Residential Trade-Off Worksheet
Envelope

2002 New York State Energy Conservation Construction Code

Builder Name: _____ Date: _____
Builder Address: _____
Building Address: _____
Project Description _____ Zone # _____
Submitted By: _____ Phone #: _____

PROPOSED | **REQUIRED**

U-factors and F-factors can be found in Tables 1-10

Ceilings, Skylights, and Floors Over Outside Air

Description	Insulation R-value	U-factor	x Area	= UA
Ceiling			ft²	
Floor Over Outside Air			ft²	
Skylight			ft²	
			ft²	
			ft²	
		Ceilings: Total Area	ft²	

Required U-factor	x Area	= UA
	ft²	

Walls, Windows, and Doors

Description	Insulation R-value	U-factor	x Area	= UA
Wall			ft²	
Window			ft²	
Door			ft²	
Sliding Glass Door			ft²	
			ft²	
			ft²	
			ft²	
		Walls: Total Area	ft²	

Required U-factor	x Area	= UA
	ft²	

Floors and Foundations

Description	Insul - Depth	Insulation R-value	U-factor	x Area	= UA
Floor Over Unconditioned				ft²	
Basement Wall				ft²	
Unheated Slab	in	.		ft²	
Heated Slab	in	.		ft²	
Crawl Wall	in			ft²	

Required U-factor	x Area	= UA
	ft²	
	ft²	
	ft²	
	ft²	
	ft²	

Total Proposed UA

Total Required UA

Total Proposed UA *must be less than or equal to the* ***Total Required UA***

Statement of Compliance: The proposed building design represented in these documents is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the requirements of the 2002 New York State Energy Conservation Construction Code.

Builder/Designer _____ Company Name _____ Date _____

Residential Trade-Off Worksheet

Equipment (Optional To Envelope)

2002 New York State Energy Conservation Construction Code

Builder Name: _____ Date: _____

Builder Address: _____

Building Address: _____

Project Description _____ County: _____

Submitted By: _____ Phone #: _____

Step 1 Calculate Equipment Efficiency Increase (in Percent)
($EFF_{minimum}$ From Table 2)

$$\frac{EFF_{installed} - EFF_{minimum}}{EFF_{minimum}} = \textbf{\% INCREASE}$$

Equip. Type: _____

Make & Model: _____

_____ - _____ = %

Step 2 Adjust the % Increase
(Trade-off Ratio From TABLE 1)

(% increase X Trade-off Ratio) + 1 = **Adjusted Ratio**

( ) X ( ) + 1 =

Step 3 Adjust Total Required UA
(**Total Required UA** From Manual Trade-Off Worksheet):

Total Required UA X Adjusted Ratio = **Adjusted Required UA**

( ) X ( ) =

Step 4 Use the **Adjusted Required UA** as new Total Required UA. Check if Total Proposed UA is now less than or equal to Total Required UA.

Total Proposed UA (From Manual Trade-off Worksheet) **Proposed** is Less Than Or Equal To **Required** **Total Required UA**

TABLE 1 – Trade-Off Ratios

COUNTY	Ratio	COUNTY	Ratio	COUNTY	Ratio	COUNTY	Ratio
Albany	1.16	Franklin	1.21	Oneida	1.18	Schuyler	1.16
Allegany	1.19	Fulton	1.16	Onondaga	1.16	Seneca	1.16
Bronx	1.08	Genessee	1.16	Ontario	1.16	Steuben	1.16
Broome	1.18	Greene	1.16	Orange	1.12	Suffolk	1.12
Cattaraugus	1.16	Hamilton	1.19	Orleans	1.16	Sullivan	1.16
Cayuga	1.16	Herkimer	1.18	Oswego	1.16	Tioga	1.16
Chautauqua	1.16	Jefferson	1.19	Otsego	1.18	Tompkins	1.18
Chemung	1.16	Kings	1.08	Putnam	1.12	Ulster	1.16
Chenango	1.18	Lewis	1.19	Queens	1.08	Warren	1.19
Clinton	1.20	Livingston	1.16	Rensselaer	1.16	Washington	1.19
Columbia	1.16	Madison	1.18	Richmond	1.08	Wayne	1.16
Cortland	1.18	Monroe	1.16	Rockland	1.08	Westchester	1.12
Delaware	1.18	Montgomery	1.16	St Lawerence	1.21	Wyoming	1.16
Dutchess	1.14	Nassau	1.08	Saratoga	1.18	Yates	1.16
Erie	1.16	New York	1.08	Schenectady	1.16		
Essex	1.21	Niagara	1.16	Schoharie	1.16		

TABLE 2 – Minimum Equipment Efficiencies[1]

Equipment Type	Minimum Standard
Furnace	78 AFUE
Boiler: Except Gas Steam	80 AFUE
Boiler: Gas Steam	75 AFUE
Heat Pump: Heating Mode	6.8 HSPF
Heat Pump: Cooling Mode	10 SEER
Air Conditioner	10 SEER

1. No Trade-off available for Electric Resistance Heating