

## **REQUIRED LVVWD INSPECTIONS**

### **NOTE:**

- A. *ALL MATERIALS USED MUST BE ON THE LVVWD APPROVED PRODUCTS LIST.*
- B. *WHEN NATIVE SOILS ARE USED, THE INSPECTOR MUST BE PRESENT WHEN REPRESENTATIVE SAMPLES ARE OBTAINED, A SOILS ANALYSIS MUST BE SUBMITTED TO THE INSPECTOR AND THE SOIL MUST MEET THE REQUIREMENTS OF TABLE G OF THE "UNIFORM DESIGN AND CONSTRUCTION STANDARDS" (UDACS), OR BE ON THE INTER-AGENCY QUALITY ASSURANCE COMMITTEE "QUALIFIED MATERIALS LIST".*
1. **PRE-CONSTRUCTION MEETING** - THIS MEETING IS REQUIRED SO THE LVVWD INSPECTOR, THE DEVELOPER, AND THE CONTRACTOR CAN REVIEW DETAILS OF INSPECTION PROCESSES AND SPECIFICS OF THE PROJECT. THE CONTRACTOR OR DEVELOPER MUST SCHEDULE THIS MEETING PRIOR TO START OF WORK.
  2. **WET TAPS** - WET TAPS MUST BE INSPECTED PRIOR TO THE TAP OCCURRING. THE INSPECTOR WILL USE STAKING TO VERIFY TAP SIZE, LOCATION, AND EASEMENT. A 200-PSI PRESSURE TEST OF TAPPING SADDLES, TEES, AND VALVES MUST BE INSPECTED.
  3. **DISINFECTION OF WET TAP AND APPURTENANCES** - THE INSPECTOR MUST VERIFY THAT A 200 PPM CHLORINE SOLUTION IS USED TO DISINFECT ALL NEWLY INSTALLED APPURTENANCES ALONG WITH THE OUTSIDE OF THE EXISTING WATER MAIN.
  4. **UNDERGROUND INSPECTION** - REQUIRED BEFORE ANY NEWLY INSTALLED FACILITIES ARE BACKFILLED OR COVERED. ELEVATION AND LOCATION SURVEY STAKING MUST BE IN PLACE AT 50-FOOT INTERVALS. THE INSPECTOR WILL TAKE FIELD MEASUREMENTS TO VERIFY THAT THE INSTALLATION IS IN ACCORDANCE WITH THE APPROVED PROJECT PLANS. PIPE JOINT DEFLECTION IS LIMITED TO ONE DEGREE, BENDING OF PIPE IS NOT ALLOWED. WHEN TRENCH WIDTH EXCEEDS STANDARD PLATE # 6, ENGINEERS APPROVAL IS REQUIRED.
    - A. **GPS SCHEDULING** - CONTRACTORS ARE ENCOURAGED TO INSTALL THE ENTIRE SYSTEM SO THAT GPS DATA CAN BE COLLECTED EFFICIENTLY, BEFORE BACKFILLING OCCURS.
  5. **SURVEY OF PIPELINE GRADES** - WHEN THE PROJECT PLANS SHOW THE WATERLINE OR A SECTION OF WATERLINE ON A PROFILE, THE CONTRACTOR MUST SUPPLY SURVEY STAKING TO MATCH THE STATIONS OR LOCATIONS SHOWN ON THE APPROVED PROJECT PLANS. A CUT SHEET STAMPED BY A LICENSED SURVEYOR MUST BE SUBMITTED TO THE INSPECTOR, WHO MUST VERIFY THAT THE PROFILE AND THE CUT SHEET ELEVATIONS MATCH.
  6. **THRUST AND ANCHOR BLOCK PRE-POUR INSPECTION** - THE INSPECTOR WILL VERIFY THAT THE SIZE OF THE EXCAVATIONS COMPLY WITH STANDARD PLATES # 3 AND/ OR # 5. REINFORCING STEEL MUST BE IN PLACE AT THE TIME OF INSPECTION. **GPS MUST BE SCHEDULED AT THIS TIME, PRIOR TO BACKFILLING.**
  7. **COATING OF FERROUS MATERIALS** - INSPECTOR VERIFIES THAT IRON BEARING NUTS AND BOLTS ARE COATED WITH AN APPROVED PRODUCT.
  8. **WRAPPING OF FERROUS MATERIAL** - ALL IRON BEARING MATERIALS (SUCH AS CAST IRON FITTINGS) WRAPPED PER UDACS 3.11.04D, 2 LAYES OF 8 MIL POLYETHYLENE FILM.
  9. **THRUST AND ANCHOR BLOCK POST POUR INSPECTION** - THE INSPECTOR MUST VERIFY THAT THE SIZE OF THE PLACED CONCRETE COMPLIES WITH STANDARD PLATE # 3 AND OR # 5.
  10. **SERVICE LATERAL INSTALLATIONS** - SERVICES MUST BE LOCATED AS PER THE APPROVED PLANS AND MUST BE OF THE SIZE SHOWN ON THE PLANS. THE NUMBER OF SERVICES INSTALLED MUST COMPLY WITH THE QUANTITIES SHOWN ON THE APPROVED PLANS. 4 INCHES OF SAND BEDDING MUST BE INSPECTED PRIOR TO COVERING THE SERVICES WITH 4 INCHES OF SAND, WHICH MUST ALSO BE INSPECTED. KINKED COPPER TUBING MUST BE REPLACED WITHOUT COUPLINGS.
  11. **CASINGS** - CASINGS MUST BE INSPECTED, WELDING OF CASINGS MUST BE INSPECTED, AND PIPING PLACED INTO CASINGS MUST BE INSPECTED PRIOR TO PLACEMENT INTO THE CASINGS. PIPING INSIDE CASINGS MUST BE RESTRAINED AND PROPERLY TORQUED, APPROVED CASING SPACERS MUST BE PLACED AS SHOWN ON STANDARD PLATE #16. IRON BEARING MATERIALS SUCH AS DUCTILE IRON PIPE MUST HAVE WRAPPING AND COATING AND RESTRAINED JOINTS INSPECTED PRIOR TO PLACEMENT INTO CASINGS. CASINGS MUST BE GROUTED, WHEN OPENING FOR INSTALLING GROUT MUST BE WELDED, INSPECTION OF WELDING IS REQUIRED.
  12. **ABANDONMENTS** - WHERE PIPING AND / OR APPURTENANCES ARE SHOWN TO BE ABANDONED, THE INSPECTOR MUST INSPECT AND AS-BUILT THE ABANDONMENT.
  13. **MARKER BALLS** - MARKER BALLS MUST BE PLACED ON ALL INSTALLATIONS IN ACCORDANCE WITH STANDARD PLATE # 27. THE CONTRACTOR MUST VERIFY THAT MARKER BALLS CAN BE DETECTED USING DETECTION EQUIPMENT OR FINAL ACCEPTANCE BY LVVWD CANNOT OCCUR.

14. **DENSITY TESTING** - DENSITY TESTING MUST BE PERFORMED BY THE LVVWD INSPECTOR ON ALL EXCAVATIONS. THE CONTRACTOR MUST SCHEDULE DENSITY TESTING ONE DAY IN ADVANCE. FAILING AREAS MUST BE RE-WORKED AND TESTING RESCHEDULED BY THE CONTRACTOR.
15. **SEWER WATER CROSSINGS** - WHEN WATER AND SEWER / STORM MAIN CROSSINGS OCCUR, THE APPLICABLE PROVISION OF SECTION 2.19.01 THROUGH 2.19.04.
16. **START OF 24-HOUR CHLORINE CONTACT PERIOD** - A 50 PPM CHLORINE SOLUTION MUST BE MIXED AND THEN INJECTED INTO NEWLY INSTALLED MAINS AND APPURTENANCES. THE CONTRACTOR MUST SCHEDULE AN INSPECTION WHERE THE INSPECTOR VERIFIES THAT THE CHLORINE SOLUTION IS AT THE CORRECT SOLUTION AND EVENLY DISTRIBUTED THROUGHOUT THE SYSTEM. CARE MUST BE TAKEN TO ASSURE THAT EXISTING POTABLE WATER FACILITIES ARE NOT CONTAMINATED WITH CHLORINATED OR NON-POTABLE WATER. ALL VALVES THAT CONNECT THE NEWLY INSTALLED FACILITIES TO THE EXISTING POTABLE WATER SYSTEM MUST BE IN THE CLOSED POSITION. THE CHLORINE SOLUTION MUST REMAIN IN THE SYSTEM FOR 24 HOURS AND THE CONTRACTOR MUST SCHEDULE AN END OF CHLORINE CONTACT PERIOD INSPECTION.
17. **END OF 24 HOUR CHLORINE CONTACT PERIOD** - THE CONTRACTOR MUST SCHEDULE THE END OF 24-HOUR CONTACT PERIOD, CHLORINE CONTENT BE AT LEAST 10 PPM OR THE CHLORINATION FAILS AND THE MAIN MUST BE FLUSHED, RECHLORINATED, AND A NEW START OF CHLORINE CONTACT PERIOD MUST BE SCHEDULED.
18. **2 HOUR PRESSURE TEST** - NEWLY INSTALLED MAINS AND APPURTENANCES MUST HOLD A 2 HOUR, 200 PSI PRESSURE TEST. THE CONTRACTOR MUST SCHEDULE THE DATE AND TIME OF THE TEST. A METER AND A PUMP MUST BE INSTALLED ON THE SYSTEM THAT IS BEING TESTED AND THE CONTRACTOR MUST NOT LET THE PRESSURE DROP BELOW 195 PSI FOR THE ENTIRE 2-HOUR TEST. IF THE SYSTEM FAILS THE ALLOWABLE LEAKAGE TEST AND REPAIRS ARE MADE, INSPECTION MUST BE CONDUCTED ON THE REPAIRS AND DOCUMENTED BY THE INSPECTOR. THE CONTRACTOR MUST SCHEDULE A RE-TEST. BEFORE SCHEDULING A PRESSURE TEST INSPECTION WITH LVVWD, A TRIAL PRESSURE TEST CONDUCTED BY THE CONTRACTOR IS RECOMMENDED.
19. **BIOLOGICAL HEALTH SAMPLES** - AFTER PASSING ALL PRE-REQUISITE INSTALLATION, DISINFECTION AND PRESSURE TESTING, THE CONTRACTOR WILL SCHEDULE THE INSPECTOR TO COLLECT HEALTH SAMPLES. THE NEWLY INSTALLED SYSTEM SHALL REMAIN ISOLATED FROM THE EXISTING POTABLE WATER SYSTEM EITHER BY CLOSED VALVES OR FINAL CONNECTIONS BETWEEN THE SYSTEMS BEING MADE ONLY AFTER PASSING HEALTH SAMPLES. ANY FAILING HEALTH SAMPLES MUST TAKE THE CORRECTIVE ACTION SHOWN ON THE LVVWD RE-TEST FORM, WHICH MAY INCLUDE RE-CHLORINATION OF THE ENTIRE SYSTEM. RE-TAKES OF FAILING HEALTH SAMPLES MUST BE TAKEN FROM THE SAME LOCATION THAT THE FAILING HEALTH SAMPLE WAS TAKEN FROM.
20. **CONCRETE PADS AND / OR COLLARS** - PLACEMENT OF PROPER BACKFILL AND COMPACTION TO THE APPLICABLE STANDARD IS REQUIRED PRIOR TO ANY CONCRETE PLACEMENT. INSPECTION OF BACKFILL AND DENSITY TESTING IS REQUIRED. BACKFLOW PADS, FIRE HYDRANT SHEAR PADS, AVAR PADS, METER BOX COLLARS, VALVE COLLARS MUST HAVE INSPECTIONS SCHEDULED BEFORE CONCRETE IS PLACED. FAILURE TO SCHEDULE THESE PRE-POUR INSPECTIONS WILL RESULT IN REMOVAL OF THE PAD OR COLLAR AND AN INSPECTION OF THE NEWLY FORMED COLLAR OR PAD. REINFORCEMENTS MUST BE INSTALLED PRIOR TO PRE-POUR INSPECTION.
21. **VAULT INSTALLATION** - PROPER PLACEMENT OF APPROVED BACKFILL IS REQUIRED PRIOR TO PLACEMENT OF CONCRETE. COMPACTION AND DENSITY TESTING BY LVVWD INSPECTION IS REQUIRED PRIOR TO CONCRETE PLACEMENT. REINFORCEMENTS MUST BE INSPECTED ON THE VAULT FLOOR, VAULT WALLS AND ROOF PRIOR TO PLACEMENT OF CONCRETE. THE INSPECTOR WILL PROVIDE THE CONTRACTOR WITH LVVWD APPLICATION NUMBERS TO STAMP ON THE INSIDE OF THE VAULT HATCH, THE LADDER AND LADDER SUPPORT PRIOR TO FINAL INSPECTION.
22. **BACKFLOW TESTING** - THE INSPECTOR MUST INSPECT THE BRASS PIPING INSTALLED FOR SMALLER BACKFLOW ASSEMBLIES, PRIOR TO CONCRETE PAD PLACEMENT. THE WATER SYSTEM MUST HAVE PASSED ALL DISINFECTION, PRESSURE TESTING AND HEALTH SAMPLES BEFORE BACKFLOW TESTING CAN BE CONDUCTED. THE BACKFLOW PAD MUST HAVE PASSED INSPECTION AND THE APPROVED BACKFLOW ENCLOSURE MUST BE INSTALLED PRIOR TO SUBMITTAL FOR OPERATIONAL TESTING.
23. **CERTIFICATE OF OCCUPANCY (C OF O) INSPECTION** - THE DISTRICT-ISSUED METER MUST BE INSTALLED INTO AN APPROVED DISTRICT METER BOX WITH LID, BOTH MUST BE OF THE SIZE SPECIFIED ON THE PROJECT PLANS. THE METER MUST BE OF THE TYPE SHOWN ON THE PROJECT PLAN, THE METER, BOX AND PIPING MUST BE ALIGNED PROPERLY WITHIN THE BOX; THE BOX MUST BE FREE OF DEBRIS AND LEAKS. METER INSTALLATIONS SHOULD COMPLY WITH APPLICABLE STANDARD PLATE # 1A THROUGH # 1 D.
24. **FINAL INSPECTION** - PRE-REQUISITE INSPECTIONS SUCH AS UNDERGROUND INSPECTION, DENSITY TESTING, DISINFECTION OF FACILITIES, HEATH SAMPLING, PAD AND COLLAR INSPECTIONS, BACKFLOW TESTING, MARKER BALL PLACEMENT MUST ALL HAVE PASSED PRIOR TO SCHEDULING FINAL INSPECTION. THE CONTRACTOR SHOULD HAVE ALL VALVES ACCESSIBLE, OPERABLE AND COLLARED, AND SHOULD HAVE VERIFIED THAT MARKER BALLS CAN BE DETECTED BEFORE SCHEDULING FINAL INSPECTION.