



## DURHAM CITY-COUNTY INSPECTIONS DEPARTMENT



### ALTERNATE ENERGY SYSTEM SUPPORT WORKSHEET

When installing alternate energy-saving systems such as rooftop solar heating systems for hot water or photovoltaic banks for supplemental electricity, there must be a determination made that either the roof is sufficient to carry the additional loading with no changes, or structural reinforcement of the existing roof will be required to carry the additional loads. For a commercial building, this must be done by a licensed structural engineer. For a residential single family house, duplex, or townhouse, if the roof structure consists of an engineered truss system, this calculation also would need to be done by a licensed structural engineer. This worksheet may only be used for single family houses, duplexes, or townhouses with stick-built roof systems. **In order for a plumbing permit to be issued for a rooftop solar hot water system, or an electrical permit to be issued for a photovoltaic bank for supplemental electricity, the trade application must be accompanied by either sealed structural design documents verifying the adequacy of the existing roof or by a copy of this worksheet, signed by someone in Plans Review, verifying that loading requirements are being met. A building permit must be issued for alterations to existing structural systems if required for support.**

**Property address:** \_\_\_\_\_

**Type Occupancy** (circle one): Single family house   Duplex   Townhouse

**Type rooftop system:** \_\_\_\_\_

**Weight of new rooftop system per square foot:** \_\_\_\_\_

**Size/species/grade of rafters:** \_\_\_\_\_

**Spacing of rafters:** \_\_\_\_\_

**Longest rafter span (horiz. distance, ridge to bearing wall):** \_\_\_\_\_

**Slope of roof system:** \_\_\_\_\_

Do the rafters meet loading requirements as determined from rafter loading tables R802.5.1 (1) through R802.5.1 (8)? (Added load from rooftop system considered as additional dead loading from snow load)

**Yes:** \_\_\_\_\_ **No:** \_\_\_\_\_

**Plans Examiner:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Signature:** \_\_\_\_\_