# COACHELLA VALLEY WATER DISTRICT
## IRRIGATION PLAN CHECKLIST

Tract/Parcel No.: _____ Date: _____

Project Common Name:. _____

Developer: _____ Phone: _____

Engineer: _____ Phone: _____

Engineer Signature: _____ Print Name: _____

**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 must be completed and approved. Review reports summary for minimum pipe size and special condition requirements.

___3. Submit hydraulic calculations to verify that different size mainlines will continue to supply adequate flow downstream based upon current requirements.

___4. 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.

___5. Provide pothole report with map identifying existing pipeline easement and existing pipeline horizontal location and vertical elevations.

### GENERAL TO ALL SHEETS

___1. Drawings are 24 inches by 36 inches.

___2. Space for District drawing approval block with revisions in bottom right corner kept clear for District drawing approval block. (3"x6")

___3. Space shall be provided (3.5" x 2.5") for as-built signature block.

___4. Benchmark elevation of monument and location.

___5. 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.

___6. Engineer's/Consultant's data to include name, address, phone number, FAX number and email address.

___7. Include engineer's current/valid stamp. Stamp signature is required on mylars.

___8. Include page number (i.e. sheet 1 of 5) in large font in lower right corner.

___9. Include Underground Service Alert (USA) with phone number 811.

___10. Include benchmark elevation of monument and location.

___11. Include basis of bearing.

___12. Show elevation conversion note (if applicable) – "TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM OF 1929, SUBTRACT 500 FROM ALL ELEVATIONS SHOWN ON THESE PLANS."

___13. 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."

___14. Include north arrow on all plan views. North arrow should point up or to the right.

___15. Include bar scale to match plan scale.

___16. Call out all streets in project as public or private. On private streets, call out CVWD/USBR easements. Example 33' CVWD easement, 33' USBR easement.

___17. Irrigation easements shall be a minimum of 20 feet wide, with the water pipeline centered in the easement. This width may change, depending on the depth of the pipeline. No permanent structures, trees or shrubs are allowed in CVWD/USBR easements.

___18. All appurtenances must be within CVWD/USBR easements.

___19. Include the instrument number for any existing CVWD/USBR easements, or easements that the developer shall acquire for CVWD. Call out in plans and on cover sheet with reference index. If the easements are going to be dedicated to CVWD on the tract map, then call out in plans next to easement. See example easement table and callout.

a) Table and callout:

| EASEMENT REFERENCE TABLE | | | |
|---|---|---|---|
| EASEMENT | PER | INSTRUMENT NO. | FACILITY TYPE |
| [1] CVWD | TRACT 12345 | BOOK XXX/PAGE XXX | SEWER/WATER |
| [2] USBR | INSTRUMENT NO. | XXXX-XXXXX | IRRIGATION |

[1] SEE EASEMENT TABLE

b) For public streets call out dedicated easement in favor of CVWD and City or County. Ex. "33' wide (City or County) Easement for Public Purposes and CVWD Easement."

***NOTE: Engineer please initial by all areas on checklist that are not to standard, indicating corrections have been made to plans.**

Comments: _____

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## COVER/TITLE SHEET

___1. Show project title centered on top of page in large font listing: type of plans, (quarter section, section, township and range), project city, county, state, tract number and project name. NOTE: **REPLACEMENT** projects are within an existing easement while a **RELOCATION** projects are outside of existing easements.

___2. Abandoned pipes must be removed, crushed in place or slurry filled followed by backfilling and compaction to 95% minimum relative density.

___3. Include a vicinity map showing the general area with cross streets labeled. Scale between 1 inch = 1,000 feet and 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. Show all 1/4 & 1/16 section lines, section numbers and APNs. Well sites should be shown too only if already approved by Principal Domestic Water Engineer. Bar scale shall be between 1 inch = 200 feet or 1 inch = 500 feet. No TOPO elevation lines are not permitted on drawings. Clearly label all streets in and adjacent to project.

___5. 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 and right-of-ways. Must be to scale!

___6. List quantities of materials with construction notes for the entire project. List items as “Furnish and install”.

___7. Show symbol legend showing all baffles, valves, meters, irrigation lateral mainlines, and all wet and dry utilities with appurtenances and 1/4 & 1/16 section lines.

___8. List abbreviations used on drawing listed in tabular form.

___9. Space for General Irrigation Notes and CVWD signature block. 8 ½” clear down the right side.

___10. Space for Special Construction Notes to contractor is permissible. Plans need to be exclusive to CVWD approval only for signatures.

___11. Show owner’s/Developer’s name, address, phone number, FAX number, email address and contact person.

___12. Show USBR and CVWD Reference drawing and easement documents listed out in table format.

___13. Show Recorded Tract or Parcel Map information: Instrument No., Recording Date, Map Book No., and Page No.
___14. Include the trench detail(s). Follow guidelines in Appendix N of Development Design Manual for trench detail requirements. Provide calculations and soils report to support trench design.
___15. List sheet index in tabular form.
___16. Show utility contacts in tabular form with name, address and phone number.
___17. Include owner/developer's information: name, address, phone number, FAX number, contact person and email.
___18. List project APN.
___19. Space for Special Construction Notes to contractor is permissible. Plans must be exclusive for CVWD approval only.

Comments: _____

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## PLANS – PLAN VIEW

___1. Call out separate details view that identifies how the proposed connection will be made to the existing irrigation main. This detail should show materials and sizes. Joints calder coupling adapter will only allow for a maximum reduction of 6 inches. **Must show existing BOR stationing, elevation and drawing number to verify connection depth**. New stationing should start at with STA 10+00.
___2. For all proposed or upgraded meter connections, provide separate details showing tie-in connections, vault assembly, fall protection hardware, ladder access, meter, isolation valves, pipeline appurtenances, bends, material and sizes.
___3. Include pipeline tangent data in tabular form and label lines on plan. Pipeline tangent data to include bearing, length, material and size.
___4. Scale between 1 inch = 20 feet or 1 inch = 40 feet (Preferred). The preference is that the plans are legible. If the smaller scale facilitates improved legibility, then please use. CVWD reserves the right to require a scale that complies.
___5. Call out 100 foot stationing along new mainline with 50-foot ticks. All pipeline appurtenances including but not limited to tees, bends, valves, meters and air vacs are to be stationed and labeled with in both plan and profile.
___6. Call out centerline of road and the section line. Show dimensions off the centerline to all wet and dry utilities, curbs and easements.
___7. Call out existing and proposed edge of pavement, curb and gutter, sidewalks and walls.
___8. Irrigation lateral pipelines and appurtenances including but not limited to tees, valves, bends and meters shall not be installed under or across any parking stalls, planters, sidewalks, etc. All irrigation lateral pipelines shall be installed within roadways or drive aisles.
___9. Call out location of existing and proposed structures, trees, retention basins, curbs and gutters, walls, islands, guardhouses and decorative concrete, etc., in the general area.

___10. Call out encasements for crossing of water, sewer or storm drain mainlines per CVWD if concrete irrigation pipeline is less than 5 foot separation or new PVC irrigation main is less than 3 feet separation. Storm drain does not require encasements.

___11. Call out right-of-way from center line of road or section line.

___12. Call out lot lines and lot numbers. Show driveways or entrance ways if known.

___13. Call out street names or line reference.

___14. Call out all existing and proposed sewer laterals, sewer/drainage manholes, water services, valves, fire hydrants, air/vac units, storm drain/catch basins and pipelines, irrigation baffles, irrigation standpipes, division boxes and irrigation meters and their respective sizes with drawing number reference. Call out all proposed and existing wet and dry utilities in general area, especially IID/SCE. Also, any dry utilities that will encroach on a CVWD/USBR easement.

___15. Call out match line with stationing and invert elevation on each relevant sheet with the corresponding relevant sheet number. Make sure the match line is clearly identified on plan view.

___16. Call out a separate detail for special construction (i.e. meter install, siphons, pipeline crossings) not shown on profile view showing depths and separation.

___17. Standard irrigation lateral pipe size shall be 10, 12, 18, 24, 30, 36 or 42 inches in diameter.

___18. All standard PVCO mainlines 12-inches or less will be C909, minimum CL 235 in accordance with AWWA C909. Greater than 12-inches will be C905, minimum CL 165, DR25 in accordance with AWWA C900.

___19. For ductile iron fittings, call out polyethylene encasement v-bio enhanced with restrained joints as per restrained joints guidelines.

___20. Zinc-coated ductile iron pipe and fittings will be required in all areas that may have corrosive soils. Provide excerpt from geotechnical report discussing soil corrosivity.

___21. Minimum horizontal distance between irrigation mainline and sewer pipelines is 10 feet outside to outside.

___22. Minimum horizontal distance between irrigation mainline and domestic water mainlines is 10 feet outside to outside.

___23. Minimum horizontal separation between irrigation and sewer recycled water pipelines is 10 feet center to center.

___24. Minimum vertical separation between irrigation and sewer is 1ft.

___25. Valve sizes shall equal the pipeline diameter.

___26. All valves shall be installed perpendicular to final grade.

___27. All valves shall be labeled with Northing and Easting.

___28. New irrigation meters shall be accessible and installed away from traffic within easement.

___29. Standard fittings for bends shall be 11 ¼ °, 22 ½ °, 45°, and 90°.

Comments: _____

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## PLANS – PROFILE

___1. Per the project hydraulic analysis and calculations, show the proposed hydraulic grade line (HGL) and flow (Q) in the profile.
___2. Slope of pipeline depicted.
___3. The vertical scale shall be either 1-inch = 4 feet or 1-inch = 2 feet.
___4. Depth of all existing and proposed wet and dry utility and storm drain crossings.
___5. Type and size of pipeline.
___6. Minimum depth of irrigation mainline is 36 inches for 12” and smaller and 48 inches for 18” and larger. Unless otherwise approved by CVWD.
___7. Total pipeline distances depicted.
___8. Show all fitting locations with stationing listed.
___9. Show encasements if new PVC irrigation main is less than 3 feet separation from crossing of water, sewer or storm drain mainlines.
___10. Special construction or pipeline crossings of other utilities.
___11. Show wall crossing and describe future access to pipeline.
___12. Storm drain/catch basins (if applicable).
___13. If pipeline continues on separate sheet, call out match line with station and invert elevation on both sheets listing the corresponding sheet number.
___14. All pipeline appurtenances including but not limited to tees, bends, valves, meters and air vacs are to be stationed and labeled with size and material in both plan and profile.
___15. Include existing and/or final grade.
___16. Include proposed and existing wet and dry utility and storm drain crossing with depth and separation.
___17. Show and call out steel sleeve encasements for irrigation lateral pipeline crossing under walls or medians per CVWD detail drawing W-40.
___18. Call out restrained joints as applicable per Restrained Joint Guidelines in Appendix H of the DDM.
___19. Elevations with existing drawing numbers and existing STA number at connection points.

Comments: _____

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