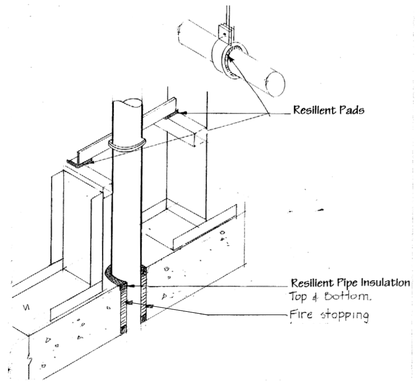
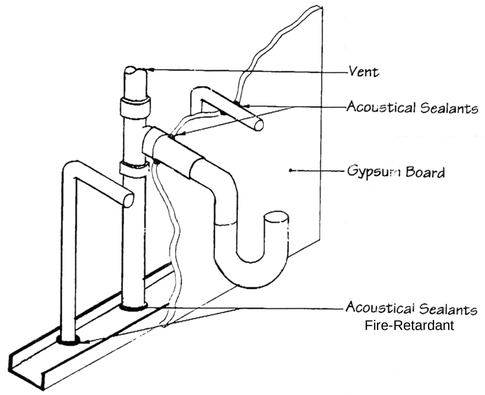


1 PIPE SUPPORT

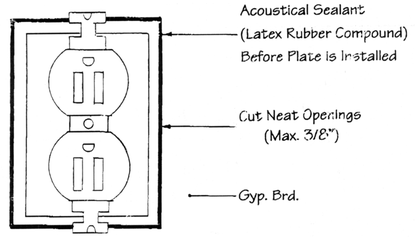
• Not to Scale



2 PIPE PENETRATION

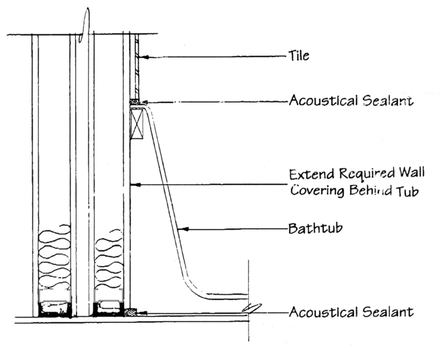
• Not to Scale

NOTE: Electrical outlets should be offset by one stud space. Where this requirement is impracticable, a 16 x16 drywall plate should be provided between the electrical outlets. With these details, there is no requirement to caulk electrical outlets



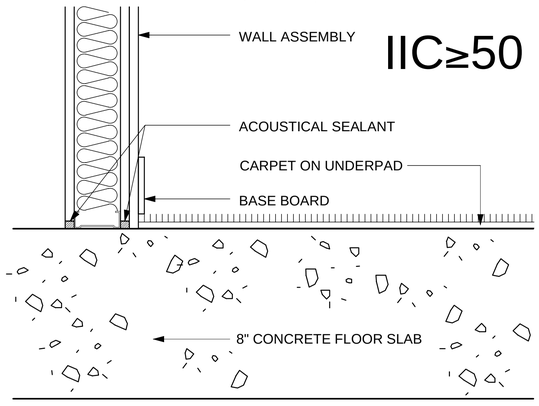
3 ELECTRICAL OUTLETS

• Not to Scale



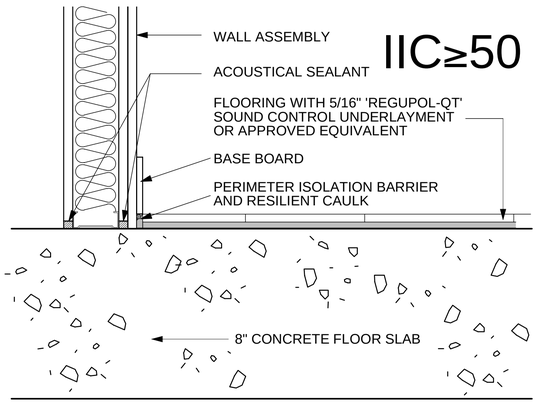
4 BATHTUB

• Not to Scale



5 CARPET FLOOR

Not to Scale



6 HARD FLOORING

Not to Scale

CABLE ELEVATOR SPECIFICATION

STRUCTURAL REQUIRMENT
Provide minimum 12" thick floor slab in elevator room or 8" thick with 4" housekeeping pads under hoist equipment. Do not set steel beams flush in floor. Specify smooth slab, or housekeeping pad level to +/- 0.05" over footprint of elevator machine.

1.0 GENERAL

1.1 MAXIMUM NOISE/VIBRATION LEVELS
Use elevator equipment with reverberant noise levels not exceeding 70 dB (re. 20 microPa) in any third octave band and 65 dB @100 Hz and below, in a room with 3 dB room effect. This requirement includes (fast response) impact peaks from brakes and relays. Balance rotating components to at least Grade 6.3 balance quality (ANSI S2.19–1975).

1.2 ISOLATION CRITERIA
Provide vibration isolation on all elevator equipment, including switching equipment, which may include solenoids and other impact generating devices, all sheave beams such as deflection/header/idler sheaves and potential flanking paths such as conduit, cable trays and wiring troughs. Ensure structure-borne noise transmitted to occupied space from any component of elevator equipment is less than airborne sound transmitted through building structure.

1.3 MINIMUM INSTALLATION REQUIREMENTS
In the event that noise proves to be audible in a suite, the following are minimum isolation requirements:

Locate isolator pads directly on concrete structure or housekeeping pad, where motor/drive loads are imposed on frame above. Use steel shims to level isolator pads for uniform loading. Do not use steel support pedestals under isolator pads.

On side traction elevator systems with hoist subject to upward loads or any other non-standard loading arrangement, provide isolation systems meeting above isolation criteria or minimum installation details specified in this section. Mount motor/drive sheave in a steel frame connected only to sheave beams spanning shaft, avoiding all other contact to structure.

Do not resolve upward cable loads on hoist using floor connections. Isolate beams only at support points on each side of shaft. Provide 1" steel plate/steel pocket, installed level and grouted to structure to evenly support isolators. Similarly isolate deflector sheave beams, and header beams at top of shaft on basement hoist system.

Use seismic hold-down brackets with visible clearance to base frame of elevator or sheave beams. Do not use hold-down bolts through elevator base frame or sheave beams.

Provide sleeves with minimum clearance around cable penetrations to minimize noise transmission into elevator shaft. On side-mounted or basement hoist systems, work with drywall trade to provide drywall partition to meet this requirement. Grout all other openings through elevator room floor slab/walls.

Make no attachments to drywall partitions.

1.4 NOISE FROM CAR/COUNTERWEIGHT
Use polyurethane roller guides on both car and counterweight unless otherwise approved. Provide car/counterweight guides and door operating mechanisms with smooth, impact free operation such that all noise from elevator operation is less than 25 dBA (fast response peaks) in an adjacent space to elevator shaft with specified wall construction.

1.5 SUBMITTALS
Submit name of a similar installation, where an identical elevator can be seen in operation, which meets the requirements of this specification.

Submit proposed isolation details with shop drawings, including isolators to support control cabinets and all conduit connections. Use neoprene isolators sized for 0.05" – 0.1" deflection, 40 duro maximum, under normal operating loads (not emergency loads). Use isolator pads capable of emergency loads without damage. Do not proceed with manufacturing without written confirmation that isolation details have been reviewed.

1.6 CODES
Meet all applicable codes, including seismic.

2.0 PRODUCTS (Vibra-Sonic Control, 294–9495)
- Mason BBP pads, 40 duro, 1" thick. Select for 50% max. load recommended by manufacturer for 0.15" deflection.
- Mason Super W pads
- Mason Hemi-Grommets
- Mason HD neoprene hangers
- EAR Grommets
- Mason BR Isolators
- All neoprene products: 40 duro max., bridge bearing quality

HYDRAULIC ELEVATOR SPECIFICATION

Avoid locating elevator machine rooms directly adjacent to occupied space. Locate on 6" thick slab on grade.

1.0 GENERAL
Meet all applicable codes.

1.1 MAXIMUM NOISE LEVELS
Where equipment room is located immediately adjacent to occupied space, advise architect before proceeding to ensure sound isolation membrane is provided.
Supply elevator pump system with maximum noise levels in elevator machine room not exceeding the following values, after correction for motor size and room size.

Octave Band (Hz)	63	125	250	500	1000	2000	4000
Noise Level (dB)	80	77	71	72	73	78	76

The reference noise levels were measured in a small (approximately 10 sq.m.) machine room at Oakridge Shopping Centre, Vancouver on a Otis Type LRV-3 elevator with a 25 hp motor. Correction is 3 dB / doubling of motor power and / or room size, e.g. 15 hp = 2 dB down, 6 sq.m. room = 2 dB up.
Provide attenuator in oil line sufficient to reduce noise levels to meet 40 dBA in elevator lobbies immediately beside elevator access doors.

1.2 ISOLATION
Isolate pump / tank controller and other associated equipment on neoprene isolators with nominal 0.1" minimum static deflection. Position tank at least 4" clear on the concrete or blockwork walls. Do not position adjacent to drywall walls.
Isolate all piping, conduit, hoistway wiring trough, etc. between pump and elevator shaft, and inside shaft, using neoprene hangers. Where piping, electrical conduit, etc. pass through walls, shaft and other structural elements, provide clearance to avoid contact. If required for fireproofing, use soft rockwool and soft fireproof sealant meeting Code requirements. Do not grout.

1.3 ASSOCIATED EQUIPMENT
Do not use drywall finishes in elevator machine room. Do not attach equipment associated with elevator to drywall walls and avoid contact to any drywall finishes. If necessary, mount such equipment from floor on steel frames supported on neoprene isolators. Where Code requires that equipment be mounted on wall, provide clear openings in any drywall finishes and mount to concrete or blockwork structure using resilient neoprene mounts. Provide flexible connections between wall mounted equipment and pump / controller, etc. (e.g. a 180° flexible bend of cab tire wiring) such that noise transmitted via structureborne flanking is less than the airborne transmission through the structure (tested using loudspeakers).

1.4 IMPACT SOURCES
Provide solid state controllers without solenoids or other impact generating sources. Otherwise, mount control cabinet on neoprene mounts. Provide slow closing mechanisms on any valves, etc. to avoid shock and fluid hammer noises.

1.5 NOISE FROM CAR
Provide car guides and door operating mechanisms with smooth, impact free operation such that all noise from elevator operation is less than 25 dBA (fast response peaks) in occupied space adjacent to elevator m/c room and elevator shaft, with specified construction.

1.6 SUBMITTALS
Submit name of similar installation where an identical elevator can be seen in operation, and with equipment room below occupied space, which meets the requirements of this specification.

2.0 PRODUCTS
- Mason Type BR neoprene isolators.
- Mason Super W neoprene pads.
- Mason Type HD neoprene hangers.
- EAR resilient grommets.

(Vibra-Sonic Control, 294-9495)
All neoprene products: 50 durometer maximum, bridge bearing quality.

ACCESS/SECURITY DOORS TO PARKING FACILITIES
NOISE/VIBRATION CONTROL

1.0 GENERAL
The intent of this specification is to control noise from parking access/security doors to suites above. meet all applicable codes, including seismic, without compromising vibration isolation.

Supply doors generating no more than 65 dBA in immediate vicinity of door. Supply vibration isolation such that structure-borne noise transmission to suites overhead is at least 10 decibels less than airborne noise transmission through a 6" concrete slab.

Use nylon wheels on tracks, or other quiet assembly, to minimize wheel generated noise. Do not use steel wheels. Accurately align tracks to minimize wheel impacts. Isolate drive assembly and wheel tracks using neoprene isolators selected for nominally 0.1" – 0.15" static deflection. Install isolator base to concrete structure overhead, or to columns and masonry walls. Do not install isolator base on light elements. Include isolators at base connections on track to floor slab.

Submit shop drawings showing proposed installation details, including review by BC Registered Professional Engineer certifying seismic performance. Include measured load vs. deflection curves for isolators. Show door weight and design loads on mounts.

2.0 PRODUCTS
- Mason Type BRA (maximum 40 durometer)
- Vibra-Sonic Control, 294-9495

3.0 INSTALLATION
Design door support frame as an independent rigid structure. Position isolators between rigid frame and concrete structure of building. Provide diagonals in rigid frame to ensure isolators are not deflected laterally by sideways loads from frame. Do not locate isolators on light supports, i.e. on concrete structure only.
Avoid rigid contact to surrounding structures, security fences, etc.
Provide 180° hanging loop of flexible cable at electrical connection to motor.

BUILDING PERMIT SET	MAR 14, 2003
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CLIENT

FIFTH AVENUE CONDOS L.L.C.

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Perkins & Company
Architecture and Urban Design Inc.
1498 West Fifth Ave.
Vancouver, BC
V6H 4G3
Telephone • (604) 685-2428
Fax • (604) 685-2467
E-Mail • files@perkinsandcompany.com
Web Page • www.perkinsandcompany.com

PROJECT TITLE

Trellis Fifth Avenue

DRAWING TITLE

Acoustic Diagram

PROJECT NO.	FILE / DATE
2167	2167 acoustics 03/14
DRAWN: NK / CHECKED: JP	SCALE: N.T.S
DRAWING NO.	AS.5