

Foundation

Prior to any foundation make up inspection, a form survey must be provided compliance review. The survey shall be prepared by a State of Texas registered surveyor.

The Survey and Inspection shall include:

- Building setbacks – front, side and rear.
- Top of form elevation that meets or exceeds: 12 inches above the top of the front street curb or 12 inches above the base flood elevation or 18 inches above natural grade, whichever is higher: foundation elevation certificates City ORD 2151
- No encroachments
- Foundations shall comply with the City approved drawings.
- Approved applicable plumbing, electrical and mechanical inspections associated with the foundation make up. Note that plumbing pipes must be sleeved and protected per code.
- Foundation piers (an inspection lab shall inspect all foundation piers & submit an approval report to the inspector) & in-ground plumbing may be installed and inspected at builders' risk prior risk to form survey.
- Water shall be in building drain pipes throughout, if it is not full, a leak will be assumed.

Wood Framing

All rough-ins/covers (plumbing, electrical, mechanical) must have previous approvals or are requested concurrently with the frame inspection.

- All framing (studs, headers, stairs,) must comply with approved plans. All wood members must comply with code required span charts. R602,
- joists, rafters, beams, lentils R802
- All framing members must comply with code approved standards for notching and boring. R602.6
- Blocking, joist hangers, and ledger strips are approved means of support. Verify code sizing and nailing requirements. R802
- Verify code required egress including windows, doors and locks. Window sill height not more than 44" R310.2.2
- Opening height 20" x 24" width R310.2.1
- Door 32" sill to jam- height 6'8" R311.2
- Verify code required foundation anchor bolts or anchor straps and spacing. No more than 6' apart and 12" from the end of member R403.1.6
- Verify that purlin bracing complies with code. Minimum size 2x4 Spaced 4' apart on center and length shall not exceed 8' R802.5.1

- Verify compliance of rafters and joist installation and fastening. Table 802.5.1(9), R802.3.1
- Verify compliance of collar ties. Minimum size: 1x4, spaced 4' apart
- Draft stopping fire blocking as required – i.e. fireplaces, fur downs, midwall roof attachments, horizontal to vertical. Note code requirements. R302.11, R302.12
- Wind design for 110 MPH, 3-second gust. Clips, straps and shear-walls are typically part of design. Have wind design plan available for Inspector. R301.2.1
- Masonry work shall comply with adopted code. R703.8
- Roof sheathing and covering shall comply with adopted code. R905
- Brick ties are randomly inspected. R703.8.4.1
- Attic access, with folding stairs shall comply with adopted code. R807
- Fireplace will be inspected to meet manufacturer's specification and adopted code. Whichever is more stringent? R1004
- Fireplace must have a gas pressure test. IFGC 107.2

Structural Steel

Structural steel framing may be inspected by the CITY but must meet the special inspections criteria of our current adopted code. Inspection reports shall be submitted verifying that all required bolting welding and other elements of construction are in compliance with approved City building plans.

Building Final

The building may be scheduled for a final building inspection after or concurrently with plumbing, electrical and mechanical finals. A building final will not be approved unless all trade inspections are approved. Gas, water and electricity must be operational. Commercial building final inspections do not permit occupancy in and by itself. Commercial projects require approvals from one or more of the following: Fire, Public Works, Engineering and Planning. A Certificate of Occupancy is required for occupancy for commercial buildings.

Residential Final building inspections (single family) once approved allow for occupancy. A Certificate of Occupancy is issued after inspection and repairs of any damaged infrastructure by the home builder are addressed.

Items typically inspected during a building final include:

- Exterior finishes and components R703.1
- Interior finishes and components R702
- Attic access R807.1
- Attic ventilation R806.1

- Permanent address visible from the street 4" numbers with a minimum stroke width of 1/2" R319
- Safety /tempered glass R308
- Stair and guard rails requirements R311.7
- Special inspection compliance reports IBC 17
- (CO) requires all permit-related paperwork be included in the Permit Packet. This includes final grade survey, Engineer's final acceptance (approval) letter for foundation & framing inspection, 3rd party rater form with final approval for Energy Star / green building, foundation maintenance letter signed by homeowner (or executed by the Builder and notarized), thermal by-pass checklist, along with the right-
 - All outstanding fees paid R108.1
 - ROW inspection approved R109.1.5
 - Irrigation Final approved R109.1.5
 - Clean street(s) / sidewalk(s) / alley(s)
 - Lot drainage survey / positive from foundation R401.3
 - Trees installed per approved list Planning and development
 - Expose gutter pop-up drains at grade level R401.3
 - Rain gutters installed at all practical locations R401.3
 - Seal penetration brick R703.1
 - Plumbing / exhaust vents painted, and caps removed R2609.2
 - Landscape / erosion control ORD
 - Front / rear entry lights working R3903.3
 - 3-way switch at stairway lighting R3903.3.1
 - Caulk brick expansion joints per engineer requirements R703.1
 - Safety glass at hazardous locations R308.4
 - Stairway handrail / guardrail to code R311.7.8
 - Blown insulation certificate at attic N1101.10.1
 - Weep holes at brick ledge and window lintels R703.8.6
 - Closet light clearance from shelves to code R4003.12

- Final grade 4 inches below brick R404.1.6
- Garage overhead door & safety sensor operable Manufactured spec R309.4
- Exterior / garage / attic doors weather-stripped Manufactured spec R703.1
- Verify tempered glass where required R308.4
- Self-closing door from house to garage R302.5.1
- Exit doors openable from inside without key(s) R310.1.1
- Gutters installed / downspouts extended 5' from slab R401.3
- Address numbers (contrast color) installed at front & rear R319
- Smoke detectors & carbon monoxide detectors installed R314 and R315
- Emergency rescue openings provided in sleeping rooms R310

Plumbing Rough

- Water test: minimum of 10' water column above the highest fitting or the highest point in the completed system for 15 minutes IPC 312.6
- Air test: maintain a gauge pressure of 5 psi for 15 minutes. IPC 312.5
- Minimum 4" Schedule 40 PVC sanitary sewer required for residential construction/ city ordinance
- Minimum 6" SDR 26 or equal sanitary sewer required for commercial construction/ city ordinance Design Standards Part 2 Products Section 330501.09 2.3 N. GRAVITY SEWER PIPE
- Sleeve drain lines passing thru footings in accordance with the adopted code.
- Form survey / building setback encroachments / finished floor street and alley elevation. (Form survey requires elevation at alley / street and anticipated driveway slope; maximum slope is twelve (12%) percent.)
- Plumbing exposure for inspection P2503.2
- Gas tracer wire / size / color G2415.9
- Gas union properly wrapped G2415.8
- CT adapter at change in material P3003.4.2
- Minimum depth of services 12" P2603.6, P2603.6.1
- Sanitary not properly vented P3101.2.1
- Reverse fall / no fall on sanitary sewer P3005.6 P3112.2
- Water service minimum 3/4" P2903.7
- Minimum building sewer size 4" P3004.1
- Valve not installed / not full port P2903.9.1
- Yard / double clean-outs not installed P3005.2.7
- Hot water not insulated IPC 607.2

- No plastic in water service P2904.4.2 (amended)
- Trap arm too long / excessive fall P3105.1
- Incorrect sanitary sewer fitting used P3005.1
- Flux used does not comply with ASTM B 813 P2904.13
- Under slab joints in copper properly brazed P2904.15
- PRV must be located outside with valve to service P2903.3.1
- Plumbing water, gas, sanitary systems on test P2503, P2503.5.1
- Water service not sleeved over sanitary ditch P2904.4.2 (amended)
- Island / foot vent not properly installed P3112.2, P3112.3 (amended)
- Gas / sanitary / water lines properly bedded G2415.10, P2604.1, P2605.1 (2)
- Proper building setbacks, top of form elevation, street / alley elevations, driveway slopes

Top-out

- Water or Air test; same as sewer/ground. P2503.5.1
- Nail plates are required for concealed piping, other than cast-iron or galvanized steel P2603.2.1
- Notching and boring of wood frame construction R602.6
- Drain, waste and vent piping shall maintain proper slope(grade) P3005.3
- Water piping shall be protected from freezing in all areas subject to freeze damage (insulation). Examples of such areas include outside of a building, in exterior walls, in attics and crawl spaces. P2910.8
- Building water service line must be buried a minimum of 12” deep and of a code approved material. Service line must be sleeved as required by code.
- Water heater installations must comply with code and manufacturers specifications P1307.1
- All venting through roof (VTR) shall meet current code requirements. M1804
- Gas piping shall be sized, supported and tested in accordance with the current adopted Fuel Gas Code. G2413.3; IFGC 402.3
- The plumbing top out inspection includes flue pipes on gas-fired appliances.
- Leak on waste / vent 10” of head P2503.4
- Trap arm too long / excessive grade P3105
- Accessibility to clean outs P3005.2.5
- Reaming of gas piping P2414.7
- PRV not acceptable in dwelling P2903.3.1 (amended)
- Swing joints prohibited G2415.3
- Gas breakers at manifold G2420.6.3
- Minimum 5’ rise on gas vents M1804.2.3
- Combustion air for confined locations M1702
- Tubs must be tested to overflow P2503.5.2
- Gas test required on entire system / wrong measurement G2417.4
- Identification of CSST piping (med pressure warning tag) G2412.5 (amended)
- Approved shower pans must be water tested P2503.5.2

- Water heater ignition source not less than 18" P2801.6
- B-vent horizontal not greater than 75% of vertical rise G2427.6.8.2
- Proper clearance from combustibles and B-vents G2427.6.1
- Water heater T & P and pan line cannot terminate on concrete P2803.6.1
- Pan drain required at water heater P2801.5
- Gas vents shall terminate no less than 8' of vertical wall or 2' above roof G2427.6.3
IFGC 503.6.3
- Unions for water heater connections P2904.17.1

Gas Turn On (GTO)

- A code approved method of testing must be inspected and approved prior to release for service. All valves and/or other locations that gas may escape from must be properly capped or sealed to prevent leakage.

Plumbing Final

- Roof jacks and appliance vents—storm collars.
- Hose Bibb back siphon preventers (locked)
- Installation of water meter box.
- Sanitary sewer cleanouts
- Plumbing fixture installations
- Exposed water lines in attic, secured and insulated
- All gas lines in the attic
- A/C condensation lines properly connected to active trap
- Water valves and gas valves where applicable
- Approved back flow devices for water supply
- The plumbing and gas final inspection is required for meters.
- Gas excessive flow valve / meter G2420.6.3 (amended)
- Caulk all fixtures P2705.1
- Hard pipe gas through cabinet / partition G2422.1.2
- Slip joints at tub concealed P2704.1
- Leak at fixtures / missing fixtures P2705.1, P2503.5.2
- Trap primer on floor drain P3201.2
- Exterior plumbing protected from freeze P2603.6

- No test master bath tub P2503.5.2
- Plumbing vents too close to intake air P3103.5
- Improper combustion air G2407
- Dishwasher air gap P2717.1, P2717.2, P2717.3
- Extend clean-outs past masonry P3005.2.5
- Fixture cross connect / improper air gap P2902
- Island fixture venting / clean-outs P3112.1, P3112.3
- Appliance vent clearance(s) manufacturer's listing
- Top / pan drain lines P2801.5.2, P2803.6.1, P2801.5.2
- Mil-wrap / paint exposed gas piping G2415.8, G2415.8.2
- No gas pressure warning tags at both service ends G2412.5 (amended)
- Fire caulk fireplace at log liter manufacture require re-factory to be sealed at log liter penetration appliance vents to short G2427.6.5
- Gas valves to appliances, missing / plug / not accessible gas completed to appliances G2417.6.2,
- G2420.1.2, G2420.1.3

HEATING, VENTILATION AND AIR CONDITIONING (HVAC)

Cover (Rough in)

- Proper support of unit M1307.2
- Auxiliary and secondary condensation drain installations must comply with code. M1411.3.1
- Dryer vents { maximum 35' per code } or manufacturer's specifications G2439.7.4.1 IFGC 614.8.4.1
- Mechanical equipment (source of ignition) location in relationship to gas meter location, check with local gas provider
- Proper installation of disconnects for all mechanical equipment.
- Return plenum properly sealed M1601.1
- Restricted A/C ducts M603.1
- Fresh air intake / gravity & volume damper R1006.2
- Chimney capped R1005
- Exhaust vent terminations 48" minimum from openings into building M1804.2.6
- Refrigerant suction line 1" size or less shall be insulated with ½" minimum insulation, except when length exceed 5' exposed to outdoor air, then it shall be a minimum 1" thickness outdoors NCTCOG amendments Table 503.3.3.1 IRC N1103.5
- Minimum duct insulation shall be R-8 minimum in attics where 3 inches and greater; R-6 where less than 3 inches in diameter (Prescriptive) N1103.3.1 IECC R403.3.1

- Flex duct shall be supported every 4' horizontally and 6' vertically, bending radius must not restrict air flow, splice collars are required at duct splices (manufacturer's specifications) M1601.3.2
- Mastic seal all seams and connections of duct work and equipment M1601.3.1 IECC 503.3.3.4 (Tapes not approved for air tight sealing.)
- Main condensate drains shall be tied into a wet drain. Secondary drains must discharge to an obvious location (over doors, windows, patios, etc.) M1411.3
- All exhaust fans shall be vented outside of the building with metal duct work M1501.1, M1505.1
- A minimum 24-inch-wide x 30-inch-high unobstructed, solid catwalk is required from the point of attic entry to the attic furnace service panels and filters M1305.1.3
- The 'line of travel' distance between the attic entry point and the attic furnace access panels shall not exceed 20 feet M1305.1.3
- A 30" x 30" level, work platform and 30" clear work area are required in front of the attic furnace access and filters M1305.1.3
- A/C condensers must be level and firmly supported 3" above adjoining grade M1401, M1305.1.4.1 (amended)
- Self-closing dampers are required in Green Building furnace fresh air takes IECC 503.3.3.5
- Gas flue pipes (B-vent) shall not terminate within 8 feet of any vertical wall or similar structure on the roof G2427.6.5
- Environmental exhaust ducts shall not terminate within 36 inches of building openings IMC 502.7.3.6
- Only materials with a flame spread index greater than 200 shall be allowed in the return air duct system (protect all wiring, electric boxes, PCV, OSB, etc) M1601.1 #6

HVAC FINAL

- Smoke detector fan shut down operates correctly
- Integrity of all VTR and storm collars
- Installation of exterior units, support, disconnect, conduit and sealing of all openings to structure
- Labeling of fan(s) as required by manufacturer's specification

ELECTRICAL

Current adopted National Electrical Code with Local Amendments

- An electrical load analysis is required for all submittals

Temporary Power Pole

- T-pole must be addressed
- Proper Bracing
- Code requirements for size, wire, burial depth
- 220 and 110 receptacles GFI protected NEC 590.6
- Enclosure weatherproof NEC 590.4(D)(2)
- Insure rusted, burnt, loose wires/clamps in meter can are not present NEC 110.12(B)
- Receptacles are listed weather resistant NEC 590.4(D)(2)
- Grounding Electrode secured to grounding rod E3608.1.2

COVER/ROUGH IN

- Minimum 12” copper Article III; Section 7-22 Code Amendments
- Romex properly stapled TBL E3802.1
- Protection: Attic wiring including nail plates and fastening – stud placement- top and bottom plate placement 1 ¼ TBL E3802.1
- Kitchen 2 small appliance circuits, counter spacing 2’, island, peninsula separate circuits to dishwasher, disposal and accessible switches, lighting, range and oven E3703.2
- Bathroom switches, unless GFCI protected, not accessible from tub/shower, GFCI receptacle for counter, spa/hydro tub GFCI protected, bond wire and rewire accessibility (GFCI not under tub); lighting Minimum dedicated circuits required.
- Laundry Room: Washer dedicated 20AMP; Dryer dedicated circuit rewire- Laundry circuit cannot leave laundry room E3703.3 210.11
- HAVC- service receptacle within 25’ and GFCI as required E3901.12

General:

- Receptacle spacing, required locations, lighting E3901.2.1
- Grounding of all metal boxes E3905.2
- Fasteners/staples as required and from main
- Box fill, general inspection E3905.12.2
- Grounding continuity 3608.1.1.2
- Check required receptacles E3901.1 210.52
- Correct receptacle spacing E3901.2.1 210.52(A)&(B)
- Receptacle outlet installed for each car space at garage E3901.9 210.52(G)(1)
- Conduit installation
- Proper installation of nail plates
- Light switch at attic entrance E3903.4
- Closet lighting complying with E4003.12
- Panel box installed per Code limits E3405

- Cold water, hot water, gas pipe bonding connections/clamp [s has to be accessible E3608.1.1.2
- Proper bundling of metal parts E3608.1.1.2
- Smoke detectors, as required by the IRC and NEC in front in hallway of sleeping areas, in each bedroom, and at least one downstairs. All to be interconnected (when one activates, they all activate) and operate 110V with battery backup. Compliance to NFPA 72 is required R314
- Carbon Monoxide Alarms: For new construction, an approved carbon monoxide alarm shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms in dwelling units within which fuel-fired appliances are installed and in dwelling units that have attached garages. R315.2.1
- Carbon Monoxide alarms shall be installed in existing dwellings where work requiring a permit occurs, that have attached garages or in existing dwellings within which fuel-fired appliances exist, carbon monoxide alarms shall be provided in accordance with Section R315.1
- Deoxidizer grease as required per Code between lug and wire when using aluminum
- Disconnect switch for fan should be accessible
- Check arc fault circuits E3902.12 210.12
- No more than 3 cables (Romex) through bored hole in top plate E3705.4.4
- Sleeve Romex through brick TBL E3801.4 334.12(B)
- Verify concrete encased electrode connection E3611.2 250.68
- I.C. rated cans E4004.8 410.116(A)(2)
- Fan rated boxes installed E3905.8 314.27(C)
- Correct attic lighting E3903.1 210.70(A)(3)
- Protect cabling on attic decking and within 6' of attic entrances across joist. E3802.2.1 320.23(A)
- Verify bonding of all other metal piping systems E3609.7

Temporary Cut-In (TCI)

- Electrical underground must be inspected and meet minimum burial depths above grade. All depths per Code any minimums. PVC conduit shall be Schedule 80 and strapped and secured with markings meet E3803.1; NEC 300.5A
- Proper service entrance conductor sizing E3705.5; NEC 240.4
- Electrical overhead: must meet minimum code requirements E3605.9.5

- Grounding electrode conductor: Service must be properly grounded and bonded E3608.1.1.2
- Grounding Rod/Pipe electrodes not less than 8 feet in length E3608.1.4
- Main disconnect located at exterior of building next meter, shall not be higher than 6'-7" above grade E3705.7; NEC 240.24A
- The Service panel shall be weather tight and no slots are left open in panel
- No panel boards in clothes closet or bathroom E3705.7; NEC 240.24D and E
- Aluminum wire is not allowed as conductors past the meter to the service panel. The Service provider will feed aluminum wire from transformer to meter.
- A meter inspection without an approved TCI form requires all wiring to be terminated to fixtures, outlets and switches – no open wires.
- A minimum clear space shall be provided at the front of the service panel: 30" wide and 36" deep

FINAL

- All circuitry shall be complete and in working order.
- Tamper-resistance receptacles shall be installed for all circuits
- Main panel must be labeled
- T-Pole must be disconnected and removed from the site
- Any 12-3 systems shall be bar tied per Code
- Smoke detectors tested for proper operation
- Each receptacle will be tested and Receptacles properly plated E4002.4 406.5
- Panel cover removed E3404.7 110.12
- Identify neutral service conductor with white phase tape E3407.1 200.6
- Neutrals not to be double lugged E3706.4 408.41
- Main bonding jumper installed E3607.5 250.28, 250.102
- Bonding bushing installed if service entrance conduit is metal E3609.2 NEC250.92, NEC 250.102
- Grounding and neutral conductors are isolated in sub-panel(s) E3607.2 NEC 250.24(A)(5)
- Connections properly torqued in panel E3406.12 110.14(A)-(D)
- Required Kitchen counter and island receptacles installed E3901.4 **NEC** 210.52(B)
- Required Smoke and Carbon monoxide detectors installed R314, R315
- Required workspace / clearance is provided E3405.1 110.26
- A/C condenser fusing correct E3702.11 NEC 440.22(C)
- Correct conductor termination at meter E3406 NEC 110.14
- CWG within 5 feet of slab E3608.1.1.1 NEC 250.68(C)
- Clean panel / busses E3404.7 NEC 110.12(B)
- Proper connector installed on conduit/sleeve at A/C disconnect E3905.1 NEC 300.15
- #8 bonding jumper on Jacuzzi motor if metal water pipe within 5 feet of tub E4209.4 NEC 680.74

- GFCI protection installed on all receptacles requiring GFCI E3902.1-11 NEC 210.8
- AFCI protection installed on all branch circuits requiring AFCI E3902.12-13 NEC 210.12
- Each light fixture shall have one bulb for operational check
- A minimum of fifty-percent of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps
- Closet lighting shall comply with code
- Spa/hydro tub- GFCI shall be accessible (not under tub where panel must be removed).
- Seal(caulk) exterior panel and boxes for weather proofing
- Check for operation of dishwasher, food waste grinder, cook top, cook top exhaust/microwave and oven

Swimming Pools

- Service drop above or within 10 feet of a pool, requires clearance of 22 ½ feet in any direction of the water T4203.5; T680.8
- Underground less than 5 feet from the pool only for supply of pool equipment and only using PVC or corrosion protected RMC or IMC E4203.7; NEC 680.10
- 120V – 240V pump motor requires GFCI E4203.1.3; NEC 680.21C
- Lighting outlets minimum of 5 feet from pool or more than 12 feet above the pool E4203.4.1; NEC 680.22B1
- Bond pool shell, perimeter, metal for pumps and covers E4204.2; NEC 680.26B
- Bond to pool water required with minimum of 9 square inches in contact E4204.3; NEC 680.26C
- Bond wire minimum of solid 8 AWG copper E4204.2; NEC 680.26B
- Underwater lighting shall be GFCI protected or low-voltage E4206.4; NEC 680.23A3
- Top of light minimum 18 inches below water level E4206.4.2; NEC 680.23A5
- Underwater lighting: PVC to underwater lights requires 8 AWG insulated bonding conductor E4205.3; NEC 680.23B2
- Segregate GFCI protected raceways from non-GFCI E4206.3; NEC 680.23F3
- Site inspection must be conducted
- Pool steel must be conducted
- Gas test (GTO) Part of the plumbing permit
- Pool Final will include electrical and plumbing finals combined
- Barrier height and clearances: The top of the barrier shall be not less than 48 inches above grade. The vertical clearance between grade and the bottom of the barrier shall not exceed 2 inches for grade surfaces that are not solid, such as grass or gravel. The vertical clearance between a surface below the barrier to a solid surface, such as concrete and the bottom of the required barrier shall not exceed 4 inches. ISPSC 305.2

- Openings in the barrier shall not allow passage of a 4 inch-diameter sphere. ISPSC 305.2.2
- Gates shall open outward away from the pool or spa, shall be self-closing and shall have a self – latching device. ISPSC 305.3
- The release mechanism of the self – latching device is located than 54 inches from grade, the release mechanism shall be located on the pool or spa side of the gate not less than 3 inches below the top of the gate, and the gate and barrier shall not have openings greater than ½ inch with 18 inches of the release mechanism. ISPSC 305.3.3
- Where a structural wall of a dwelling or structure serves as part of the barrier and where doors or windows provide direct access to the pool or spa through that wall, one of the following shall be required. ISPSC 305.4
 - Operable windows having a sill height of less than 48 inches above the indoor finish floor and doors shall have an alarm that produces an audible warning when the window, door or their screens are opened. The alarm shall be listed and labeled as a water hazard alarm in accordance with UL 2017. ISPSC 305.4 No. 1
 - A safety cover that is listed and labeled in accordance with ASTM F1346 is installed for the pools and spas. ISPSC 305.4 No. 2
 - An approved means of protection, such as self-closing doors with self-latching devices, is provided. Such means of protection shall provide a degree of protection that is not less than the protection afforded by Item 1 or 2. ISPSC 305.4