



## 2018 ONE AND TWO-FAMILY CONSTRUCTION POLICIES AND INSPECTION PROCEDURES

Phone: 919-249-3418  
Fax: 919-249-3407

Office Hours – 8:00 AM to 5:00 PM

Building/Construction Working Hours – **7:00 AM to 8:30 PM**

1) **Permit/Plan Review – N.C. State Building Code**

Refer to the One and Two-Family Dwelling Plan Checklist. All items listed on the checklist must accompany the application in order to be considered complete. The checklist and application shall be completely filled out to be received for plan review. A non-refundable plan review fee is required for each submittal. If plans are not sufficient to complete a plan review, the applicant will be notified to come and pick up the unapproved plans. Plans which must be re-submitted are subject to an additional plan review fee. Permits and/or plans that are not picked up within thirty (30) days of approval and notification will be discarded. Once a permit has been issued, any change, addition, or deletion to plans, which has not been approved, will require an additional plan review fee and written approval prior to start the work. Submit proposed changes along with a completed Plan Modification Application in accordance with the One and Two-Family Dwelling Plan Checklist.

2) **Inspection Requests**

Inspection requests are made at the Permit Center of the Inspection Department in the Town Hall Building at 73 Hunter Street, or via the Inspection Request Line at **249-3388**. It is the responsibility of the superintendent or building contractor to coordinate and ensure work is **complete** and **ready** for inspection. Only inspection requests from the contractor or designated representatives will be scheduled. Inspections requested prior to **2 p.m.** will be scheduled for inspection the next day. Inspection requests called in after **2 p.m.** will be scheduled for the day after. All inspections that are scheduled are supposed to be **ready** for an inspection at **8:00 a.m.** on the scheduled date. **All** cancelled inspections **shall** be cancelled via the inspection request line **prior** to **7:30 a.m.** on the scheduled date.

3) **Inspections: NOTE:** Inspections listed on the permit card may not be applicable to all projects and there may be an instance where an inspection is needed that is not listed on the card. See page 5 for examples of “other inspections” requiring permits and inspections.

4) **Safety:** In order for the Town inspection representatives to perform their duties all safety elements and devices shall be in place in accordance with State and Federal standards. Areas of concern include, but are not limited to trench protection, **temporary guardrails and handrails**, and ladder safety. **(Provide ladders to extend through scuttle holes)**

5) **Load Management Switch:** The Town of Apex administers a “load management” program for peak hours of electrical demands. All new residential buildings supplied with electrical power provided by the Town of Apex electrical utility are required to have load management “switches” connected to air conditioners and electric water heaters, prior to scheduling the final building inspection.

Load management switches are provided free of charge, and are available at the Purchasing building (105-C Upchurch Street) from 8:00 AM to 12:00 PM and from 1:00 PM to 5:00 PM, Monday through Friday excluding Town holidays. The following information must be provided to obtain load management switches:

- A) Building permit number, subdivision, address and lot number.
- B) Total number of air conditioning units.
- C) Total number of electric water heaters.

# REQUIRED INSPECTIONS:

## TEMPORARY BOARD

### **(Duke Energy & Town of Apex)**

- Permit posted at **front** of each individual lot at **street**
- Temporary Board in place, braced in (2) directions; maintain required working clearances in front of panel with meter ring on site if required.
- For **Duke Energy power**, line side wiring is not required to be installed.
- For **Town of Apex** power, trench in service laterals from the temporary board to the pedestal or transformer. Refer to Town of Apex standard detail 2.01. Trenches are to be a minimum of 24" deep and left open for inspection. Temporary boards are to be located approximately 3' to the side, and 6" in front of the transformer or pedestal. A sufficient amount of free wire must be left to make up connections in the pedestal or transformer. (Approximately 3' of free wire is sufficient for make up to a pedestal or installations on the right side of a transformer. At least 5' of free wire is required to make up installations on the left side of a transformer, because the wire terminals are on the right side of the transformer vault.) For alternate locations contact the **Town of Apex Electric Utility Department**.

## FOOTING INSPECTION

- Permit posted, **original** approved building and plot plans on site.
- Construction driveway, silt fence, auto barrier in place. Toilet facilities on site
- Trench and pier footings excavated to stable soil a minimum of 12" below grade; cleaned of all roots, stumps, loose earth, etc.
- Grade markers in place. (Treated wood or metal.)
- Bulkheads in place at step-downs.
- Interior of foundation scraped, and any organic material removed.
- Reinforcing steel in place (if required).
- If reinforcing steel is utilized in the footing then a 20' length of 1/2" steel bar or rod shall be bonded with a minimum of #4 AWG long enough to extend through the foundation for use as a grounding connection as required by NEC 250.52. (**It shall terminate at an accessible location**)
- Engineer's analysis of the soil bearing **shall be** required on **all** footings for single family dwellings. The supporting test must be by DCP or other approved method.
- **Superior Wall Systems** require a footing inspection prior to placement of stone.

## MONO SLAB/FOOTING INSPECTION

- Plumbing Under Slab inspected and approved prior to slab prep.
- Permit posted, **original** approved building and plot plans on site.
- Fill material in place.
- Footings excavated to stable soil 12" below grade (cleared of all roots, stumps, loose earth, etc.).
- Forms in place (6" minimum above finished grade).
- Thickened footings in place.
- Perimeter insulation in place.
- Vapor barrier in place (no tears, edges lapped 6" minimum).
- Slab reinforcement in place (when required).
- **Perimeter anchor bolts supported in place.** If reinforcing steel is utilized in the footing then a 20' length of 1/2" steel bar or rod shall be bonded with a minimum of #4 AWG long enough to extend through the foundation for use as a grounding connection as required by NEC 250.52 (**It shall terminate at an accessible location**)
- Engineer's analysis of the soil bearing **shall be** required on **all** footings for single family dwellings. The supporting test must be by DCP or other approved method.

## CERTIFIED FOUNDATION SURVEY

- The Certified Foundation Plot Plan shall be posted with the "approved" plot plan for review at the **foundation inspection**

## FORMED WALL INSPECTION

(Required for all formed walls prior to placement of concrete)

- Permit posted, **original** approved building plans and plot plan on site.
- Engineered design for reinforcement may be required
- All forms in place and properly braced.
- Safe access to top of wall required for inspection.

## GROUTED WALL INSPECTION

- Permit posted, **original** approved building plans and plot plan on site.
- Engineered design for reinforcement may be required
- Safe access to top of wall required for inspection.

## FOUNDATION INSPECTION

- Permit posted, **original** approved building plans and **certified plot plan** on site.
- Foundation walls and piers in place.
- Foundation vent openings in place.
- Tops of footings cleaned off around perimeter walls and interior piers.
- Foundation bolts in place.
- **Garage and basement slab** areas scraped clean (no loose dirt, organic material, or construction debris in slab area).
- Crawl space and porch areas free of construction debris, roots, stumps, etc.

**NOTE:** Inspection of steel reinforcement in forms may be required depending on the design of concrete walls or grouted walls.

## DECK FOOTING INSPECTION

- Permit posted, **original** approved building and plot plans on site.
- Footings excavated to stable soil a minimum of 12" below grade; cleaned of roots, stumps, loose earth, etc.
- Grade markers in place. (Treated wood or metal.)

## SLAB INSPECTION (NON MONOLITHIC SLAB)

- Plumbing under Slab must be inspected and approved prior to slab inspection.
- Permit posted, **original** approved building plans and plot plan on site.
- Slab area prepared – See R506.2 for approved base material (compaction report from soils engineer may be required for underlying soils).
- Perimeter insulation in place. **(on exterior of slab)**
- Vapor barrier in place (no tears; edges lapped 6" minimum).
- Thickened footings in place.
- Slab reinforcement in place (when required).

## PLUMBING UNDER SLAB INSPECTION

- Permit posted and **original** approved plans on site.
- All drain lines bedded on approved material for full length of pipe. (PVC DWV pipe ASTM F891 bedding aggregate size shall not exceed ½" for angular stone.)
- 10' head water test in place or 5-psi air test.
- Stub up for water closet to be 4", or if 3", the pipe is to be wrapped at the slab level so that the outside collar on the closet flange can be installed without having to break concrete around the pipe.
- **All plumbing lines** through the slab shall be **sleeved and/or wrapped** with 0.025" thick material.
- Building drain sleeved and sealed through foundation wall or footing.
- All organic material and **uncompacted fill removed** from the slab area.
- Backwater valve in place (where required).

## ROUGH-IN INSPECTION

- Permit posted, **original** approved building and plot plans on site.
- A. **Framing:** Completed according to the approved structural plan. Including a "dried in" building with roof flashing in place; all necessary, **bolted lintels**, blocking, fire stopping, draft stopping, furring, piping and duct chases, corner and wall bracing, dead wood, insulation air channels, windows and exterior doors, etc. – such that, upon completion of the rough-in inspection, no further framing is required before interior or exterior finish materials are installed.
- B) **Plumbing:** All water supply and drain lines installed and tests for leakage in place; tubs, showers, and shower pans in place; building drain run to the exterior of the foundation; nail guards, pipe supports, water lines insulated (in unheated areas); holes through plates fire stopped; repairs made for over-notched plates, over-bored studs, and drilled floor joists; back water valves installed (where necessary).
- C) **Mechanical:** Components to be in place: Supply boots and return duct plenums, all duct work that will be concealed; gas piping installed and under appropriate test pressure; refrigerant and condensate piping that will be concealed; repairs to structural members; appliance vents; prefab fireplaces; bath exhaust fans and vents; fire stops.
- D) **Electrical:** Appliance, lighting, and receptacle wiring and boxes in place; electrical panels installed with home runs pulled into the panels; wires properly secured and protected; fire stops in place.

## WATER AND SEWER INSPECTION

- Permit posted.
- Water service line is to be installed completely from the connection to the meter yoke through the foundation at a minimum depth of 12 inches below the adjacent grade level.
- A minimum of **18"** of **copper** water line is to connect the water service line to the meter yoke. (See Town of Apex Construction Specifications Detail 6.01).
- ASTM numbers on piping are to be visible.
- The sewer service line is to be installed completely from the point of connection provided by the utility through the foundation wall of the building.
- The drain line through the foundation (or footing) is to be **sleeved** and **sealed** with a **flexible mastic** sealant at the time of this inspection.
- The sewer line is to be bedded for the full length.
- Backwater valve in place (where required).

## TOWNHOMES

### DRIVEWAY SPECIFICATIONS FOR INSPECTION

- Permit posted.
- Driveways shall be constructed in accordance with Town of Apex Standard Drawings 4.02 & 4.05.
- All forms shall be in place for an inspection, including utility strip and sidewalk forms.
- Soil and debris shall be cleared from the curb for 5' outside of each curb-cut.
- Curb-cuts shall be smooth and devoid of cavities and protrusions.
- Subgrade shall be dry and compacted.
- A NCDOT encroachment agreement is required for all driveways constructed on state-owned roads.
- Within the driveway approach, all broken gutter sections shall be removed and replaced maintaining 5' minimum between joints.

### INSULATION INSPECTION

- Permit posted.
- Insulation and vapor barriers properly installed in all areas that will be concealed by finish materials.
- Fenestration calculations or a passing **signed** ResCheck report to be on **site** at time of Inspection.

### WATERPROOFING INSPECTION

(To be scheduled after the foundation inspection)

- Permit posted and **original** approved plans on site.
- Waterproofing membrane, drain tile, and stone in place around entire perimeter of basement.
- Supply compliance report for waterproofing system (if system is not specifically detailed in the Code).

### CONDITIONAL ELECTRICAL / MECHANICAL

- Complete the Conditional Power/Conditional Mechanical Request forms at the inspections office.
- These are **optional** inspections that can be scheduled before the final inspection. These inspections will **not be done** until all prior inspections have been **approved**. (This is not a final electrical or mechanical inspection.)
- All electrical wiring (and mechanical systems where applicable) are to be completed.

### FIRE WALLS

- Permit posted and **original** approved plans on site.
- Separation walls between townhome units
- Offset walls with rated assemblies may require separate interior and exterior firewall inspections.
- Exterior columns and porch framing within 3' of the property line.

- Permit posted and **original** approved plans on site.
- Provide two-hour separation between units.
- Offset walls with rated assemblies may require separate interior and exterior firewall inspections.
- Exterior columns within 3' of the property line must be rated.
- Protected construction may be required in other areas of the building within 3' of the property line. Schedule a pre-construction meeting prior to ensure a complete understanding of requirements.

### RETAINING WALL (exceeding 4')(Crossing Property)

- Permit posted and **original** approve plans and plot plan on site.
- Certified plot plan on site
- Provide a compliance letter from an approved third party inspector.

### FINAL INSPECTION

- Permit posted and **original** approved building plans on site.
- All applicable inspections must be signed off on the permit card.
- A **certified foundation plot plan** showing all legal elements of the premises including all structures that have been permitted and approved under separate permits. Including but not limited to main dwelling, cantilevers, fireplaces, decks, pools, retaining walls, mechanical equipment, etc.
- All building components completed including mechanical, electrical and plumbing systems; stairs, decks, handrails, guardrails, exterior and interior finish material (excluding floor finishes/coverings, and interior paint); applicable Town of Apex Code of Ordinance Requirements, and all other building and technical code requirements as specified by the NC State Building Code.
- **Energy Efficiency Certificate** shall be posted on the electrical panel or inside a kitchen cabinet
- Public Works utility final inspection approved. Schedule inspection with **Public Works** at **249 - 3427**
- **Planning Department** final inspection approved
- Retaining wall permits shall be finalized.
- Wake County well and septic permits (if applicable) have been finalized with a copy of the final approval presented at final inspection.
- Public sidewalk in Right of Way completed and accepted by the **Engineering Division**.

### OTHER INSPECTIONS

- Swimming Pools (Require separate permits) -- Building permit (Barrier requirement) and electrical permit
- Retaining Walls (Require separate permits)

There are other inspections that may be required that are not listed herein. Please note that all work must be inspected prior to covering. If you are not sure if an inspection is required please speak with a code enforcement officer prior to covering the new work.

### IRRIGATION (Requires Separate Permit)

- RPZ shall be the **lead free** backflow preventer type
- Requires 2<sup>nd</sup> water meter refer to Town of Apex Standard 620.01 and 620.03 available when permit issued.
- Permit posted and **original** approved plans on site
- Water service trenches open from meter to RPZ backflow device.
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- RPZ device installed and braced on each side of RPZ with rebar or (other approved metal rods) clamped to vertical piping.
- A 4" minimum concrete pad shall be installed for backflow protective cover.
- Provide unions for removal of RPZ and protective enclosure on site or provide listed ASSE1060 with electrical power for heat source.  
A rough-in inspection **shall** be required for inspection of backflow connections, support and slab prior to pouring concrete.
- A final inspection **shall** be required for inspection of concrete pad and protective cover
- Rain sensor installed and hooked up properly.
- Provide RPZ test report to Town of Apex Public Works Department