

Lake Hemet Municipal Water District

GUIDELINES FOR WATER & SEWER DRAWINGS

PLAN SUBMITTAL

- A. The following items shall accompany the 1st plan check submittal:
- Plan check fee; contact the District's Customer Service Officer to determine the appropriate amount
 - Water and/or sewer plans (2 sets)
 - Fire flow requirements from "Conditions of Approval."
 - Grading plans (1 set)
- B. All drawings shall be submitted on standard "D" size paper (i.e. 24" x 36").
- C. Final approved drawings shall be on mylar and shall become the property of Lake Hemet Municipal Water District.
- D. Projects shall be designed to avoid the need for pipelines in easements. However, the District recognizes they are sometimes required. Easements are allowed only upon prior approval by the District prior to plan submittal. If an easement is approved, the engineer is responsible for obtaining a copy of the District's policy regarding easements and adhering to the minimum requirements therein. Legal plats and descriptions shall be submitted, approved, and recorded prior to receiving occupancy.
- E. "Implementing Facilities" is a term used to describe those "future required" water and/or sewer facilities that are needed to provide service to the project. For example, a sewer bottleneck offsite may need to be paralleled or upsized prior to granting occupancy for new homes in order to prevent a sewage spill. "Implementing Facilities," if any, shall be listed on the cover sheet of the plans.

REQUIREMENTS FOR BOTH WATER & SEWER DRAWINGS

- A. All drawings shall be submitted on standard "D" size paper (i.e. 24" x 36").
- B. Final approved drawings shall be on mylar and shall become the property of Lake Hemet Municipal Water District.
- C. Prepare a Title Sheet with the following information, as applicable and as provided hereinafter, for water or sewer plans:
- Vicinity Map (N.T.S.)
 - Index Map to scale at 1" = 100' (only required for projects with more than 2 sheets)
 - Standard Water System Notes; use only those notes which are applicable Standard Sewer System Notes; use only those notes which are applicable
 - Water Certification
 - Sewer Certification
 - Estimate of Quantities

- Legend
- Benchmark information
- Utility Notifications

D. List the following notifications as applicable:

- Riverside County Transportation Department – (951) 955-6885
- City of Hemet – (951) 765-2360
- City of San Jacinto – (951) 654-7337
- DigAlert (800) 227-2600

E. Plan and Profile sheets shall include the following information as applicable and as provided hereinafter:

- Lake Hemet Municipal Water District title block in the bottom right-hand corner of all plan sheets
- Lake Hemet Municipal Water District approval block (i.e. signature block for the Chief Engineer)
- Revisions block
- “Digalert” notice in the bottom right-hand corner

F. Plan and profile drawings shall be drawn to scale at 1” = 40’ in the plan view and 1” = 40’ horizontally and 1” = 4’ vertically in the profile view.

G. If constructing both new water and sewer pipelines, show both on the same plan and profile sheet.

H. Existing pipelines and utilities are to be shown dashed. New pipelines are to be depicted with a heavy solid line.

I. Show existing and proposed topographical features including buildings, trees, streets, sidewalks, driveways, cross gutters, spandrels, culverts and headwalls, storm retention/detention basins, streams, ditches, power poles, traffic lights and loops, valve cans, manholes, vaults, catch basins, etc.

J. Show street dimensions (i.e. width) and the location of all utilities, existing and proposed, relative to street centerline.

K. Provide stationing ties to existing and proposed/new street centerline intersections. Pipeline stationing shall correspond with street centerline.

L. Storm drains shall be shown in the plan and profile views with a dashed line style.

M. Add the following title block information to each water and sewer drawing:

LAKE HEMET MUNICIPAL WATER DISTRICT	Sheet <u> X </u> of <u> XX </u> Shts.
PROJECT NAME	LHMWD Dwg. #
DRAWING NAME OR STREET NAME	

N. Add the following "Approval Block" to all sheets:

<u>LAKE HEMET MUNICIPAL WATER DISTRICT</u>	
Approved By: _____	_____
Chief Engineer	Date

O. Add the following "Revision Block" to all sheets:

REVISIONS				
No.	Date	By	Description	Approved

REQUIREMENTS FOR WATER PLAN & PROFILE DRAWINGS

- A. The following waterline features and appurtenances shall be depicted:
- Nominal pipe diameter
 - Pipe class
 - Pipe type (i.e. CML&C or PVC C-900)
 - Pipe location relative to street centerline
 - Pipe cover (42" minimum)
 - Pipe slopes
 - Pipe centergrade elevations and stationing at all grade breaks and intersections
 - Valve locations w/ stationing in plan view only
 - Fire hydrant locations w/ stationing in plan view only
 - Water services
 - Fittings

- B. Generally, waterlines are to be located south or west of street centerline at 7-feet off the curb face in accordance with Riverside County Transportation Department standards.
- C. Potable water pipelines shall be adequately separated from sewer and recycled water pipelines in accordance with the State of California Department of Health Services requirements and Riverside County Standard Drawing No. 609, latest edition.
- D. Valves shall be resilient seat gate valves (R.S.G.V.) and shall be provided at all intersections and connections to existing waterlines as well as ends of proposed/new waterlines where the line may be extended at a future date.
- E. Air vacuum and air release valves (A.V. & A.R.) shall be provided at all high points and shall be depicted in both the plan and profile views. Indicate the center grade (c.g.) elevation in the profile view. Stationing shall be provided in both plan and profile views.
- F. Fittings for crosses, tees, and horizontal bends shall be called out by size, type, and stationing in the plan view. Fittings for crosses, tees, and vertical grade breaks shall be called out in the profile view by stationing and centergrade elevation.
- G. Limits of joint restraint shall be designated in the profile view with either a "beginning" and "ending" station or a distance each side of the given station at valves, bends, and vertical grade breaks.
- H. Clearances at crossings between water, sewer, storm drains utilities shall be labeled in the profile in the form "Top of S.D. Elev.=62.58, Bot. of W.L.=63.92".
- I. Insulated test connections (ITC) shall be provided between old (>1 year old) and new pipelines.
- J. Add the following standard water system notes to the Title Sheet or Index Sheet as applicable:

WATER SYSTEM NOTES

1. Water line installation shall be performed by an approved licensed contractor possessing a Class A, General Engineering Contractor, or Class C-34, Pipeline Contractor, license issued by the State of California.
2. All materials, testing and inspection of pipe shall be in accordance with the requirements of Lake Hemet Municipal Water District (LHMWD), Riverside County and the American Water Works Association (AWWA).
3. All materials used and installed shall conform to Riverside County Subdivision Improvement Ordinance 461 and subsequent amendments.
4. Failure to meet any of the requirements of LHMWD, Riverside County or the AWWA specifications shall be cause for rejection.
5. Pipe shall be PVC (C-900 for 6"-12" or C-905 for >12") or CML&C (Class 150) steel pipe per LHMWD Standard Drawings and Specifications.

6. Minimum pipe cover shall be 42 inches.
7. Waterline elevations are to centerline (C.G.) of the pipe.
8. All steel cylinder pipe shall be bonded at rubber gasket joints.
9. Shop drawings for CML&C steel pipe shall be submitted by Contractor and approved by LHMWD prior to fabrication.
10. Fittings for PVC pipe shall be ductile or gray iron. Fittings shall be flanged, bolted mechanical joints, or push-on joints, and shall be cement mortar lined and tar (seal) coated. All ductile or gray iron fittings shall be polyethylene encased.
11. Joint restrainers shall be used on all main line pipe joints, within the specified limits, and all joints of water appurtenance laterals off the main line.
12. All PVC pipe shall be installed with locator wire and locator stations per LHMWD specifications.
13. All service connections shall be 1" services with 5/8" meters, unless otherwise noted, and shall be located as shown on the plans, adjusted as necessary to miss driveways. In no case, shall services be installed in concrete driveways. Adjoining lot meter boxes shall be placed together at property line.
14. Fire hydrant locations shall be installed in accordance with LHMWD Standard Drawing Drawing No. H-2 and Riverside County Standard Drawing No. 701, Class A rated. All barrels shall be safety yellow with tops and nozzle caps painted green.
15. Air valve assemblies shall be installed in accordance with LHMWD Standard Drawing No. H-6.
16. Approved reduced pressure backflow prevention devices shall be installed for all industrial and commercial developments and apartment complexes.
17. All lines shall be disinfected by chlorination per LHMWD's Standard Specification Section 9.0 and AWWA Standard C-651-99 (or latest edition).
18. Prior to construction of pipeline, Contractor shall expose existing water system and verify its existing location and elevation. In the event the waterline is not in the location shown on the plans, the Contractor shall notify the District Inspector and the Engineer of Record at the earliest possible time to allow the Engineer adequate time to make the appropriate revisions to the plans. Said revisions shall be approved by the District prior to commencing construction.
19. Whenever a line encounters a storm drain pipe or other obstruction and crossing over the obstruction will result in less than 36 inches of cover over the water line, it shall cross under the obstruction with 6-inches minimum clearance. When crossing under a sewer or recycled water pipeline, special construction methods shall be required in accordance with Riverside County's Department of Health Services Standard Drawings.

K. Add the following certification to the Title Sheet if applicable:

WATER CERTIFICATION

I certify that the design of the water system for Tract _____ is in accordance with the water system expansion plans of the Lake Hemet Municipal Water District and that the water service, storage, and distribution system is adequate at this time to provide water service to said development. This certification does not constitute a guarantee that it will supply water to said development at any specific quantities, flows, or pressures for fire protection or any other purposes.

General Manager

Date

Certification shall be void 24 months from above date.

REQUIREMENTS FOR SEWER PLAN & PROFILE DRAWINGS

- A. The following sewerline features and appurtenances shall be depicted:
- Nominal pipe diameter
 - Pipe location relative to street centerline
 - Pipe length and bearing between manholes in the profile view
 - Pipe slope
 - Manholes
 - Manhole rim and invert elevations
 - Sewer laterals
 - Cleanouts at temporary end of line (only where $L < 200'$)
 - Backwater valves where required by UPC
 - Fittings
- B. Generally, sewer lines are to be located 6-feet north or east of street centerline in accordance with Riverside County Transportation Department standards.
- C. Sewer lengths, slopes, and invert elevations shall be calculated from center of the upstream manhole to center of the downstream manhole.
- D. Stationing and invert elevations (flow line) shall be provided at all manholes and temporary end-of-line cleanouts where $L < 200$ -feet.
- E. Terminus manholes are required at permanent ends of sewer mains.
- F. Shallow manholes (i.e. flat-top manhole without a cone section) are required for all manholes of depths less than 5-feet from finished street grade to the sewer pipe shelf.
- G. Manhole spacing shall not exceed 500-feet for straight sections of pipe. Maximum spacing for curved sewers shall be: 450-feet (for radius > 500 -feet) or 150-feet (for radius < 500 -feet).

- H. Manholes shall be provided at the BC and EC of all curves. Reverse curves and combination curve/tangent sewers are not permitted.
- I. Clearances at crossings between sewer, waterlines, storm drains utilities shall be labeled in the profile in the form "Top of Swr Elev.=62.58, Bot. of W.L.=63.92".
- J. Laterals shall not be located underneath driveways. Lateral cleanouts shall be placed on each lateral just inside the property line (3' max).
- K. Add the following standard sewer system notes to the Title Sheet or Index Sheet as applicable:

SEWER SYSTEM NOTES

1. Sewer shall be installed by project proponent for the Lake Hemet Municipal Water District in accordance with LHMWD Standard Drawings and Specifications. The Contractor is responsible for utilizing LHMWD's latest Standard Drawings and Specifications.
2. All materials used and installation shall be in accordance with the requirements of Lake Hemet Municipal Water District (LHMWD) and Riverside County's Subdivision Improvement Ordinance No. 461.
3. Construction shall be performed by an approved licensed contractor possessing a Class A, General Engineering Contractor or Class C-34, Pipeline Contractor license issued by the State of California.
4. The Contractor shall be responsible for locating all underground utilities prior to construction. Where possible, utilities shall be protected in place. In the event this is not possible, the Contractor shall notify the District Inspector and the Engineer of Record at the earliest possible time to allow the Engineer adequate time to make the appropriate revisions to the plans. Said revisions shall be approved by the District prior to commencing construction.
5. The Contractor has the option to install vitrified clay pipe (VCP) or polyvinyl chloride (PVC) SDR-35, except where specifically designated on the plans. Where groundwater is encountered, all VCP pipe shall be treated for absorption resistance.
6. Sewer profile elevations are to flowline (conduit invert).
7. Sewer mains may be laid through the manholes and used as a form for the manhole invert.
8. Sewer inlets and outlets at manholes shall be constructed to match crowns at their projections to the center of the manhole (i.e. match soffits).
9. Reconstruction of existing manholes shall be scheduled at the convenience of LHMWD and shall be completed within five working days following the commencement of work.

10. Grading over sewer mains shall be done in such a manner as to prevent the ponding of water.
11. For separation requirements between sewer and water lines see Riverside County Standard Drawing No. 609, latest edition.
12. Sewer laterals shall be installed according to LHMWD Standard Drawing Drawing No. 1. A sewer cleanout shall be installed at the property line per Standard Drawing Drawing No. 2 or 2A as applicable. In no case, shall laterals be installed under concrete driveways.
13. Backwater valves shall be installed per Section 710.1 of the Uniform Plumbing Code where applicable.
14. After completion of A.C. Pavement, all manholes shall be raised or lowered to match finished street grade.

L. Add the following certification to the Title Sheet if applicable:

SEWER CERTIFICATION

I certify that the design of the sewer system for Tract _____ is in accordance with the sewer system expansion plans of the Lake Hemet Municipal Water District, that the waste disposal system is adequate at this time to treat the anticipated wastes from the proposed plot plan.

General Manager

Date

Certification shall be void 24 months from above date.