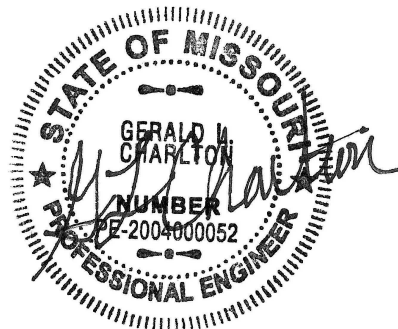


Structural Assessment Associated with Future Solar Array Installation

For

Automotive Sales & Detail Center
2100 NE Independence Ave.
Lee's Summit, MO.

Prepared by



May 6, 2022

May 8, 2022

Artisun Solar
Attn: Mr. Steve Pascal
12916 5th Street
Grandview, MO 64030

RE: Structural Report – Solar Array Installation
Automotive Sales & Details, Lee’s Summit, MO

Dear Mr. Pascal,

At your request, we have reviewed the existing construction documents for the above referenced facility. The facility was constructed within the last year. This letter addresses our review with respect to the proposed ballasted roof top solar installation that Artisun Solar is developing. Davidson Architecture & Engineering is the Architect of Record and BSE Structural Engineers is the Structural Engineer of Record. The construction documents are dated April 7, 2021 with Issued For Construction notification.

The structure is comprised of a single-story building housing auto service bays and a two story building housing a sales floor and office. Both structures are integral and are constructed with Concrete Masonry Unit (CMU) perimeter load bearing walls. The roof framing system for both roof areas are constructed with secondary framing consisting of “K” series steel bar joists supporting 1 ½ “ Galvanized 22 Gage Wide Rib metal decking. The joists are spaced from 5’-0” to 6’-0” on center. The following Roof Dead Load parameters were addressed in the Structural Specification Notes:

15 psf DL
3 psf Collateral DL
7 psf Collateral Solar DL at Service Bays

The ballast racking system developed by Unirac was analyzed based on isolated footprint areas. The controlling area was designed for a ballast loading averaging 5 psf.

Our review of the proposed ballasted roof top solar array in conjunction with the Record Construction Documents has determined that the roof structural framing system for this facility has sufficient structural capacity in the gravity load and lateral load resisting system to support the proposed ballasted roof top solar array.

Please call if you have any questions or require further information regarding this report.

Best regards,

A handwritten signature in black ink that reads 'Gerald L. Charlton'.

Gerald L. Charlton, P.E.