

Solar Panel Rooftop Installation Checklist

Project Location:

Important Points for Anyone Involved with Solar PV Installations on Roofs

1. Truss Manufacturers intentionally design trusses as close to 100% stressed as possible.
2. Any additional loads added to a truss will void the engineer's seal on the original truss design.
3. Installing a solar system on a roof truss will void the engineer's seal on the original truss design.
4. Solar panels are installed on rails to allow for air movement under the panels, thus optimizing the efficiency of the system.
5. The rails and mounting brackets transfer the snow loads and solar system self-weight as point loads to the roof structure, not uniform area loads.
6. Installing a solar system on a roof requires that the structure of the entire building be re-analyzed under the current applicable version of the OBC.
7. The current code for farm buildings is the NFBC 1995. The current code for all other structures is the OBC 2006.
8. The allowable snow loads and wind loads in the NFBC are considerably lower than those in the OBC 2006.
9. Consideration should be given to whether the engineer providing the General Review carries adequate insurance to cover the cost of the building, the contents, the solar system and the loss of revenue from the FIT contract.

Buildings Designed Under Part 9 / Non-Farm Buildings Designed Under Part 4

1. A structural review for installation of a solar system requires the existing site conditions to be confirmed.
2. The condition of the entire structure including the trusses must be reviewed.
3. The analysis must be done using the OBC 2006.
4. A General Review of the entire building structure should be conducted by a professional engineer.
5. The engineer who performs the general review is to take responsibility for the adequacy of the entire building, not just the solar system.
6. Among other things, the engineer must address the following issues:
 - a. Suitability of using the Modified Formula (CSA-086-01 clause 5.5.13.5) given that loads are transferred as point loads rather than uniform loads.
 - b. Suitability of using load-sharing factors (CSA-086-01 clause 5.4.4) given that loads are transferred as point loads rather than uniform loads.
 - c. Adequacy of truss bracing. Confirm that diagonal bracing on compression webs is at 20 feet on centre as per industry guidelines. Similarly, confirm that any piggybacks are properly braced. If there are fewer than three identical trusses in a row, T bracing is to be used in place of lateral bracing.
 - d. Specify and inspect any reinforcement of the roof structure including truss and building bracing.
 - e. Verify the adequacy of the anchors for the mounting brackets and inspect the attachment of the mounting brackets to the roof structure.
 - f. Verify that all framing and foundation components including footings are adequate.
 - g. Address any issues of deterioration on any structural component (e.g. rot, corrosion, etc.).
7. Part 9 of the OBC requires that any structural component subjected to a point load be engineered. Conventionally framed roofs must therefore be checked by a professional engineer.

The above issues have been addressed in the review by a structural Engineer and any remedial work is reflected in the attached drawings.

Signature of Reviewing Engineer

Stamp

Letter of Commitment from Engineer to accompany the checklist.

COMMITMENT TO GENERAL REVIEW BY ARCHITECT AND ENGINEER

PART A – TO BE COMPLETED BY OWNER

Project Description:

Permit Application No.

Address of Project:

Municipality:

WHEREAS the building code requires that the project described above be designed and reviewed during construction or demolition by an architect, a professional engineer or both that are licensed to practice in Ontario, and
 WHEREAS Ontario law prohibits the construction or demolition of a building if a permit has not been issued to authorize it, and
 WHEREAS architects and engineers are prohibited by law from undertaking general review of construction if a permit has not been issued,
 NOW THEREFORE the Owner, who intends to construct or demolish or have the building constructed or demolished, hereby confirms that:

1. The undersigned architect and/or professional engineers have been retained to provide general review of the construction or demolition of the building to determine whether the work is in general conformity with the plans and other documents that form the basis for the issuance of a permit, in accordance with the performance standards of the Ontario Association of Architects (OAA) and/or Professional Engineers Ontario (PEO);
2. All general review reports by the architect and/or professional engineers will be forwarded to the Chief Building Official;
3. Should any retained architect or professional engineer cease to provide general review for any reason during construction or demolition, the Chief Building Official will be notified in writing immediately, and another architect or engineer will be appointed so that general review continues without interruption; and
4. Construction or demolition will only be undertaken if an architect and/or professional engineers are retained to undertake general review, and a permit authorizing the proposed construction or demolition has been issued.

The undersigned hereby certifies that he/she has read and agrees to the above

Owner's Name:

Date:

Owner's Address:

Telephone:

Signature of Owner:
(or authorized agent)

Print Name:

Fax:

Coordinator of the work of all consultants:

Telephone:

Address:

Fax:

PART B – TO BE COMPLETED BY CONSULTANTS

The undersigned architect and/or professional engineers hereby certify that they have been retained to provide general review of the parts of construction or demolition of the building indicated, to determine whether the work is in general conformity with the plans and other documents that form the basis for the issuance of a permit, in accordance with the performance standards of the OAA and/or PEO.

ARCHITECTURAL	STRUCTURAL	MECHANICAL	ELECTRICAL	SITE SERVICES	OTHER: _____
Consultant Name:		Signature:	Print Name:		Date:

Telephone:

Address:

ARCHITECTURAL	STRUCTURAL	MECHANICAL	ELECTRICAL	SITE SERVICES	OTHER: _____
Consultant Name:		Signature:	Print Name:		Date:

Telephone:

Address:

ARCHITECTURAL	STRUCTURAL	MECHANICAL	ELECTRICAL	SITE SERVICES	OTHER: _____
Consultant Name:		Signature:	Print Name:		Date:

Telephone:

Address:

ARCHITECTURAL	STRUCTURAL	MECHANICAL	ELECTRICAL	SITE SERVICES	OTHER: _____
Consultant Name:		Signature:	Print Name:		Date:

Telephone:

Address: