

ORANGE VALE WATER COMPANY STANDARD SPECIFICATIONS FOR INSTALLATION OF WATER MAINS AND SERVICES



A. GENERAL REQUIREMENTS

1. Contractor installing water system must be pre-approved by OVWC and be duly licensed under the laws of the state of California at the time of the bid and for the duration of the project.
2. PRIOR TO CONSTRUCTION, the following must be provided:
 - a. Valid Contractor's license.
 - b. A Certificate of Insurance, stating coverage of \$1,000,000 Liability, Automobile, Workers' Compensation, and a Certificate of Additional Named Insured Endorsement, naming Orange Vale Water Company (OVWC), Its Officers, Directors and Employees as Additional Named Insured as their interest may appear. Insurance shall be for not less than the following amounts or greater where required by Laws and Regulations:
 - c. A Maintenance Bond for the amount of the water system contract, delivered to OVWC, effective for a period of one (1) year from the date of approval and final acceptance;
 - d. ALL APPLICABLE FEES, TO BE PAID UPON SIGNATURE AND ACCEPTANCE OF FINAL PROJECT PLANS. WILL-SERVE LETTERS WILL NOT BE ISSUED UNTIL ALL APPLICABLE FEES ARE PAID, FINAL APPROVED PROJECT PLANS ARE SIGNED, AND THE TWO (2) COMPLETE SETS OF SIGNED PROJECT PLANS HAVE BEEN DELIVERED TO OVWC.
3. Contractor shall conduct all work in compliance with applicable State and Federal laws and County and Municipal ordinances and regulations limiting or controlling the work in any manner.
4. All water facilities shall be located within dedicated easements and rights of way.
5. The acreage of each parcel must be calculated and clearly shown on all proposed construction plans. Determination of amount of acreage is the sole responsibility of the developer of said project.
6. There will be a charge for a shut-down of the water system of any kind. A 48-hour notice is required for each customer affected, prior to a scheduled shut-down of the water system. OVWC will be responsible for notification of all affected customers.
7. Contractor is responsible for locating all existing utilities, i.e., excavation to verify location, elevation and size of existing underground facilities prior to construction. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY UNDERGROUND SERVICE ALERT (U.S.A.) AT (800) 277-2600 PRIOR TO ANY UNDERGROUND CONSTRUCTION.
8. Service by the OVWC water system is predicated upon full compliance with OVWC rules, regulations and standards as determined solely by OVWC. Submittal and approval of detailed design drawings and supporting data is a condition of service. All materials, locations, sizes of pipe and installation of the water system shall be in accordance with the most current specifications and requirements of the OVWC, being inspected, accepted and approved PRIOR



TO AND AFTER INSTALLATION by Company personnel. Nonetheless, OVWC approval of the drawings and/or inspection of the constructed facilities shall not relieve the developer nor his contractor of the responsibility for correcting all non-compliant construction and/or design deficiencies to the satisfaction of OVWC and at no cost to OVWC.

9. All water used for construction and/or temporary water must use an OVWC water meter and an OVWC approved backflow prevention device provided by the contractor.
10. OVWC shall be notified 48-hours prior to onset of project. Contractor is responsible for coordinating work with all other underground utilities. Contractor shall notify Orange Vale Water Company personnel 24 hours before each day of any water system activity. **ALL WORK MUST BE INSPECTED PRIOR TO ANY BACKFILL. IF OVWC PERSONNEL HAS NOT SEEN IT, IT IS ASSUMED IT HAS NOT BEEN DONE.**
11. Any changes made on the construction site must be submitted as a change order and approved in writing by OVWC. Any alteration, modification, or conflict resolution with the water system shall be at no cost to OVWC. OVWC shall approve the changes or methods of correction.
12. Contractor shall replace, transfer, and reconnect all existing water services from a new pipeline to the customers' water meters.
13. All mainline piping shall be hydrostatically pressure tested to at least 150 psi for one (1) hour duration. Pressures shall not vary more than 5 psi during the test period. Mainlines shall also be disinfected using one of the methods outlined in AWWA C601, the effectiveness of which shall be evidenced by bacteriological test results in accordance with state requirements. Lines shall be flushed with a minimum velocity of 2.5 FPS to eliminate excessive chlorine concentrations. Wastewater shall be disposed of in accordance with state requirements.
14. All new piping systems will require Bacteriological Test(s) (BACT) to be taken. All samples will be taken by OVWC personnel and are valid for six (6) months.
15. Upon completion of construction, the developer or his engineer shall provide a complete set of record drawings (As-Builts) showing any and all corrections/modifications. Said record drawings shall be presented to the walk-through inspector before inspection.
16. A final walk-through inspection shall be scheduled with OVWC prior to acceptance of project. It is the responsibility of the developer or his contractor to schedule said final inspection. Work of a project will not be considered as accepted or complete until such time as a formal final inspection has been conducted, and improvements are formally approved and accepted by OVWC, as evidenced by a signed certificate of completion. The certificate of completion shall be on a form provided by (or approved by) OVWC, and shall include a warranty clause and date of acceptance to the project.
17. Title to the water system shall pass from the owner to OVWC at the time of final acceptance. The legal recorded owner of the property shall be responsible for all future repairs past their shut-off valve and/or water meter on private property.



B. MATERIALS AND INSTALLATION

1. **Acceptance:** All materials must be inspected, accepted and approved by Orange Vale Water Company (OVWC) personnel PRIOR TO AND AFTER INSTALLATION.
2. **AWWA Standards:** All pipe and fittings shall comply with the most current AWWA standards and also abide by all state of California regulations at the time of construction.
3. **Lead-free Compliance:** All piping, fittings, valving, etc. shall be lead-free in accordance with California Bill AB-1953.
4. **Galvanized Piping:** No galvanized pipe or steel fittings will be allowed in the system at any time.
5. **Wrapping:** All metallic pipe and fitting used in the water system are to be wrapped in 8 mil plastic and taped at each end.
6. **Pipe Bedding:** All main waterlines and services lines shall be bedded in sand, 6" under and 12" over said pipe.
7. **Tracer Wire:** Plastic-coated copper #10 tracer wire shall be taped to the top of all main waterlines and service lines at a maximum of 4' intervals. All splices in locator wire shall be made with the use of a mechanical splice connector or soldered and wrapped with PVC electrical tape.
8. **Tracer Tape:** 12" wide tracer tape shall be extended along the length of all main waterlines and service lines at a depth of 18" below finished grade.
9. **Minimum Pipeline Cover:** All main waterlines shall have a minimum cover of 36" and all service lines shall have a minimum cover of 30" below final grade, within dedicated roadway easements, and 4' of cover outside of roadway easements. All main waterlines and service lines shall have a maximum depth of 5'.
10. **Trench Backfill Compaction:** Compaction under paved surfaces shall be compaction tested to demonstrate compliance with compaction requirements and at intervals required by the roadway owner. Compaction requirements will be based on modified proctor (ASTM D1557) of the backfill material. Density testing results and proctors, prepared by a qualified independent firm at developer's expense, documenting compliance with compaction requirements, shall be delivered to OVWC prior to final acceptance (See standard detail OV-9).
11. **Pipeline Clearances:** All water facilities shall clear concrete streetlight foundations and maintain a ten-foot (10') separation/clearance between all parallel sewer lines and/or twelve inches (12") over all lateral sewer lines. All valves and meters shall avoid conflicts with sidewalks and/or driveways.
12. **Pipeline Materials:** Main pipelines shall be Polyvinyl Chloride (PVC) AWWA C900, minimum DR-18 with cast-iron pipe OD's, be free of discoloration, and to have been manufactured within 18 months or installation, or Ductile Iron Class 350.
13. **Gate Valves:** All mainline valves are to be resilient-seat gate valves, and must be flanged to the tee at each point of intersection. Each valve must be completely accessible, operable, and contained within 8" PVC riser and a pre-cast G5 traffic box with



cast-iron lid. Locator wire is to be placed outside of the riser and accessible within the G5 valve box.

14. **Valve Pads:** Any main waterline valve that is placed outside of the pavement area requires the installation of a concrete pad to be poured at finished grade around the G5 valve box. Said concrete pad is to be a minimum of 2'x2' in size with a lightly-broomed finish and smooth finished edges, and aesthetically groomed with respect to the existing landscape (See standard detail OV-10).
15. **Air-vacuum Valves:** Air-vacuum valves are required at all pronounced high points in the grade, and blow-off valves at low points or dead-end lines are required and shall be furnished by the contractor. Both must be accessible, operable and contained within the appropriate box and traffic lid.
16. **Service Connections:** All water service connections shall be made with a bronze service saddle and ball corporation valve. One-inch (1") coated Copper Water Tubing, Type K, Soft-Tempered, shall be extended to property line, or approximately one-foot (1') behind the sidewalk. A 1"x18" water meter setter with padlock wings, dual check valve, meter idler, and 1"x36" brass nipple and brass cap shall be used. A separate ball valve is required immediately prior to the meter setter. A #10 plastic-coated, single-strand copper tracer wire is to be spliced to the tracer wire at the main waterline. Said tracer wire is to be placed and extended along the water service tubing and taped to the tubing every two-feet (2'). The meter setter shall be installed with the idler at a minimum depth of 8" and a maximum of 10" below final finished grade. The installation of an N30 meter/valve box and lid, with locator wire accessible within said box is required.
17. **Fire Hydrants:** Fire hydrants shall be Mueller A-423, factory red in color, (no substitution) with a resilient-seat valve flanged to the tee. Bury line shall be no more than three-inches (3") above finished grade. An isolation gate valve with G5 traffic box and cast-iron lid is required for each hydrant. Protection barriers may be required (see standard detail OV-12A and OV-12B). Barriers to be installed by the contractor. Concrete pads of the appropriate size for the area are required, but in no case less than 3 foot square must be installed by the contractor. Pads are to have a lightly-broomed finish with smooth finished edges.
18. **Commercial and Landscape Irrigation Connections:** Commercial taps and/or landscape irrigation taps must all have a water meter setter and appropriate box in accordance with Orange Vale Water Company specifications. All commercial taps and/or landscape irrigation taps are to have an approved Backflow Prevention Device. All materials for the required device must be inspected, accepted and approved by Orange Vale Water Company PRIOR TO AND FOLLOWING INSTALLATION. The new device is to be tested by OVWC personnel after installation and prior to Orange Vale Water Company accepting the device into the water system and before any water is used through the device. Landowner is responsible for the installation, repair, and security/protection measures associated with the Backflow Prevention Device on his/her property.
19. **Residential Fire sprinklers:** All residential fire sprinklers must have an OVWC approved backflow prevention device unless installed as an OVWC approved "passive purge" design.

