memorandum | sabatini architects inc.

Date: 01/27/2006 Project No.: 03140.010

To: Mike Wildgen, City of Lawrence
Dave Corliss, City of Lawrence
Mark Bradford, City of Lawrence
Barry Walthall, City of Lawrence

From: Dan Sabatini / John Reeves

Re: Lawrence F-M No.5

☒ As Requested ☐ For Your Use ☐ For Approval ☐ For Review and Comment

Comments:

We were requested to review the thermal efficiency of the Fire & Medical Station No. 5 in accordance with the International Energy Conservation Code 2003 (IECC 2003). The Administration facility's building envelope data (gross slab, wall, roof and window areas with overhang and orientations) and material specification data (R and U values, etc.) were entered into COM*check* (IECC's proprietary software) to perform the evaluation.

The software has calculated that the Administration facility's building envelope is 8% better than the IECC code as stated in Section 3 of the Envelope Compliance Certificate (attached).

If you have any questions please contact Dan Sabatini or me.

John Reeves
Sabatini Architects, Inc.

805.A NEW HAMPSHIRE ST. LAWRENCE, KANSAS 66044.2739
T.785.331.3399 F.785.331.0846

Permit #
Permit Date

COM*check* Software Version 3.1 Release 1

Envelope Compliance Certificate

2003 IECC

Report Date: 01/16/06

Data filename: C:\Program Files\Check\COMcheck\Station 5\LDCFM 5 clerestory.cck

Section 1: Project Information

Project Title: Lawrence Douglas County Fire Medical Administration Department

Construction Site:
1911 Stewart Ave
Lawrence, KS 66046

Owner/Agent:
Mark Bradford
Lawrence Douglas County Fire Medical
746 Kentucky
Lawrence, KS 66044
(785) 832-7600

Designer/Contractor:
John Reeves
Sabatini Architects Inc
805.A New Hampshire
Lawrence, KS 66044
(785) 331-3399
jreeves@sabatiniarchitects.com

Section 2: General Information

Building Location (for weather data):	**Lawrence, Kansas**
Climate Zone:	**10b**
Heating Degree Days (base 65 degrees F):	**4734**
Cooling Degree Days (base 65 degrees F):	**1565**
Project Type:	**New Construction**
Glazing Area Percentage:	**36%**

Building Type	Floor Area
Office	8261

Section 3: Requirements Checklist

Envelope PASSES: Design 8% better than code.

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Admin North: Metal Frame, 16" o.c.	1456	21.0	0.0	0.111	0.103
Window J: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	84	---	---	0.300	0.643
Window B: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	18	---	---	0.300	0.643
Window G: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	24	---	---	0.300	0.643
Windows F: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	144	---	---	0.300	0.643
Window 211.1: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, PF 0.27, VLT 0.70	31	---	---	0.300	0.643
Window Q: Metal Frame with Thermal Break:Double Pane with Low-E, Tinted, SHGC 0.40, PF 0.45, VLT 0.70	204	---	---	0.300	0.643
Window O: Metal Frame with Thermal Break:Double Pane with Low-E, Tinted, SHGC 0.40, PF 0.60, VLT 0.70	225	---	---	0.300	0.643
Window P: Metal Frame with Thermal Break:Double Pane with	95	---	---	0.300	0.643

Low-E, Tinted, SHGC 0.40, PF 0.18, VLT 0.70					
Door 211.1: Glass, Clear, SHGC 0.40, PF 0.27, VLT 0.70 Comments: insulated glass	24	---	---	0.300	0.643
Basement Wall 1: Solid Concrete or Masonry > 8", Furring: None, Wall Ht 14.0, Depth B.G. 14.0	1073	---	10.0	0.085	0.124
Admin East: Metal Frame, 16" o.c. Comments: Admin brick veneer, frame walls	1432	21.0	0.0	0.111	0.103
Windows G: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	67	---	---	0.300	0.643
Window H: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	42	---	---	0.300	0.643
Windows B: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	36	---	---	0.300	0.643
Windows 216.1: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, PF 0.27, VLT 0.70	44	---	---	0.300	0.643
Window 202: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, PF 0.82, VLT 0.70	56	---	---	0.300	0.643
Window N: Metal Frame with Thermal Break:Double Pane with Low-E, Tinted, SHGC 0.40, PF 1.30, VLT 0.70	104	---	---	0.300	0.643
Door 216.1: Glass, Clear, SHGC 0.40, PF 0.27, VLT 0.70 Comments: insulated glass	24	---	---	0.300	0.643
Vestibule 202: Air Lock Entry Comments: vestibule	32	---	---	0.300	0.161
Admin East Clerestory 1: Metal Frame, 16" o.c. Comments: clerestory wall	124	21.0	0.0	0.111	0.103
Admin East Clerestory 2: Metal Frame, 16" o.c. Comments: clerestory wall	147	21.0	0.0	0.111	0.103
Basement Wall 2: Solid Concrete or Masonry > 8", Furring: None, Wall Ht 14.0, Depth B.G. 14.0	247	---	10.0	0.085	0.124
Admin South: Metal Frame, 16" o.c. Comments: Admin brick veneer, frame walls	625	21.0	0.0	0.111	0.103
Window G: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	24	---	---	0.300	0.643
Window J: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	84	---	---	0.300	0.643
Windows F: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	144	---	---	0.300	0.643
Window S: Metal Frame with Thermal Break:Double Pane with Low-E, Tinted, SHGC 0.40, PF 0.61, VLT 0.70	301	---	---	0.300	0.643
Exterior Wall Stone South: CMU >8" with Empty Cells, Furring: None Comments: Prairie Stone Wall	2136	---	10.0	0.078	0.103
Window K: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	12	---	---	0.300	0.643
Window L: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	39	---	---	0.300	0.643
Window M: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, VLT 0.70	30	---	---	0.300	0.643
Door 117.2: Solid Comments: hollow metal door	21	---	---	0.300	0.161
Admin South Clerestory 2: Metal Frame, 16" o.c. Comments: clerestory wall	73	21.0	0.0	0.111	0.103
Admin West: Metal Frame, 16" o.c. Comments: Admin brick veneer, frame walls	913	21.0	0.0	0.111	0.103
Window 201: Metal Frame with Thermal Break:Double Pane with Low-E, Clear, SHGC 0.40, PF 1.00, VLT 0.70	56	---	---	0.300	0.643
Window R: Metal Frame with Thermal Break:Double Pane with Low-E, Tinted, SHGC 0.40, PF 0.41, VLT 0.70	460	---	---	0.300	0.643
Window N: Metal Frame with Thermal Break:Double Pane with Low-E, Tinted, SHGC 0.40, PF 1.30, VLT 0.70	104	---	---	0.300	0.643
Door 204.2: Solid Comments: hollow metal door	21	---	---	0.300	0.161
Vestibule 201: Air Lock Entry Comments: vestibule	32	---	---	0.300	0.161
Basement Wall 3: Solid Concrete or Masonry > 8", Furring: None, Wall Ht 14.0, Depth B.G. 14.0	247	---	10.0	0.085	0.124
Sloped Roof 1: Metal Roof with Thermal Blocks Comments: admin sloped roof	5137	0.0	20.0	0.048	0.056
Flat Roof 2: Structural Slab Comments: admin flat roof	3604	---	20.0	0.047	0.056
Admin Slab: Slab-On-Grade:Unheated, Horizontal 4 ft.	8256	---	10.0	---	---

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

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- ☐ 1. All joints and penetrations are caulked, gasketed, weather-stripped, or otherwise sealed.
- ☐ 2. Windows, doors, and skylights certified as meeting leakage requirements.
- ☐ 3. Component R-values & U-factors labeled as certified.
- ☐ 4. Stair, elevator shaft vents, and other dampers integral to the building envelope are equipped with motorized dampers.
- ☐ 5. Cargo doors and loading dock doors are weather sealed.
- ☐ 6. Recessed lighting fixtures are: (i) Type IC rated and sealed or gasketed; or (ii) installed inside an appropriate air-tight assembly with a 0.5 inch clearance from combustible materials and with 3 inches clearance from insulation material.
- ☐ 7. Building entrance doors have a vestibule and equipped with closing devices.
  Exceptions:
  Building entrances with revolving doors.
  Doors that open directly from a space less than 3000 sq. ft. in area.
- ☐ 8. Vapor retarder installed.

Section 4: 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 system has been designed to meet the 2003 IECC requirements in COM*check* Version 3.1 Release 1 and to comply with the mandatory requirements in the Requirements Checklist.

Principal Envelope Designer-Name	Signature	Date
[illegible]	John Reeves	JAN 27, 2006

Project Notes:

Calculations for Administration Department envelope only. Station and Apparatus Bay are not included.