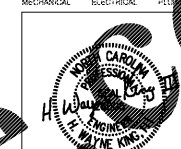




2923 South Tryon Street, Suite 280  
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Tel: 704.373.0068

MECHANICAL ELECTRICAL PLUMBING



DEC 7, 2018  
PROJECT NUMBER = C-2130

**WILSON AIR CENTER**  
**NORTH TERMINAL**  
1101 N TRYON ST, SUITE 1400  
CHARLOTTE, NC 28202  
(704) 426-6070

ARCHITECT



**THE WILSON GROUP**  
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CIVIL ENGINEER  
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CHARLOTTE, NC 28273  
(704) 426-6070 FIRM NO. C-1163

STRUCTURAL ENGINEER  
**STEWART**  
101 N TRYON ST, SUITE 1400  
CHARLOTTE, NC 28202  
(704) 969-3523 FIRM NO. C-1051

MECHANICAL, ELECTRICAL, PLUMBING & FIRE PROTECTION ENGINEER  
**SABER ENGINEERING**  
2923 S TRYON ST, SUITE 280  
CHARLOTTE, NC 28202  
(704) 373-0068 FIRM NO. C-2130

LANDSCAPE ARCHITECT  
**URBAN DESIGN PARTNERS**  
1318 E CENTRAL AVENUE  
CHARLOTTE, NC 28205  
(704) 334-3303 FIRM NO. C-TBD

COMMUNICATIONS INFRASTRUCTURE  
**DB CONSULTING**  
346 LOWES FARM ROAD  
BLACKBURGH, SC 29702  
(704) 497-7228 FIRM NO. C-TBD

REVISIONS

DATE DECEMBER 7, 2018  
PROJECT NUMBER 9197-000

SHEET TITLE  
**COMCHECK**

SHEET NUMBER  
**M-201**



**Section 1: Project Information**

Energy Code: 2012 North Carolina Energy Conservation Code  
Project Title: Wilson Air Center North Terminal  
Project Type: New Construction

Building Location (for weather data): Charlotte, North Carolina  
Climate Zone: 3a

**Section 2: General Information**

Quantity: System Type & Description

- 1 AHU-110 (Single-Zone) - Split System Heat Pump  
Heating Mode: Capacity = 28 MBtu/h  
Proposed Efficiency = 13.00 EER, Required Efficiency = 7.70 HSPF  
Cooling Mode: Capacity = 24 MBtu/h  
Proposed Efficiency = 13.80 EER, Required Efficiency = 13.00 SEER  
Fan System: Unspecified
- 1 AHU-112 (Multiple-Zone)  
Heating: 1 each - Central Furnace, Gas, Capacity = 350 MBtu/h  
Proposed Efficiency = 85.00% AFUE, Required Efficiency = 85.00% AFUE  
Cooling: 1 each - Single Package DX Unit, Capacity = 250 MBtu/h, Air-Cooled Condenser, Air Economizer  
Proposed Efficiency = 10.80 EER, Required Efficiency = 9.60 EER + 0.3 PLV  
Fan System: Unspecified
- 1 AHU-113 (Multiple-Zone)  
Heating: 1 each - Central Furnace, Gas, Capacity = 534 MBtu/h  
Proposed Efficiency = 85.00% AFUE, Required Efficiency = 85.00% AFUE  
Cooling: 1 each - Single Package DX Unit, Capacity = 161 MBtu/h, Air-Cooled Condenser, Air Economizer  
Proposed Efficiency = 10.00 EER, Required Efficiency = 9.60 EER + 0.3 PLV  
Fan System: Unspecified
- 1 AHU-114 (Multiple-Zone)  
Heating: 1 each - Central Furnace, Gas, Capacity = 131 MBtu/h  
Proposed Efficiency = 85.00% AFUE, Required Efficiency = 85.00% AFUE  
Cooling: 1 each - Single Package DX Unit, Capacity = 101 MBtu/h, Air-Cooled Condenser, Air Economizer  
Proposed Efficiency = 11.00 EER, Required Efficiency = 10.80 EER  
Fan System: Unspecified
- 1 UH-1 - 2 (Single-Zone)  
Heating: 1 each - Unit Heater, Electric, Capacity = 7 MBtu/h  
No minimum efficiency requirement applies  
Fan System: Unspecified
- 1 EWH-2  
Gas Instantaneous Water Heater, Capacity: 37 gallons, Input Rating: 180 MBtu/h of Circulation Pump  
Proposed Efficiency: 96.00 EF, Required Efficiency: 6.55 EF
- 1 EWH-2  
Electric Instantaneous Water Heater, Capacity: 0 gallons  
No minimum efficiency requirement applies

Project Title: Wilson Air Center North Terminal  
Date Reported: P:\06\Wilson Group\1710 Wilson Air North Terminal\16-1710-COMCHECK.csk Report Date: 12/12/18 Page 1 of 4

**Section 4: Requirements Checklist**

**Requirements Specific To: UH-1-10 :**

- 1. Equipment minimum efficiency: Heat Pump: 7.70 HSPF, 13.00 SEER
- 2. In systems with a cooling capacity of less than 65,000 Btu/h, a heat strip outdoor temperature setback is provided to prevent supplemental heat generation in response to the thermostat being charged to a warmer setting. The setback is set no lower than 35°F and no higher than 40°F.

**Requirements Specific To: AHU-112 :**

- 1. Equipment minimum efficiency: Central Furnace (Gas): 85.00% AFUE
- 2. Equipment minimum efficiency: Single Package Unit: 9.60 EER + 0.3 PLV
- 3. Minimum zone temperature control device per zone
- 4. Integrated air economizer required
- 5. Cooling system provides a means to relieve excess outdoor air during economizer operation
- 6. Systems serving more than one zone shall be VAV systems
- 7. Single duct VAV terminals reduce primary air before reheating
- 8. Controls capable of resetting supply air temperature (SAT) by 25% of SAT-room temp difference

**Requirements Specific To: AHU-113 :**

- 1. Equipment minimum efficiency: Central Furnace (Gas): 85.00% AFUE
- 2. Equipment minimum efficiency: Single Package Unit: 9.60 EER + 0.3 PLV
- 3. Minimum zone temperature control device per zone
- 4. Integrated air economizer required
- 5. Cooling system provides a means to relieve excess outdoor air during economizer operation
- 6. Systems serving more than one zone shall be VAV systems
- 7. Single duct VAV terminals reduce primary air before reheating
- 8. Controls capable of resetting supply air temperature (SAT) by 25% of SAT-room temp difference

**Requirements Specific To: AHU-114 :**

- 1. Equipment minimum efficiency: Central Furnace (Gas): 85.00% AFUE
- 2. Equipment minimum efficiency: Single Package Unit: 9.60 EER + 0.3 PLV
- 3. Minimum zone temperature control device per zone
- 4. Integrated air economizer required
- 5. Cooling system provides a means to relieve excess outdoor air during economizer operation
- 6. Systems serving more than one zone shall be VAV systems
- 7. Single duct VAV terminals reduce primary air before reheating
- 8. Controls capable of resetting supply air temperature (SAT) by 25% of SAT-room temp difference

**Requirements Specific To: UH-1-1 :**

- 1. Equipment minimum efficiency: Unit Heater: 78% AFUE
- 2. Equipment minimum efficiency: Single Package Unit: 9.60 EER
- 3. Minimum zone temperature control device per zone

**Requirements Specific To: EWH-2 :**

- 1. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 2. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 3. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 4. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 5. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 6. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 7. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 8. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 9. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 10. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 11. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 12. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 13. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 14. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 15. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 16. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 17. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 18. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 19. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Requirements Specific To: EWH-2 (continued):**

- 20. Equipment minimum efficiency: Instantaneous Water Heater: 6.55 EF

**Section 5: Compliance Statement**

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with the permit application. The proposed mechanical systems have been designed to meet the 2012 North Carolina Energy Conservation Code requirements in COMCHECK Version 4.1.1.0 and to comply with the mandatory requirements in the Requirements Checklist.

Principal Mechanical Designer Name: H. Wayne King III Signature: H. Wayne King III Date: 12/12/2018

**Section 6: Post Construction Compliance Statement**

Compliance Statement: The above post construction requirements have been completed.

Principal Mechanical Designer Name: H. Wayne King III Signature: H. Wayne King III Date: 12/12/2018

Project Title: Wilson Air Center North Terminal  
Date Reported: P:\06\Wilson Group\1710 Wilson Air North Terminal\16-1710-COMCHECK.csk Report Date: 12/12/18 Page 4 of 4

Order Plans