

4. Guidelines for Allowable Hanging Loads for Future Pavilion Events

General: Based on our review of the original structural Design Drawings S-9 - S-12 dated 11 August 1980, and S-9A dated 28 August 1980; HK/SE has examined the capacity of the existing roof structural members to support hanging loads at selected locations. Based on our review and analysis, we recommend the following guidelines for allowable hanging loads for future Pavilion events. Loads shown are allowable (service) loadings. Our recommendations are based on the assumption that the hanging loads are applied at the centerline of the member axis; i.e., no torsional effects have been considered. The guidelines for allowable hanging loads are based on static loadings; any effects due to dynamic loadings have not been considered.

Finally, we recommend that for each specific application, the proposed method of attachment to the structural members, cable and/or chain capacities, winches, etc., be reviewed by a qualified Structural Engineer.

Primary Trusses PT-1 through PT-4, between Gridlines 4 and 8: For these zones, we recommend that hanging loads be applied to the primary trusses at the bottom chord panel points only, and that each load be limited to 3000 lbs. or less, for a total load per truss of 27,000 lbs. or less. These maximum recommended allowable loads do not include any loads from the grillage framing; if there are any loads applied to the primary trusses from the grillage framing, then the allowable loads noted above will need to be reduced accordingly.

Secondary Trusses between PT-1 and PT-4, and Gridlines 4 and 8: For these zones, we recommend that hanging loads be applied to the secondary trusses at the bottom chord panel points only, and that each load be limited to 1,000 lbs. or less, for a total load per truss of 7,000 lbs. or less. These maximum recommended allowable loads do not include any loads from any grillage framing; if there are any loads applied to the secondary trusses from grillage framing, then the allowable loads noted above will need to be reduced accordingly.

Roof Joists and Metal Roof Deck: For the typical LH roof joists which do not support the catwalk structure, we recommend that hanging loads be limited to 500 lbs. or less. These hanging loads should be applied at bottom chord panel points only, utilizing approved joist hanger devices.

We recommend that no loads shall be permitted to be hung directly from the metal roof deck.

Catwalks: As noted in our Existing Condition Assessment, there is considerable evidence of loads suspended from the catwalk framing and handrails. At most, these loads should be limited to 100 lbs. or less, and properly secured to the catwalk structure.

Stage (North) Grillage Area: The stage grillage area currently supports a large speaker assembly, weight unknown. However the speaker assembly is supported by a winch with a rated capacity of 1,500 lbs. Therefore, we have assumed a total weight of 1,500 lbs. for this speaker assembly in the following allowable load diagrams SSK 5A through SSK 5G. If the actual speaker weight is determined to be more or less, the allowable hanging loads will have to be adjusted accordingly.

Note that these allowable load diagrams are not additive; they are alternate load diagrams. There are also other possible load combinations not shown; if loadings other than these are proposed, they should be reviewed by a qualified Structural Engineer.

Central Grillage Area: The central grillage area currently supports a large speaker assembly. The total weight of this assembly is unknown. We have assumed a total weight of 3,000 lbs. for these speakers in the following allowable load diagrams SSK 6A through SSK 6C. If the actual speaker weight is determined to be more or less, the allowable hanging loads will have to be adjusted accordingly.

Note that these allowable load diagrams are not additive; they are alternate load diagrams. There are also other possible load combinations not shown; if loadings other than these are proposed, they should be reviewed by a qualified Structural Engineer.