

COACHELLA VALLEY WATER DISTRICT

DOMESTIC WATER CHECKLIST

Tract/Parcel No: _____ Date: _____

Project Common Name: _____

Developer: _____ Phone: _____

Engineer: _____ Phone: _____

Engineer Signature: _____ Print: _____

This is only a general checklist; please refer to the CVWD Development Design Manual (DDM) for all requirements and regulations.

<http://www.cvwd.org/208/Development-Design-Manual>

Return signed and completed checklist with your first submittal

Legend: **X** = Data appears to meet standards **N/A** = Not applicable or not on plans
 ? = Not shown but maybe required **O** = Data is not to standards, leave comment explaining why

PRIOR TO PLAN CHECK

- ___1. Easements to be dedicated to CVWD by which of the following? Please check one:
 Tract Map Grant of Easement (Instrument number)
Legals and Plats depicting easement(s) must be reviewed by CVWD Right-of-Way division and approved by CVWD's licensed Land Surveyor prior to Mylar approval.
- ___2. Project hydraulic modeling report (including fire flow analysis) must be completed and approved. Review reports summary for minimum pipe size and special condition requirements.
- ___3. Provide calculations and soils report to support trench detail that will be shown on design plans. Follow the guidelines in Appendix N of the DDM for trench detail.
- ___4. Show Water Service and Water Meter Sizing Guidelines Chart on plans, completely filled out by Engineer of Record. Refer to chart guidelines in Appendix E of the DDM.
- ___5. Domestic Water crossing under non-potable pipelines such as sewer, recycled water, irrigation, and/or stormwater will not be allowed unless a variance approval from the California Department of Public Health is granted. Upon request of Engineer of Record, CVWD will submit approval request to the California Department of Public Health.

GENERAL TO ALL SHEETS

- ___1. Drawings shall be 24 inches by 36 inches.
- ___2. Bottom right corner of all pages to be kept clear for CVWD drawing approval block with revisions, (3" x 6").
- ___3. Space shall be provided (3.5" x 2.5") for as-built signature block.



- ___4. In lower right corner of title block, include type of plans, geographic data (quarter section, section, township and range), project city, county, state, tract/parcel number and project name. Information in title block shall match the project title that is centered on the top of the cover sheet.
- ___5. Include page number (i.e. sheet 1 of 5) in large font in lower right corner.
- ___6. Include engineer's/consultant's information to include name, address, phone number, fax number and email.
- ___7. Include engineer's current/valid stamp with signature required on mylars.
- ___8. Include Underground Service Alert (USA) with phone number 811.
- ___9. Include benchmark elevation of monument, location and datum.
- ___10. Include basis of bearings.
- ___11. Include elevation conversion note (if applicable) – "TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM OF 1929, SUBTRACT 500 FEET FROM ALL ELEVATIONS SHOWN ON THESE PLANS."
- ___12. Include a note on drawings stating: "No permanent structures or trees within CVWD and/or USBR easements. CVWD will not be responsible for damage or replacement of any surface improvements, including but not limited to, decorative concrete, landscaping, curb, gutter, sidewalks, planters, gates and related improvements installed within CVWD and/or USBR easements."
- ___13. Include north arrow on all plan views. North arrow should point up or to the right.
- ___14. Include bar scale to match plan scale.
- ___15. Call out all streets in project as either public or private.
- ___16. Include a CVWD Easement Reference Table or Data block with all CVWD and/or USBR easements listed. If easements are dedicated per separate document, include the instrument/document number and recorded date. If easements are dedicated per tract/parcel map, include the map book and page(s). List the easement facility type(s) (ex. domestic water, sanitation, irrigation, etc.) Show easement callouts in street cross sections and plan views. See Easement Example Drawings in Appendix E of the DDM for table and callout examples.
- ___17. For 10 foot Public Utility Easements (PUE) that are dedicated to the public and CVWD, label as "10' PUE/CVWD Easement" and list in CVWD Easement Reference Table. See Easement Example Drawings in Appendix E of the DDM for table and callout examples.
- ___18. For public streets, call out Public R/W and CVWD and/or USBR easements (if applicable). See Easement Example Drawings in Appendix E of the DDM for table and callout examples.
- ___19. Domestic water easements shall be a minimum of 20 feet wide, with the water pipeline centered in the easement. Domestic water and sanitation easements shall be a minimum of 32 feet wide. No permanent structures, trees or shrubs are allowed in CVWD easements.
- ___20. If water pipeline is more than 10 feet deep, the width of easement shall be the equivalent of two times the depth of pipe. If walls are on both sides of water pipeline, the width of the easement shall be triple the depth of the pipe for a larger easement.
- ___21. All appurtenances must be within CVWD easements.



Comments: _____

COVER/TITLE SHEET

- ___1. Center the project title on top of cover page in large font listing: type of plans, geographic data (quarter section, section, township and range), project city, county, state, tract/parcel number and project name. Project title shall match the information in title block.
- ___2. Provide space for General Domestic Water Notes and CVWD signature block, 8 ½ inches clear down the right side.
- ___3. Include a vicinity map in the top left corner, showing the general area with cross streets labeled. Scale between 1 inch = 1,000 feet or 1 inch = 5,000 feet. Not to Scale (NTS) is also acceptable as long as it is listed. Map needs to show section lines and section numbers on all sides and adjacent tract numbers.
- ___4. Include an index map showing the overall project including all existing and proposed domestic water, sewer, irrigation and drainage systems with materials and sizes including above ground appurtenances, section numbers and APNs. Bar scale shall be between 1 inch = 200 feet through 1 inch = 500 feet. TOPO elevation lines are not permitted on drawings. Clearly label all streets in and adjacent to project.
- ___5. List the lowest invert (INV) elevation point of water pipeline and call out on index map.
- ___6. List project APN(s).
- ___7. List the existing or proposed pressure zone (s) serving the development.
- ___8. List static pressure.
- ___9. List sheet index in tabular form.
- ___10. List abbreviations used on drawing in tabular form.
- ___11. Include symbol legend showing manholes, clean-outs, and all wet and dry utilities with appurtenances.
- ___12. Include owners/developer’s information including: name, address, phone number, FAX number, contact person and email.
- ___13. List utility contacts in tabular form.
- ___14. List existing reference drawings in tabular form.
- ___15. List quantities of materials with construction notes for the entire project. List items as “Furnish and install.”
- ___16. Include a typical street cross section showing all existing and proposed domestic water mains, sewer mains, irrigation mains and drainage systems for each street with depths and separation. Show curbs, sidewalks, walls, catch basins, all dry utilities / PUE, easements and right-of-ways. Call out streets as public or private.
- ___17. Include the trench detail(s). Follow guidelines in Appendix N of the DDM for trench detail requirements. Provide calculations and soils report to support trench detail.
- ___18. Space for Special Construction Notes to contractor is permissible. Plans must be exclusive for CVWD approval only for signatures.



Comments: _____

PLANS – PLAN VIEW

- ___1. Scale 1 inch = 40 feet (preferred) or 1 inch = 20 feet.
- ___2. Call out all existing and proposed water services, valves, fire hydrants, air/vac units, detector checks, sewer laterals, sewer/drainage manholes, storm drain/catch basins, irrigation baffles, irrigation standpipes, division boxes and irrigation meters and their respective sizes with drawing number reference. Call out all existing wet and dry utilities in general area, especially IID/SCE lines. Also, any dry utilities that will encroach on a CVWD easement area.
- ___3. Must show existing CVWD domestic water stationing, elevation and drawing number to verify connection.
- ___4. Include details of the proposed connections to existing CVWD water pipelines to be made by CVWD. Butterfly valves are for 18-inch diameter pipelines and above, gate valves for 12-inch diameter pipelines and below.
- ___5. Stub-out connection sample: “CVWD forces to install at developer’s expense: (1) ___” D.I. Tee, (3) ___” Gate Valves and (1) ___” D.I. Blind Flange. Contractor to connect to ___” gate valve under CVWD inspection. Developer to maintain installation area, install final paving and raise valves to final grade.”
- ___6. New stationing should start at STA 10+00. Call out 100 foot stationing along new pipeline. All pipeline appurtenances including but not limited to tees, bends, valves, hydrants, services and detector checks are to be stationed and labeled with size and material.
- ___7. Call out street names or line references.
- ___8. Water pipelines and appurtenances including but not limited to tees, bends, valves, hydrants, services and detector checks shall not be installed under or across any parking stalls, planters, sidewalks, etc. All water pipelines shall be installed within roadways or drive aisles.
- ___9. Typical depth of water pipeline – 12 inch diameter pipe or less is 3 feet deep, 18 inch diameter pipe or greater is 4 feet deep, 18 inch diameter pipe in residential areas with curb and gutter is 3 feet deep. The typical cover for pipelines in shopping centers and commercial complexes shall be 4 feet.
- ___10. In unincorporated areas of Riverside County, domestic water pipelines shall be a minimum of 4 feet deep and a minimum of 7 feet from the curb face. To the extent possible, adhere to the county’s Underground Utility Locations detail (Riverside County Standard No. 817) for location of water (and sewer).
- ___11. Include pipeline tangent data in tabular form and label lines on plan. Pipeline tangent data to include bearing and length.
- ___12. All pipelines shall be looped, if possible. Avoid dead-ends on lines and cul-de-sacs. The end of lines should have blow-off assemblies or fire hydrants installed. Fire hydrants are preferred.



- ___13. All new domestic water pipelines and fittings must be ductile iron pipe (DIP). Standard DIP diameters shall be 8, 12, 18, 24 or 30 inches in diameter and have minimum pressure ratings: Class 350 for 12 inches and smaller, Class 250 for 18 inches and Class 200 for 24 inches and larger.
- ___14. Zinc-coated ductile iron pipe and fittings will be required in all areas that may have corrosive soils.
- ___15. All pipelines, fire hydrant runs, detector check runs, fittings and valves shall have restrained joints.
- ___16. All pipelines, fire hydrant runs, detector check runs, service line runs, fittings and valves shall have v-bio enhanced polyethylene encasement or approved equal.
- ___17. No domestic water pipe smaller than 8 inches in diameter shall be permitted except for blow-off assemblies, meter manifolds, fire hydrants and detector check runs.
- ___18. All tees or wyes shall show (3) valves and crosses shall have (4) valves excluding fire hydrants, detector checks and meter manifolds.
- ___19. Valve sizes shall equal the pipeline diameter. A reducer shall be installed after the valve when connecting to a smaller pipe.
- ___20. All valves shall be installed perpendicular to final grade.
- ___21. All gate valves shall be labeled with Northing and Easting.
- ___22. If pipeline continues on separate sheet, call out match line with stationing on both sheets listing the corresponding sheet number.
- ___23. Standard fittings for bends shall be 11¼°, 22½°, 45° and 90°. Avoid 90° around street corners.
- ___24. Pipe deflection is not allowed off a flange fitting.
- ___25. For maximum deflections see Section 5, Table 5.4 of the DDM.
- ___26. Call out edge of pavement, curb and gutter, sidewalks and walls.
- ___27. Call out centerline of road versus the section line. Show dimensions off the centerline to all wet and dry utilities, curbs, easements and right-of-ways.
- ___28. Call out location of existing and proposed structures, trees, retention basins, islands, guardhouses and decorative concrete, etc., in the general area.
- ___29. Call out steel sleeve encasements for water pipeline crossing under walls or medians per CVWD detail drawing W-40.
- ___30. All domestic water pipelines 12 inch diameter and smaller require a minimum of 3 feet from the curb and gutter or edge of paving. Domestic water pipelines 18 inches in diameter and larger require a minimum of 6 feet from the curb and gutter or edge of paving.
- ___31. Minimum separation between a domestic water pipeline and sewer pipelines is 10 feet measured from outside to outside.
- ___32. Minimum separation between a domestic water pipeline and recycled water/non-potable/storm water pipelines is 10 feet measured from outside to outside.
- ___33. Minimum separation between a domestic water pipeline and a septic tank or cesspool is 25 feet.
- ___34. Minimum separation between a domestic water pipeline and a sewage leach field or seepage pit is 25 feet.
- ___35. Call out all water service lines with stationing and service size. Service connections must be sized per Water Service and Water Meter Sizing Guidelines Chart.



- ___36. Call out lot lines and lot numbers. Show driveways or entranceways if known. Domestic water service lines/meters and sewer laterals are not allowed in the driveways, sidewalks, and/or hardscapes. Water services are typically installed near lot lines.
- ___37. Domestic water service lines are installed perpendicular to the domestic water pipelines. It is acceptable to come off at an angle in cul-de-sacs and on bends. Ensure that the service line is straight from the meter.
- ___38. A water service connection shall be installed to each suite within a commercial/industrial building if the owners are different. The same owner can request a single larger service line. Each service shall identify building number it will be serving.
- ___39. All irrigation service lines/meters should be called out but must be approved by CVWD Water Management through a landscape plan.
- ___40. Minimum distance between domestic water service lines is 2 feet.
- ___41. Minimum distance between a domestic water service line and a bend is 2 feet.
- ___42. Minimum distance between a domestic water service line and a fire hydrant run is 4 feet.
- ___43. Minimum distance between a domestic water service line and a detector check is 4 feet.
- ___44. Minimum separation between a domestic water service line and sewer lateral or sewer manhole is 10 feet, measured from the outside of the manhole.
- ___45. Minimum separation between a domestic water service line and a catch basin is 4 feet.
- ___46. Fire hydrants have a maximum spacing of 330 feet and also at every intersection or as required by the local Fire Authority.
- ___47. Fire hydrants are installed a minimum of 6 feet from the end of curve or beginning of curve. Ensure that they are not installed in an area where they can easily be damaged by vehicles.
- ___48. CVWD's minimum distance between a block wall and a fire hydrant is 6 feet or greater, if required by the local Fire Authority.
- ___49. All fire hydrant runs shall use restrained joint piping and a thrust block at the hydrant.
- ___50. No services are allowed off a detector check, fire hydrant or blow-off run. No bends are allowed in fire hydrant and/or detector check runs.
- ___51. CVWD's minimum separation between detector check and fire hydrant is 6 feet or greater if required by the local Fire Authority.
- ___52. Detector check sample: "Contractor to install (1) ___" tee, (1) ___" gate valve and ___ feet of ductile iron pipe with restrained joints and detector check vault. CVWD forces to install (1) ___" detector check at Developer's expense after new pipeline has been pressure tested, chlorinated and progressed for service." Identify which building or suite the service line will serve.
- ___53. Commercial properties shall have a single detector check installed for each parcel or building. Double check detector checks (above ground) are installed if there is a looped system, more than one feed or other criteria. See Section 5 of the DDM. *Note to Engineer, Fire System box on page 7 must be filled out.
- ___54. Blow-off assemblies: For 8-inch water pipelines install a 4-inch blow-off assembly. For water pipelines greater than 8 inches install a 6-inch blow-off assembly.
- ___55. Call out a separate profile detail for special construction (i.e. storm drain/catch basin crossing, siphons, pipeline crossings and utility crossings) showing depths and separation if not already shown on plans.



- ___56. Call out well sites. CVWD well sites must be approved by Domestic Water Engineering staff. Well sites should have a minimum 12-inch diameter line stubbed into the site. Call out and include the following on the stub: (1) 12"x12"x12"D.I. Tee, (2) 12" D.I. Gate Valves, (1) 12" D.I. Blind Flange, (1) 4" or 6" D.I. blow-off assembly, (1) 12" x 4" or 12" x 6" D.I. Reducer. Pipeline going into the well site must have steel sleeve if under the wall. Show property line and any easements around well site.
- ___57. Domestic water well sites shall be a minimum of 150 feet by 150 feet in dimension if blow-off water is being directed to an offsite retention basin or other facility. If blow-off water is being contained within an onsite retention basin, then the well site requirement is 0.75 acres. See Well Site checklist for additional requirements.

Comments: _____

PLANS – PROFILE (Required for 12-inch and larger)

- ___1. Vertical scale shall be either 1 inch = 4 feet (preferred) or 1 inch = 2 feet.
- ___2. Call out existing INV elevations and existing STA numbers, with existing drawing numbers at connection points.
- ___3. Include INV elevations, distances, size, material, pressure class and slope of pipeline.
- ___4. Call out all fitting locations with stationing. Match to plan view callouts and stationing.
- ___5. If pipeline continues on separate sheet, call out match line with stationing and INV elevation on both sheets listing the corresponding sheet number.
- ___6. Include existing and/or final grade with structures and walls and describe future access to pipeline.
- ___7. Include all existing and proposed wet and dry utility and storm drain crossings with depth and separation. Call out restrained joints if water pipeline is less than 3 feet below or 1 foot above in separation.
- ___8. Show and call out steel sleeve encasements for water pipeline crossing under walls or medians per CVWD detail drawing W-40.
- ___9. Call out all restrained joints as applicable per Restrained Joint Guidelines in Appendix H of the DDM.

Comments: _____



FIRE SYSTEMS:

All developer plans showing fire system connections shall answer the following questions with a number, check mark or N/A.

NUMBER OF DETECTOR CHECKS	_____
FIRE SYSTEM IS ONLY A DIRECT CONNECTION TO BUILDING	_____
FIRE SYSTEM IS A DIRECT CONNECTION WITH BOOSTER PUMP ONLY	_____
FIRE SYSTEM HAS PRIVATE ON-SITE HYDRANTS	_____
FIRE SYSTEM HAS AUXILIARY WATER SUPPLY AND BOOSTER PUMP	_____
FIRE SYSTEM HAS ANTIFREEZE OR OTHER ADDITIVES	_____
FIRE SYSTEM HAS OTHER – PLEASE EXPLAIN	_____

