

VHF HOUSE GRANTS PROGRAM

FOUNDATIONS & SEISMIC UPGRADE REQUIREMENTS

VHF has assembled these requirements for its House Grants Program. It is the homeowner's responsibility to ensure that work is done per the requirements. Failure to comply with these requirements will likely affect payment of the grant in full or part. To ensure full compliance please provide prospective contractors with a copy of the applicable requirements for the project and ask them to specify these requirements in their quotes. The contractor's on-site representative should also be provided with a copy before work commences.

Foundations

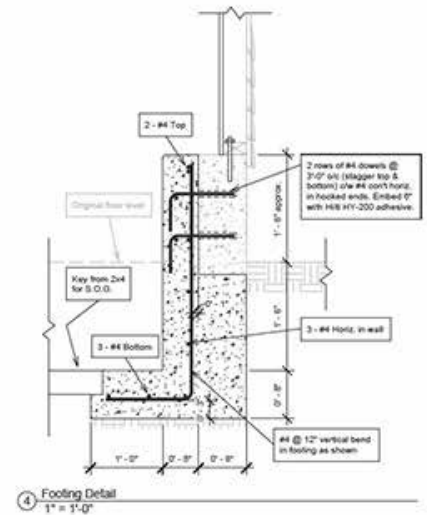
VHF funds foundation repairs as well as some new foundations.

- Foundations as part of major basement renovations may not be funded and will be reviewed on a case-by-case basis after all City permits are approved.
- Any foundation that raises the house will be considered on a case-by-case basis.
- Reconstruction of foundation skirting must replicate the original, including water table elements.

Seismic Upgrades

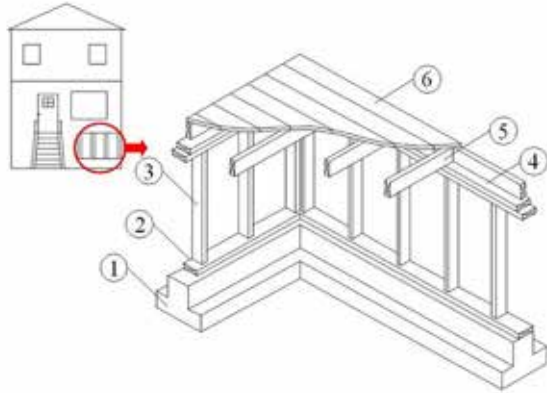
Victoria is in a high-risk earthquake zone. VHF encourages homeowners to undertake seismic upgrading both for personal safety and protection of their investment in Victoria's irreplaceable historic housing stock. VHF strongly recommends that homeowners purchase earthquake insurance.

Although the 2012 Building Code includes prescriptive seismic guidelines for new construction, these are most likely not directly applicable to heritage-type buildings. For this reason, seismic upgrading for foundations of heritage-type construction, masonry chimneys and roof structures must be designed by a Professional Structural Engineer if applying for a grant. Where seismic upgrading is planned, homeowners can expedite the process by obtaining the required engineering design along with the contractors' quotes, and submit these with the grant application.



VHF funded seismic upgrades must be designed by a Professional Structural Engineer

In wood-frame houses the weakest structural link is the short studwall (cripple wall) in the basement or crawl space between the foundation and the first floor. The goal in retrofitting a house is to connect it firmly to the foundation and stiffen the cripple walls by turning all or part of them into shear walls. A shear wall is a studwall that's connected to the foundation with anchor bolts, sheathed with plywood fastened in a tight nailing pattern, and tied to the floor above with shear transfer ties. All components — foundation bolts, plywood sheathing, and shear transfer ties— must be there for the retrofit to work. If the shear wall is tall relative to its width, hold-downs are also required.



Typical unreinforced cripple wall

- ① foundation
- ② sill plate
- ③ cripple wall
- ④ top plate
- ⑤ floor joist
- ⑥ floor you walk on



Anchor bolts strengthen the connection between the sill plate and foundation.



Hold-downs are installed at each end of all shear walls to resist uplift forces.



Shear transfer ties connect the top of the cripple wall to the joists above and the floor diaphragm to the top plate.



Cripple walls are sheathed with plywood fastened in a tight nailing pattern.