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Re: Recommended Loading Dock Design Criteria

The following is a cursory design criterion for a museum loading dock. Since I am not an architect or engineer, but rather a museum professional with thirty years of practice, this is based upon my practical experience. This experience has shown that vehicles will only become larger. Currently most companies moving exhibits are using 48-foot trailers. The preferred tractors are the "long-nosed" Kenworths. A rig this size is over 75-feet long. In short order most trailers will be 52-54 feet long, and with the same tractor the overall length goes to over 80 feet. For planning purposes, the loading dock and access designer should use at least 88 feet in their planning. This not only includes the actual length of the dock, but also the turning radius, backing access, and access from the street. Failure to plan accordingly will result in wasted time and money when the loading dock and/or access to the dock are inadequate.

A second issue related to dock access and design issue concerns an analysis of "pathways" that exist in any museum. These pathways consist of the separate and secure movement of art, staff, visitors, materials and food in, and garbage out of the facility. At any point where one or more to these pathways cross there is the potential for operational and security issues that will become evident once the new museum opens. As a design is finalized it is important to test these decisions against the concept of architectural versus operational issues, and to analyze these pathways against the final "brick and mortar" solutions.

The specifics of loading dock design criteria based upon practical experience should include:

- Provide entrance and egress, as well as turning radius, for tractor-trailer units of 80+ feet in total length.
- In an enclosed dock plan for 14 feet clear height for tractor-trailer units, plus two or more feet for overhead lighting or ductwork.
- Plan for tractor-trailer units of 102 inches in total width – 15-18 feet for proper maneuvering.
- Trailer bottom clearance is 8 inches, ramps must be designed to avoid high-centering.
- The dock must be level for the trailer at the stop point (52+ feet).
- The dock must be well lighted.
- Provide for drainage.
- Provide a hose bib connection at dock.
- If the dock is completely enclosed, provide for adequate ventilation for diesel engines.
- Provide striping on ramp for safe backing, and bumpers on the dock end for safe parking.
- Provide a dock leveler of adequate dimensions and weight capacity.
- Provide a dock plate for trailer to dock unloading.
- Provide stairs from the ramp to dock height.

The overall design should include room on the dock to safely maneuver a forklift while unloading a full trailer, as well as adequate corridor and door widths and heights, and adequate elevator dimensions and weight capacity if work must be moved to an upper or lower level. Planning must also ensure that piping and ductwork does not encroach on the restricted heights of the dock and loading area.