



GENERAL REQUIREMENTS

1. Mechanical equipment shall be set on approved curbs or platforms. In lieu of curbs or platforms, equipment may be set on level redwood sleepers which span structural roof framing members. Sleepers shall be set into a full bed of roofing mastic and secured with lag screws into structural framing members. Verify with the roofing contractor that piping support system does not void the listing of roofing material. This shall be verified prior to the piping inspection. Other methods may be acceptable, but shall be detailed and submitted for approval.
2. Mechanical equipment exceeding 200 pounds in weight and screening on roofs require structural calculations, a roof framing plan, and structural details to be submitted for approval. All equipment shall be securely fastened in place for vertical and horizontal loads. Restraints shall be attached to the building's structural members. CMC 308.1.

Structural Plan Review for Mechanical Equipment Change-out(s):

- a. Each replacement unit weighing 200 lbs. or less, requiring no structural alterations, will not require a structural plan check review.
 - b. Replacement units weighing between 200 lbs. and 400 lbs. if no structural alterations are being made, shall require a letter, on business letterhead from an appropriately licensed contractor, certifying the weight of each unit to be removed and the lesser weight of each respective replacement unit. The contractor must also certify that structural elements supporting each unit are sound.
 - c. Replacement units weighing 400 lbs. or more require structural engineering calculations and drawings, prepared by a California registered civil engineer or licensed architect, to be submitted for review and approval.
3. Each system shall have provision for outside air supply. Show compliance with the California Energy Code, including required documentation. CMC Sections 403 and 311.1, and CBC Section 1203.
 4. All equipment shown on the current permit shall be permanently labeled. The label shall specifically identify the area served by that piece of equipment. Felt tip markers are not considered permanent. CMC Section 303.6.
 5. Outside air inlet shall be at least 10 feet away any plumbing vent, exhaust outlet, etc., unless the outlet is 3 feet above the outside-air inlet. CMC Section 311.3.
 6. Horizontal duct runs or duct extensions above the roof shall have adequate supports. Piping, ductwork, or other appurtenances installed on the roof shall be installed so as not to encroach into the required area and/or pathways required for access, maintenance and replacement of roof top installed appliances and/or equipment. CMC Chapter 6.
 7. Air conditioning units shall have a minimum 3/4 inch condensate drain of approved, corrosion-resistant piping, graded at not less than 1/8 inch per foot to an approved location. Install an approved, vented trap, at the connection to the unit, unless the manufacturer's installation instructions indicate that none is required. CMC Section 309.

8. Condensate drain piping, water piping, gas piping, etc. which is to run exposed above the roof shall be set on approved piping supports. All pipe supports shall be positioned above structural roof framing members. All piping shall be attached to the approved supports with approved straps and/or methods.

Supports for gas piping shall be in accordance with CPC Table 12-3.

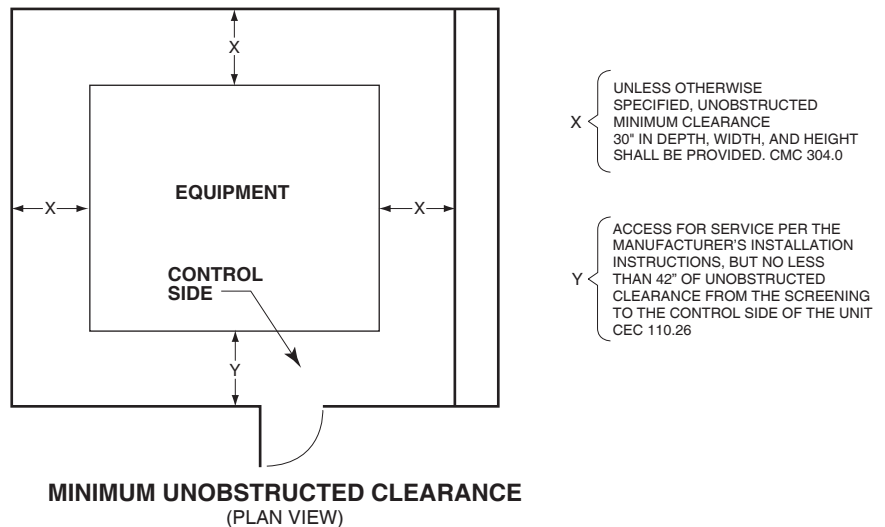
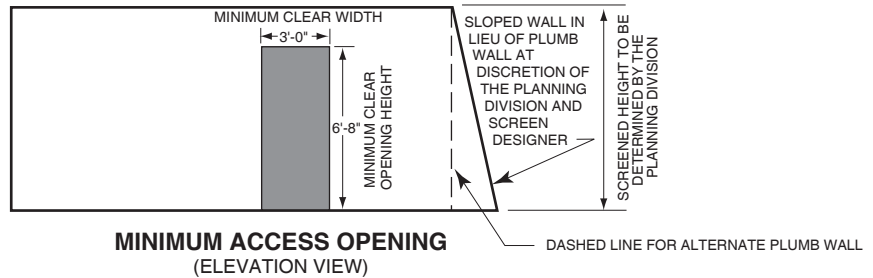
9. Install a permanent ladder or other approved access in accordance with CMC Section 304. Buildings of more than 15 feet in height shall have an inside means of access to the roof, unless other means acceptable to the Authority Having Jurisdiction are used.
10. A 125-volt, single-phase, 15- or 20-ampere-rated receptacle outlet shall be installed at an accessible location for the servicing of heating, air-conditioning, and refrigeration equipment. The receptacle shall be located on the same level within 25 feet of the equipment. The receptacle outlet shall not be connected to the load side of the equipment disconnecting means. CEC Section 210.63
11. The Planning Department must approve all outside appurtenances prior to the issuance of the mechanical permit. The Planning Department-approved screening requirements shall be inspected & approved by the structural field inspector prior to the mechanical final inspection sign off.

C. CLEARANCE AND ACCESS REQUIREMENTS FOR ROOF MOUNTED EQUIPMENT SCREENS

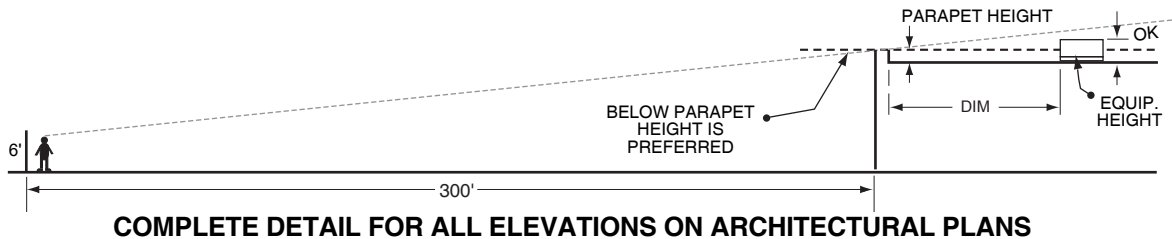
Equipment may be required to be screened if visible from public view. Inspection and approval is also required by the Planning Division at (714) 647-5804. Clearances between equipment and screen shall be maintained as required by code and manufacturer's installation instruction. Refer to detail below.

ILLUSTRATION:

1. EQUIPMENT INSTALLATIONS REQUIRE BUILDING, MECHANICAL AND ELECTRIC PERMITS.
2. EQUIPMENT SCREENS REQUIRE PLANNING, BUILDING (STRUCTURAL), MECHANICAL AND ELECTRICAL REVIEW, INSPECTIONS, AND APPROVALS.
3. CONTACT ELECTRICAL, PLAN CHECKER AT (714) 647-5822 IF SCREEN IS METAL, CONCRETE, OR BRICK, OR TILE AND VOLTAGE IS OVER 120/240 OR 240 V DELTA.
4. ROOF TOP UNIT-MOUNTED SCREENING MUST BE LISTED FOR ITS INTENDED USE, APPROVED BY THE PLANNING DEPARTMENT, AND REQUIRES A STRUCTURAL PLAN REVIEW AND APPROVAL PRIOR TO INSTALLATION.

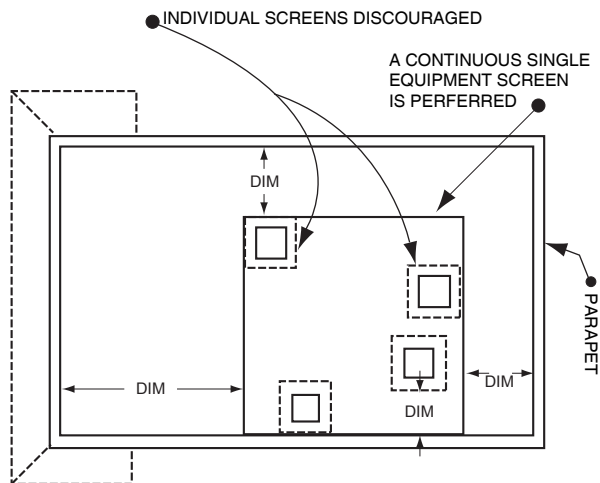


INDUSTRIAL & COMMERCIAL ROOF MOUNTED EQUIPMENT DETAIL



ROOF PLAN

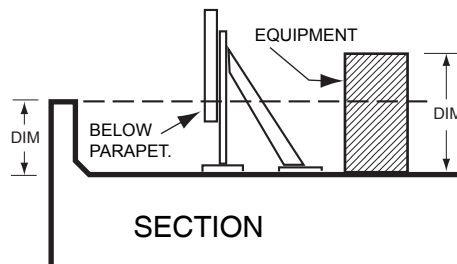
REQUIRED ON ARCHITECTURAL PLANS



SCREEN DETAIL

REQUIRED ON ARCHITECTURAL PLANS

1. DESIGN SHALL MATCH BUILDING MATERIAL, TEXTURE & COLOR
2. EXTERIOR PLYWOOD, CORRUGATED METAL OR METAL MESH IS NOT PERMITTED
3. PROVIDE MAN DOOR INTO ENCLOSURE
4. STRUCTURAL PLAN SHALL SATISFY BUILDING SAFETY DIVISION & ORANGE COUNTY FIRE AUTHORITY REQUIREMENTS



SANTA ANA MUNICIPAL CODE

Section 41-622 Mechanical equipment or appurtenances: Regulations.

- All mechanical equipment or appurtenances located on the roof or on the exterior of a building shall be screened.
- Every application for a building permit for the development of property shall be submitted to the Planning Division and shall be accompanied by detailed architectural drawings and plot plans, all to a workable scale, showing the elevation and location of the proposed screening structure or facilities, existing buildings and proposed addition, and any other pertinent information considered appropriate by the applicant or Planning Director pursuant to this section.
- Such plans for the screening shall be submitted to the Planning Division for approval, conditional approval, or denial. No building permit shall be issued until plans are approved or conditionally approved by the Planning Division. The decision of the Planning Department maybe appealed to the Planning Commission and then to the City Council.
- In all instances where no screening is required, the applicant shall indicate on his plans that this section does not apply to his proposed structure or building. (Ord. No. NS-1159, § 2, 3-19-73; Ord. No. NS-2710, § 27, 5-1-06; Qrd. No. NS-2803, § 14, 6-21-10).

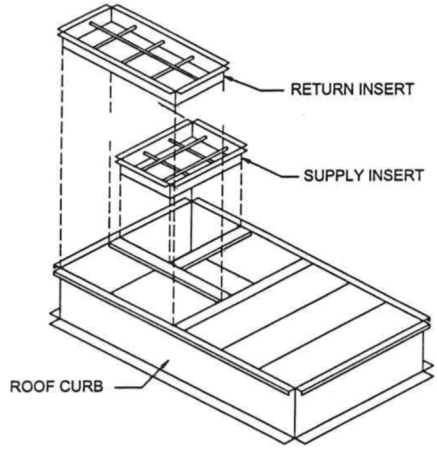
Santa Ana Burglar Bar Detail

MEC-02 SAMC

Duct penetrations through any roof may be required to have burglar bars complying with the Santa Ana Building Security Regulations. When required, burglar bars must be inspected and approved by a Santa Ana Police Department Inspector BEFORE the rough mechanical inspection. CALL POLICE INSPECTORS FOR INFORMATION OR TO SCHEDULE AN INSPECTIONS at 714-647-5840. SAMC Section 8-211(j)(3).

All air duct or air vent openings exceeding ninety-six (96) square inches on the roof or exterior walls of any commercial building shall be secured by covering same with either of the following:

1. Iron or steel bars of at least one-half (1/2) inch round or one by one-fourth (1 x 1/4) inch flat metal spaced no more than five (5) inches apart and securely fastened; or
2. Iron or steel grills of at least one-eighth (1/8) inch metal with a maximum two (2) inch mesh and securely fastened.
3. If the barrier is on the outside, it shall be secured with bolts which are non-removable from the exterior.
4. The above must not interfere with venting requirements, creating potentially hazardous conditions to health and safety, or conflict with the provisions of the Uniform Building Code or Title 19, California Administrative Code



Features:

Burglar bar inserts are fabricated of galvanized steel and 1/2" steel rods.

Inserts are of one-piece welded construction.

All welds are sprayed with galvanizing compound.

NOTE: Distance between steel bars not to exceed 5 inches.

