Storage Racks/Display Cases/Shelving/ Raised Work Areas

CITY OF NEWARK, CALIFORNIA **BUILDING INSPECTION DIVISION**

37101 Newark Boulevard, Newark, CA 94560-3796 • 510-578-4261 • Fax 510-578-4307 • e-mail: building.inspection@newark.org

PERMIT SUBMITTAL

All equipment and shelving not designed to be mobile shall be secured to the floor or the structural frame of the building. A building permit is not required if equipment or shelving is at or below 5'-9" high. A building permit is required if such equipment or shelving is over 5'-9" high. Structural calculations are required if equipment or shelving is over 8'-0" high. The permit application shall include:

- Completed permit application form.
- Certificate of Workers Compensation Insurance.
- Project location plan drawn on City Site Plan form.
- Detailed dimensioned floor plan showing where the shelving or equipment will be located. (If shelving is extensive and affects existing, a complete floor plan of the building will be needed.)
- Construction and anchorage details and calculations (prepared by a California licensed civil or structural engineer or architect) for storage racks over 8 feet high and any raised work area.
- Valuation of work, including materials and labor.

STRUCTURAL REQUIREMENTS

- In the absence of appropriate documentation, all slabs are assumed to be unreinforced and 3-1/2 inches thick.
- In the absence of appropriate documentation, the soil bearing capacity at the top of grade is assumed to be 800 psf, (based upon 20 percent reduction of the value of Type 5 soil from UBC Table 18-I-A).
- The allowable bearing area of the soil shall be a rectangle with sides no greater than the dimension of the bearing plate plus twice the thickness of the concrete slab (see Figure A).
- Concrete slabs shall be capable of resisting punching loads imposed by shelving or equipment.
- Concrete slabs less than 6 inches nominal thickness shall not take loads which place bending stresses on the slab. Nominal 6 inch thick slabs may take loads which place bending stresses on the slab provided all of the following conditions are met:
    - Slab is reinforced with No. 4 or larger deformed bars spaced so that there are at least two bars in each direction and within the shear cone area.
    - The "d" dimension between the top of the slab and the center of the reinforcement shall be assumed to be 2 inches.
    - Calculations by a licensed civil engineer shall be provided demonstrating the ability of the slab to withstand the loads imposed without deflection in the slab which could result in uneven loading upon the soil.

RAISED FLOORS

Raised or elevated work areas or storage access walkways not used exclusively for the maintenance of equipment are considered floors and shall comply with all code requirements relating to floors,

including access and exiting standards. Work areas elevated 30 inches or more from adjacent floors shall be protected with guard rails (see Figure B for industrial applications).

FIRE SPRINKLERS

Fire sprinklers are required for some rack shelving and raised work area installations. Contact the Fire Department at (510) 578-4218 for complete information.

INSPECTION

If the storage units are to be anchored to concrete walls or floors, then inspections of the anchor holes must be scheduled to verify their size and depth **after** the holes have been drilled and cleaned and **before** the bolts have been installed.

FEES

Fees for permits are based on the total valuation of the work, including material and installation costs.

FOR MORE INFORMATION

Contact the Building Inspection Division at (510) 578-4261 if additional clarification is needed on your specific project.

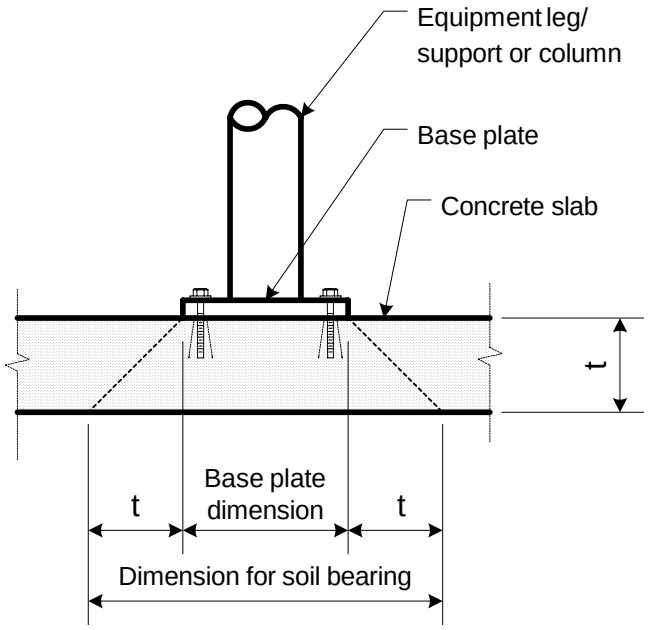

Figure A
Column Bearing Limitations

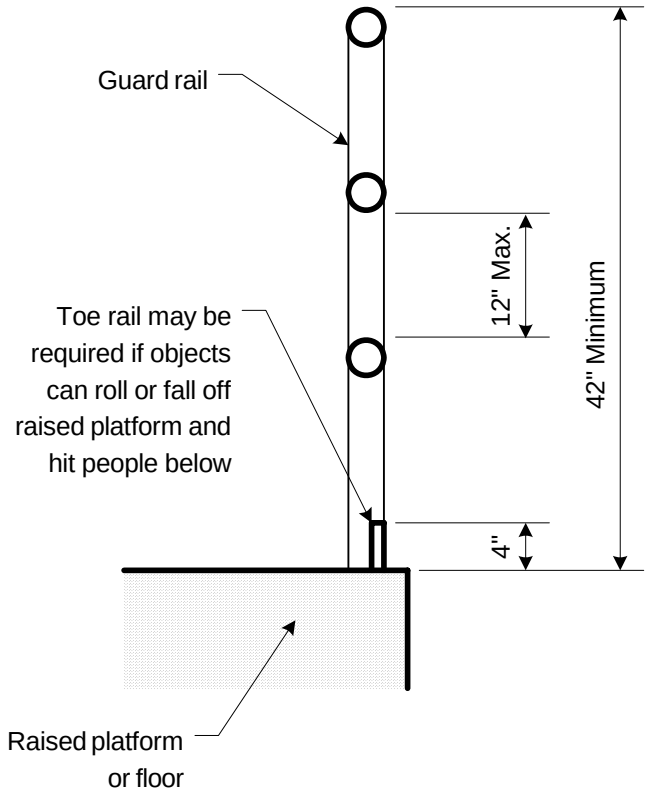

Figure B
Guard Rail at Raised Platforms

F/Shared/PUBWRKS/BLDGINSP/BldgInspMasterDrawings/B-15 Drawing