



Residential Inspection Guide

The City of San Antonio Development Services Department is here to help you complete your projects involving new single-family homes, remodels, additions, and other residential construction projects.

Our residential-inspection guide lists the various stages a typical building project goes through. Understanding what is involved during each inspection stage will help ensure key steps and approvals are adhered to so that your project is completed in a timely fashion.

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PRE-PERMIT PROCESS

Before you start the pre-permit process, you must make sure you have these tasks completed:

- 1. Property platted and recorded at the Bexar County Courthouse
- Property zoned properly for a one and two family dwelling(s)
- Residential Building Permit Application submitted with the following to have an A/P number assigned:
 - a. copy of the plat
 - b. two copies of the construction drawings
 - c. all other required submittals (See IB 101)
- 4. Building plans are reviewed for:
 - a. location of building on the site
 - beproper setbacks and other zoning
 - c. compliance with Building and International Energy Conservation Codes

- 5. Tree Review to ensure address complies with tree regulations
- 6. Building Permit issued following payment of associated fees

Once you have all this documentation in hand, you are ready to start the inspection process, which is organized into four stages and ends with a certificate of occupancy. As the contractor or homeowner, you need to ensure inspections are done at the right time during your construction project. While Development Services performs a majority of the required inspections, we require third-party inspections for foundations, duct testing, insulation and shower pan liner.



STAGE 1 FOUNDATION

When the house drains have been installed and prior to any concealment, the plumbing rough-in inspection is requested. This inspection reviews the plumbing house drain lines to:

- Ensure proper materials
- · Securing of pipes
- Size and slope of drain lines
- Correct fittings

After any waterlines are installed in the foundation and prior to the placement of the concrete, the water pipe in-slab inspection is requested. If there are no water lines installed in the foundation, you are still required to request a water pipe-in-slab inspection to re-check the house drains.

You are now required to secure a third-party foundation inspection by a licensed engineer.

After any waterlines are installed to connect the house to the water meter/water service, and prior to any concealment, the underground water line inspection is requested.

Any concrete-encased electrodes for the electrical grounding systems should be in place prior to the placing of the concrete. Each new building or structure being built must incorporate a concrete-encased electrode as part of the grounding electrode system.

The Temporary Meter Loop (TML) inspection ensures the following:

- Pole is securely braced
- · Dead front covers are installed
- · GFCI protection is installed
- Over-current devices are properly sized
- Driven grounding electrode has been installed
- Compliance with the city adopted electrical code

The foundation, plumbing and electrical inspections must be completed before moving to the framing stage.

STAGE 2 FRAMING

The mechanical, electrical rough-in, top-out plumbing, gas rough-in, and framing inspections must be completed before moving on to the Building Frame (Concealment) stage.

When all the ducts, duct outlets, and air handler are installed and before any concealment of insulation, sheetrock, paneling, metal lathe, plaster, brick, and stone, the mechanical rough-in inspection is requested. This inspection checks:

- Ductstrapping
- Duct installation
- Drain lines
- Equipment installation
- Dryer vent installation
- Range hood exhaust

A third-party tester/inspector independent from the installer of the building duct systems must perform the duct test for leakage of the ducts.

When all the electrical conductors, boxes, and electrical panels have been installed and before any concealment of the insulation, sheetrock, paneling, metal lathe, plaster, brick, and stone, the electrical rough-in inspection is requested. This inspection checks:

- Box fill
 - Size of conductors
 - Staplingofconductors
 - Placement of holes in studs
 - Wall spacing of outlets
 - Meter to breaker panel

When all the plumbing vents, drains, and waterlines have been installed in the walls, between the floors, and in the attics and before any concealment of the insulation, sheetrock, paneling, metal lathe, plaster, brick, and stone, the plumbing top-out inspection is requested. This inspection checks:

- · Pipe sizes
- · Proper materials and venting
- Drain lines
- · Securing of piping
- Equipment installation

When all the gas lines have been installed and before any concealment of the insulation, sheetrock, paneling, metal lathe, plaster, brick, and stone, the gas rough-in inspection is requested. This inspection checks:

- Pipe sizes
- Proper materials
- Securing of piping
- Air test of system to ensure piping doesn't leak equipment installation

When all the trade inspections for mechanical, electrical, and plumbing have received an approved concealment inspection to prevent any additional notching or boring of beams and studs that might not comply with the building code, the frame inspection is performed. This inspection checks:

- Size and spacing of floor joists
- Roof and ceiling joists
- Spacing of wall studs
- Anchoring of sole plates
- Wall bracing
- Window size openings
- Fire stopping
- Specific framing materials

STAGE 3 BUILDING FRAME

Before moving to the final stage, third-party inspections must be completed on specific elements of all new residential buildings: the building envelope/insulation, duct testing and shower pan liner. (See IBs <u>167</u> and <u>181</u>).

A third-party residential testing/inspection form will be submitted for certification of the insulation and the air barrier. The same form can also be submitted for the results of the duct testing. Both inspections need to be cleared prior to closing out a permit by submitting the certification form for either the duct testing or the air barrier/insulation test/inspection, or both on one form. Neither of these inspections requires an on-site visit from a Development Services Department inspector.

STAGE 4 FINAL

The building, electrical, mechanical, gas, plumbing, and tree inspections must be completed before you will receive a Certificate of Occupancy.

When all the building elements included in the residential building permit are complete, the final building inspection is performed. This inspection reviews:

- Window glazing
- Address posted
- Smoke detectors installed
- Handrails/guardrails
- Door landing
- Final grade around structure

A third-party envelope/insulation inspection may be needed more than once if insulation is blown after sheetrock. Prior to the placement of any concrete for the sidewalk and approach, the final miscellaneous review inspection is requested. Conducted and passed before the Certificate of Occupancy is issued, this inspection checks:

- Proper base materials
- Depth of forms
- Size of reinforcing steel,
- Grade/slope

When the electrical installation is complete, the final electrical inspection is conducted. This inspection reviews:

- Light fixtures are installed
- · Outlets are installed
- GFCI outlets are installed
- · Arch fault protection is installed
- · Electrical panel is complete
- · Directory is installed

In conjunction with the final electrical inspection, the Temporary on Permanent Set (TOPS) inspection is requested. If the final inspection is now completely ready but the electrical installation meets IB 104A and is electrically safe, it can be requested prior to the final inspection. Once the inspection is approved, a release is authorized to CPS to connect the electrical service.

When the mechanical installation is complete, the final mechanical inspection is conducted. This inspection reviews:

- Registers have been installed
- Condensing unit is installed and meets energy code compliance
- Equipment is accessible
- All electric/fuel burning connections are complete.

When the gas installation is complete, the final gas inspection is conducted. This inspection reviews:

- Gas valves have been installed
- Water heater is installed
- Equipment is accessible
- Another air test confirms the gas pipes hold pressure without leaking

When the plumbing installation is complete, the final plumbing inspection is conducted. This inspection reviews:

- Fixtures have been installed
- Water heater is installed
- Equipment is accessible
- Checks for leaks and meter connections

The final tree inspection checks if the tree requirement has been met per the terms and conditions of permit approval. This inspection is automatically scheduled with the final building inspection for the first inspection only. Follow-up inspections need to be scheduled separately.

CERTIFICATE OF OCCUPANCY

After completing the final stage inspections and requirements, you're now eligible for your Certificate of Occupancy (C of O).

An owner can choose to apply for a Temporary C of O that will allow him or her to legally occupy a structure for a limited amount of days. When all the associated trade permits have been inspected and given a final approval, a Residential C of O is issued to the electronic permit file, authorizing the builder to transfer utilities to the homeowner.

