Residential Energy Code Compliance

- General information regarding compliance with the energy code as adopted by the TONC.
  - Applicant is required to retain an “energy consultant” or EC. (Ordinance 2011-5)
  - The EC must be a certified home energy rater, accredited HERS Provider or building analyst certified to perform tests by the Building Performance Institute or certified equivalent.
  - The EC will review documents before submittal and coordinate with applicant to ensure the pertinent information appears on the permit drawings.
  - The EC will be the point of contact with TONC on all energy code items.
  - The EC will be responsible for inspecting the construction using the ENERGY STAR Thermal Bypass Inspection Checklist and reporting compliance.
  - The EC will be responsible for code required inspections, building testing and submitting reports.

- Project must comply with the Town of New Castle Ordinance 2011-5, 2009 IECC (International Energy Conservation Code) and applicable sections of the IRC. The following items due at building permit application submittal, incomplete applications will not be accepted for review.
  - Note, air infiltration testing is required (blower door test) in lieu of visual inspection. (Ordinance 2011-5)
  - Note, backdraft potential and CO testing are required for any non-sealed gas appliance. (Ordinance 2011-5)
  - Note, the following equipment and appliances are required to be ENERGY STAR rated; boilers, furnaces, air conditioners, refrigerators, freezers, clothes washers, clothes dryers and dishwashers. (Ordinance 2011-5)
  - Note, multifamily structures over three stories must follow Commercial sections of IECC.
  - Permit submittals should provide all necessary information to show compliance. (2009 IECC 103)
  - Insulation schedule; value, type and location (if using the prescriptive method of compliance) (including all exterior assemblies, doors, windows, ducts & pipes.) (2009 IECC Table 402.1.1 and 2009 IECC 402.1.2), or…
  - UA Calculation (e.g. REScheck) Report (if using the total UA method of compliance) (2009 IECC 402.1.4), or…This is optional if the Prescriptive path is used (code book values) (If not Using the prescriptive method, the IECC CODE book)
  - Performance compliance report (if using the performance method of compliance (If not Using the prescriptive method, the IECC CODE book) (2009 IECC 405)
  - Air sealing details (2009 IECC 402.4 & Table 402.4.2)
  - Whole house ventilation design with flows (2015 IRC 303.4) Specify amount of air flow on proposed ERV or HRV
  - Crawlspace conditioning or ventilation design with flows (2015 IRC 408)
  - Specify water resistive barrier for walls (2015 IRC 703.2)
  - Specify vapor retarder for foundations (2015 IRC 506.2.3), walls (2015 IRC 702.7) & ceilings (2015 IRC 806)
Specify roof ventilation or alternate (2015 IRC 806) Soffit vent specified.

- Mechanical sizing (2015 IRC M1401.3 & 2009 IECC 403.6)
  - Heat loss calculations; ACCA Manual J reports required…
    - Load form, entire house – R-values and U-values must match Plans and or specs
    - Component Constructions, entire house
    - Project summary, entire house
    - Plan sketch, with north arrow. Submit on the on the Manual J? Rough is ok.
  - Mechanical equipment specifications for heating and cooling; equipment types, sizes and efficiencies; ACCA Manual S reports required…
    - Compliance Report
    - Cut sheets of equipment
  - Mechanical specification for water heating system; equipment types, sizes and efficiencies
    - Cut sheets of equipment
  - Mechanical system design criteria
    - Mean average temperature 48˚
    - Outside design dry bulb temperature, winter -2˚
    - Outside design dry bulb temperature, summer 87˚-93˚
    - Inside design temperature, winter 72°F maximum
    - Inside design temperature, summer 75°F minimum
    - Inside design humidity, winter 30%
    - Inside design humidity, summer 50%
    - Maximum allowed heating oversizing 140% submitted data is in excess of this. OK
    - Maximum allowed cooling oversizing 115% submitted data is in excess of this. Currently specified equipment 140%

Depending on whether the prescriptive, total UA or simulated performance methods of compliance are used, the amount of detail of the required information may vary. Information can be presented in a number of ways; on the construction drawings, schedules, call-out notes and/or supplementary calculation reports.

These submittal items are required to become part of the permit record set and be kept on site during construction.
• Commercial

☐ mechanical and service water heating system and equipment types, sizes and efficiencies
☐ economizer description
☐ equipment and systems controls
☐ fan motor horsepower and controls
☐ duct sealing, duct and pipe insulation and location
☐ lighting fixture schedule with wattage and control narrative

☐ Specify vapor retarder class (2015 IBC 1405.3.2)
☐ Mechanical ventilation (2015 IBC M1507)