SAVE ENERGY + GAIN SPACE

EFFICIENT + LESS MECHANICALS

PASSIVE HOUSE IN BROOKLYN

All condensers take up less than half of this storage space

- *Exterior (Roof/Backyard) usable space gained due to significant reduction in units*
- *Added benefit of a quieter home*

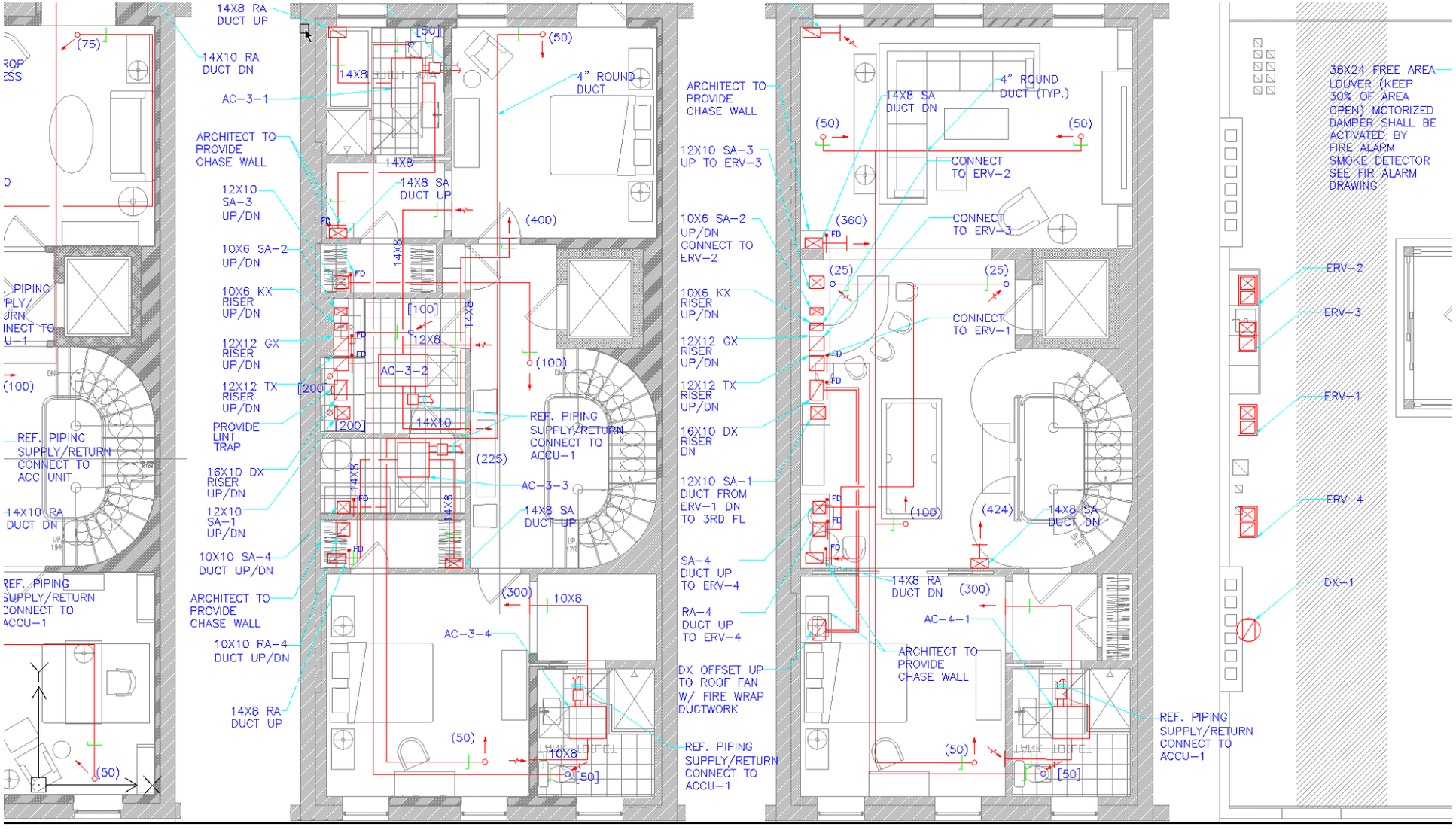
FRESH AIR + BETTER HUMIDITY CONTROL

PHOTO: CHRIS STEIN

- ***Passive Houses have continuous, fresh, filtered, outside air***
- ***Better sealed against outside elements***
- ***The ERV/Energy Recovery Ventilator not only introduces constant flow of fresh air, it also helps to control the humidity level in the house.***

MECHANICAL

TYPICAL NON-PASSIVE HOUSE TOWNHOUSE MECHANICALS PLAN

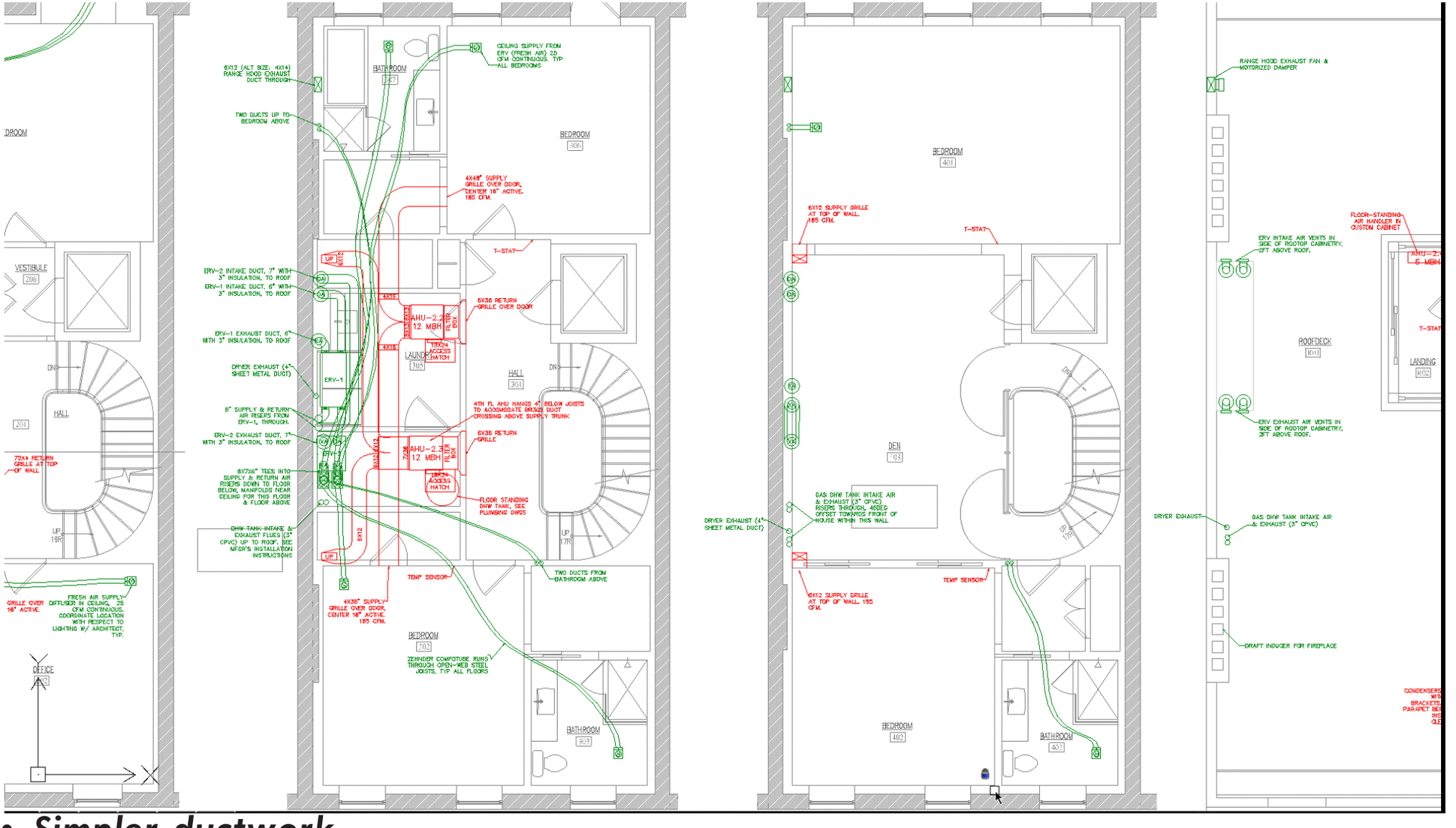


Typically requires:

- *Dropped ceilings, soffits*
- *Heat to front and rear rooms*

MECHANICAL

TYPICAL PASSIVE HOUSE TOWNHOUSE MECHANICALS PLAN



- *Simpler ductwork*
- *Smaller mechanicals*
- *Clearer front/rear rooms with less to no mechanicals*

MECHANICAL

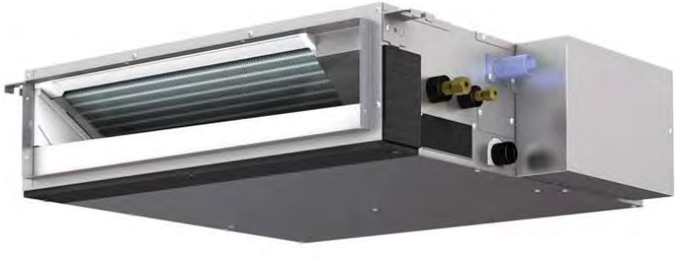
SYSTEM OPTIONS:
OUTDOOR UNIT (CONDENSOR)
FROM 9000 BTU/H (3/4)+

9 MBH / ¾ Ton

24 MBH / 2 Ton

60 MBH / 5 ton

INDOOR UNIT (EVAPORATOR/AIR HANDLER/FAN COIL)
FROM 6000 BTU/H+

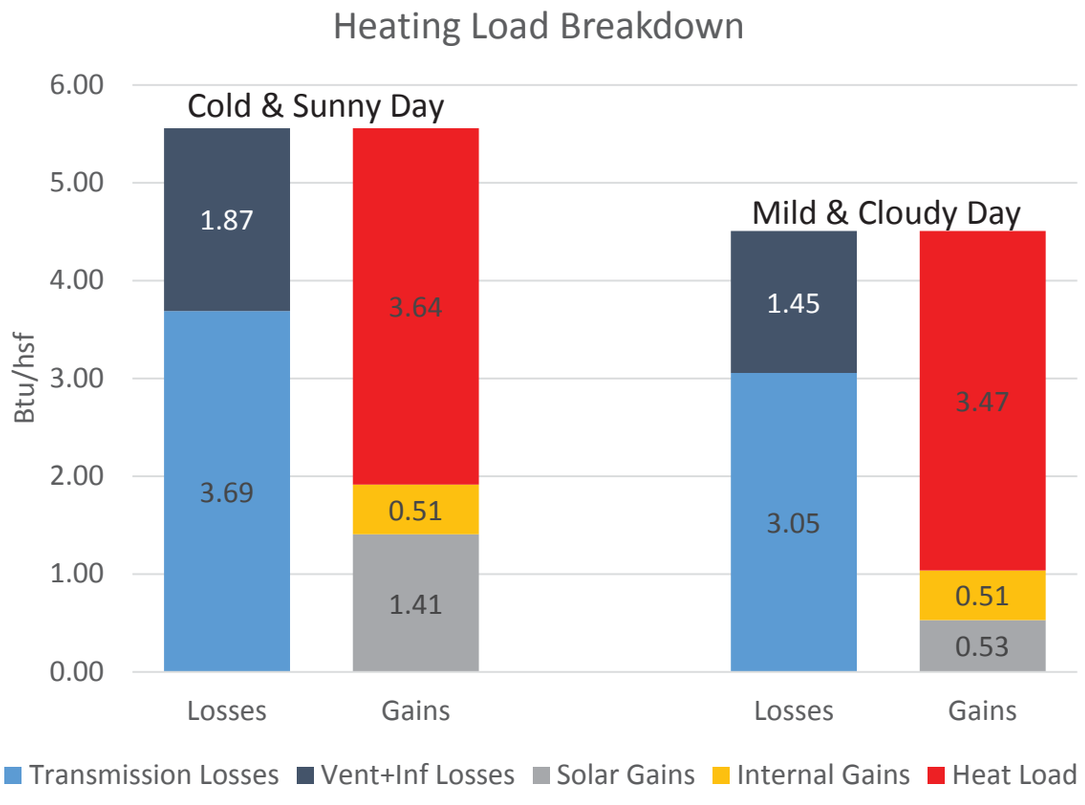


LOAD CALCULATIONS FOR A PASSIVE HOUSE

Heating Load =
(Envelope Losses + Vent.& Infil. Losses) - (Solar + Internal Gains)

For two weather conditions:
1. Cold & Sunny
2. Mild & Cloudy

PH Buildings respond very slowly to changes in the weather, and retain heat very well.



USING PHPP, LOADS FOR SINGLE FAMILY HOMES CZS ARE:

HEATING: 4-5 BTU/H/GSF

COOLING: 2000 + GSF/TON;

3000 + IF SOLAR GAINS WELL-CONTROLLED

ZONING

ONE ZONE OK IF:

- ***Small & compact form, open floor plan (or it will be ducted)***
- ***good solar control, even exposure over the day***

MULTIPLE ZONES IF:

- ***Rowhouse: one per floor is typical***
- ***Strong E-S or N-S split in form and/or solar exposure***

NOTE: H/ERVs do NOT mix the heating/cooling around in a building, air flow is too low.