

## **One Stop Shop Phase II (Reengineering) Inspection Checklists**

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**One Stop Shop Phase II (Reengineering)  
General Design Standard  
Inspection Checklist  
Sections 1, 2 & 6**

**Preconstruction Meeting Checklist**

1. As-built plans for city maintained utilities, to be submitted for review to the Building Inspection Department before issuance of certificate of occupancy and acceptance letter. There is a fee of \$2.00 per sheet of as-builts for civil drawings.
  - 1 set of black lines to Building Inspection inspector for verification... **THEN**
  - 2 sets of black lines (24" x 36") and 1 set of Mylar (24" x 36") and 1 (3 ½ ") computer disk using AutoCad 12 or higher (plan view only of water mains, plan and profile for sanitary sewer and storm sewer, and plat). Section 1 E (4).
2. Maintenance Bond-2 year, 100% of construction cost for work in right-of-way (ROW) and which starts at date of acceptance, city maintained easements, on city maintenance bond form. Section 1 E (3) Pages 1-6.
3. Inspection procedures and work hours-notify the assigned inspector 2 working days **BEFORE** beginning any construction to review your proposed construction schedule. Work time is Monday - Friday, 7 a.m. - 7 p.m., or one hour prior to sunrise or 8:00 a.m., whichever is earlier, to 7:00 p.m., if within one thousand feet of any residence. Saturday 8:00 a.m. to 7:00 p.m. No work on Sunday or city holidays. Section 1 D (1) a & c Pages 1-3.
4. After hours inspections-any inspection before 7:30 a.m. or after 4:00 p.m. and all day Saturday, charged at \$40 per hour with a two-hour minimum. Contractor billed directly. Section 1(D) b. c. d. Damages to infrastructure and after hours services shall be billed and collected before CO is issued.
5. General Design Standards-available at Building Inspection front counter desk for \$25 per copy, or \$7 per CD with benchmarks, ROW ordinance, Stormwater & Flood Protection ordinance and topographic drawings. Section 1(D) 2 Pages 1-4.
6. Concrete batch designs-required for all concrete in city right-of-way. Six sack mix minimum for machine pour, 6.5 sacks minimum for hand pour. Five sack mix minimum for sidewalks. Section 2 (D) 1-8 Pages 2-1, 2-2, 2-3.
7. Water samples-contractor hires testing agency. Section 1(E) 2 Pages 1-5.
8. Soil and Erosion Control-place according to plans **BEFORE** any grading work is performed. Two ordinances against mud and debris in the street, if tracked out, clean up as soon as possible; otherwise it will evolve into a Police matter. Section 6 (H4) Pages 6.6 & Section 6(P) Pages 6-12.
9. Traffic Control-whenever **ANY** work is performed in the right-of-way, have all necessary traffic control devices up in accordance with the TxMUTCD. Part VI.

10. Hydrostatic test.

- All in accordance with G.D.S.
- All required copper blow offs are installed.
- Water supply source for testing has been established.
- The contractor notifies the inspector of the time and date the test will be done.
- When the test is complete, the contractor will chlorinate the line(s) or arrange for chlorination. Chlorination is to be done in the presence of the inspector.
- After chlorine has set in line for 24 hours, flushing of the line can start.
- **Note: Caution must be taken on how and where the de-chlorinating is handled. The contractor may be required to collect the blow off water in a holding tank or an existing wastewater manhole. The initial water has a very strong concentration of chlorine or sterilization material.**
- The procedure for discharge of heavily chlorinated water or other flushing must be discussed and approved by the inspector.
- The contractor informs the inspector of the lab company that will be used. The contractor notifies lab to pick up samples. The contractor notifies the inspector of the date and time the lab company will pick up samples. The inspector is to be present when lab takes the sample. The contractor is informed that the lab company is to provide a copy of the lab results to Building Inspection
- Exceptions:
  - Paragraph 4. Depending on the size and length of pipe, system may require flushing for up to 24 hours.
- As a customer service tool, the Building Inspection department provides the general contractor with a current copy of the General Design Standards.

11. Geo-technical test shall be done at time of compaction.

12. Marina's copy of SWPPP and MS4. She distributes documents.

13. Any contractor intending to haul and place dirt on any property in Carrollton will need an approved grading/development permit for site they are hauling to.

**One Stop Shop Phase II (Reengineering)**  
**General Design Standard**  
**Inspection Checklist**  
**Texas Manual on Uniform Traffic Control Devices**  
**TX MUTCD**

**Traffic Control Inspection Checklist**

- Review of approved traffic control plan (TCP) per TxMUTCD
- Field verify
- Advanced warning signs
- Transition area
- Buffer space upstream, downstream (optional)
- Work zone
- Termination area
- Flag man (optional)
- Safety equipment (vests)
- Arrow board required prior to work zone area on all arterial thoroughfares

**One Stop Shop Phase II (Reengineering)**  
**General Design Standard**  
**Inspection Checklist**  
**Section #4-K, W7 Section 1 D1-3, (b), (e), (d)**

**Water Service Tap Inspection Checklist**

- Adhere to working hours, traffic control and lane closure procedures
- Use approved service materials for tapping saddles, copper and meter boxes, etc.
- Locate existing water main
- Clean point of tap thoroughly and disinfect
- Wet tap only on existing lines
- Any tap shall be made a minimum of 2' from bell joint
- 6" tap or larger needs to be tapped flat into side of line
- Set tapping saddle at a 45 degree angle to the center line of pipe (for 1"-2" tap)
- Install corporation (use approved service materials) in an open position for 1"-2" tap on valve for 4" or larger
- Install tapping machine with cutter of correct size, through corporation (Note: On PVC pipe a shell cutter type tap should be used)
- Complete tap-back cutter out leaving machine attached
- Close corporation
- Install type K copper from corporation
- Run copper to 22"-26" below curb-install curb stop at meter box location
- Complete by installing of air meter box brass and brass loop
- Install meter box (Use approved service materials)
- Complete all densities, compaction, concrete cylinders, etc. and provide all lab reports to Building Inspection

**One Stop Shop Phase II (Reengineering)  
General Design Standard  
Inspection Checklist**

**Section #5 (A-F), Section 9 (A-D) and  
S-1, S-2, S-3, S-9, S-10, S-11, S-13**

**Sewer Tap Inspection Checklist**

- Tap location must be 10 feet downstream from water service unless approved by Building Official
- Excavation must be in open cut with no greater width and depth than necessary to permit construction. If depth is greater than 5 feet, excavation must be done in compliance with Section 9 of the General Design Standards
- Section of sewer main to be tapped shall be exposed 2 feet either side of tap location (only for deep cut connection)
- Saddle shall be positioned at a 3 o'clock position minimum. Coupon from tap shall be supplied to inspector
- Saddle tap fitting shall be of SDR 35 or 26 (green in color) with 2 stainless steel band on either side of fitting. Tighten bands to manufacturer's suggested torque
- Lateral line shall be minimum 4 inches diameter and a maximum of 6 feet in depth with a minimum 1% fall
- Tap shall be encased in 3000 p.s.i. concrete 6" top, side, bottom and 6" past tee
- Lateral line shall be embedded in crushed stone, fine gradation, 3"- 6" below pipe and to the top of pipe, with 6" sand above pipe
- Property line clean out required on lateral line in right-of-way center of space between edge of sidewalk and right-of-way line. Lateral lines 6 inches and above require a manhole
- Back fill shall be 4 inches above tap and every 1-inch thereafter in non-vehicular areas. Material shall be native and be free of rock and debris, and compacted to a 95% density level with an optimum moisture level of +4%, test reports to be supplied by the contractor
- After the curb is poured, stencil paint the sewer tap location in red 4-inch high letters on curb. Also cut in top of curb two 3-inch long notches and paint red
- External drop connection to a manhole is required when the inflow elevation is more than 18" above the outflow elevation, and outside drop must also be encased in concrete
- Tap shall be angled downstream to sewer main

**One Stop Shop Phase II (Reengineering)**  
**General Design Standard**  
**Inspection Checklist**  
**Section 5, Pages 1-4, Section 9, Pages 1-2 and Section 10, Pages 1-2**

**R.O.W. Sewer Inspection Checklist**

- Minimum size of sewer main is 8"; minimum size of sewer lateral is 4".
- Maximum flow velocity 10 ft/sec; minimum flow velocity 2 ft/sec.
- Separation distances of water and sanitary sewer mains shall conform to TCEQ.
  1. New water and sewer mains shall not be closer than 9'.
  2. If closer than 9' the sewer shall be pressure type pipe with watertight joints.
  3. In no case shall the outside of pipe be closer than 4'.
- Minimum depth 4' from top of pipe to top of ground.
- Sewer main shall be SDR 35 PVC green in color, for mains within 9' of waterline SDR 26 PVC pressure pipe green in color.
- Sewer lateral shall be PVC Schedule 40, SDR 35 PVC green in color or SDR 26 PVC green in color.
- Locate laterals 10' down stream of water service at a maximum 6' depth and plugged.
- Contractor shall install property line cleanout at property line.
- Curb shall be cut with two 3" notches and an "S" painted on curb above sewer in red stencil.
- Minimum trench width 24" or outside diameter of pipe plus 16".
- All trenches subject to Chapter 9 of GDS
- Excavation protection required for the trenches in excess of five (5) feet deep, including all additional excavation, backfill, pavement reconstruction and repair made necessary by the protection system (shoring).
- All embedment is per GDS.
- Back fill select or granular material compacted to 95% density with a +4% above optimum moisture content in one 4' lift and remaining in 6" lifts to grade.
- Manhole is required when a 6" or larger lateral is connected to the main.
- All manholes are accessible for city maintenance. Manhole covers located in easements and remote areas shall be painted red with appropriate bollards installed per GDS.
- Manholes shall contain an external manhole chimney seal by Cretex Specialty Products or an Infishield shrink-wrap or equal.
- External drop manhole is required when inflow elevation is more than 18" above outflow elevation. Connections to existing manholes shall be core drilled.
- Curb shall be cut 1" wide and a 4" high red letter "MH" painted on the curb.
- Manholes shall be 5' diameter minimum for sewer mains up to 27".
- Curb shall be cut 1" wide and a 4" high red letter "CO" painted on the curb.
- Testing of sanitary sewer mains, lines and manholes per Section 10 of GDS.
- As-built drawings are verified for accuracy daily.
- Verify that all manholes are accessible for city maintenance.
- Taps to sewer main shall be angled downstream.

**One Stop Shop Phase II (Reengineering)**  
**General Design Standard**  
**Inspection Checklist**  
**Sections 3, 9, 10**  
**D1-7 Standard Design**

**R.O.W./Easement Storm Drain Inspection Checklist**

- Design criteria (size and velocities)
- Trench excavation
- Material for pipe (RCP only, unless otherwise approved)
- Material for pipe joints
- Embedment
- Backfill
- Storm drain curb inlets (inlets fit properly and are the locking type)
- Storm drain inlet and junction boxes, including manhole steps if over 4' in depth
- Storm drain wyes
- Shoring if required
- For final inspection, manhole cover is closed and locked
- Debris is removed from inlet and pipe
- Compaction density test results
- Weepholes in headwalls
- Milsap or headwalls and wingwalls per GDS
- Toe down or headwalls and wingwalls per engineering plans
- Coordinate SWPPP with Environmental Services



**One Stop Shop Phase II (Reengineering)  
General Design Standard  
Inspection Checklist  
Section #4, 6, 10  
W-7, W-11 Standard Design Details**

**Fire Protection Meter Vault Inspection Checklist**

- Location
- Material
- Embedment
- Backfill
- Excavation
- Verify with approved plans
- Notify Fire Marshal for inspection
- Follow GDS installation requirements

**One Stop Shop Phase II (Reengineering)**  
**General Design Standard**  
**Inspection Checklist**  
**Section #10 A 1 to 6**

**Testing Procedures for All Underground Utilities, Sub-Grade Preparation and  
Pavement Construction**

**Water Line Test Inspection Checklist**

- Refer to complete test procedure in GDS
- Schedule valve shut down a minimum of 3-7 days notice. Give time, date and location to the Don Cline Pump Station at 972-466-3425 (24 hours, 7 days)
- Lines bled out
- Shut down first valve to give city pressure reading
- Connect pump and gauge
- Pressure line to 200 psi. Shut down pump. If using 33 or 55-gallon barrel, measure water level in barrel
- Check pump periodically to see if it has been run. Test must stay on for three continuous hours
- Calculate allowable loss with prescribed formula in General Design Standards Section 10 A.2
- Test procedure
  - Part one
  - 1. Load line
  - 2. Hydrostatic test line 3 hour 200 p.s.i.
  - 3. Chlorinate line
  - Part two
  - 4. Flush H<sub>2</sub>O line 1 ½ days
  - 5. Take H<sub>2</sub>O sample
  - 6. Sample pass – open valves
  - \* 7. De-chlorinate water before flushing into storm water system (high priority)

**One Stop Shop Phase II (Reengineering)  
General Design Standard  
Inspection Checklist**

**Section #214 and 010 General Notes A Section 2-J2, Section 10E2, Section 2-6  
GDS Paving Details P-15, P-11, P-12**

**Commercial Drive Approach Inspection Checklist**

- All pavements saw cut and removal shall extend to the limits of “good” concrete as defined by the city of Carrollton, extended minimum 1' 6".
- Concrete thickness shall match thickness of existing street per GDS (further review).
- Reinforcing steel shall be #3 deformed bars 18" o.c.e.w. Tied at every intersection 100% tie.
- 6" crest to contain curb flow (best engineering practice).
- Expansion joint material shall be redwood strips with approved joint sealing compound and shall be free of open knots, splinters or breaks.
- Grades, breaks and driveway widths (Driveway Ordinance).
- Construction joints shall be #4 deformed bar, 2'- 6" long set in epoxy grout 18" on center, embedded minimum 1'- 3" into existing concrete, and all reinforcing bars shall have wire ties at every intersection 100% tie. Where new concrete is poured against old concrete, old concrete shall have a coat of epoxy bonding agent applied at manufacturer’s specified rates.
- Random drying shrinkage cracks or stress cracks of any nature in recently places concrete are unacceptable and are subject to removal. (Recently placed is any concrete for which the two year bond had not expired). Sealing of random cracks is NOT permitted.
- Test cylinders are required to verify compressive strength – minimum of 3 cylinders to break at the required strength of 4000 p.s.i. or greater. Slump shall be verified by the material testing firm per GDS.

**One Stop Shop Phase II (Reengineering)**  
**General Design Standard**  
**Inspection Checklist**  
**Sections 2, 10**  
**P20 Standard Design**

**Fire Lane Paving Inspection Checklist**

- Line locates
- Concrete cutting or sawing
- Excavation
- Concrete pavement per GDS
- Reinforcing
- Final grading
- Striping
- Fire lane shall be minimum 24' wide
- Required minimum inside curb radius shall be 20'
- Pavement saw-cutting must be done within 5 – 12 hours of pouring

**One Stop Shop Phase II (Reengineering)**  
**General Design Standard**  
**Inspection Checklist**  
**Sections 3, 6, 10**  
**P1 (1-44) Standard Design**

**Right Turn Lane Paving Inspection Checklist**

- Line locates (all utility relocations completed before city pavement is sawcut)
- Excavation
- Concrete pavement per GDS
- Reinforcing (steel)
- Final grading
- Jointing of concrete, sawing and sealing
- Workmanship and materials
- Testing
- Deceleration lane requirements, striping or buttons required.
  - Pavement markings shall be determined at time of construction per GDS
  - Installation shall be per manufacturer's recommendations
- Check lane width, storage, and transition length
- Approved traffic control plan
- Sidewalk and BFR per approved plans
- Size of traffic island per GDS
- Brick pavers per GDS
- Ensure 2% cross slope to curb line

**One Stop Shop Phase II (Reengineering)**  
**General Design Standard**  
**Inspection Checklist**  
**Section 2, 10, 11**  
**P4 (1-3), P-19 Standard Design**

**Median Opening Paving Inspection Checklist**

- Location and alignment with drive approaches in accordance with approved plans
- Line locates
- Excavation
- Reinforcing (steel)
- Pavement and pavers
- Pavement thickness per plans
- Jointing (sawing and sealing)
- Traffic signal boxes
- Width of median nose
- Testing (all tests meet or exceed minimum specified)
- Quality of workmanship and materials
- Traffic control shall be required, per TxMUTCD
- Prior to saw-cutting, relocate all franchise utilities and city utilities, including loop detectors and signal wiring
- Align median nose to accommodate crosswalk (reference GDS p-22)
- Left turn bay shall be provided with median opening (best engineering practice)
- Core pavement per GDS to verify thickness

**One Stop Shop Phase II (Reengineering)**  
**General Design Standard**  
**Inspection Checklist**  
**Section #2, 10**  
**P17, P-12 Standard Design**

**Sidewalk in R.O.W. Inspection Checklist**

- Line locates
- Barricades required during construction
- Excavation
- Sub grade treatments
- Reinforcing (steel) size, spacing and use of chairs (add spec.)
- Jointing, sawing and sealing
- Concrete pavement
- Testing
- Location avoid utility conflicts and meet minimum spacing from R.O.W. line and street curb
- Location avoids storm inlets and utility guy wires and guy wire anchors (check vertical clearance between sidewalk and utility guy wires)
- Traffic control shall be required, per TxMUTCD
- Adjust sidewalk alignment to avoid meter boxes, valves and manholes, or if not possible, adjust valves and boxes to be flush with sidewalk pavement
- Temporary concrete ring to be removed from valves, if located in sidewalk
- All sidewalks shall be on a 1/4" per foot (2%) cross slope toward the street, per GDS
- Barrier free ramps must comply with applicable state/federal regulations
- Topsoil restoration and re-vegetation

**One Stop Shop Phase II (Reengineering)  
General Design Standard and Stormwater & Flood Protection Ordinance  
Inspection Checklist**

**Utility Infrastructure Project Final (L.O.N.) Inspection Checklist**

- Water valves (operable), not in sidewalk
- Manholes (clean, ladders, if required) shall not be covered by sidewalk
- Pavement (cracks)
- Drainage letters (FEMA)
- Testing results (compaction, pavement, water, sanitary, storm sewer)
  - Pavement:
    - Compaction
  - Sanitary sewer:
    - Mandrel report
    - Air test for manholes
    - Transcript for sanitary sewer services and mains
    - Compaction reports
  - Water:
    - Bacteria logical report
    - Pressure test water mains
    - Compaction reports
  - Storm sewer:
    - Color video tape after remixing of lime
    - Color video tape at infrastructure final inspection
    - Compact reports
- Identification (painting of covers and notches in curb) at correct locations
- Locations of valves, manholes, cleanouts
- Videotape of storm sewer & sanitary sewer in easements or R.O.W. from the property owner's clean out. To be reviewed by Sewer and Drainage departments.
- Erosion control can be removed when 70% of soil is stabilized by sodding or other approved methods
- All fees paid (including outstanding fees for damage or after hours services)
- Maintenance bond
- Record drawings verified and submitted to engineer
- Acceptance by Water, Sewer, Drainage and Streets departments
- Above surface features shall be no closer to curb as described in R.O.W. Management Ordinance
- Visibility issues should not be created