

COACHELLA VALLEY WATER DISTRICT SEWER PLAN 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)
Grant of Easements must be approved by CVWD Right-of-Way division 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. 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.

GENERAL TO ALL SHEETS

- ___1. Drawings are 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. 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.
- ___4. Include page number (i.e. sheet 1 of 5) in large font in lower right corner.
- ___5. Include engineer's/consultant's information to include name, address, phone number, fax number and email.
- ___6. Include engineer's current/valid stamp with signature required on mylars.
- ___7. Include Underground Service Alert (USA) with phone number 811.



- ___8. Include benchmark elevation of monument and location.
- ___9. Include basis of bearings.
- ___10. Include elevation conversion note (if applicable) – “TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM OF 1929, SUBTRACT 500 FROM ALL ELEVATIONS SHOWN ON THESE PLANS.”
- ___11. Include a note on drawings stating: “NO permanent structures 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.”
- ___12. Include north arrow on all plan views. North arrow should point to the right.
- ___13. Include bar scale to match plan scale.
- ___14. Call out all streets in project as either public or private.
- ___15. Include 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.
- ___16. 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.
- ___17. 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.
- ___18. Sanitation easements shall be a minimum of 20 feet wide. Domestic water and sanitation easements shall be a minimum of 32 feet wide. No permanent structures, trees or shrubs are allowed **within** CVWD easements.
- ___19. If sewer 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 sewer pipeline, the width of the easement shall be triple the depth of the pipe for a larger easement.
- ___20. 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 Sanitary Sewer 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 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 project APN(s).
- ___6. List sheet index in tabular form.
- ___7. List abbreviations used on drawing in tabular form.
- ___8. Include symbol legend showing manholes, clean-outs, and all wet and dry utilities with appurtenances.
- ___9. Include owners/developer's information including: name, address, phone number, FAX number, contact person and email.
- ___10. List utility contacts in tabular form.
- ___11. List existing reference drawings in tabular form.
- ___12. List quantities of materials with construction notes for the entire project. List items as "Furnish and install."
- ___13. 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.
- ___14. 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.
- ___15. Space for Special Construction Notes to contractor is permissible. Plans must be exclusive for CVWD approval only for signatures.
- ___16. Include manhole legend with all manholes and cleanouts listed, including existing. Include the manhole/cleanout number, stationing, rim elevation, all (IN) and (OUT) invert (INV) elevations, direction of line, and depth. Match all information to plans and profiles. See example legend below.

(EXAMPLE) MANHOLE LEGEND							
No.	STA	RIM ELEV	INV (IN)	DIRECTION	INV (OUT)	DIRECTION	DEPTH
EX MH 34	(24+05.00) = 10+00.00	487.22	477.58	S	477.48	N	9.74'
MH 1	11+20.00	483.69	475.79	SE	475.69	N	8.00'
MH 2	13+31.46 = 10+00.00	483.25	471.97 472.07	W S	471.87	E	11.38'
CO 1	14+65.24	484.53	-	-	477.53	NE	7.00'



Comments: _____

PLANS – PLAN VIEW

- ___1. Scale 1 inch = 20 feet or 1 inch = 40 feet (preferred).
- ___2. Call out all existing and proposed sewer laterals, sewer/drainage manholes, water services, valves, fire hydrants, air/vac units, detector checks, 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 sewer stationing, elevation and drawing number to verify connection.
- ___4. New stationing should start at STA 10+00. Call out 100 foot stationing along new pipeline from the low point and increase uphill. Sewer main is installed following stationing and pipe is always installed uphill.
- ___5. All pipeline appurtenances including but not limited to manholes, cleanouts, and services are to be stationed and labeled with size. Match the manhole and cleanout STA to profiles and Manhole Legend on cover.
- ___6. Call out street names or line references.
- ___7. Sewer pipelines shall not be installed under or across any parking stalls. All sewer pipelines shall be installed within roadways or drive aisles.
- ___8. Typical depth of a residential sewer is 7.0 feet. Sewers under 6 feet or over 10 feet deep– verify with Sanitation Engineering staff.
- ___9. Manholes are not to exceed 400 feet spacing. Sewer pipelines that are 24 inches or smaller shall have manholes that are a minimum of 48 inches in diameter. Sewer pipelines that are 27 inches or larger shall have manholes that are a minimum of 60 inches in diameter. Refer to Section 6.6, table 6.8 “Manhole Minimum Diameter” for additional information.
- ___10. Include pipeline tangent data in data table and label lines on plan. Pipeline tangent data to include bearing, length, material and size.
- ___11. All pipelines shall be 8, 10, 12, 15 and 18 inches in diameter. Please refer to Appendix “N” of the DDM for CVWD approved pipeline materials.
- ___12. No sewer pipe smaller than 8 inches in diameter shall be permitted except for laterals and cleanouts.
- ___13. If pipeline continues on separate sheet, call out match line with stationing and INV elevation on both sheets listing the corresponding sheet number.
- ___14. Call out edge of pavement, curb and gutter, sidewalks and walls.
- ___15. 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.
- ___16. Call out location of existing and proposed structures, trees, retention basins, islands, guardhouses and decorative concrete, etc., in the general area.
- ___17. Call out steel sleeve encasements for sewer pipeline crossing under walls or medians per CVWD detail drawings S-47A and S-47B.



- ___18. Call out structural encasements for crossing of water, irrigation or storm drain mainlines per CVWD detail drawings S-47A and S-47-B if sewer mainline is less than 3 feet above or 1 foot below in separation.
- ___19. The minimum separation between a sewer main and curb and gutter or edge of paving shall be a minimum of 7 feet.
- ___20. Minimum separation between a sewer pipeline and domestic water pipelines is 10 feet measured from outside to outside.
- ___21. Call out all sewer laterals with size and stationing. Four-inch diameter sewer laterals are installed for single dwelling units and 6-inch diameter sewer laterals with 6-inch clean-outs are installed for all others (i.e. commercial buildings) at property lines. Suites in buildings with the same owner can have just one sewer lateral, but restaurants need to have their own sewer lateral.
- ___22. Call out lot lines and lot numbers. Show driveways or entrance ways if known. Sewer laterals and domestic water service lines/meters are not allowed in the driveways.
- ___23. Four-inch diameter sewer laterals may be installed into manholes at cul-de-sacs only when absolutely necessary.
- ___24. Minimum distance between a sewer lateral from the centerline of a manhole shall be 6 feet.
- ___25. Minimum distance between sewer laterals installed in opposite directions shall be 2 feet.
- ___26. Minimum distance between sewer laterals installed in the same direction shall be 4 feet.
- ___27. Minimum separation between a domestic water service line and sewer lateral or sewer manhole is 10 feet measured from the outside of the manhole.
- ___28. Minimum separation between a sewer pipeline or a sewer lateral and a domestic water well site shall be 50 feet, measure from the center of the well site.
- ___29. Minimum separation between a sewer manhole or a sewer pump station and a domestic water well site shall be 100 feet, measure from the center of the well site.
- ___30. See Section 6.5, table 6.6 for additional separation requirements.
- ___31. Cleanouts may be installed at the end of a sewer if the distance from a manhole is less than 200 feet.
- ___32. Cleanouts are not allowed under parking spaces, they must be located in a planter area or in a clear area of the drive aisle.
- ___33. Biobarrier root control and bolt down manhole lids are required in unimproved areas.
- ___34. Call out a separate detail for special construction (i.e. existing manhole connections, storm drain/catch basin crossing, siphons, pipeline crossings and utility crossings) not shown on profile view showing depths and separation.
- ___35. Verify sewer ends for future tie-ins with Sanitation Engineering staff.
- ___36. All lift stations or force main plans should go directly to the Sanitation Engineering Manager.
- ___37. Minimum radius for curves shall be as follows: (no vertical curves)

<u>Sewer Diameter (Inches)</u>	<u>Radius (Feet)</u>
1. 8-10	100.00 min
2. 12-24	145.00 min
3. 27-36	190.00 min
4. 39-42	290.00 min



___38. Sewer manholes shall be labeled with Northing and Easting.

Comments: _____

PLANS – PROFILE (Required for all pipe sizes)

- ___1. Profile shall be aligned with plan view.
- ___2. Vertical scale shall be either 1 inch = 4 feet or 1 inch = 2 feet.
- ___3. Call out existing INV elevations and existing STA numbers, with existing drawing numbers at connection points.
- ___4. Include INV elevations, distances, size, slope, and material of pipeline.
- ___5. Call out all manhole and clean-out numbers, stationing, top of rim elevations, depth, and all (IN) and (OUT) INV elevations with direction. Match all information to plan view and the manhole legend.
- ___6. Manholes are not to exceed 400 feet spacing. Show dimension between manholes.
- ___7. Flow through 90° manholes with sewers of the same diameter shall have a minimum of a 0.2 foot drop from the inlet to the outlet.
- ___8. Flow through manholes with sewers of the same diameter shall have a minimum of a 0.1 foot drop from the inlet to the outlet. Multiple inlets are to be at the same invert elevation.
- ___9. If pipeline continues on separate sheet, call out match line with stationing and INV elevation on both sheets listing the corresponding sheet number.
- ___10. Include existing and/or final grade with structures and walls and describe future access to pipeline.
- ___11. Include all existing and proposed wet and dry utility and storm drain crossings with depth and separation. Show structural encasements if sewer pipeline is less than 3 feet above or 1 foot below in separation.
- ___12. Show and call out steel sleeve encasements for sewer pipeline crossing under walls or medians per CVWD detail drawings S-47A and S-47B.
- ___13. Minimum slope as follows:

	<u>Sewer Diameter (Inches)</u>	<u>Slope (Foot per Foot)</u>
___A.	4 (house lateral)	0.021
___B.	6 (house lateral)	0.021
___C.	8	0.0033
___D.	10	0.0024
___E.	12	0.0019
___F.	15	0.0014
___G.	18 and up	0.0014

Comments: _____

