Watershed Data  
Worksheet 5b: Basic Watershed Data with Tabulated Hydrograph

### Conclusions

The Developed Tabulated Hydrographs show the peak runoff from the subdivision to pass 0.5 hours before the peak runoff from the basin.

Since the developed site runoff will enter the creek ahead of the overall basin runoff and be cleared before the basin peak arrives, there is no need for drainage retention.

Please let us know if you have any questions.

Best Regards,

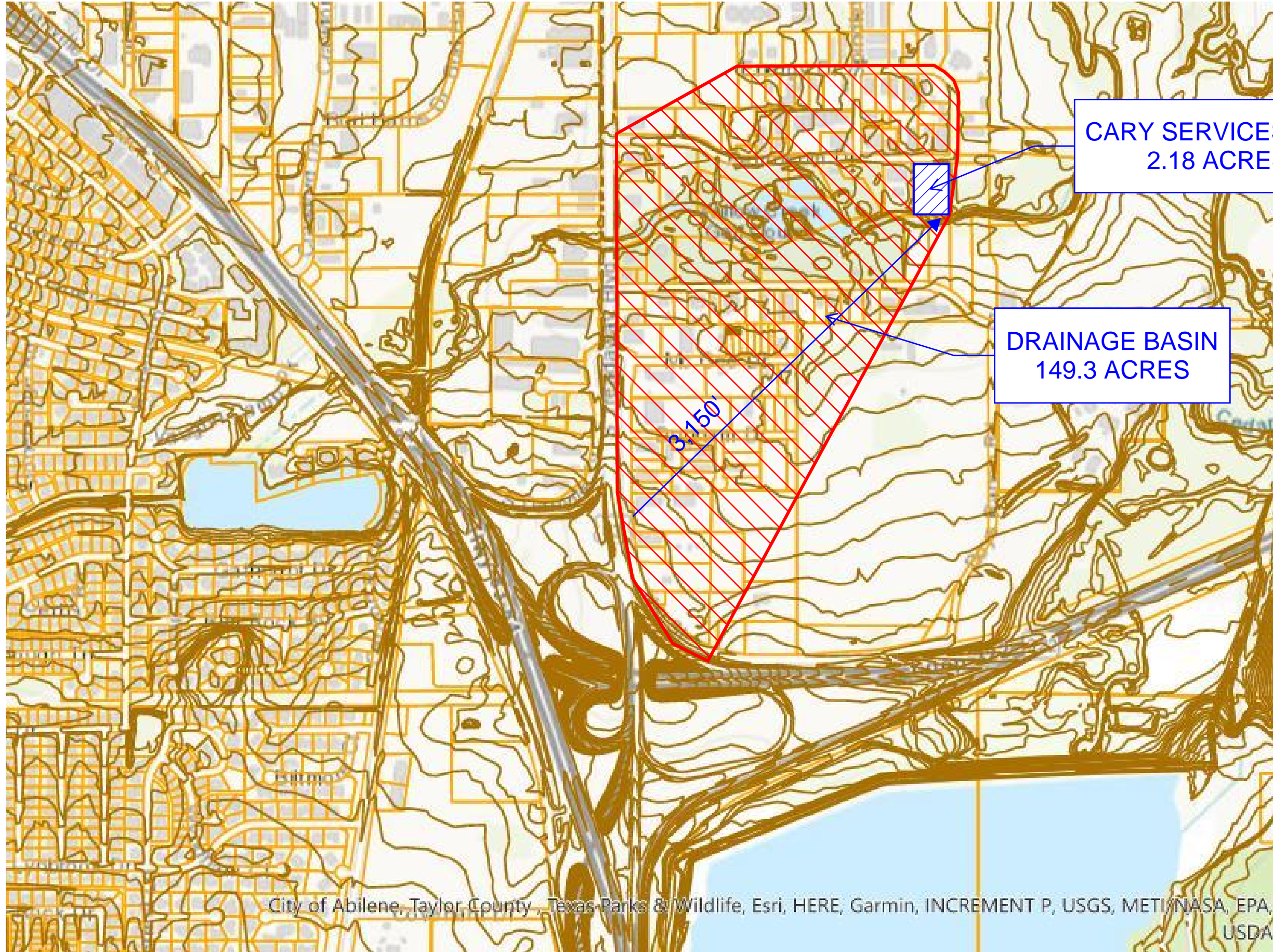
**ROSENBAUM ENGINEERING, PLLC**



Clint Rosenbaum, P.E.  
Firm Registration # F-19243



February 12, 2023



CARY SERVICES SITE  
2.18 ACRES

DRAINAGE BASIN  
149.3 ACRES

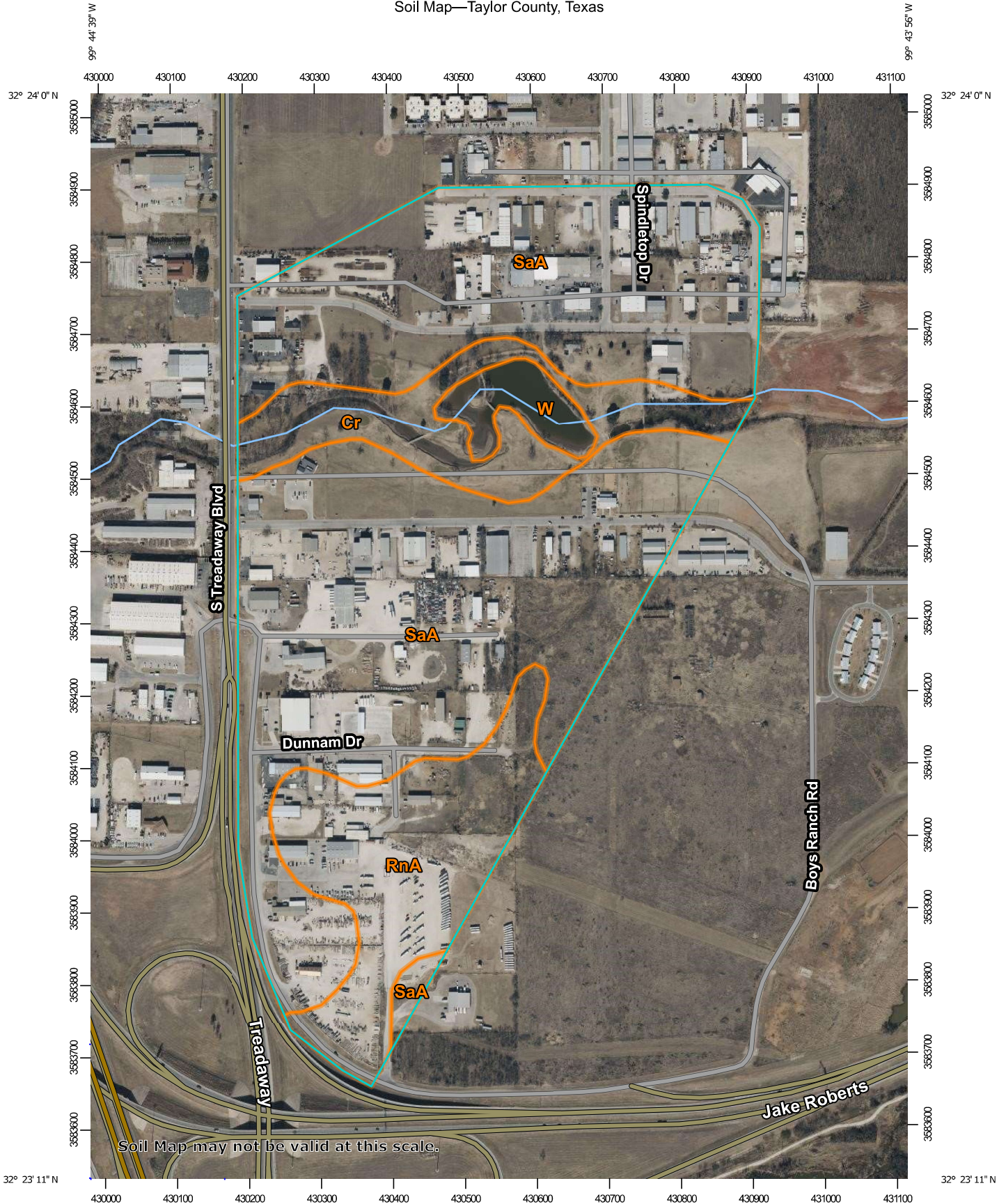
3,750'

City of Abilene, Taylor County, Texas Parks & Wildlife, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

<b>Rosenbaum Engineering, PLLC</b> 2326 Wyncham Ct. Abilene, Texas 79606 Clint Rosenbaum, P.E.   clint@rosenbaumeng.com 325.669.2915 TBPE Registration #F-19243	<b>CARY SERVICES 909 PETROLEUM DR DRAINAGE BASIN PLAN</b>	SHEET NO. <b>D1</b>
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Soil Map—Taylor County, Texas



Soil Map may not be valid at this scale.

Map Scale: 1:7,320 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 14N WGS84





## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cr	Colorado loam, moist, 0 to 1 percent slopes, frequently flooded	15.1	10.1%
RnA	Rotan clay loam, 0 to 1 percent slopes	23.0	15.4%
SaA	Sagerton clay loam, moist, 0 to 1 percent slopes	106.9	71.6%
W	Water	4.3	2.9%
<b>Totals for Area of Interest</b>		<b>149.4</b>	<b>100.0%</b>

**Worksheet 2: Runoff curve number and runoff**

Project : <b>Cary Services</b>	By : <b>CDR</b>	Date : <b>2/12/2023</b>
Location : <b>909 Petroleum Dr</b>	Review :	Date :

**1. Runoff Curve Number**

Soil name and hydrologic group	Cover description <small>(cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)</small>	CN			Area Acres mi <sup>2</sup> %	Product of CN X Area				
		Table 2-2	Figure 2-3	Figure 2-4						
		Cr-Colorado Loam Group B	Urban Districts - Industrial	88					15.1	1329
		RnA-Rotan Clay Loam Group C	Urban Districts - Industrial	91					23.0	2093
SaA-Sagerton Clay Loam Group C	Urban Districts - Industrial	91			106.9	9728				
Water Group D	Urban Districts - Industrial	93			4.3	399.9				

Pre-Dev	Totals	149.3	13550
Post-Dev	Use CN	91	

**2. Runoff**

Frequency yr	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Rainfall, P [24-hour] (in)	3.25	4.15	5	5.75	6.25	7.25
Runoff, Q (in)	2.28	3.14	3.96	4.69	5.17	6.16

**Worksheet 4: Graphical Peak Discharge method**

Project : <b>Cary Services</b>	By : <b>CDR</b>	Date : <b>2/12/2023</b>
Location : <b>909 Petroleum Dr</b>	Review :	Date :

Pre-Dev  Post-Dev

**1. Data**

Drainage Area	$A_m =$	<u>149.3</u>	Acres	$=$	<u>0.23</u>	$mi^2$
Runoff Curve number	CN	<u>91</u>				
Time of Concentration	$T_c =$	<u>0.63</u>	hr			$T_c = L/3600V$
Rainfall Distribution		<u>Type 2</u>				$S = H/L = 0.0076$
Pond and swmp areas spread throuout watershed						$L = 3150$ ft
						$H = 24$ ft
						$V$ from figure 3.1
						$V = 1.4$ ft/s

Frequency yr	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Rainfall, P [24-hour] (in)	3.25	4.15	5	5.75	6.25	7.25
Initial abstraction, $I_a$ (in)	0.198	0.198	0.198	0.198	0.198	0.198
<small>(Use CN with table 4-1)</small>						
Compute $I_a / P$	0.0609	0.0477	0.0396	0.0344	0.0317	0.0273
Unit peak discharge, $q_u$ (csm/in)	475	475	475	475	475	475
<small>(Use <math>T_c</math> and <math>I_a / P</math> with exhibit 4-II)</small>						
Runoff, Q (in)	2.28	3.14	3.96	4.69	5.17	6.16
<small>(From worksheet 2)</small>						
Pond and swamp adjustment factor, $F_p$	1.00	1.00	1.00	1.00	1.00	1.00
<small>(Use percent pond and swamp area with table 4-2. Factor is 1.0 for zero percent ponds and swamp area.)</small>						
Peak Discharge, $q_p$	252.95	347.55	438.35	519.20	573.37	682.16
<small><math>(q_p) = (q_u) \times (A_m) \times (Q) \times (F_p)</math></small>						

Worksheet 5a: Basic Water Shed Data

Project :		Cary Services		By :		CDR		Date :		2/12/2023		<input type="checkbox"/> Pre-Dev <input checked="" type="checkbox"/> <input type="checkbox"/> Post-Dev	
Location :		909 Petroleum Dr		Review :				Date :					
		From Worksheet 3			From Worksheet 2				From Worksheet 4				
Freq. Yr	Drainage Area	Time of Concentration	Travel Time through Subarea	Downstream SubareaNames	Travel Time Summation to Outlet	24-hour Rainfall	Runoff Curve Number	Runoff		Initial Abstraction			
	Am (sq mi)	Tc (hr)	Tt (hr)		sumTt (hr)	P (in)	CN	Q (in)	Am*Q	Ia (in)	Ia/P		
2	0.23	0.63				3.25	91	2.28	0.53	0.198	0.0609		
5	0.23	0.63				4.15	91	3.14	0.73	0.198	0.0477		
10	0.23	0.63				5	91	3.96	0.92	0.198	0.0396		
25	0.23	0.63				5.75	91	4.69	1.09	0.198	0.0344		
50	0.23	0.63				6.25	91	5.17	1.21	0.198	0.0317		
100	0.23	0.63				7.25	91	6.16	1.44	0.198	0.0273		

Worksheet 5b: Basic Water Shed Data

Project : Cary Services		By : CDR		Date : 2/12/2023		<input type="checkbox"/> Pre-Dev <input checked="" type="checkbox"/> <input type="checkbox"/> Post-Dev														
Location : 909 Petroleum Dr		Review :		Date :																
Freq. Yr	Time of Concentration Tc (hr)	Travel Time Summation to Outlet sumTt (hr)	Ia/P	AmQ	Selected Hydrograph Times in Hours from Exhibit 5-II															
					12.1	12.2	12.3	12.5	12.6	12.7	12.8	13.00	13.2	13.4	13.6					
					Discharges at Selected Hydrograph Times (cfs)															
2	0.63		0.0609	0.53	115	194	294	380	424	410	369	252	172	123	93					
					61.24	103.3	156.6	202.4	225.8	218.3	196.5	134.2	91.6	65.5	49.53					
5	0.63		0.0477	0.73	115	194	294	380	424	410	369	252	172	123	93					
					84.14	141.9	215.1	278	310.2	300	270	184.4	125.9	90	68.05					
10	0.63		0.0396	0.92	115	194	294	380	424	410	369	252	172	123	93					
					106.1	179	271.3	350.7	391.3	378.4	340.5	232.6	158.7	113.5	85.83					
25	0.63		0.0344	1.09	115	194	294	380	424	410	369	252	172	123	93					
					125.7	212.1	321.4	415.4	463.5	448.2	403.3	275.4	188	134.4	101.7					
50	0.63		0.0317	1.21	115	194	294	380	424	410	369	252	172	123	93					
					138.8	234.2	354.9	458.7	511.8	494.9	445.4	304.2	207.6	148.5	112.3					
100	0.63		0.0273	1.44	115	194	294	380	424	410	369	252	172	123	93					
					165.2	278.6	422.2	545.7	608.9	588.8	529.9	361.9	247	176.6	133.6					

**Worksheet 2: Runoff curve number and runoff**

Project :	<b>Cary Services</b>	By :	<b>CDR</b>	Date :	2/12/2023
Location :	<b>909 Petroleum Dr</b>	Review :		Date :	

**1. Runoff Curve Number**

Soil name and hydrologic group	Cover description <small>(cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)</small>	CN			Area		Product of CN X Area
		Table 2-2	Figure 2-3	Figure 2-4	Acres	mi <sup>2</sup>	
					%		
SaA-Sagerton Clay Loam Group C	Urban Districts - Industrial	91			2.2		198

Pre-Dev  Totals 2.18 198  
 Post-Dev  Use CN 91

**2. Runoff**

Frequency yr	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Rainfall, P [24-hour] (in)	3.25	4.15	5	5.75	6.25	7.25
Runoff, Q (in)	2.31	3.16	3.98	4.71	5.20	6.18

**Worksheet 4: Graphical Peak Discharge method**

Project : <b>Cary Services</b>	By : <b>CDR</b>	Date : <b>2/12/2023</b>
Location : <b>909 Petroleum Dr</b>	Review :	Date :

Pre-Dev

Post-Dev

**1. Data**

Drainage Area	$A_m =$	<u>2.18</u>	Acres	$=$	<u>0.0034</u>	$mi^2$
Runoff Curve number	$CN =$	<u>91</u>				
Time of Concentration	$T_c =$	<u>0.08</u>	hr		$T_c = L/3600V$	
Rainfall Distribution	$=$	<u>Type 2</u>			$S = H/L = 0.0031$	
Pond and swmp areas spread throuout watershed	$=$	<u>                    </u>			$L = 325$ ft	
					$H = 1$ ft	
					$V$ from figure 3.1	
					$V = 1.1$ ft/s	

Frequency yr	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Rainfall, P [24-hour] (in)	3.25	4.15	5	5.75	6.25	7.25
Initial abstraction, $I_a$ (in)	0.198	0.198	0.198	0.198	0.198	0.198
<small>(Use CN with table 4-1)</small>						
Compute $I_a / P$	0.0609	0.0477	0.0396	0.0344	0.0317	0.0273
Unit peak discharge, $q_u$ (csm/in)	1000	1000	1000	1000	1000	1000
<small>(Use <math>T_c</math> and <math>I_a / P</math> with exhibit 4-II)</small>						
Runoff, Q (in)	2.31	3.16	3.98	4.71	5.20	6.18
<small>(From worksheet 2)</small>						
Pond and swamp adjustment factor, $F_p$	1.00	1.00	1.00	1.00	1.00	1.00
<small>(Use percent pond and swamp area with table 4-2. Factor is 1.0 for zero percent ponds and swamp area.)</small>						
Peak Discharge, $q_p$	7.85	10.77	13.56	16.05	17.72	21.07
<small><math>(q_p) = (q_u) \times (A_m) \times (Q) \times (F_p)</math></small>						

Worksheet 5a: Basic Water Shed Data

Project : Cary Services		By : CDR		Date : 2/12/2023		Pre-Dev <input type="checkbox"/>		Post-Dev <input checked="" type="checkbox"/>			
Location : 909 Petroleum Dr		Review :		Date :							
		From Worksheet 3			From Worksheet 2				From Worksheet 4		
Freq. Yr	Drainage Area Am (sq mi)	Time of Concentration Tc (hr)	Travel Time through Subarea Tt (hr)	Downstream SubareaNames	Travel Time Summation to Outlet sumTt (hr)	24-hour Rainfall P (in)	Runoff Curve Number CN	Runoff Q (in)	Am*Q	Initial Abstraction Ia (in)	Ia/P
2	0.0034	0.08				3.25	91	2.31	0.01	0.198	0.0609
5	0.0034	0.08				4.15	91	3.16	0.01	0.198	0.0477
10	0.0034	0.08				5	91	3.98	0.01	0.198	0.0396
25	0.0034	0.08				5.75	91	4.71	0.02	0.198	0.0344
50	0.0034	0.08				6.25	91	5.20	0.02	0.198	0.0317
100	0.0034	0.08				7.25	91	6.18	0.02	0.198	0.0273



Worksheet 5b: Basic Water Shed Data

Project : Cary Services		By : CDR		Date : 2/12/2023		<input type="checkbox"/> Pre-Dev <input type="checkbox"/> <input type="checkbox"/> Post-Dev <input checked="" type="checkbox"/>														
Location : 909 Petroleum Dr		Review :		Date :																
Freq. Yr	Time of Concentration Tc (hr)	Travel Time Summation to Outlet sumTt (hr)	Ia/P	Am*Q	Selected Hydrograph Times in Hours from Exhibit 5-II															
					11.3	11.6	11.9	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7					
					Discharges at Selected Hydrograph Times (cfs)															
2	0.08		0.0609	0.01	34	53	334	647	1010	623	217	147	123	104	86					
					0.267	0.416	2.623	5.08	7.931	4.892	1.704	1.154	0.966	0.817	0.675					
5	0.08		0.0477	0.01	34	53	334	647	1010	623	217	147	123	104	86					
					0.366	0.571	3.596	6.967	10.88	6.708	2.337	1.583	1.324	1.12	0.926					
10	0.08		0.0396	0.01	34	53	334	647	1010	623	217	147	123	104	86					
					0.461	0.719	4.53	8.776	13.7	8.45	2.943	1.994	1.668	1.411	1.167					
25	0.08		0.0344	0.02	34	53	334	647	1010	623	217	147	123	104	86					
					0.546	0.851	5.362	10.39	16.21	10	3.483	2.36	1.974	1.669	1.381					
50	0.08		0.0317	0.02	34	53	334	647	1010	623	217	147	123	104	86					
					0.602	0.939	5.918	11.46	17.9	11.04	3.845	2.605	2.18	1.843	1.524					
100	0.08		0.0273	0.02	34	53	334	647	1010	623	217	147	123	104	86					
					0.716	1.117	7.036	13.63	21.28	13.12	4.572	3.097	2.591	2.191	1.812					



02/20/2023

Clint Rosenbaum, P.E.  
Rosenbaum Engineering, PLLC  
2326 Wyndham  
Abilene, TX 79606

RE: Drainage Plan – Cary Service

Mr. Rosenbaum:

The Engineering Division has reviewed the submitted drainage plan for the above referenced. Please be advised that the plan is approved by the Engineering Department of the City of Abilene for platting purposes.

Respectfully,

A handwritten signature in blue ink, appearing to read 'Scott Chandler', is written over the typed name.

Scott Chandler, P.E.  
City Engineer  
325-676-6282

cc: Max Johnson, Director of Public Works  
Tim Littlejohn, Director of Planning  
Adam Holland, Planning & Development Services  
Srini Valavala, Stormwater Services Administrator  
David Mundschenk, Engineering Technician  
George Votaw, Engineering Inspections  
Clarissa Ivey, Planner I  
Diane Mukundwa, Engineer-in-training  
Will Ratliff, Engineer-in-Training

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*We work together to build a community of the highest quality for present and future generations.*