



January 28, 2022

Randy Zimmerman
Facilities Manager
Freddy's Frozen Custard & Steakburgers
260 N. Rock Rd, Suite 200
Wichita, KS 67206

SENT VIA EMAIL

Reference: Freddy's Existing Truss Evaluation for Replacement RTU – Lee's Summit, MO

Mr. Zimmerman:

At your request, MKEC Engineering performed a structural evaluation of the roof structure of the Freddy's Frozen Custard at 194 NW Oldham Pkwy in Lee's Summit, MO. An existing rooftop mechanical unit is being replaced with a new unit that weighs more than the original, and the structure was evaluated to determine whether reinforcement is required to support the additional weight.

Scans of the original truss shop drawings were available for reference (refer to Attachment A). Information regarding the size and weight of both the old and new rooftop equipment was also provided. The RTU in question is located approximately 13' from one end of a truss span of 35'. The RTU is wide enough that it sits over the top of (3) adjacent trusses, which share the load equally.

Two separate analyses were performed. The first analysis was of the original design conditions to determine the forces the trusses were designed for at the time of construction. These design forces were compared to the design capacities ratios listed on the truss shop drawings to estimate the design capacities of the existing trusses. The second analysis was of the anticipated new conditions with the replacement RTU installed to determine the expected future design forces on the same trusses.

These design forces from the second analysis were compared to the estimated design capacities of the trusses found from the first analysis. The final analysis determined that the marginal load increase from the additional unit weight had a minimal impact on the overall design forces carried by the trusses. Furthermore, the existing trusses **are adequate** to support the proposed new unit without reinforcement.

If you have any questions, concerns, or need additional information, please do not hesitate to call.

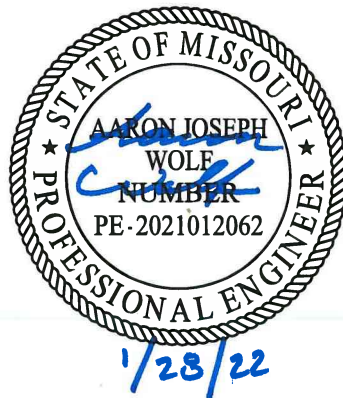
Sincerely,

MKEC ENGINEERING, INC.

A handwritten signature in blue ink that reads "Aaron Wolf".

Aaron Wolf, PE, SE

Attachments: A – Existing Truss Layout



**JOHNSTON BIRKMYER ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS**

**FREDDY'S STEAKBURGERS,
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