



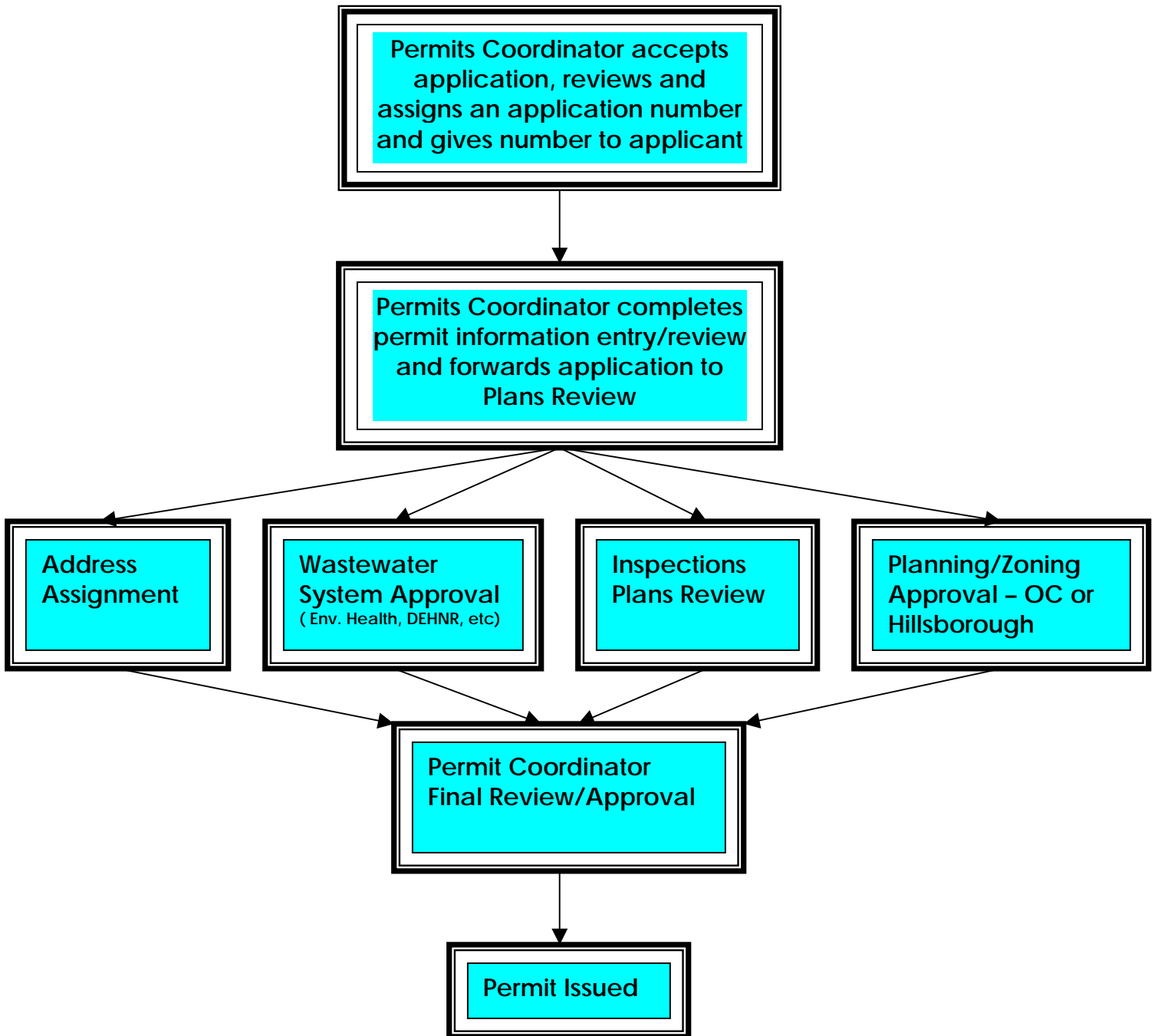
The Orange County Planning and Inspections Department, Building Inspections Division, has created this informational bulletin to inform the general public about the effect of codes and regulations on their projects. This bulletin is not intended to be a complete statement of all laws and rules and should not be used as a substitute for them. If conflicts or questions arise, current codes and regulations are the final authority.

## **Residential Building Permit Application Procedures and Requirements**

This bulletin describes the process for obtaining a residential building permit from the Orange County Planning and Inspections Department. The general process is illustrated in a flow chart on the following page, and the steps are outlined in more detail throughout this bulletin. Approval of your plans may require a slight variation in the steps of the process, depending on the specific characteristics of your project. You are encouraged to contact this department should you require any assistance.

**Orange County  
Planning and Inspections  
131 W Margaret Lane  
Planning Suite 201,  
Inspections Suite 101  
Hillsborough, NC  
919-245-2600**

# Residential Building Permit Process Flow Chart



## Residential Building Permit Application Submittal Checklist

### Step One

Authorization to construct septic system/existing systems permit must accompany the application.

- If you have a private septic system contact the Orange County Environmental Health Department at 131 W Margaret Lane, Suite 100, Hillsborough, NC 919-245-2360
- If you are on city sewer, a community septic system or a system that has been permitted by NCDEHNR, "Authorization to Construct" is not required. A copy of the permit issued by NCDEHNR will be required.
- If you have an existing septic system, an "Existing Systems Permit" will be required from Environmental Health. If you are on a septic system permitted by the State, approval will be required from the state DWQ (Division of Water Quality).

### Step Two

Two copies of a plot plan, *drawn to scale*. Plot plan may be drawn by applicant, but must include the following:

- North Arrow
- Property lines and dimensions
- Easements, streams, creeks, rights-of-way
- Existing structures (house, garage, shed, pool, etc.) on the lot
- Distance from proposed structure to *all* property lines (measured from right of way not edge of road)
- Location of driveway, parking areas, sidewalks and patios

### Step Three

Two sets of building plans, drawn to scale, including the following:

- Foundation plan (cross-section of footing and foundation)
- Floor plan, fully dimensioned, with all rooms identified
- Building Elevations (front, sides, rear)
- Framing Plans (floors and roof), including: fenestration calculations, roof & foundation ventilation calculations and truss, LVL, and TJI layout/engineering.
- Wall cross-sections showing all framing details, insulation information, etc.

### Step Four

If the cost of construction is \$30,000 or more, the permit holder must be a licensed General Contractor or the homeowner (homeowner must be **owner** of property and **resident** of the house and **must** sign affidavit affirming this). The owner **may not** be the general contractor for rental property with a construction cost of \$30,000 or more).

### Step Five

General Contractor must show documentation showing proof of Workman's Compensation insurance.

### Step Six

Completed application form.

- Fill in all applicable spaces
- Be sure to provide contractor's company name, city from which they operate, license number and signature.
- If your project involves a Home Occupation you will need to obtain a Home Occupation Permit from the Current Planning Division before you can operate from your home.
- If your property lies within the town limits or the extraterritorial jurisdiction of Hillsborough, you will need a Town of Hillsborough zoning permit before the building permit can be issued. They are located at 101 E Orange St., #919-732-1270.
- Manufactured Home Permits require a Tax Moving Permit from the tax office in the county where the home is currently located. This is not required if you are buying the home directly from a dealer's lot.

### Residential Application Checklist Submittal Checklist

- |  |   |
|--|---|
| <input type="checkbox"/> Septic Permit, NCDENR/DWQ permit or Public Water  | <input type="checkbox"/> Completed application form including contractor information and two sets of building plans |
| <input type="checkbox"/> Town of Hillsborough Zoning Permit, if applicable | <input type="checkbox"/> Signed owner-builder affidavit, if applicable  |
| <input type="checkbox"/> Two copies of the Plot Plan, if applicable        | <input type="checkbox"/> Tax moving permit for manufactured homes if not purchased directly from a dealer's lot     |

## **Residential Building Permit Process** **Review of Application and Plans**

The Orange County Planning and Inspections Division and other County departments review applications and plans and assign conditions. Some reviews may be done concurrently while applications are being checked. The following is a list of the major review areas:

- ❖ Health Department – Well and Septic
- ❖ Planning Department – Site plan, use and impervious surface compliance
- ❖ Addressing
- ❖ Building Plans Examination – both residential and commercial

Upon review and approval of all aspects of your application, a building permit shall be issued. Building permit fees must be paid when you pick up the building permit and before work may begin.

### **Reception Desk**

The following functions and services are available through the Customer Service Counter at Orange County Inspections Division:

- ❖ Questions about the permit process are answered
- ❖ You can pick up application forms.
- ❖ Submit permit applications. Applications are entered into the system by the Permits Coordinator and assigned an application number while you wait. You will be notified of any missing information/documents or additional approvals required.
- ❖ Walk in simple electrical, mechanical and plumbing permits may be submitted and issued while you wait, time permitting.
- ❖ Fees may be paid

### **Reviews**

Each county staff member who reviews your application relies on accurate information from you to determine if your submittal meets all the requirements for residential construction. If your application does not accurately reflect existing conditions and what you are proposing to do, there could be significant delays in obtaining your permit. Please look through the following requirements of the review areas to avoid delays.

### ***Addressing***

During the application process your project will be assigned a street address by Emergency Services. This is your correct address! Please do not use any other address from any other document. This is critical for fire, life, and safety services. If you believe an error was made, or you have concerns regarding the address, contact the Emergency Services at #245-6139.

### ***Planning Department***

The Planning Department reviews the site plan and building design to ensure compliance with the Orange County Zoning Ordinance. They also require your project to comply with possible watershed/impervious surface requirements. In order to correctly make a determination of compliance, your site plan must be as specific as possible.

## ***Health Department***

The Health Department staff reviews applications for **all** permits submitted on any land served by a septic system or a well to ensure that the septic system is adequately sized and functioning properly; that it will not be unduly disturbed by the new construction; and that the construction will not encroach on established setbacks for both the well and septic. **All** building permit applications for property served by an individual wastewater system (septic tank) must be accompanied by an "Authorization to Construct" or an "Existing System" authorization.

## **Permit Issuance**

Upon approval of all required reviews, a building permit will be issued. Building permit fees must be paid at the time of picking up the permit. You will receive a permit card that must be posted on the job and a general information sheet that should be retained for your records. The permit card and the approved set of plans must be kept at the job site, waterproof and weather tight, and be readily accessible to the inspector.

Your building permit is good for six months from the date of issuance. If no activity has occurred after the six month time period, your permit will be deemed expired. You must show activity, through an inspection, on your permit during the first 6 months then every twelve months to keep the permit active. Permits stay active for one year from the date of the last inspection. Expired permits must be renewed and all applicable fees paid. When a permit expires and the scope of work has not changed, the permit may simply be renewed. If the permit has expired and the scope of work for the project has changed, a new permit may be issued for the project. All new codes and/or rules and procedures would apply to the newly issued permit.

## **During Construction**

During construction, Orange County Inspections Division staff and other agencies shall inspect your project. Because of health and safety issues, you may not move into or occupy your building in any way until your final inspection has been approved and a Certificate of Occupancy issued. Moving into a residence before a Certificate of Occupancy has been issued is a violation of the North Carolina State Building Code and may result in electrical power disconnection and/or legal action.

## **Requests**

Inspection requests shall be called into the information desk at 919-245-2600 & 245-2601 between the hours of 8:00 am to 5:00 pm. The requests will be promptly entered into the computer for routing to the appropriate inspector. Footing and slab inspections will, if possible, be done the following day. All other inspection types will be done within one to two business days unless the amount of inspections exceeds the inspector's capability of completing them within the above mentioned time frame. The Division strives to do inspections in a prompt manner within the time frames described.

The Health Department staff schedules well and septic inspections independently of the Inspections Division and can be contacted directly at 245-2360.

## **ORANGE COUNTY INSPECTIONS LIST OF REQUIRED INSPECTIONS FOR RESIDENTIAL CONSTRUCTION**

This information is intended to give guidance to the homeowner/ builder regarding required inspections for single-family residential construction. This is not intended to be an all-inclusive list of code requirements. To request an inspection, please call 245-2600.

- *Approved plans are required for all inspections*
- *Footprint must match plans; any changes will require approval from Planning, Environmental Health, & Building Inspections*
- *Site must be accessible by vehicle and address posted.*

### **FOOTING INSPECTION**

- Clear of water, debris, roots, and loose soil.
- Bulkheads and grade stakes in place.
- Rebar in place (if required).
- All corners/sides squared.
- Portable toilet on site (not required for manufactured homes)
- Bottom of footings relatively flat and level
- Soil bearing report from engineer may be required for Superior Walls
- Engineer design required when rock is encountered or unusual soil conditions.

### **SAW SERVICE INSPECTION**

- All receptacles GFI protected
- Ground rod driven
- Pole braced in two directions is recommended

### **PROJECTION INSPECTION**

- Minimum footing projection for foundation wall is two inches
- Piers located in middle third of footing
- Maximum projection equals depth of footing
- Mortar joint thickness
- Bolt placement
- Pier size and heights
- Crawlspace ventilation
- Access opening
- Solid cap for piers

### **FOUNDATION/FLOOR FRAMING INSPECTION**

- Crawlspace graded
- Crawlspace and foundation drains installed per code and terminated separately
- Damp-proofing and foundation drain
- Floor framing complete **without plywood deck**
- Termite treatment
- Crawlspace ventilation
- If closed crawlspace, must be sloped to one or more drains
- Closed crawlspaces require protection from moisture during construction, it is recommended that poly be installed and a dehumidifier be used as soon as roof is dried in.

### **WATERPROOFING INSPECTION**

- Required for all basement walls including Superior Walls **before backfill**
- Required for sealed crawlspaces; sacrificial poly must be installed as soon as house is dried in
- Foundation drain installed per code

### **BASEMENT FOUNDATION INSPECTION**

- Design required for poured in place concrete
- Wall forms and steel inspected before placing concrete
- Design required for masonry foundation, based on soil type and height of backfill. See IRC Tb. R404.1.1 (1) for design requirements. Orange County soil classification is typically CL.
- Layout design and manufacturer's installation manual required for Superior Walls

### **Basement Foundation Inspection - continued**

- All required reinforcement must be inspected before pouring walls and filling block

### **SLAB INSPECTION - GARAGE/PORCH/BASEMENT**

- Expansion joint-if required
- Stone base-when required
- Reinforcement if required
- Thickened areas for bearing walls or point loads
- Poly in place
- Galvanized flashing between concrete and any framing
- Garage slabs must have expansion joint or chalked lines to verify slope
- Strings pulled to verify depth of pour
- All form work in place

- Termite treatment

### **ELECTRIC ROUGH INSPECTION**

- All concealed wiring installed per NEC
- All pre-drywall fixtures installed
- Ground and switch joints made up in all boxes
- Metal boxes grounded
- Nail plates installed

### **PLUMBING ROUGH INSPECTION**

- All drainage, waste, and vent piping installed per IPC and tested with air (5psi) or with water (36 inches above highest fixture)
- Water lines installed per IPC and tested to 100 PSI
- Tub/showers installed and tested
- Shower panning installed and tested
- 2x4 exterior walls must be furred out or use 2x6 studs when washer standpipe traps are installed so that full depth insulation can be installed
- Water heater pans piped to exterior
- Nail plates installed

### **GAS PIPING TEST/ROUGH**

- All gas piping installed, tested, and labeled if required
- All CSST piping installed and tested per manual and code
- CSST must be electrically bonded per manufacturer's installation instructions

### **MECHANICAL ROUGH IN**

- All boots and ductwork above first floor installed and sealed with mastic, caulk, or approved tape.
- Line sets and condensate piping installed for air handler installed above first floor
- Returns installed
- Air handlers must be installed within 20 feet of attic or crawlspace access
- Factory fireplaces with vents or chimneys installed per manufacturer's installation instructions; **instructions must be with appliance**
- Dryer vent installed
- Duct insulation requirements:
  - R-8 - supply ducts installed in unconditioned spaces
  - R-4 - required for returns in unconditioned attics or outside
  - R-2 - required for returns in other unconditioned spaces

### **MASONRY FIREPLACE INSPECTION**

- Completion of hearth and chimney to first flue properly sized for hearth opening and height of chimney
- Hearth extension properly sized
- Hearth extension cannot be supported by framing
- Clearances from hearth and chimney to combustibles

**PRE BRICK VENEER** (May require more than one inspection)

- OSB, plywood, and fiberboard sheathing must be covered with weather-proof membrane (nailing pattern of structural fiberboard sheathing must be checked before installation of weather proof membrane)
- Flashing for weep holes installed, flashing can be 6 mil poly or galvanized metal or other approved product  
Flashing for weep holes is required under windows
- Lintels installed that require bolting or nailing; flashing or weather proof membrane must be installed over top of lintels.  
Lintels over ten feet must be designed by engineer
- All windows and doors installed and flashed per manufacturer's installation instructions

**PRE-SIDING INSPECTION**

- Nailing pattern for structural fiberboard sheathing
- Nailing pattern for combination fiberboard and OSB/plywood bracing
- Bracing for garage wing walls
- Weatherproof membrane must be installed under all siding products.
- All windows and doors installed and flashed per manufacturer's installation instructions
- If house or structure is fully sheathed in OSB, nailing pattern inspection not required.

**FRAMING INSPECTION**

- All trade rough-ins complete
- Roofing complete
- Penetrations fire-stopped and insulation baffles installed
- Safety rails in place on stairs and balconies
- Load bearing conditions supported by structural elements and transferred to the foundation or designed beams
- Engineered and sealed designs for steel, laminated beams, or truss construction (copy of engineering must be in permit box for framing inspection)

**INSULATION INSPECTION**

- Floors – R-19
- Walls – R-13
- Ceiling – R-30 accepted if full depth over the top plate otherwise R-38 is required; blown insulation in attic requires depth markers
- Closed crawlspaces – R-10 attached to foundation wall (foam must be tested and approved for use in crawlspace). See Sect. 409 of 2006 N.C. Residential Code for other restrictions.
- Orange County strongly recommends that contractors use only Kraft-faced or un-faced insulation. The use of poly as a vapor barrier is not recommended in our climate zone because of the possibility of condensation forming on the back side or “cool” side.
- Other insulation products installed per manufacturer's installation instructions
- Spray foam products should only be installed by certified installers and manufacturer's specifications and installation instructions provided to the inspector
- Insulation baffles installed for ventilation where necessary except for sealed attics where spray foam is used.
- R-values and U-values in compliance with RES-CHECK if applicable

**ELECTRIC/PLUMBING TRENCHES**

- All waterlines, sewer lines, and electrical wiring underground must be inspected prior to backfill
- All piping must be sleeved and sealed through foundation wall

**ELECTRIC/PLUMBING/MECHANICAL IN SLABS**

- Any electrical conduit, plumbing, or ductwork in or below slabs must be inspected before slab prep begins. All DWV below slab must be tested with air (5psi) or with water (10 feet head)
- All hydronic piping must be tested and inspected before pouring concrete and remain pressurized during pour

- All piping extending through slab must be sleeved or protected by approved method

**GAS PIPING TEST/FINAL**

- Final air test on gas piping required
- 2 PSI systems labeled
- Copper tubing used as gas piping must be labeled
- CSST piping tested per manual

- Do not test through regulators**

**MECHANICAL FINAL**

- Air handlers and condensers installed; **installation manuals left with air handlers.**
- Gas appliances vented properly; installation manuals provided
- Ductwork, line sets, and condensate piping complete
- Filters installed in returns
- Ducts and returns clean of debris and dust
- Thermostats installed
- Floor registers installed or on site

**PLUMBING FINAL**

- Fixtures installed & connected to DWV system & water supply
- Fixtures caulked to countertops or floors
- All water heaters located in garages elevated and protected from physical damage; **installation manual must be provided.**
- R6.5 insulation required on waterlines in attics or Garages
- Anti-siphon devices installed on water spigots
- Water heater PRV piped to pan or through an air gap to the outside, pan drain piped to exterior
- Thermal expansion protection and pressure reducing valves installed (public water supplies)
- Water turned on if available.

**ELECTRICAL FINAL**

- All electrical work complete per NEC
- All electrical components and fixtures UL listed.
- Panels complete, bonded, and labeled
- Copper waterlines bonded
- Well casing bonded
- Ground rod driven and connection to electrode exposed
- Exterior light fixtures caulked to siding
- Receptacles required to be GFI protected must be labeled
- Access provided for whirlpool pump motor

**BUILDING FINAL**

- All trades complete
- All penetrations sealed
- Decks, stairs, guardrails and handrails complete
- Positive drainage from home
- Six inches clearance from siding to finish grade
- Crawlspace and foundation drains terminated to daylight
- Crawlspace clean and poly installed (sealed or ventilated)
- Closed crawlspaces complete per approved design or 2009 IRC
- Siding or veneer complete
- Exterior painting and caulking complete
- Garage doors installed; must be rated for 90 MPH
- House numbers posted
- Termite guarantee provided (must have before CO can be issued)
- Zoning final inspection

**Orange County Environmental  
Health**

131 W Margaret Lane  
Suite 100  
Hillsborough, NC 27278

**Orange County Current Planning  
Division**

131 W Margaret Lane  
Suite 201  
Hillsborough, NC 27278

**Orange County Inspections  
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131 W Margaret Lane  
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Hillsborough, NC 27278

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