Trinity SOLAR

Unirac Specs Request
(Cheat Sheet)

Site: **http://unirac.com/equestionnaire.php**

Company:	Trinity Solar
First Name:	Kevin
Last Name:	Kura
Phone:	732-616-1928
Email:	~~Kevin.Kura@Trinity-Solar.com~~
Project Name:	(Customers Last Name)
Address:	2211 Allenwood Rd
City:	Wall
State:	NJ
Zip:	07719
Distributer Name:	Warshaur Electric
Distributer Contact Name:	Gene Fay
Distributer Contact Phone:	(blank)
Distributer Contact E-Mail:	(blank)
Project Zip Code:	(Customers Zip Code)
Installation Type:	Ground Mount
Product Family:	U-LA
Basic Wind Speed:	110
Wind Exposure Category:	B
Ground Snow Load:	~~24 (30 for CT Jobs)~~ See Sheet
Seismic Zone:	No
Module Manufacturer:	(Brand of panels)
Module Model:	(Part Number)
Total Number of Modules:	(Panel Count)
Number of Rows:	(Rows are the number of panels from top to bottom)
Number of Columns:	(Columns are the number of panels left to right)
Number of Arrays:	
Module Tilt Angle:	30 ~~Degrees~~ Just the #
Module Orientation:	Landscape
Preferred Mounting Method:	Bottom Clips 65+ PSF use Top Clips
Preferred Footing Diameter:	12"
Preferred Edge Height:	24"

- Residential System Design @ Trinity Solar Systems
- grichardpe@aol.com
- Ct.operations@trinity-solar.com
- Mass.operations@trinity-solar.com
- Ny.team@trinitysolarsystems.com

Corporate Headquarters
2211 Allenwood Rd
Wall, NJ 07719
Made with Earth-Friendly Products

800-FREE-SOLAR
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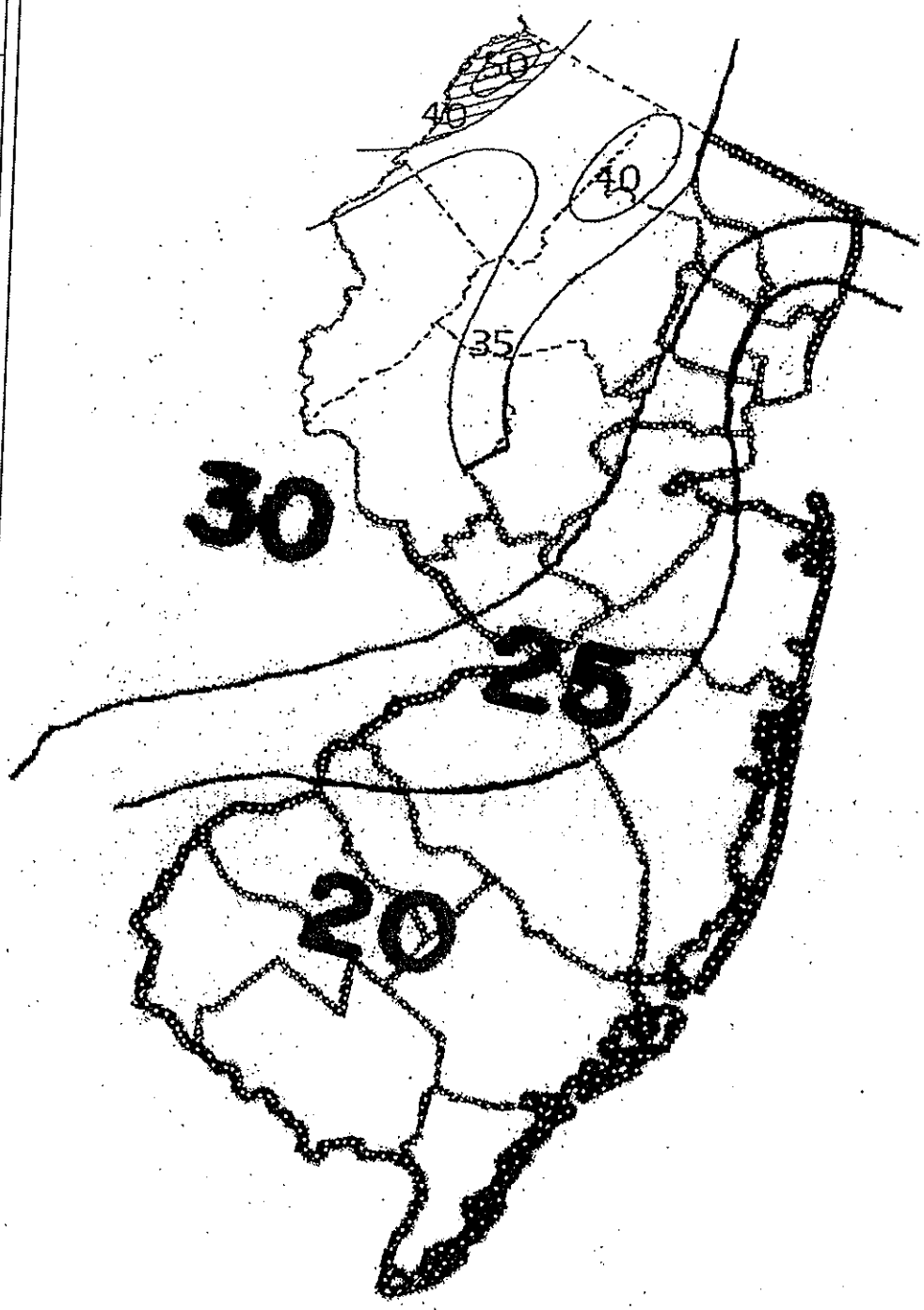
Fax: 732-780-6671
www.Trinity-Solar.com

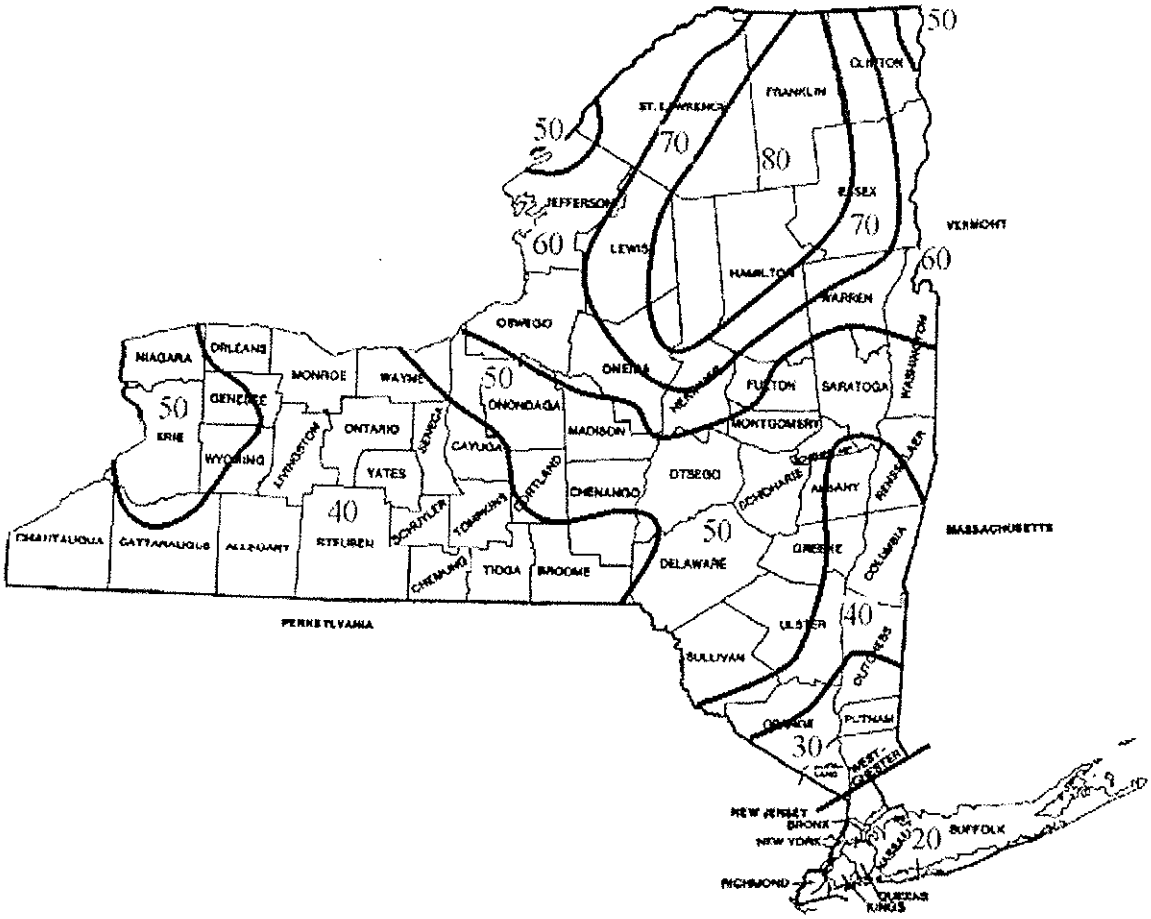
BULLETIN NO.

94-8

BULLETIN



Ground Snow Loads
(psf)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MONROE
WAYNE
ONEIDA
FULTON
SARATOGA
WASHINGTON
GENESEE
ONONDAGA
ERIE
WYOMING
LIVINGSTON
ONTARIO
SENECA
CAYUGA
MADISON
MONTGOMERY
YATES
SCHOHARIE
ALBANY
RENSSELAER
CHAUTAUQUA
CATTARAUGUS
ALLEGANY
STEUBEN
SCHUYLER
TOMPKINS
CORTLAND
CHENANGO
OTSEGO
DELAWARE
GREENE
COLUMBIA
MASSACHUSETTS
CHEMUNG
TIOGA
BROOME
PENNSYLVANIA
ULSTER
SULLIVAN
ORANGE
PUTNAM
WEST-CHESTER
NEW JERSEY
BRONX
NEW YORK
RICHMOND
QUEENS
KINGS
NASSAU
SUFFOLK

780 CMR: MASSACHUSETTS AMENDMENTS TO THE *INTERNATIONAL BUILDING CODE 2009*

CHAPTER 16: STRUCTURAL DESIGN

1603.1 Add a third sentence as follows:

When structural components, assemblies, or systems are designed by a *registered design professional* under the control of the contractor, and said designs are not included with the application for permit, said designs shall be submitted to the *building official* with an application for amendment to the permit.

1603.1.7 Replace 'on the community's Flood Insurance Rate Map (FIRM)' with 'of the *base flood elevation*'.

1604.11 Add subsection:

1604.11 Snow, Wind and Earthquake Design Factors. Ground snow load, p_g, basic wind speed (three second gust speed), V, and earthquake response accelerations for the maximum considered earthquake, S_S and S_1, for each city and town in Massachusetts shall be as given in Table 1604.11.

Exception. For ground snow load and basic wind speeds for R-3 one- and two-family dwellings of three stories or less, *see* 780 CMR One- and Two-family Dwellings.

TABLE 1604.11 GROUND SNOW LOADS; BASIC WIND SPEEDS; EARTHQUAKE DESIGN FACTORS

City/Town	p_g	V	Ss	S_1	City/Town	p_g	V	Ss	S_1
Abington	45	110	0.26	0.064	Medford	45	105	0.29	0.070
Acton	55	100	0.29	0.071	Medway	55	100	0.25	0.065
Acushnet	45	110	0.23	0.058	Melrose	45	105	0.30	0.070
Adams	65	90	0.22	0.068	Mendon	55	100	0.24	0.064
Agawam	55	100	0.23	0.065	Merrimac	55	110	0.35	0.077
Alford	65	90	0.22	0.066	Methuen	55	110	0.34	0.076
Amesbury	55	110	0.35	0.077	Middleborough	45	110	0.24	0.061
Amherst	55	100	0.23	0.067	Middlefield	65	100	0.22	0.066
Andover	55	110	0.32	0.075	Middleton	45	110	0.32	0.073
Aquinnah (*see* Gay Head)					Milford	55	100	0.24	0.065
Arlington	45	105	0.29	0.069	Millbury	55	100	0.24	0.065
Ashburnham	65	100	0.27	0.072	Millis	55	100	0.25	0.065
Ashby	65	100	0.28	0.072	Millville	55	100	0.24	0.064
Ashfield	65	100	0.22	0.068	Milton	45	105	0.27	0.066
Ashland	55	100	0.25	0.066	Monroe	65	100	0.22	0.069
Athol	65	100	0.25	0.070	Monson	55	100	0.23	0.065
Attleboro	55	110	0.24	0.062	Montague	65	100	0.23	0.068
Auburn	55	100	0.23	0.065	Monterey	65	90	0.22	0.066
Avon	55	100	0.26	0.064	Montgomery	65	100	0.23	0.066
Ayer	65	100	0.28	0.071	Mnt Washington	65	90	0.23	0.066
Barnstable	35	120	0.20	0.054	Nahant	45	110	0.30	0.070
Barre	55	100	0.24	0.068	Nantucket	35	120	0.15	0.047
Becket	65	90	0.22	0.066	Natick	55	100	0.26	0.067
Bedford	55	100	0.29	0.071	Needham	55	100	0.27	0.067
Belchertown	55	100	0.23	0.066	New Ashford	65	90	0.22	0.068
Bellingham	55	100	0.24	0.064	New Bedford	45	110	0.23	0.058
Belmont	45	105	0.28	0.069	New Braintree	55	100	0.23	0.067
Berkley	55	110	0.24	0.061	New Marlborough	65	90	0.23	0.066
Berlin	55	100	0.26	0.068	New Salem	65	100	0.24	0.068
Bernardston	65	100	0.23	0.070	Newbury	55	110	0.35	0.076
Beverly	45	110	0.32	0.072	Newburyport	55	110	0.35	0.077
Billerica	55	100	0.30	0.072	Newton	55	105	0.27	0.068
Blackstone	65	100	0.24	0.064	Norfolk	55	100	0.25	0.065
Blandford	65	100	0.23	0.066	N. Adams	65	90	0.22	0.069
Bolton	55	100	0.26	0.069	N. Andover	55	110	0.33	0.075

16.00: continued

TABLE 1604.11 GROUND SNOW LOADS; BASIC WIND SPEEDS; EARTHQUAKE DESIGN FACTORS - continued

City/Town	p_g	V	Ss	S_1	City/Town	p_g	V	Ss	S_1
Boston	45	105	0.29	0.068	N. Attleborough	55	110	0.24	0.063
Bourne	35	120	0.21	0.056	N. Brookfield	55	100	0.23	0.066
Boxborough	55	100	0.28	0.070	N. Reading	55	105	0.32	0.073
Boxford		110	0.33	0.075	Northampton	55	100	0.22	0.066
Boylston	55	100	0.25	0.067	Northborough	55	100	0.25	0.067
Braintree	45	105	0.27	0.066	Northbridge	55	100	0.24	0.065
Brewster	35	120	0.18	0.052	Northfield	65	100	0.24	0.070
Bridgewater	45	110	0.24	0.062	Norton	55	110	0.24	0.063
Brimfield	55	100	0.23	0.065	Norwell	45	110	0.26	0.064
Brockton	45	110	0.25	0.064	Norwood	55	100	0.26	0.065
Brookfield	55	100	0.23	0.065	Oak Bluffs	35	120	0.18	0.051
Brookline	45	105	0.28	0.068	Oakham	55	100	0.24	0.067
Buckland	65	100	0.22	0.068	Orange	65	100	0.24	0.070
Burlington	55	105	0.30	0.071	Orleans	35	120	0.18	0.051
Cambridge	45	105	0.28	0.068	Otis	65	90	0.23	0.066
Canton	55	100	0.26	0.066	Oxford	55	100	0.23	0.065
Carlisle	55	100	0.29	0.071	Palmer	55	100	0.23	0.066
Carver	45	110	0.24	0.060	Paxton	55	100	0.24	0.067
Charlemont	65	100	0.22	0.068	Peabody	45	110	0.31	0.072
Charlton	55	100	0.23	0.065	Pelham	55	100	0.23	0.067
Chatham	35	120	0.17	0.050	Pembroke	45	110	0.25	0.063
Chelmsford	55	100	0.30	0.073	Pepperell	65	100	0.30	0.073
Chelsea	45	105	0.29	0.069	Peru	65	90	0.22	0.067
Cheshire	65	90	0.22	0.068	Petersham	65	100	0.24	0.068
Chester	65	100	0.22	0.066	Phillipston	65	100	0.24	0.069
Chesterfield	65	100	0.22	0.067	Pittsfield	65	90	0.22	0.067
Chicopee	55	100	0.23	0.066	Plainfield	65	100	0.22	0.068
Chilmark	35	120	0.18	0.051	Plainville	55	100	0.24	0.063
Clarksburg	65	90	0.22	0.069	Plymouth	45	110	0.24	0.060
Clinton	55	100	0.26	0.068	Pympton	45	110	0.24	0.061
Cohasset	45	110	0.27	0.066	Princeton	65	100	0.25	0.069
Colrain	65	100	0.23	0.069	Provincetown	35	120	0.22	0.058
Concord	55	100	0.29	0.070	Quincy	45	105	0.27	0.067
Conway	65	100	0.22	0.068	Randolph	45	105	0.26	0.065
Cummington	65	100	0.22	0.067	Raynham	55	110	0.24	0.062
Dalton	65	90	0.22	0.067	Reading	55	105	0.31	0.072
Danvers	45	110	0.32	0.073	Rehoboth	55	110	0.24	0.062
Dartmouth	45	110	0.23	0.058	Revere	45	105	0.30	0.070
Dedham	55	100	0.26	0.066	Richmond	65	90	0.22	0.067
Deerfield	65	100	0.23	0.068	Rochester	45	110	0.23	0.059
Dennis	35	120	0.19	0.052	Rockland	45	110	0.26	0.064
Dighton	55	110	0.24	0.061	Rockport	45	110	0.33	0.073
Douglas	55	100	0.23	0.064	Rowe	65	100	0.22	0.069
Dover	55	100	0.26	0.066	Rowley	55	110	0.34	0.075
Dracut	55	100	0.33	0.075	Royalston	65	100	0.25	0.070
Dudley	55	100	0.23	0.064	Russell	65	100	0.23	0.066
Dunstable	65	100	0.31	0.074	Rutland	55	100	0.24	0.068
Duxbury	45	110	0.25	0.062	Salem	45	110	0.31	0.071
E. Bridgewater	45	110	0.25	0.063	Salisbury	55	110	0.35	0.077
E. Brookfield	55	100	0.23	0.066	Sandisfield	65	90	0.23	0.066
E. Longmeadow	55	100	0.23	0.065	Sandwich	35	120	0.22	0.058
Eastham	35	120	0.19	0.052	Saugus	45	110	0.30	0.070
Easthampton	55	100	0.23	0.066	Savoy	65	90	0.22	0.068

16.00: continued

TABLE 1604.11 GROUND SNOW LOADS; BASIC WIND SPEEDS; EARTHQUAKE DESIGN FACTORS - continued

City/Town	p_g	V	Ss	S_1	City/Town	p_g	V	Ss	S_1
Easton	55	110	0.25	0.064	Scituate	45	110	0.27	0.065
Edgartown	35	120	0.18	0.050	Seekonk	55	110	0.24	0.062
Egremont	65	90	0.23	0.066	Sharon	55	100	0.25	0.065
Erving	65	100	0.23	0.069	Sheffield	65	90	0.23	0.066
Essex	45	110	0.33	0.073	Shelburne	65	100	0.23	0.068
Everett	45	105	0.29	0.069	Sherborn	55	100	0.26	0.066
Fairhaven	45	110	0.22	0.057	Shirley	65	100	0.28	0.072
Fall River	45	110	0.23	0.059	Shrewsbury	55	100	0.25	0.067
Falmouth	35	120	0.20	0.054	Shutesbury	65	100	0.23	0.068
Fitchburg	65	100	0.27	0.071	Somerset	55	110	0.23	0.060
Florida	65	90	0.22	0.069	Somerville	45	105	0.28	0.069
Foxborough	55	100	0.25	0.064	South Hadley	55	100	0.23	0.066
Framingham	55	100	0.26	0.067	Southampton	55	100	0.23	0.066
Franklin	55	100	0.24	0.064	Southborough	55	100	0.26	0.067
Freetown	45	110	0.23	0.060	Southbridge	55	100	0.23	0.064
Gardner	65	100	0.26	0.070	Southwick	55	100	0.23	0.065
Gay Head (Aquinnah)	35	120	0.18	0.051	Spencer	55	100	0.23	0.066
Georgetown	55	110	0.34	0.075	Springfield	55	100	0.23	0.065
Gill	65	100	0.23	0.069	Sterling	55	100	0.26	0.069
Gloucester	45	110	0.33	0.073	Stockbridge	65	90	0.22	0.066
Goshen	65	100	0.22	0.067	Stoneham	45	105	0.30	0.071
Grafton	55	100	0.24	0.066	Stoughton	55	100	0.26	0.065
Gosnold	35	120	0.19	0.053	Stow	55	100	0.27	0.069
Granby	55	100	0.23	0.066	Sturbridge	55	100	0.23	0.065
Granville	65	100	0.23	0.066	Sudbury	55	100	0.27	0.069
Great Barrington	65	90	0.22	0.066	Sunderland	65	100	0.23	0.068
Greenfield	65	100	0.23	0.069	Sutton	55	100	0.24	0.065
Groton	65	100	0.30	0.073	Swampscott	45	110	0.30	0.070
Groveland	55	110	0.34	0.076	Swansea	55	110	0.24	0.061
Hadley	55	100	0.23	0.067	Taunton	55	110	0.24	0.062
Halifax	45	110	0.25	0.062	Templeton	65	100	0.25	0.070
Hamilton	45	110	0.33	0.074	Tewksbury	55	100	0.31	0.073
Hampden	55	100	0.23	0.065	Tisbury	35	120	0.18	0.052
Hancock	65	90	0.22	0.068	Tolland	65	100	0.23	0.066
Hanover	45	110	0.26	0.064	Topsfield	45	110	0.33	0.074
Hanson	45	110	0.25	0.063	Townsend	65	100	0.28	0.072
Hardwick	55	100	0.23	0.067	Truro	35	120	0.22	0.057
Harvard	55	100	0.28	0.070	Tyngsborough	55	100	0.31	0.074
Harwich	35	120	0.18	0.051	Tyringham	65	90	0.22	0.066
Hatfield	55	100	0.22	0.067	Upton	55	100	0.24	0.065
Haverhill	55	110	0.35	0.077	Uxbridge	55	100	0.24	0.064
Hawley	65	100	0.22	0.068	Wakefield	45	105	0.31	0.071
Heath	65	100	0.22	0.069	Wales	55	100	0.23	0.065
Hingham	45	110	0.27	0.066	Walpole	55	100	0.25	0.065
Hinsdale	65	90	0.22	0.067	Waltham	55	105	0.28	0.069
Holbrook	45	105	0.26	0.065	Ware	55	100	0.23	0.066
Holden	55	100	0.25	0.068	Wareham	45	110	0.23	0.058
Holland	55	100	0.23	0.064	Warren	55	100	0.23	0.066
Holliston	55	100	0.25	0.066	Warwick	65	100	0.24	0.070
Holyoke	55	100	0.23	0.066	Washington	65	90	0.22	0.067
Hopedale	55	100	0.24	0.065	Watertown	45	105	0.28	0.068
Hopkinton	55	100	0.25	0.066	Wayland	55	100	0.27	0.068
Hubbardston	65	100	0.25	0.069	Webster	55	100	0.23	0.064

16.00: continued

TABLE 1604.11 GROUND SNOW LOADS; BASIC WIND SPEEDS; EARTHQUAKE DESIGN FACTORS - continued

City/Town	p_g	V	Ss	S_1	City/Town	p_g	V	Ss	S_1
Hudson	55	100	0.26	0.068	Wellesley	55	100	0.27	0.067
Hull	45	110	0.28	0.067	Wellfleet	35	120	0.20	0.054
Huntington	65	100	0.22	0.066	Wendell	65	100	0.23	0.069
Ipswich	45	110	0.34	0.074	Wenham	45	110	0.32	0.073
Kingston	45	110	0.24	0.061	W. Boylston	55	100	0.25	0.067
Lakeville	45	110	0.24	0.061	W. Bridgewater	45	110	0.25	0.063
Lancaster	55	100	0.27	0.070	W. Brookfield	55	100	0.23	0.066
Lanesborough	65	90	0.22	0.068	W. Newbury	55	110	0.35	0.077
Lawrence	55	110	0.33	0.075	W. Springfield	55	100	0.23	0.065
Lee	65	90	0.22	0.066	W. Stockbridge	65	90	0.22	0.066
Leicester	55	100	0.24	0.066	W. Tisbury	35	120	0.18	0.052
Lenox	65	90	0.22	0.067	Westborough	55	100	0.25	0.067
Leominster	65	100	0.26	0.070	Westfield	55	100	0.23	0.066
Leverett	65	100	0.23	0.068	Westford	55	100	0.30	0.073
Lexington	55	105	0.29	0.070	Westhampton	65	100	0.22	0.066
Leyden	65	100	0.23	0.069	Westminster	65	100	0.26	0.071
Lincoln	55	100	0.28	0.069	Weston	55	100	0.27	0.068
Littleton	55	100	0.29	0.071	Westport	45	110	0.23	0.058
Longmeadow	55	100	0.23	0.065	Westwood	55	100	0.26	0.066
Lowell	55	100	0.31	0.074	Weymouth	45	105	0.27	0.066
Ludlow	55	100	0.23	0.066	Whately	65	100	0.22	0.067
Lunenburg	65	100	0.28	0.071	Whitman	45	110	0.25	0.063
Lynn	45	110	0.31	0.071	Wilbraham	55	100	0.23	0.065
Lynnfield	45	110	0.31	0.072	Willamsburg	65	100	0.22	0.067
Malden	45	105	0.29	0.069	Williamstown	65	90	0.23	0.069
Manchester	45	110	0.32	0.072	Wilmington	55	105	0.31	0.073
Mansfield	55	110	0.25	0.063	Winchendon	65	100	0.26	0.071
Marblehead	45	110	0.31	0.071	Winchester	55	105	0.29	0.070
Marion	45	110	0.22	0.057	Windsor	65	90	0.22	0.067
Marlborough	55	100	0.26	0.068	Winthrop	45	105	0.29	0.068
Marshfield	45	110	0.26	0.064	Woburn	55	105	0.30	0.071
Mashpee	35	120	0.20	0.054	Worcester	55	100	0.24	0.067
Mattapoisett	45	110	0.22	0.057	Worthington	65	100	0.22	0.067
Maynard	55	100	0.27	0.069	Wrentham	55	100	0.24	0.064
Medfield	55	100	0.25	0.065	Yarmouth	35	120	0.19	0.052

1605.3.1 Replace Equation 16-13 as follows:

$2/3[1.2D + (1.6W \text{ or } 1.0E) + f_1 L + 0.5(L_r \text{ or } S \text{ or } R) + 1.6H]$ where f_1 is defined in section 1605.2.1

1605.3.2 Delete.

Table 1607.1 Item 5. Revise to read as follows:

Balconies (exterior and interior) and decks[h]

Table 1607.1 Item 30. Revise 'Classroom' uniform loading as follows: 50 psf

1607.5 Add a last sentence as follows:

Partition loads are non-reducible live load.

1607.9.1.6 Add section:

1607.9.1.6 Hangers. Live load shall not be reduced for hangers.

Unirac Seismic Info.

ASCE 7-10

Name	Min S_S	Min S_1	Max S_S	Max S_1
New Jersey	0.099g (38.800°N, 75.010°W)	0.045g (38.800°N, 75.010°W)	0.283g (40.900°N, 74.000°W)	0.073g (40.900°N, 74.000°W)
Connecticut	0.155g (41.310°N, 71.910°W)	0.057g (41.310°N, 71.910°W)	0.264g (41.000°N, 73.660°W)	0.071g (41.100°N, 73.720°W)
Massachusetts	0.103g (41.200°N, 69.960°W)	0.045g (41.200°N, 69.960°W)	0.268g (42.880°N, 70.900°W)	0.079g (42.880°N, 70.940°W)
New York	0.120g (42.010°N, 76.900°W)	0.050g (42.000°N, 79.200°W)	0.560g (44.990°N, 74.300°W)	0.141g (44.990°N, 74.300°W)
Maryland	0.078g (38.040°N, 75.160°W)	0.041g (38.070°N, 75.140°W)	0.190g (39.720°N, 75.790°W)	0.059g (39.720°N, 75.790°W)