MetroConnects
Sustainable Wastewater Solutions

Metropolitan Sewer Subdistrict, dba MetroConnects
120 Augusta Arbor Way
Greenville, SC 29605

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Final Inspection Checklist

Final Inspections

1. Manholes – Verify the following:
    a. Metro lid.
    b. 8-inch tall frame.
    c. Rim is at finish grade (i.e., binder is down and ~ 2 inches remaining to top of rim)
    d. Chimney is no more than 10-inches (top of manhole cone to the bottom of the ring/cover), according to Detail SS-7.0.
    e. Chimney spacers are concrete doughnuts (no other material allowed).
    f. No grade rings (these sit on top of frame and cover sits in grade ring).
    g. Height from rim to first step is no more than 32 inches, according to Detail SS-7.0.
    h. Barrel joints are grouted, according to Detail SS-7.0.
    i. Table is clear of any debris, splatter, concrete, rock, etc.
    j. Inverts are the proper depth (*i.e.*, from top of table to invert of pipe), according to Detail SS-7.1.
    k. Inverts are proper width and are smooth. Examples are as follows:
        i. 6-inch lateral and associated channel neatly transitions/tapers out to the 8-inch trough.
        ii. Curvatures and angles are smooth in the transition between in-coming channels, so as not to cause eddies or turbulence.
        iii. Multiple inflows transitioning to one outflow. The trough/table concrete work should be formed for smooth merging of flows.
    l. No lip or step up for inflow or outflow pipe into/out of manhole.
    m. Inflow and outflow pipe shall extend ~2 inches into the inside wall of the manhole with a grouted hood over portion of pipe within the manhole, according to Detail SS-7.1.
    n. All concrete work is smooth and brushed concrete work is in-line with flow, not perpendicular to flow that may cause turbulence or material to hang up.
    o. Trough throughout the manhole or pipe into/out of manhole is not holding water.
    p. Lining of manhole, if required.

2. Slides – Verify the following:
    a. Max height of slide is 18-inches (measured from invert of incoming pipe to bottom of trough where the slide discharges).
    b. Depth of slide is per Detail SS-7.1 (i.e. 8-inch incoming pipe requires a slide trough depth of ~0.8').
    c. Slide trough transitions properly into main trough (no turbulence, smooth, no step downs, no drops, etc.).

3. Inside Drops – Verify the following are per Detail SS-7.7:
    a. Materials are per detail.
    b. Bottom 90-degree fitting of the PVC is a "sweeping" 90-degree rather than a "hard" 90-degree turn.
        i. Also confirm the 90-degree fitting is solvent welded (no gasket).
    c. Stainless steel attachments to the wall of the manhole are Reliner ®.
    d. Inside drop bowl is grouted and bolted to the wall of the manhole.
    e. Reliner ® Force Line Hood required on bowl if incoming pipe is greater than 5%.
    f. Bottom of discharge shall be 2/10-ft above invert of outgoing pipe. No discharging on top of table.

4. Easements
    a. Verify potable water main is a minimum 10-ft horizontal separation from sewer main, according to Detail SS-1.3.
    b. When in grassed area (out of asphalt) verify,
        i. Easement is 25 feet wide and grades within easement match Metro-approved design plans.
        ii. No areas within easement are holding water (*i.e.*, drains properly).
        iii. No manholes are in a "bowl" and holding water (*i.e.*, drains properly).
        iv. No electrical transformers, fire hydrants, street lights, etc. are not within the 25-ft easement, unless otherwise shown on approved design plans.
        v. No house pads are within 25-ft easement.
        vi. No permanent fencing within, or crossing, 25-ft easement.
            1. If fencing crosses easement, verify 2 – 6-foot wide gates installed, according to Section 6.0 in the SSS&P.
        vii. Sewer easement is at final grade and that final grade matches Metro-approved design plans.
        viii. Overall easement has been stabilized (seed/straw, gravel, etc.).
        ix. No trees within easement (existing or newly planted).
        x. Aerial crossing matches Metro-approved design plans, and
            1. Piers have neoprene pads, stainless steel straps,
            2. Pipe orientation is correct (bell end pointing upstream),
            3. Bell/spigot pipe connection is a maximum 2-feet from pier support.
            4. Bolted flanges are located as shown in Metro-approved design plans.
            5. Confirm piers appear vertical and stable.
                a. If the piers are poured in place, request documentation that the piers were engineered/designed.
            6. Verify pipe has exterior UV protective coating
        xi. Verify at aerial crossings and creek crossings (if shown on plans) that rip-rap is placed a minimum 25 feet wide (width of easement) and according to Detail SS-4.4.
        xii. Confirm manhole rims are at least 2 feet above final grade (max 3 feet before flat top required), according to Detail SS-7.11.
        xiii. Confirm manholes that are 3 – 4 feet above grade are flat top manholes, according to Detail SS-7.11.
        xiv. Confirm no manholes are more than 4-feet above grade, according to Detail SS-7.11.
        xv. Confirm manholes in "lawn or maintained areas" are at least 4-inches above grade, according to Metro-approved plans and Detail SS-7.10.
        xvi. Confirm grout collar placed on outside of frame and cover, according to Detail SS-7.3.

5. Cleanouts for Commercial/Industrial developments, confirm the following:
    a. Cleanouts are visible and have not been covered.
    b. Cleanout box/ring and cover are according to Detail SS-6.6.
    c. Cleanout cap is installed on the cleanout
    d. Gravel in bottom of box, according to Detail SS-6.5
    e. There is 12.5 feet from manhole/sewer main or at the edge of ROW

6. Pump Stations & Force Main
    a. See Pump Station Inspection Checklist