



City of Hesperia

Gateway to the High Desert

June 30, 2017

Patrice Copeland, Supervising Engineering Geologist
Lahontan Regional Water Quality Control Board
14411 Civic Drive, Suite 220
Victorville, CA 92392

SUBJECT: City of Hesperia Local Agency Management Program

Dear Ms. Copeland:

The City of Hesperia intends to regulate onsite wastewater treatment systems (OWTS) utilizing a Local Agency Management Program (LAMP) with alternative standards as authorized in Tier 2 of the State Water Resources Control Board OWTS Policy which was adopted by the State Water Resources Control Board on June 19, 2012 and became effective May 13, 2013.

Changes to the draft document have been made in response to Lahontan staff comments dated October 16, 2016. Attached, please find the City's Second Draft LAMP along with responses to the comments contained in the October correspondence for your review. Should you have any questions, please do not hesitate to contact me at (760) 947-1474, or via email at tsouza@cityofhesperia.us.

Respectfully,

Tina Souza
Management Analyst
Development Services Department

City of Hesperia Responses to Lahontan Water Board Comments (dated October 26, 2016) regarding the City's Draft Local Area Management Program

Note: Lahontan comments are repeated from the October 26, 2016 letter, and the City's responses follow in **bold**.

- A. Water Quality Assessment Program (WQAP) – We recognize that the single most challenging issue for the City and Water Board is implementing a meaningful, cost-effective, and adequate WQAP to satisfy OWTS Policy §9.3. The City identifies the Salt and Nutrient Management Program (SNMP) for identification of existing groundwater data sources. However, the proposed program does not describe how the City will select and use the data to meet OWTS Policy §9.3.2 requirements to assess the impact of OWTS on surface and groundwater.

A OWTS Policy Tier 2 LAMP involves a fundamental shift from a purely prescriptive to partially performance-based program as described in OWTS Policy §9.5 and §9.6. The monitoring and WQAP should address or include the following principles.

- Be adaptive and modified over time in collaboration with affected stakeholders.

The following paragraph as been added in Chapter 8 under LAMP Assessment:

“During the first year after the effective date of the LAMP, the City will collaborate with affected stakeholders including, but not limited to, local municipal agencies such as the City of Adelanto, Town of Apple Valley, the County of San Bernardino; and Victor Valley Wastewater Reclamation Authority; Mojave Water Agency; local water purveyors; private water well owners; and others to refine the WQAP, and ensure that areas of “high risk” are effectively monitored to assess water quality impairment. Working with the Mojave Water Agency, data will be collected and analyzed utilizing MWA’s Groundwater Quality Monitoring Program. All groundwater monitoring data generated for the WQAP will be submitted in a format for inclusion into the California Environmental Data Exchange Network (CEDEN).

Within this first year, the City will submit the final proposed WQAP to the RWQCB for review and approval. The City will continue to collaborate with affected stakeholders, and....”

- Include specific elements for particular areas of high risk to water quality impairment such as high density OWTS, areas experiencing large numbers of failing systems, or areas where water quality data indicate trends of increasing nitrate concentrations in ground or surface waters. In Hesperia, these areas include the following:
 1. Areas with shallow groundwater, particularly the Mojave River flood plain aquifer (see Enclosure, Area “1”).
 2. High Density (1/2 acre or less lot size) areas that are not sewerered (see Enclosure, Area “2”).
 3. Areas with existing or proposed OWTS discharges within municipal production well capture zones.

The following is added in Chapter 8 under Water Quality Assessment Program, second paragraph:

“The WQAP will be focused in areas determined to be “high risk” based on various specific elements. This may include areas with existing high density OWTS, areas that may be experiencing a high number of failing systems, areas with a shallow depth to groundwater, water production well sites, and areas where water quality data indicate a trend of increasing nitrate concentrations in ground water. The “high risk” areas that will be the focus of the WQAP are identified on Figure 4.”

- Identify individual owner residential wells in areas of high density OWTS willing to participate in regional groundwater data collection.

The following is added in Chapter 8 under Water Quality Assessment Program, eighth paragraph, third bullet:

“Private residential well owners in non-sewered areas along the Mojave River and areas with high density OWTS will be identified and contacted to determine if they would be willing participants in groundwater data collection that would be included in the WQAP.”

- Assess efforts to establish onsite maintenance districts or zones and feasibility of extending municipal sewage collection systems.

Please refer to the response under C (2) below.

- Assess locations near high density OWTS where future groundwater monitoring wells could be installed.

This is addressed in Chapter 8 under Water Quality Assessment

Program, in the eighth paragraph, second bullet point, which states:

“Additional monitoring locations may be established due to a “gap” in data coverage used in the SNMP. This analysis will be determined during refinement of the WQAP, and will focus on “high risk” areas as identified on Figure 4.”

- Assess water quality trends, especially with respect to nitrate concentrations.

In Chapter 8 under Water Quality Assessment Program, the seventh paragraph states:

“The Water Quality Assessment Program will be developed, utilizing the SNMP model, to provide a better understanding regarding the potential impacts of OWTS to the quality of the regional groundwater basin. Monitoring data will include levels of salts, nitrates, pathogens, and possibly other constituents directly related to OWTS. In addition, other constituents that may not have a direct relation to OWTS, such as arsenic and chromium VI, may also be monitored.”

- Clarify procedures to exchange data with other agencies and improve collaboration between entities collecting data.

The following paragraph has been added in Chapter 8 under LAMP Assessment:

“During the first year after the effective date of the LAMP, the City will collaborate with affected stakeholders including, but not limited to, local municipal agencies such as the City of Adelanto, Town of Apple Valley, the County of San Bernardino; and Victor Valley Wastewater Reclamation Authority; Mojave Water Agency; local water purveyors; private water well owners; and others to refine the WQAP, and ensure that areas of “high risk” are effectively monitored to assess water quality impairment. Working with the Mojave Water Agency, data will be collected and analyzed utilizing MWA’s Groundwater Quality Monitoring Program. All groundwater monitoring data generated for the WQAP will be submitted in a format for inclusion into the California Environmental Data Exchange Network (CEDEN).

- Consider electronic mapping location of existing and new OWTS, focusing on areas with characteristics listed under OWTS Policy §9.1.

This statement as been added in Chapter 8 under Water Quality Assessment Program:

“Electronic mapping of existing and future OWTS, specifically in “high risk” areas, will be considered by the City as funding allows.”

- Identify existing domestic or municipal supply and monitoring wells (private and public) and prioritize wells that can be used to assess water quality associated with OWTS over time.

The following has been added to bullet 4:

“The use of City/Hesperia Water District well and water system sampling data (the location of existing Hesperia Water District water production wells is identified on Figure 4).”

B. Performance Regulatory Program for supplemental treatment systems (STS) and non-conventional dispersal systems – please address the following items:

1. The City defines STS in LAMP Chapter 2, and the definition is identical to the definition in the OWTS Policy. However, in LAMP Chapter 5, the City states that pressurized drip dispersal systems are allowed. Please clarify whether pressurized drip dispersal systems are regulated in your performance regulatory program.

The City does not currently have a STS Performance Regulatory Program, and has not approved any STS to date. The City's LAMP, when approved, will serve as the Performance Regulatory Program.

2. Please list the types of STS and non-conventional dispersal systems that are within the scope of your STS performance regulatory program. Please include the maximum flow rate, design standards, and performance objectives for each type of system. This information could be placed in a LAMP design manual that is made part of the LAMP.

The STS and non-conventional systems are as listed in Chapter 5 of the LAMP. The maximum flow rate, design standards, and performance objectives are as listed in Chapters 3, 4 and 5 of the LAMP.

3. Please provide detailed requirements of your performance regulatory program. Please include the following items:

- a) The performance regulatory program effective date.

As indicated above, the City does not currently have a STS Performance Regulatory Program. Upon approval, the City's LAMP will serve as this Program.

- b) An organization chart for the City showing the responsible individuals or departments for administering the program.

An Organization Chart has been added in Chapter 3 under Evaluation and Permitting Process.

- c) Program description, including:

- i. Permit application, review, approval, and renewal process.

Permit application, review and approval are identified in Chapter 3. The renewal process is identified in Chapter 5 under Operation and Maintenance.

- ii. OWTS owner service provider requirements.

Service provider requirements are identified in Chapter 5 under Operation and Maintenance.

- iii. Methods of specifying, receiving, and storing monitoring data from OWTS owners or OWTS service providers.

Additional language is included in Chapter 5 under Operation and Maintenance, No. 10 to address this comment.

- iv. OWTS inspection program, including your inspection form and the number of OWTS inspections each year.

In Chapter 5, Operation and Maintenance, Number 5, the OWTS owner is required to have quarterly inspections by the Qualified Service Provider. The inspections will ensure proper operation and maintenance of the system. Number 8 in this same Section identifies the Qualified Service Provider responsibilities which include reporting the results of all inspections to the City.

- v. Enforcement program, including evaluation of monitoring data and inspection results, issuing corrective action notices, and assuring that OWTS owners complete necessary repairs.

Enforcement action is identified in Chapter 5 under “Operation and Maintenance”, No. 10. Additional language has also been included.

- 4. Please provide ordinance or other evidence of authorities that defines the procedures for administering the program, including enforcement.

As indicated above, the City does not currently have a STS Performance Regulatory Program. Upon approval, the City's LAMP will serve as this Program.

- C. OWTS Discharge Density – Generally, the City proposes to continue with the past Memorandum (MOU) density standards, which include a minimum ½ acre lot size for individual residences and a maximum of 500 gallons per acre per day for non-residential or mix occupancy development (Chapter 3, Maximum Flow and Land Use Density). Please address the following comments:

1. It is generally understood that OWTS discharges pollute groundwater over time, primarily with respect to pathogens and nitrate, under various soil type, climatic, hydrogeological, and density conditions. We believe that in arid

regions with closed groundwater basins, high density OWTS discharges will have long-term adverse groundwater impacts. As such, in areas where the City continues with ½ acre minimum lot size for development using OWTS, we request that the WQAP address these areas to verify that OWTS are not polluting groundwater quality.

Regarding density, in Chapter 1, City of Hesperia General Information, the following language has been added:

“Figure 3 identifies the following designations regarding the use of OWTS within the City.

- Areas where sewer service is currently available, and where all new development will be required to connect to the sewer system;
- Areas subdivided, or anticipated to be subdivided, prior to the effective date of the LAMP where development is currently utilizing OWTS and will be allowed to remain on OWTS; or are vacant properties that will be allowed to utilize OWTS as they develop until such time that a sewer system is installed to these properties. The City’s Sewer Master Plan identifies the existing wastewater system, and outlines necessary system upgrades for future wastewater system planning and expansion;
- Areas that may be subdivided after the effective date of the LAMP with the corresponding potential land use density designations and where OWTS will be allowed.”

Regarding water quality, please see the comment in C (4) below.

2. Staff also encourages the City to consider that certain areas of high density OWTS should be considered for municipal sewage collection and treatment systems, especially along the Mojave River and in central Hesperia (see enclosure, Areas “1” and “2”, respectively). The City should endeavor to identify areas with high density OWTS and develop plans to connect these areas to municipal or regional sewage collection systems. Treatment alternatives should include both centralized and decentralized treatment.

The City completed a Wastewater System Master Plan in 2008. The Wastewater Master Plan serves as a reference document for the City’s existing wastewater system, and outlines necessary system upgrades for future wastewater system planning. The Master Plan provides a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system until buildout. The Master Plan includes treatment of sewage at the Victor Valley Wastewater Reclamation Authority’s (VVWRA) Hesperia Subregional Water Reclamation Facility located at Mojave Drive west of Maple Avenue (currently under

construction), and; at the VVWRA Regional Reclamation Facility located in the City of Victorville. A copy of the City's Wastewater System Master Plan Update is provided for reference.

As shown on Figure ES.3 of the Master Plan, sewer facilities are located and/or planned to serve areas which include:

- The Interstate 15 corridor south to the City limits;
- The Highway 395 corridor;
- The original Township located between Seventh Avenue, Hesperia Road, Main Street, and Hercules (Area 2);
- A future Water Reclamation Facility to serve the area along the Mojave River (Area 1).

The Wastewater Master Plan is generally updated every ten years. The City intends on beginning the update process in Fiscal Year 2017-2018.

3. Please clarify LAMP section 3 (Maximum flow and Land Use Density), the second bullet regarding the 15,000 square feet limit. This implies that future lots may be subdivided down to 15,000 square feet with OWTS for sewage disposal. The Basin Plan previously allowed OWTS on lots of less than ½ acre, no smaller than 15,000 square feet net, when that lot was subdivided before June 16, 1988. However, the OWTS Policy supersedes the Basin Plan density requirements and no longer supports new OWTS discharges in new subdivisions on lot sizes smaller than 2 - 2.5 acres.

Language in Section 3, Maximum Flow and Land Use Density, has been revised to address this comment. In addition, the LAMP clarifies the various densities that would be allowed utilizing OWTS, and includes the following language:

"Land use density for single-family homes on individual lots shall be as follows:

- Individual lots created by subdivision prior to June 16, 1988 shall have a minimum net area of 15,000 square feet (for existing OWTS only).
 - Individual lots created by subdivision after June 16, 1988 and prior to the effective date of the LAMP shall have a minimum net area of 18,000 square feet.
 - Individual lots created by subdivision after the effective date of the LAMP shall have a minimum net area of 18,000.
4. OWTS Policy §9.6 allows a regional water board, in reviewing a LAMP, to consider the past performance of the local agency program to adequately

protect water quality. For density, you propose to continue with the MOU as a past performance method. However, the MOU did not include findings that the density standards are protective of water quality. Therefore, please provide technical justification as to why the existing MOU density standards are protective of water quality.

In regards to proposed density, this item has been clarified and revised as indicated in the response in Paragraphs C(1) and C(3) above.

In regards to past performance, water quality monitoring and testing has been performed throughout the Victor Valley area for many decades. Public and investor-owned water utilities have been collecting groundwater samples from the Alto Subregion of the Mojave Basin, and reporting to the State of California the concentration of various constituents, including levels of nitrates and TDS. Water agencies such as the City of Hesperia, City of Adelanto, City of Victorville, County of San Bernardino Special Districts CSA 64 and CSA 70J, Liberty Utilities, Golden State Water and various other agencies regularly draw samples from each of their water wells for testing and evaluation.

In general, water quality testing has indicated that nitrate levels have remained generally constant, with almost all monitoring sites indicating levels of nitrates well below the State MCL. The Mojave Salt and Nutrient Management Plan (SNMP) prepared by MWA, and accepted by the Lahontan RWQCB on February 11, 2016, included an analysis of salt and nutrient loading to the Mojave Basin. Included in this report were average existing TDS and Nitrate Concentrations by Subregion (SNMP Table ES-1), which is summarized below:

Alto Subregion (General Location)	Volume Weighted Average Existing TDS Concentration (mg/L)	Volume Average Existing Nitrate-NO ₃ Concentration (mg/L)
Transition Zone – Regional (Adelanto)	529	3.9
Left Regional (Oak Hills and Hesperia)	310	0.9
Mid Regional (Hesperia)	153	3.5
Floodplain (Hesperia and Apple Valley)	177	3.3
Right Regional (Apple Valley)	579	7.5

As indicated in the table above, average levels of nitrate are well below

the State MCL of 45 mg/L in all subregions of the Alto Basin. Three of the subregions (Left Regional, Mid Regional and Floodplain) have average TDS concentrations below the Water Quality Objective of 500 mg/L; and the remaining two subregions are at the lower end of the basin assimilative capacity of 500 mg/L.

The data demonstrates that the local agencies past performance of permitting, monitoring, and enforcing OWTS installation and operations has helped to protect water quality. The SNMP modeled the impacts of regional growth with the increased use of imported water and recycled water, and continued use of OWTS. In Section 10: Conclusions of the SNMP report, the final sentence of the fifth bullet point states:

“The water quality changes will not unreasonably affect existing and anticipated beneficial uses, and the water quality changes are consistent with the maximum benefit to the people of the State of California.”

However, as part of the WQAP, the City, in cooperation with other local agencies as well as MWA, will continue to monitor the “high risk” areas identified on Figure 4. The City will continue to assess the impact of OWTS utilizing the data developed through the WQAP, and will take corrective action, if necessary, to address major changes to water quality as a result of OWTS.

Options such as extension of sewer lines to serve high density areas of OWTS (as identified in the Wastewater Master Plan), establishment of an OWTS maintenance district, requirement for supplemental treatment, or other necessary measures will be evaluated and implemented to address major water quality changes resulting from the use of OWTS in areas of the City.

- D. Referrals to the Water Board – The LAMP does not discuss referrals of proposed OWTS to the Water Board for approval. Referrals may also include systems with STS and systems with dispersal systems other than leach fields or seepage pits. The referral process should be clearly identified in the LAMP and City staff (not the discharger) should make the initial referral to the Water Board. A City contact should be provided to which Water Board staff may direct questions.

In draft LAMP Chapter 5, the City states that systems with a STS must be approved by both the City and the Water Board. The City with an appropriate regulatory program can be the sole permitter of STS's. However, Water Code section 13360 restricts the Water Board from approving the manner or method of wastewater treatment system design of any kind. The Water Board can, however, offer suggestions in the design of systems referred to the Water Board. Therefore, the City needs to explain in the LAMP that the Water Board will review

the design of referred systems and provide recommendations to the City for their use in their approval of these systems.

Language has been added in Chapter 3 under General to address this comment. In Chapter 5 under Application and Approvals this paragraph has been revised to address this comment.

- E. Items not allowed for authorization in a LAMP (OWTS Policy § 9.4) – Water Board has reviewed Chapter 8 of the draft LAMP and finds that it meets OWTS Policy §9.4 of items not allowed in a LAMP.

Noted.

- F. Future OWTS – The LAMP section 1 (City of Hesperia General Information), third paragraph, second sentence should be clarified. It states: “All areas on Figure 1-2 that are not highlighted either currently utilize OWTS and will be allowed to remain on OWTS; or are vacant properties that will be allowed to utilize OWTS as they develop.” This figure shows areas that are not highlighted where the City has proposed a sewer collection and treatment system, such as the Tapestry Project area (see Enclosure, Area “3”). Additionally, Water Board staff believes there may be areas of future commercial development that will likely be connected a sewer collection system that is not highlighted, such as the I-15/Highway 395 corridor and the Ranchero Road corridor (see Enclosure, Area “4”)

Figure 1-2 has been revised to address this comment.

Regarding the Tapestry Project area, the City has approved a Specific Plan for this proposed project which includes all development to be served by a sewer collection and treatment system. However, if this project does not materialize, then it could be possible that the property owner would develop a much smaller project. Based on this scenario, and provided that the alternative plan met the requirements of the LAMP, than OWTS would be allowed. This is the reason that this area is still identified as allowing the use of OWTS. However, it is anticipated that this is a moot point provided that the Tapestry Project moves forward.

Sewer is not planned for the Ranchero Road corridor in Area 4 referenced since development will consist of low density residential, and this portion of Ranchero Road is outside of the City’s boundary.

Please refer to the response under C (2) above for further comments.



CITY OF HESPERIA

Local Agency Management Program (LAMP)

Prepared By:
City of Hesperia and Charles Abbott & Associates

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CHAPTER 1

INTRODUCTION

LOCAL AGENCY MANAGEMENT PROGRAM

The Local Agency Management Program (LAMP) is the culmination of the actions required by Assembly Bill 885 (AB 885). AB 885 was introduced to the California State Assembly on February 25, 1999 and approved on September 27, 2000. This legislation directed the State Water Resources Control Board (SWRCB) to develop regulations or standards for onsite wastewater treatment systems (OWTS) to be implemented by qualified local agencies. The SWRCB adopted the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy) on June 19, 2012. Subsequently, the policy was approved by the Office of Administrative Law on November 13, 2012 and became effective on May 13, 2013.

The OWTS Policy established a statewide, risk-based, tiered approach for regulation and management of OWTS installations and replacements. The tiers are summarized below:

Tier 0—OWTS

- Applies to properly functioning systems that do not need corrective action and are not near an impaired water body.
- Maximum flow rate is 10,000 gallons per day (gpd).

Tier 1 – Low Risk New or Replacement OWTS

- Applies to all new or replacement OWTS that comply with conservative siting and design standards.
- Tier 1 applies when a LAMP has not been approved by the RWQCB.
- Maximum flow rate is 3,500 gpd.
- Maximum density, based on annual rainfall of less than 15-inches, is one dwelling unit per 2.5 acre.

Tier 2 – LAMP for New or Replacement OWTS

- Applies to all new or replacement OWTS based on local conditions, siting and design standards as identified in an approved LAMP developed by the local agency and approved by the RWQCB.
- Allows the City of Hesperia (City) to adopt standards that may differ from Tier 1 Standards.

- Maximum flow rate is 10,000 gpd.

Tier 3 – Advanced Protection Management Program

- Applies to OWTS located near impaired waterways or water bodies identified on the OWTS Policy Attachment 2.
- There are no impaired water bodies in the City.
- Maximum flow rate is 10,000 gpd.

Tier 4 – OWTS Requiring Corrective Action

- Applies to failing systems

As permitted by the OWTS Policy, Tier 2, LAMP, regarding new or replacement OWTS, the City of Hesperia may submit a LAMP to its respective RWQCB for approval.

LAMP STANDARDS AND EXCEPTIONS

The purpose of this LAMP is to allow the continued use of OWTS within the jurisdiction of the City as well as to expand the local program to permit and regulate alternative OWTS while protecting water quality and public health. This LAMP also applies to OWTS on federal, state, and tribal lands to the extent authorized by law or agreement. This LAMP has been prepared to meet the requirements of the OWTS Policy for Tier 2 installations and replacements.

The City's LAMP is designed to protect groundwater sources and surface water bodies from contamination through the proper design, placement, installation, maintenance, and assessment of individual OWTS. This program develops minimum standards for the treatment and disposal of sewage through the use of OWTS in the City.

This LAMP does not include requirements for the following which require individual waste discharge requirements (WDRs) or a waiver of individual WDRs issued by the RWQCB.

- Any OWTS with a projected wastewater flow of over 10,000 gpd.
- Any OWTS that receives high-strength wastewater unless the waste stream is from a commercial food service facility.
- Any OWTS that receives high-strength wastewater from a commercial food service facility with a BOD (biochemical oxygen demand) higher than 900 mg/l or that does not have a properly sized and functioning oil/grease interceptor.

CITY OF HESPERIA GENERAL INFORMATION

The City of Hesperia is located in the “High Desert” of the County of San Bernardino, at an average elevation of 3,250 feet. The City is one of four incorporated cities in the Victor Valley, covers approximately 75 square miles in its incorporated boundaries, and has a sphere of influence encompassing approximately 45 square miles. The 2016 population is approximately 93,225. A boundary map of the City is shown on Figure 1-1.

Approximately 11% of development in the City is connected to sewer facilities. Wastewater is conveyed and treated at the Victor Valley Wastewater Reclamation Authority’s (VVWRA) Regional Facility, which is located in the neighboring City of Victorville. VVWRA is currently constructing a Sub-Regional Water Reclamation Facility within the City that will initially capture and treat approximately 1.5 million gpd for reuse on parks, green belts, a golf course, and other uses.

The remaining 89% of developed properties are served by OWTS. Figure 3 identifies the following designations regarding the use of OWTS within the City. Figure 3 land use designation (zoning) is based on the current General Plan and is subject to revisions from time to time as approved by City Council at its discretion.

- Areas where sewer service is currently available, and where all new development will be required to connect to the sewer system;
- Areas subdivided, or anticipated to be subdivided, prior to the effective date of the LAMP where development is currently utilizing OWTS and will be allowed to remain on OWTS; or are vacant properties that will be allowed to utilize OWTS as they develop until such time that a sewer system is available to these undeveloped properties. The City’s Sewer Master Plan identifies the existing wastewater system, and outlines system upgrades for future wastewater system planning and expansion;
- Areas that may be subdivided after the effective date of the LAMP with the corresponding potential land use density designations and where OWTS will be allowed.

Based on the City’s General Plan and Wastewater Master Plan growth projections, it is estimated that the City will increase from its current 2017 population of 94,133 to a 2040 population of 137,391. It is also estimated that approximately 33% of the City will be served by the City’s sewer system with the remaining 67% served by OWTS. Development on OWTS is anticipated to occur throughout the City in those areas identified on Figure 3 where the use of

OWTS will be permitted. The use of OWTS for both existing and new development is subject to the requirements of this LAMP.

VWRA owns and maintains a septage receiving facility that accepts septage generated by OWTS within the City boundaries. The septage receiving facilities have adequate capacity to receive deliveries from new OWTS.

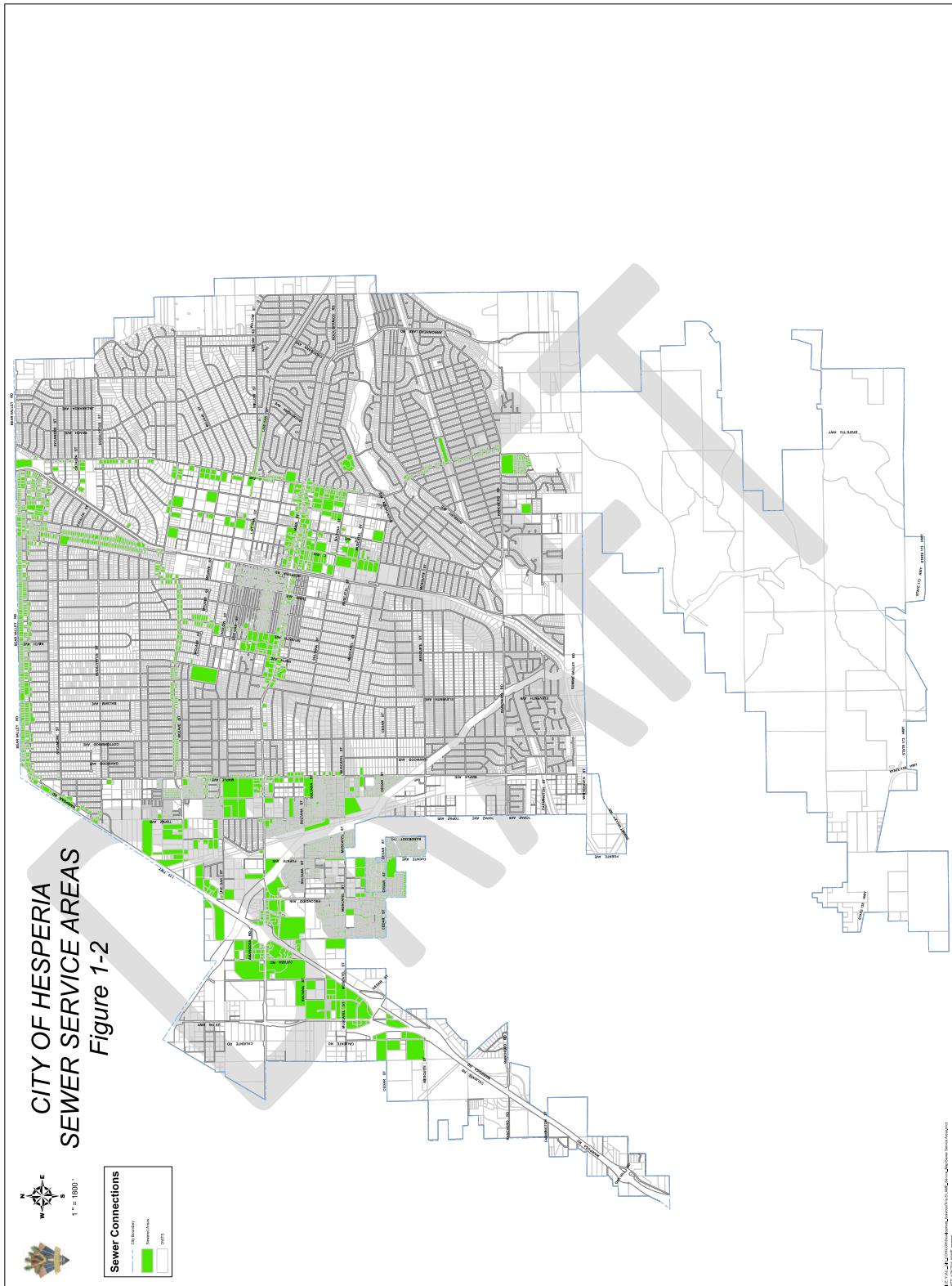
The very southern edge of the City encroaches into the Transverse Ranges Province, a region whose characteristic features are a series of east-west trending ranges that include the San Gabriel and San Bernardino Mountains. The ranges are called “transverse” because they lie at an oblique angle to the prominent northwesterly grain of the southern California landscape, a trend that is aligned with the San Andreas Fault. The Transverse Ranges are being intensely compressed by active tectonic forces; therefore, they are some of the fastest rising (and fastest eroding) mountains in the world. Hesperia is near several seismically active earthquake sources, including the San Andreas, North Frontal Fault, Cleghorn, Cucamonga, Helendale, and San Jacinto Faults.

North of the mountains, the greater part of Hesperia lies within the Mojave Desert Province, an arid region of overlapping alluvial fans, desert plains, dry lakebeds, and scattered mountain ranges. Hesperia is underlain by the informally named Victorville Fan, which is composed of sediments ranging in age from early Pleistocene to Holocene (approximately 1 million years to less than 10,000 years old), shed primarily from the San Gabriel Mountains. Their composition reflects that of the rocks eroded by the various streams that enter the valley from the south. Elevations in the City range from 4,100 at the southwest boundary near Interstate 15 and Oak Hills Road to 2,830 at the northeast boundary near Bear Valley Road and the Mojave River.

The City overlies the Alto Sub-basin of the Mojave Groundwater Basin, a basin that was adjudicated in 1993 (City of Barstow et al, v. City of Adelanto et al, Riverside County Superior Court Case No. 208568). The Mojave Water Agency (MWA) was appointed as Watermaster pursuant to the Court judgment. Groundwater depths as of April 2016 vary from approximately 100 feet below ground surface (BGS) along the Mojave River at Hesperia Lakes Park to approximately 790 BGS at Ranchero Road and Maple Avenue near the southwestern City boundary.

Figure 1-1 Vicinity Map



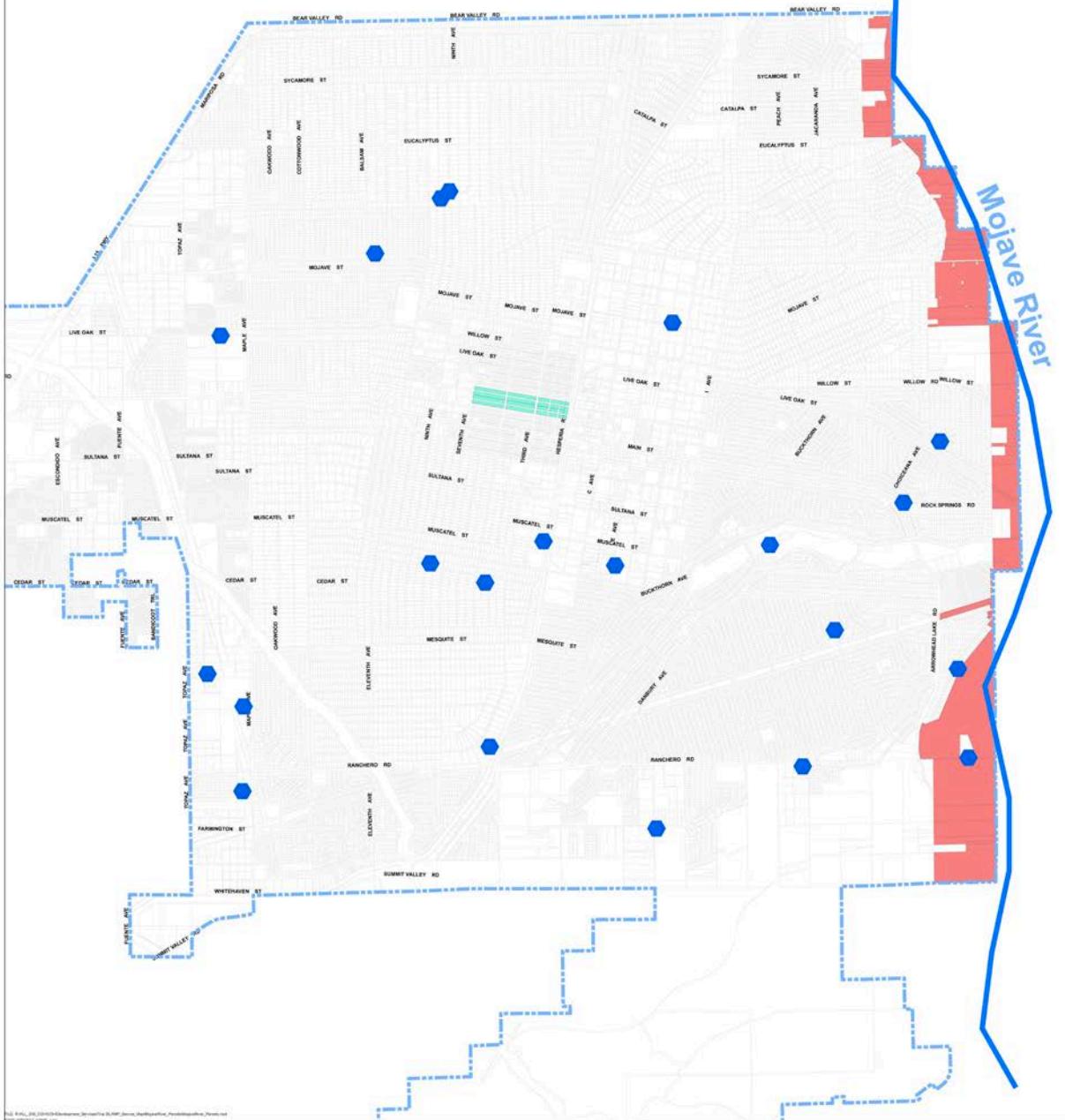
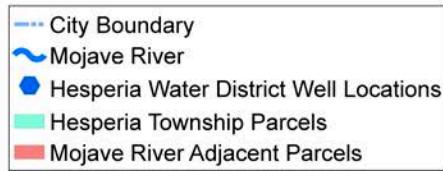


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$$1'' = 1300'$$

Figure 1-4
**CITY OF HESPERIA
HIGH RISK AREAS**



CHAPTER 2

DEFINITIONS

“303 (d) list” means the same as **“Impaired Water Bodies.”**

“Aerobic treatment system” means a small scale sewage treatment system similar to a septic tank system, but which uses an aerobic process for digestion rather than just the anaerobic process used in septic systems.

“Basin Plan” means the same as “water quality control plan” as defined in Division 7 (commencing with Section 13000) of the Water Code. Basin Plans are adopted by each Regional Water Board, approved by the State Water Board and the Office of Administrative Law, and identify surface water and groundwater bodies within each Region’s boundaries and establish, for each, its respective beneficial uses and water quality objectives. Copies are available from the Regional Water Boards, electronically at each Regional Water Boards website.

“Bedrock” means the rock, usually solid, that underlies soil or other unconsolidated, surficial material.

“California Plumbing Code” refers to the most current edition of the Code as adopted by the City.

“Cesspool” means an excavation in the ground receiving domestic wastewater, designed to retain the organic matter and solids, while allowing the liquids to seep into the soil. Cesspools differ from seepage pits because cesspool systems do not have septic tanks and are not authorized under this LAMP. The term cesspool does not include pit-privies and out-houses which are not regulated under this LAMP.

“City” means City of Hesperia, California.

“Clay” means a soil particle; the term also refers to a type of soil texture. As a soil particle, clay consists of individual rock or mineral particles in soils having diameters <0.002 mm. As a soil texture, clay is the soil material that is comprised of 40 percent or more clay particles, not more than 45 percent sand and not more than 40 percent silt particles using the USDA soil classification system.

“Disposal field” means an individual subsurface wastewater disposal system component consisting of a closed excavation made within soil or fill material to contain disposal field stone in which distribution pipes or approved proprietary devices have been placed for the disposal of septic tank effluent.

“Dispersal system” means a leach field, seepage pit, mound, subsurface drip field, or other type of system for final wastewater treatment and subsurface discharge.

“Domestic wastewater” means wastewater with a measured strength less than **“high-strength wastewater”** and is the type of wastewater normally discharged from, or similar to, that discharged from plumbing fixtures, appliances and other household devices including, but not limited to toilets, bathtubs, showers, laundry facilities, dishwashing facilities, and garbage disposals. Domestic wastewater may include wastewater from commercial buildings such as office buildings, retail stores, and some restaurants, or from industrial facilities where the domestic wastewater is segregated from the industrial wastewater. Domestic wastewater may also include incidental RV holding tank dumping but does not include wastewater consisting of a significant portion of RV holding tank wastewater such as at RV dump stations. Domestic wastewater does not include wastewater from industrial processes.

“Dump station” means a facility intended to receive the discharge of wastewater from a holding tank installed on a recreational vehicle. A dump station does not include a full hook-up sewer connection similar to those used at a recreational vehicle park.

“Earthen material” means a substance composed of the earth’s crust (i.e. soil and rock).

“Effluent” means sewage, water, or other liquid, partially or completely treated or in its natural state, flowing out of a septic tank, aerobic treatment system, dispersal system, or other OWTS component.

“Existing Development” means any tract, proposed tract, parcel, industrial or commercial development (including vacant parcels) which has been granted one or more of the following on or prior to approval of this LAMP:

- Conditional approval or approval of a tentative parcel or tract map by the City.
- A conditional use permit.
- Conditional approval or approval by the City Development Services Department.

“Existing OWTS” means an OWTS that was constructed and operating prior to the effective date of this LAMP, and an OWTS for which a construction permit has been issued prior to the effective date of this LAMP.

“Flowing water body” means a body of running water flowing over the earth in a natural water course, where the movement of the water is readily discernible or if water is not present, is apparent from review of the geology that when present it does flow. Examples of a flowing water body include an ephemeral drainage, creek, stream, or river.

“Grease interceptor” or “Oil/grease interceptor” means a passive interceptor that has a rate of flow exceeding 50 gallons per minute and is located outside a building. Grease interceptors are used for separating and collecting oil and grease from wastewater.

“Gross acre” is defined as the total area of a parcel or lot that encompasses the entire lot area plus any adjacent existing or proposed public highways, streets, or alleys to the centerline, other public sites; and existing private streets, alleys, or easements; and other areas where development is restricted, if any.

“Groundwater” means water below the land surface that is at or above atmospheric pressure.

“High-strength wastewater” means wastewater having a 30-day average concentration of biochemical oxygen demand (BOD) greater than 300 milligrams-per-liter (mg/L), or of total suspended solids (TSS) greater than 330 mg/L, or a fats, oil, and grease (FOG) concentration greater than 100 mg/L prior to the septic tank or other OWTS treatment component.

“International Association of Plumbing and Mechanical Officials” or “IAPMO” is an association that assists individual jurisdictions to meet their specific needs by coordinating the development and adoption of codes regarding plumbing, mechanical, swimming pools and solar energy.

“Impaired water bodies” means those surface water bodies or segments thereof that are identified on a list approved first by the State Water Board and then approved by US EPA pursuant to Section 303(d) of the Federal Clean Water Act.

“LAMP”, or Local Agency Management Program, is the program for siting, design, operations and maintenance of OWTS, developed by the City, and approved by the Regional Water Quality Control Board.

“Leach Field” means the same as “Disposal Field”.

“Leach Line” means the same as “Disposal Field”.

“Licensed Qualified Contractor,” shall be a Licensed General Engineering Contractor (Class A), General Building Contractor (Class B), Sanitation System Contractor (Specialty Class C- 42), or Plumbing Contractor (Specialty Class C-36).

“Local agency” means the City of Hesperia, which has responsibility for permitting the installation of and regulating OWTS within its jurisdictional boundaries.

“Major repair” means either: (1) for a dispersal system; repairs required for an OWTS dispersal

system due to surfacing wastewater effluent from the dispersal field and/or wastewater backed up into plumbing fixtures because the dispersal system is not able to percolate the design flow of wastewater associated with the structure served, or (2) for a septic tank; repairs required to the tank for a compartment baffle failure or tank structural integrity failure such that either wastewater is exfiltrating or groundwater is infiltrating.

“Mound system” means an aboveground dispersal system (covered sand bed with effluent leach field elevated above original ground surface inside) used to enhance soil treatment, dispersal, and absorption of effluent discharged from an OWTS treatment unit such as a septic tank. Mound systems have a subsurface discharge.

“New Development” means a proposed tract, parcel, industrial or commercial development that has not been granted one or more of the following, on or prior to approval of this LAMP:

- Conditional approval or approval of a tentative parcel or tract map by the City.
- A conditional use permit.
- Conditional approval or approval by the City Development Services Department.

“New OWTS” means an OWTS permitted after the effective date of this LAMP.

“NSF” means NSF International (a.k.a. National Sanitation Foundation), a not for profit, non-governmental organization that develops health and safety standards and performs product certification.

“Oil/grease interceptor” or “Grease interceptor” means a passive interceptor that has a rate of flow exceeding 50 gallons-per-minute and that is located outside a building. Oil/grease interceptors are used for separating and collecting oil and grease from wastewater.

“Onsite wastewater treatment system(s)” (OWTS) means individual disposal systems, community collection and disposal systems, and alternative collection and disposal systems that use subsurface disposal. The short form of the term may be singular or plural. OWTS do not include “gray water” systems pursuant to Health and Safety Code Section 17922.12.

“OWTS Policy” means the Policy for Siting, Design, Operation and Management of OWTS adopted by the SWRCB on June 19, 2012.

“Percolation test” means a method of testing water absorption of the soil. The test is conducted with clean water and test results can be used to establish the dispersal system design.

“Permit” means a document issued by the City that allows the installation and use of an OWTS,

or waste discharge requirements, or a waiver of waste discharge requirements that authorizes discharges from an OWTS.

“Person” means any individual, firm, association, organization, partnership, business trust, corporation, company, State agency or department, or unit of local government who is, or that is, subject to this LAMP.

“Pit-privy” (also known as outhouse or pit-toilet) means self-contained waterless toilet used for disposal of non-water carried human waste; consists of a shelter built above a pit in the ground into which human waste falls.

“Pollutant” means any substance that alters water quality of the Waters of the State to a degree that it may potentially affect the beneficial uses of water, as listed in a Basin Plan.

“Public water system” is a water system regulated by the California Department of Public Health or a Local Primacy Agency pursuant to Chapter 12, Part 4, California Safe Drinking Water Act, Section 116275 (h) of the California Health and Safety Code.

“Public water well” is a ground water well serving a public water system. A spring which is not subject to the California Surface Water Treatment Rule (SWTR), CCR, Title 22, Sections 64650 through 64666 is a public well.

“Qualified Professional” means an individual who is licensed or certified by a State of California agency to design or install an OWTS and practices as a professional for other associated reports, as allowed under their license or registration. Depending on the work to be performed and various licensing and registration requirements, this may include an individual who possesses a registered environmental health specialist certificate or is currently licensed as a professional engineer or professional geologist. For the purposes of performing site evaluations, Soil Scientists certified by the Soil Science Society of America are considered qualified professionals.

“Qualified Service Provider” means a person capable of operating, monitoring, and maintaining an OWTS in accordance with the State Water Board OWTS Policy. The individual must also be certified and/or trained extensively by the manufacturer of an OWTS with supplemental treatment to install, maintain, service, and repair the specific model/type of OWTS.

“Regional Water Board” is any of the Regional Water Quality Control Boards designated by Water Code Section 13200. Any reference to an action of the Regional Water Board in this LAMP also refers to an action of its Executive Officer, including the conducting of public hearings, pursuant to any general or specific delegation under Water Code Section 13223. The City is governed by the South Lahontan Regional Water Quality Control Board.

“Repair” is any action that modifies/replaces the existing dispersal system, replaces an existing septic tank, or modifies/replaces a major component of the onsite wastewater treatment system. Repairs require the issuance of a Permit by the City.

“Replacement OWTS” means an OWTS that has its treatment capacity expanded, septic tank replaced, or its dispersal system replaced or added onto, after the effective date of this LAMP.

“Sand” means a soil particle; this term also refers to a type of soil texture. As a soil particle, sand consists of individual rock or mineral particles in soils having diameters ranging from 0.05 to 2.0 millimeters. As a soil texture, sand is soil that is comprised of 85 percent or more sand particles, with the percentage of silt plus 1.5 times the percentage of clay particles comprising less than 15 percent.

“Seepage Pit” is a drilled or dug excavation which is four to six feet in diameter and gravel filled. It receives effluent discharge for dispersal from a septic tank or other OWTS treatment unit.

“Septic tank” means a watertight, covered receptacle designed for primary treatment of wastewater and constructed to:

1. Receive wastewater discharged from a building;
2. Separate settleable and floating solids from the liquid;
3. Digest organic matter by anaerobic bacterial action;
4. Store undigested solids; and
5. Clarify wastewater for further treatment with final subsurface discharge.

“Silt” means a soil particle; this term also refers to a type of soil texture. As a soil particle, silt consists of individual rock or mineral particles in soils having diameters ranging from between 0.002mm and 0.05mm. As a soil texture, silt is soil that is comprised as approximately 80 percent or more silt particles and not more than 12 percent clay particles using the USDA soil classification system.

“Site” means the location of the OWTS and, where applicable, a reserve dispersal area capable of disposing of 100% of the design flow from all sources the OWTS is intended to serve.

“Site evaluation” means an assessment of the characteristics of the site sufficient to determine its suitability for an OWTS to meet the requirements of this LAMP.

“Soil” means the naturally occurring body of porous mineral and organic materials on the land surface, which is composed of unconsolidated materials, including sand-sized, silt-sized, and clay-sized particles mixed with varying amounts of larger fragments and organic material. The

various combinations of particles differentiate specific soil textures identified in the soil textural triangle developed by the United States Department of Agriculture (USDA) as found in Soil Survey Staff, USDA; *Soil Survey Manual, Handbook 18*, U.S. Government Printing Office, Washington, DC, 1993, p. 138. For the purposes of this LAMP, soil shall contain earthen material of particles smaller than 0.08 inches (2 mm) in size.

“Soil texture” means the soil class that describes the relative amount of sand, clay, silt and combinations thereof as defined by the classes of the soil textural triangle developed by the USDA (referenced above).

“Standard Practice P-T1-2” or “Percolation Rates for Septic Systems Table” means percolation rates for tracted areas and certain parcel maps in the City based on soils classifications, percolation test reports and/or boring logs compiled into tabular form.

“State Water Board” is the State Water Resources Control Board.

“STS” is the acronym used in place of Onsite Wastewater Treatment System with Supplemental Treatment.

“Substandard system” means any existing OWTS that does not conform to the accepted requirements related to system sizing, setbacks, groundwater separation, or allowable cover.

“Supplemental treatment” means any OWTS or component of an OWTS, except a septic tank or dosing tank, that performs additional wastewater treatment so that the effluent meets a predetermined performance requirement prior to discharge of effluent into the dispersal field.

“Technically Infeasible” means little likelihood of being accomplished due to existing site or structural conditions, or because other existing physical or site constraints prohibit modification or addition of elements or features which are in compliance with the minimum requirements of this LAMP.

“Telemetric” means the ability to automatically measure and transmit OWTS data by wire, radio, or other means.

“Total maximum daily load” or “TMDL” is a pollution budget and includes a calculation of the maximum amount of a pollutant that can occur in a waterbody and allocates the necessary reductions to one or more pollutant sources. Section 303(d) (1) of the Clean Water Act requires every State to establish a TMDL for each impaired water body to address the pollutant(s) causing the impairment. In California, TMDLs are usually adopted as Basin Plan amendments and contain implementation plans detailing how water quality standards will be attained.

“Unreasonable Hardship” is when the City finds that compliance with the requirements of this LAMP would make specific work affected by the LAMP standards infeasible based on an overall evaluation of total cost of proposed improvements, the impact of proposed improvements on financial feasibility, and the nature of the use of the site in question.

“USGS” means the United States Geological Survey.

“Waste discharge requirement” or “WDR” means an operation and discharge permit issued for the discharge of waste pursuant to Section 13260 of the California Water Code.

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CHAPTER 3

OWTS SITE EVALUATION AND PERMITTING

GENERAL

This Chapter describes the review and permitting process for the installation of new and replacement OWTS in addition to summarizing key design criteria for these systems. OWTS may discharge pollutants to groundwater, and therefore are regulated by the State Water Code. Water Code Section 13282, allows Regional Water Quality Control Boards (RWQCB) to authorize a local public agency to issue permits for and to regulate OWTS “to ensure that systems are adequately designed, located, sized, spaced, constructed and maintained.”

The City, at its discretion, may request that the RWQCB provide review, comments and/or suggestions regarding any proposed OWTS method or design. This review shall not in any way be considered authorization to install said system by the RWQCB. Requests for RWQCB review will be made by the City’s Development Services Department. All OWTS owner requests that fall under the City’s purview and this LAMP shall be made through the City and not directly to the RWQCB.

The goal of the OWTS policy is to ensure that installed OWTS do not cause any public exposure to surfacing sewage, or any contamination of groundwater or surface waters. Figure 1-2 in Chapter 1 identifies those areas in the City where OWTS are allowed and where connection to the existing sewer system is required. It is important that property owners consult with the City to determine the exact location of their property and whether or not OWTS are allowed.

Stipulations identified in this LAMP do not preclude the City from prescribing more stringent requirements on a site for the protection of water quality.

EVALUATION AND PERMITTING PROCESS

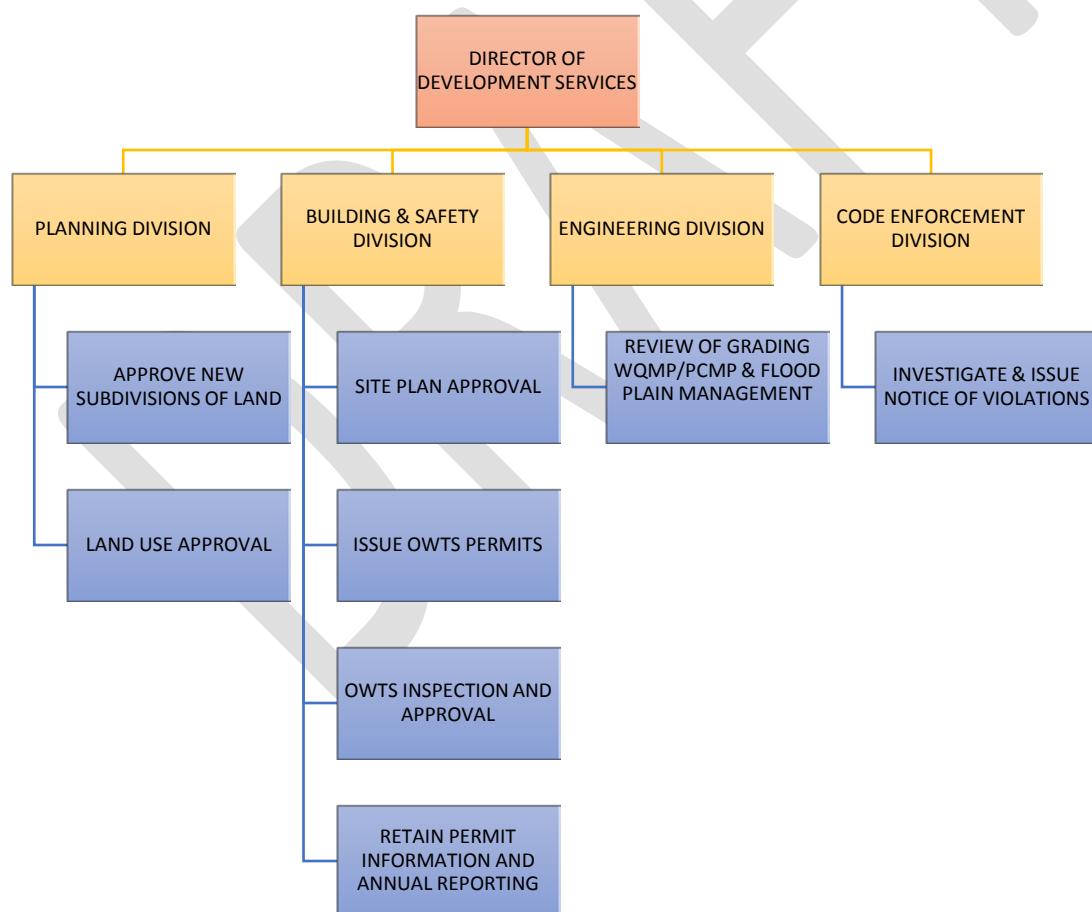
Obtaining a permit for an OWTS and obtaining land use approval are two separate processes. While they are coordinated to some extent, a permit for an OWTS or related approval is *never* a substitute for a required grading, land use, or building permit. Similarly, no land use approval or other permit not specifically for an OWTS (e.g., approval of a subdivision map, parcel subdivision, boundary adjustment, grading permit), even after preliminary septic system review by the City, is a substitute for a permit for an OWTS, or a guarantee that such a permit can be issued.

The Building and Safety Division is responsible for issuing permits for the installation of new

OWTS, and the repair or replacement of existing OWTS. The Development Services Department will review all applications (including site and grading plans), determine percolation testing requirements, conduct on-site inspections, and approve the design and installation. The Development Services Department will also be responsible to retain permit information, and annual reporting to the RWQCB as detailed in Chapter 8. The Development Services Department is responsible for the review and approval of all new subdivisions of land and the determination of whether the new lots created by the land subdivision will be required to connect to sewer or can be served by OWTS.

The Code Enforcement Division is responsible for investigating complaints of overflowing or failing septic systems, and ensuring that the property owner obtains the required permits from the Building and Safety Division for the necessary repairs or replacement of the failing system.

The following City Organization chart identifies the City staffing involved in the review, approval and inspection of OWTS.



SYSTEM DESIGN CONSIDERATIONS

General

The most common type of OWTS found within the City consist of a septic tank that allows for the removal of solids in the wastewater prior to being discharged to a dispersal field, which consists of a vertical seepage pit(s) or leach line system(s). The City's existing development is mostly subdivided into recorded tracts or parcel maps; however, there are some areas that are not tracted. Generally, the City utilizes Standard Practice P-T1-2, or Percolation Rates for Septic Systems Table to determine the percolation rate, type of dispersal system (seepage pit or leach line), and sizing criteria for a proposed OWTS within the tracted areas and certain parcel maps. However, determinations may occur on a case-by-case basis. In some applications where the disposal field is at a higher elevation than the building site, a pressure-system is used to deliver the sewage to a standard disposal field where it is distributed by gravity flow. All of these examples would be considered a conventional OWTS because no further sewage treatment is performed between the septic tank and the disposal field. In all cases, the sewage effluent is discharged below the ground surface and is digested by bacteria in unsaturated soil zones. These systems are designed to operate in all weather conditions with minimal maintenance other than periodic septic tank pumping to remove sludge.

All OWTS designs (both new designs and additions to an existing OWTS) must show 100% reserve area for the active OWTS. The size and type of OWTS needed for a particular building project will be a function of the following factors:

- Soil Permeability: Permeability determines the degree to which soil can accept sewage discharge over a period of time. Permeability is measured by percolation rate, in minutes per inch (MPI), within soil types as identified in the California Plumbing Code.
- Unsaturated Soil Interval: The distance between the bottom of the OWTS dispersal field and the highest anticipated groundwater level or the shallowest impervious subsurface layer. All conventional OWTS will require a minimum depth of soil between the bottom of the dispersal field and anticipated level of groundwater, or bottom of dispersal field and impermeable material such as clay or bedrock. The minimum depth of soil is five (5) feet for a leach line system(s) and ten (10) feet for a vertical seepage pit(s).
- Peak Daily Flow: The anticipated peak sewage flow in gallons per day. In many cases, the number of bedrooms for a proposed home is used as an indicator of peak daily flow.
- Net Usable Land Area: The area available that meets all setback requirements to structures, easements, watercourses, or other geologic limiting factors for the design of an OWTS.

In addition to conventional OWTS, the City allows the use of alternative OWTS with supplemental treatment. These systems are generally used for sites that cannot support a conventional OWTS due to soil depth conditions. Alternative OWTS use different methods of sewage treatment beyond what is provided by the septic tank to allow for a reduction in the amount of unsaturated soil below the dispersal system. All alternative OWTS must be certified by the National Sanitation Foundation or by an approved third party tester. Due to the complexity of these systems, ongoing maintenance contracts and annual operating permits are required.

Some sites are not acceptable for conventional or alternative OWTS based on low soil permeability, regardless of the unsaturated soil interval available at the site.

Maximum Flow and Land Use Density

OWTS can be utilized for existing and new developments where the discharge is composed of domestic wastewater only (industrial waste discharges are prohibited), and the wastewater flow does not exceed 500 gallons per acre per day as determined in the California Plumbing Code; and for non-residential or mixed use occupancy, using the California Plumbing Code to determine occupant loads.

Land use density for single-family and multi-family homes, and commercial developments on individual lots shall be as follows:

- Individual lots created by subdivision prior to June 16, 1988 shall have a minimum net area of 15,000 square feet (for existing OWTS only).
- Individual lots created by subdivision after June 16, 1988 and prior to the effective date of the LAMP shall have a minimum net area of 18,000 square feet.
- Individual lots created by subdivision after the effective date of the LAMP shall have a minimum net area of 18,000 square feet.

OWTS shall not be utilized for new development or for replacement OWTS, where public sewer is available. Public sewer availability to a property is determined when the property abuts a public sewer and the building (structure) or exterior drainage facility is within 200 feet of that sewer, as described in the California Plumbing Code. A waiver of the connection to sewer may also be considered when connection to the public sewer is technically infeasible, or would create an unreasonable hardship, and in all instances, an OWTS can be installed that will meet the minimum requirements of this LAMP.

Existing single-family residential developments that were approved prior to the effective date of the LAMP and utilize OWTS without meeting the minimum lot size area as indicated above

may continue to utilize OWTS. However, when the OWTS requires corrective action, as detailed in Chapter 6, the City will review the application to determine if connection to the public sewer system, or if a supplemental treatment system, as detailed in Chapter 5, will be required to ensure protection of the groundwater basin. The minimum lot size requirement for new subdivisions does not preclude the prescription of more stringent lot size requirements in specific areas if it is determined necessary to protect water quality.

Setback Requirements

Table 3-1 provides the minimum separation requirements for installation of new or replacement OWTS, measured in feet, and are derived largely from the California Plumbing Code. In some cases, changes have been made in order to adequately protect public health. If differences exist, the greater separation prevails unless otherwise approved by the City.

For replacement OWTS and new OWTS installed on parcels of record existing at the effective date of this LAMP that do not meet the horizontal separation requirements in Table 3-1, the OWTS shall meet the horizontal separation to the greatest extent practicable. The City may determine that supplemental treatment or other mitigation measures may be required in these cases due to potential adverse impact to the public water source. These occurrences will be determined on a case-by-case basis by the City.

Table 3-1 OWTS Separation Requirements

Minimum Setback Required From	Septic Tank	Disposal Field	Seepage Pit
Non-Public Water Supply Well	50	100	150
Public Water Supply Well ¹	100	150	150
Buildings or Structures ²	5	8	8
Property line adjoining private property	5	5	8
Streams and other bodies of water ³	50	100	150
Large Trees	10	--	10
Seepage pits	5	5	12
Disposal Field	5	4	5
On-site domestic water lines	5	5	5
Public domestic water lines	10	10	10
Distribution box	n/a	5	5
Ground surface on sloping ground	n/a	15	15
Groundwater	5	5	10

PERMITTING

Prior to approving the use of OWTS, the City's Building and Safety Division will review each application, and a site evaluation may be conducted, to:

- Ensure the proper system design, and that the existing and proposed disposal locations for septic meet the minimum requirements of this LAMP, and;
- Determine compliance with site suitability requirements, the volume of septic anticipated and whether adequate capacity is available for the septic disposal.

Applications are available from the Building and Safety Division and shall be completed by the applicant. The applicant may also be required to submit the following documents for review and approval by the Building and Safety Division prior to installation of OWTS:

¹ The minimum setback required to a public water supply well shall be increased to 200 feet where the dispersal system exceeds 10 feet in depth. The minimum setback may be increased if site conditions show the minimum setback is insufficient to protect the groundwater basin.

² Includes porches and steps, whether covered or uncovered, breezeways, roofed porte cochères, roofed patios, carports, covered walks, covered driveways, and similar structures.

³ As measured from the line which defines the limit of a 100-year flood.

Site Plan

If required, a site plan prepared on paper sized as requested by the City (minimum 8.5" by 11") showing the layout design of the proposed building and OWTS, using the standard engineer's scale of $\frac{1}{2}$ " equal to 20 feet.

Grading Plan

Depending of the degree of grading for the project, a grading plan may be required. If a grading plan is required, it shall be included with the application. The grading plan shall include topographic contours and identify proposed grading limits, contours and slopes.

Percolation Tests

The Development Services Department will determine if additional percolation tests are required after evaluation of the proposed project. This evaluation will include a review of the project application information, available testing or construction data, and evaluation of the Percolation Rates for Septic Systems Table to determine the percolation rate, type of dispersal system (seepage pit or leach line), and sizing criteria. The City may also require a site visit. If percolation tests are required, the tests shall be conducted in accordance with the California Plumbing Code. A Qualified Professional shall prepare all testing and accompanying reports.

Groundwater Depth

The minimum separation between the bottom of a leach field and a vertical seepage pit(s) to the highest anticipated groundwater level is 5 feet and 10 feet, respectively. At the City's discretion, greater depth to groundwater separation may be required. The City maintains information on groundwater levels provided by the MWA and water purveyors from public, private, and monitoring wells. The City in some cases may require soil borings from the applicant if existing data does not adequately identify the highest anticipated groundwater depth in the vicinity of the proposed project. The Development Services Department will determine if soil borings are necessary after their evaluation of the proposed project.

CHAPTER 4

OWTS DESIGN AND CONSTRUCTION

GENERAL

All conventional OWTS require the use of a septic tank for the removal of solids in the wastewater prior to being discharged to the dispersal field. Vertical seepage pit systems and leach line systems are the means of effluent dispersal. The City's existing development is mostly subdivided into recorded tracts or parcel maps; however, there are some areas that are not tracted. Generally, the City utilizes Standard Practice P-T1-2 to determine the percolation rate, type of dispersal system (seepage pit or leach line), and sizing criteria for a proposed OWTS within these tracted areas and certain parcel maps. However, determinations may occur on a case-by-case basis. Cesspools are prohibited. This Chapter will provide the procedures for the design and construction of conventional OWTS.

A qualified professional shall design all new OWTS and modifications to existing OWTS where the treatment system will be replaced or expanded. OWTS shall be located, designed, and constructed in accordance with City requirements; and shall also follow requirements of the California Plumbing Code to ensure that effluent does not surface at any time and to ensure that percolation of effluent will not adversely affect groundwater or surface waters.

OWTS shall be installed in accordance with the manufacturer's requirements. A Licensed General Engineering Contractor (Class A), General Building Contractor (Class B), Sanitation System Contractor (Specialty Class C- 42), or Plumbing Contractor (Specialty Class C-36) shall install all new and replacement OWTS. A property owner may also install their own OWTS if the plans and the installation are inspected and approved by the City during installation.

SEPTIC TANKS

Construction and installation requirements for septic tanks are reviewed and approved by the Building and Safety Division. The following requirements are the minimum design and construction standards for septic tanks:

1. Septic tanks must be certified by the International Association of Plumbing and Mechanical Officials (IAPMO), or stamped and certified by a California registered civil engineer. Septic tanks shall comply with the standards contained in of the California Plumbing Code.

2. Septic Tanks shall be watertight, properly vented, and made of durable and non-corrosive material.
3. Septic tanks shall not have less than two chambers. The inlet compartment must be equal to two-thirds (2/3) of the total tank volume.
4. All tanks must have a capped tee or a 90-degree elbow fitting on the inlet to prevent gas exchange between the tank and house plumbing.
5. An access opening of 20-inch in its least dimension shall be provided in each tank compartment, with one access opening located over the inlet and one access opening located over the outlet.
6. Septic tanks shall be designed to prevent solids in excess of three-sixteenths (3/16) inch in diameter from passing to the dispersal system. Septic tanks that use a National Sanitation Foundation/American National Standard Institute (NSF/ANSI) Standard 46 certified septic tank filter at the final point of effluent discharge from the OWTS, and prior to the dispersal system shall be deemed in compliance with this requirement.
7. The bottom of the excavation for the tank shall extend into native or compacted soils to eliminate potential settling issues.
8. The minimum septic tank size for single-family residences shall be 750 gallons. The septic tank size shall be determined based on the number of bedrooms in each unit, as identified in the table below (design flows for a secondary unit on the same lot will be determined independently from the primary unit):

No. of Bedrooms	Design Wastewater Flow (GPD)	Septic Tank Capacity (GAL)
1-2	500	750
3	670	1,000
4	800	1,200
5-6	1,000	1,500

9. Septic tanks for multi-residential and non-residential development will be sized based on the estimated daily flow or number of fixture units, as determined by the California Plumbing Code, whichever is greater.

DISPERSAL SYSTEMS

Dispersal systems shall consist of a vertical seepage pit(s) or leach line system(s) in accordance with the Standard Practice P-T1-2, which is utilized to determine the percolation rate, type of dispersal system (seepage pit or leach line), and sizing criteria for a proposed OWTS within these tracted areas and certain parcel maps. However, determinations may occur on a case-by-case basis. Percolation tests may be required for new and replacement OWTS as determined by the City during the site application approval process. If percolation tests are required, tests shall be conducted in accordance with the California Plumbing Code. All percolation tests must be performed by a qualified professional. The following requirements are the minimum design and construction standards for dispersal systems:

1. All dispersal systems shall have at least twelve (12) inches of soil cover.
2. The minimum depth of soil between the bottom of the dispersal field and anticipated level of groundwater, or bottom of dispersal field and impermeable material (such as clay or bedrock), shall be five (5) feet for a leach line system(s) and ten (10) feet for a vertical seepage pit(s).
3. All new dispersal systems shall have 100 percent replacement area that is equivalent, separate, and available for future use.
4. Dispersal systems or replacement areas utilizing leach fields shall not be covered by an impermeable surface, such as paving, building, building foundation slabs, plastic sheeting, or any other material that prevents oxygen transfer to the soil.
5. The Maximum ground slope in dispersal areas shall be 30percent, unless a slope stabilization report approved by a qualified professional is submitted for review and approval by the City.
6. Vertical seepage pits shall be installed according to the qualified professional's specification for location and depth, in accordance with the California Plumbing Code, and shall be sized in accordance with the Percolation Rates for Septic Systems Table, which is utilized to determine the percolation rate, type of dispersal system (seepage pit or leach line), and sizing criteria, or as determined by percolations tests conducted (if required). Determinations may occur on a case-by-case basis, and must include the following elements:
 - Pit excavation shall not be less than four (4) foot in diameter and no more than

six (6) feet in diameter with a minimum depth as determined by the Percolation Rates for Septic Systems Table.

- Excavated voids behind the brick, block or concrete liner shall be filled with not have less than 6-inches of clean, 3/4-inch gravel or rock.
7. In areas designated for seepage pits based on Percolation Rates for Septic Systems Table, the City may approve a leach line system at its discretion when installation of a seepage pit(s) is technically infeasible. A site plan for leach line system shall be submitted in accordance with Chapter 3. If approved, leach lines shall be installed in accordance with the California Plumbing Code and as indicated in Percolation Rates for Septic Systems Table for, length, width and depth.

PUMP SYSTEMS

A pump system will be considered an unreasonable hardship and may only be used when an adequate disposal area cannot be reached by gravity flow based upon site constraints. Approval of a pump system by the City will be required during the site plan review process. The pump system shall be designed and constructed by qualified professionals and meet the minimum requirements of the California Plumbing Code.

SEWAGE HOLDING TANKS

Sewage holding tanks will be considered an unreasonable hardship and may only be used when adequate disposal areas are not available on the property. Approval of sewage holding tanks by the City will be required during the site plan review process. Documentation must be provided to the City to show conventional or alternative wastewater treatment systems are not feasible.

Prior to final approval of a sewage holding tank, the property owner shall obtain a Sewage Holding Tank Permit from the City; enter into an agreement with the City, which will be recorded with the San Bernardino County Clerk (agreement will transfer to new owners of the property in perpetuity), accepting the operation and maintenance terms and conditions of owning a sewage holding tank; and provide the City with a copy of a maintenance contract with a septic tank pumper. The contract will include a minimum of one (1) inspection of the sewage holding tank per month, service pumping as required, and all emergency services as necessary. In the event the contract is cancelled or property ownership changes, the septic tank pumper shall immediately notify the City of the cancellation or ownership change.

Properties served by a sewage holding tank will be subject to an annual operating permit fee. When the property is sold, current owner must inform the new owner that a new Sewage

Holding Tank Permit must be obtained.

At the time sewer collection lines become available for service to properties that use sewage holding tanks, the property owner will be required to connect to the sewage system, pay the connection fees and properly abandon the sewage holding tank within ninety (90) days of sewer collection system availability.

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CHAPTER 5

SUPPLEMENTAL TREATMENT SYSTEMS

GENERAL

OWTS with supplemental treatment, also known as alternative OWTS, are OWTS that include some type of advanced treatment in addition to the primary treatment of a septic tank used with a conventional OWTS. Supplemental Treatment Systems (STS) are used to overcome specific site constraints generally having to do with density constraints, high groundwater, impaired water quality, and/or the presence of bedrock. Examples of STS include aerobic treatment systems, sand or textile filters, and mound systems. This Chapter will provide the procedures for the design, construction, operation and maintenance of STS.

APPLICATION AND APPROVALS

Application for the use of a STS shall be submitted to the City during the initial planning stages, and shall conform to all requirements for system design and permitting as identified in Chapter 3 of the LAMP. The system shall be designed by a Qualified Professional, and a detailed description of the system components and operation shall be submitted along with a site plan signed by a Qualified Professional. Prior to the issuance of land use approval or grading permits, the City must approve the design of the STS. A letter must be submitted by the Owner of the proposed STS acknowledging that a maintenance contract, as described herein, will be required prior to final inspection of the system.

DESIGN CRITERIA

1. All supplemental treatment components of a STS must be certified by the National Sanitation Foundation (NSF) to meet the minimum requirements of NSF Standard 40 or must meet standards approved by the City. STS utilizing nitrogen reduction components shall achieve a minimum fifty (50) percent nitrogen reduction, when comparing the 30-day average influent concentration to the 30-day average effluent concentration.
2. Advanced or alternative OWTS components designed to perform disinfection shall provide sufficient pretreatment of the wastewater so that effluent from the supplemental treatment components does not exceed a 30-day average total suspended solids of thirty (30) milligrams per liter. Effluent shall further achieve an effluent fecal coliform bacteria concentration less than or equal to 200 Most Probable Number (MPN) per 100 milliliters.

3. Percolation testing, soil depth evaluations and groundwater elevation determinations shall be performed by a Qualified Professional. Percolation testing will be performed at the proposed installation depth of the dispersal field and shall follow the procedures in Chapter 3 of this LAMP.
4. Treated effluent from all STS shall be discharged to a subsurface dispersal system consisting of leach lines, seepage pits, or pressurized drip dispersal systems.
5. System sizing for dispersal systems that utilize a leach line(s) or seepage pit(s) shall be the same as those used for conventional OWTS.
6. Pressurized drip dispersal systems shall be designed and installed per the manufacturer's recommendations.
7. A minimum 2-foot separation between the bottom of the dispersal system to the highest anticipated level to which groundwater could be expected to rise is required for STS.
8. A minimum of 2-foot of permeable soil must exist below the bottom of the STS dispersal system.
9. The STS shall be equipped with a visual or audible alarm as well as a telemetric alarm that alerts the owner and qualified service provider of system malfunctions.

CONSTRUCTION REQUIREMENTS

1. A STS must to be installed by a licensed qualified contractor and the system must be installed according to the qualified professional's specifications for location, components, size and depth.
2. The natural soil cover over a drip dispersal system shall be at least 6 inches but no greater than 12 inches.
3. The area of the drip dispersal system shall be planted with appropriate vegetation to allow for uptake of nutrients from the wastewater.
4. Drip dispersal systems shall be designed to have a maximum operating pressure of 60 pounds per square inch (psi). The drip dispersal system shall be designed and maintained to reduce orifice clogging and root intrusion.

5. Drip dispersal systems shall be designed to have a minimum operation pressure at the emitter head of 10 psi, and a maximum discharge rate per emitter of 1.5 gallons per hour.
6. All drip systems shall incorporate an automatic mechanism for backwashing or flushing the drip lines and filters.
7. Septic tanks, pump chambers or other related components of an STS including risers shall undergo a water tightness test at the site of installation.
8. The setbacks required between STS and other components of the OWTS to structures, property lines, easements, watercourses, wells, or grading shall be as follows:
 - STS vault and/or structure – Same as Septic Tank as identified on Table 3-1 in Chapter 3.
 - Disposal Field or Seepage Pit – as identified on Table 3-1 in Chapter 3.
 - Drip Dispersal Systems – Same as Disposal Field as identified on Table 3-1 in Chapter 3 with the exception that setback to structures and property lines can be reduced to two (2) feet.
9. All components of the STS shall be certified in writing by the Qualified Professional who designed the STS that the installation was completed per the approved design.

OPERATION AND MAINTENANCE

1. All STS require an annual operating permit issued by the City. The annual operating permit will define the monitoring and maintenance requirements as specified by the manufacturer and/or Qualified Professional who designed the system.
2. Prior to final approval of the STS, the property owner shall obtain enter into an agreement with the City, which will be recorded with the San Bernardino County Clerk (agreement will transfer to new owners of the property in perpetuity), accepting the operation and maintenance terms and conditions of owning a STS.
3. An operation and maintenance manual shall be provided by the manufacturer or Qualified Professional and include the Qualified Professional's name, address, telephone number, and business and professional license number. A copy shall be maintained at the site and shall be available to the property owner at all times.

4. All STS must be maintained by a Qualified Service Provider. The STS owner must also keep the maintenance contract on site throughout the life of the STS. A copy of the service provider contract shall be submitted to the City by January 30th of each calendar year.
5. All STS are required to have quarterly inspections by the Qualified Service Provider to ensure proper operation and maintenance of the system. Copies of the inspection results shall be provided to the City within thirty (30) days of the inspection being completed. The frequency of inspections may be reduced to bi-annually at the City's discretion if all four quarterly wastewater samples show the system meets the supplemental treatment requirements.
6. Effluent samples will be taken by a qualified service provider and analyzed by a California Department of Public Health certified laboratory.
7. The drip dispersal system shall be flushed once every three (3) months for the first year of operation. Flushing shall occur every six (6) months thereafter.
8. The Qualified Service Provider shall be responsible for the following:
 - Assessing the STS to determine operational status.
 - Performing routine activities required to keep the system operational.
 - Responding to emergencies in a timely manner.
 - Collecting and recording information regarding operational status of treatment components and recommending timely maintenance, replacement, or pumping of various components as required.
 - Monitoring system performance through collection and analysis of effluent samples when appropriate.
 - Reporting system operational status/or system performance to the property owner and City.
 - Serving as an informational resource for the property owner.
9. All failures, malfunctions, service requests, alarms, or other instances where a STS requires the attention of a qualified service provider shall be reported to the City within 48 hours of the incident occurring.
10. All monitoring and inspection information shall be submitted as indicated in this Chapter of the LAMP to the City's Building & Safety Division. The City's Building and Safety Division will collect and maintain all monitoring and inspection information from OWTS owners and Qualified Service Providers who operate and maintain STS. Failure to

maintain an annual operating permit or provide the required inspection results to the City will result in enforcement action by the City's Code Enforcement Division and may result in condemnation of the structure.

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CHAPTER 6

ONSITE WASTEWATER TREATMENT SYSTEMS

REQUIRING CORRECTIVE ACTION

All OWTS have the potential to fail due to age, misuse, or improper design and the failure may result in surfacing effluent, wastewater being discharged to the ground surface, or wastewater backing up into plumbing fixtures. These failures will be subject to corrective action to mitigate or remediate any risk to public health, or contamination of the environment. As noted in Chapter 1, OWTS that require corrective action are categorized as Tier 4. These systems must continue to meet applicable requirements of this LAMP, pending completion of corrective action, as detailed below.

CORRECTIVE ACTION REQUIREMENTS

1. Any OWTS dispersal system that no longer percolates the wastewater and has pooling effluent, discharges wastewater to the surface, or has wastewater backed up into plumbing fixtures is deemed to be failing and no longer meets its primary purpose to protect public health. The failing dispersal system must be replaced, repaired, or modified to return to proper function and comply with this LAMP.
2. Any OWTS septic tank failure, such as a baffle failure or tank structural integrity failure, such that either wastewater is exfiltrating or groundwater is infiltrating, is deemed to be failing and no longer meets its primary purpose to protect public health. The failing OWTS will be subject to major repair and is required to be brought into compliance with the requirements of this LAMP.
3. Any OWTS that has a failure of one of its components other than those covered by 1 and 2 above, such as a distribution box or broken piping connection, shall have the failing component repaired so as to return the OWTS to a proper functioning condition as required by this LAMP.
4. Any OWTS that has affected, or will affect, groundwater or surface water to a degree that makes it unfit for drinking or other uses, or is causing a human health or other public nuisance condition shall be modified or upgraded.
5. Upon submission of a complaint or other notification of a failing OWTS, the City will complete an investigation within 24 hours to determine the validity of the complaint or notification.

6. The property owner of an OWTS that is found to be failing shall be issued a notice of violation requiring action to eliminate the immediate health hazard through pumping of the septic tank by a licensed sewage hauler or elimination of wastewater flows of the failing OWTS. The notice of violation will also require a repair to be completed to the OWTS.
7. Any OWTS requiring corrective action shall be replaced, repaired, or modified so as to ensure the system's proper function and compliance with the minimum requirements of this LAMP as soon as reasonably possible, or if directed, in a time frame as established by the City.
8. The proposed repair shall be evaluated by the City to ensure it meets the minimum design requirements of this LAMP or is in substantial conformance to the greatest extent practicable.
9. All repairs shall follow proper permitting procedures and inspections by the City as detailed in Chapter 3.
10. Failure to complete the required corrective action within the time frames given will result in additional enforcement action which may include condemnation of the structure for immediate health hazards.

SUBSTANDARD SYSTEMS

All OWTS within the City that do not meet minimum design requirements of this LAMP shall be deemed substandard. Sites with substandard OWTS shall be prohibited from having future additions or modifications to the property that would potentially increase wastewater flow to the OWTS or decrease the amount of usable area available for the OWTS, unless the future additions or modifications are in accordance with the requirements of this LAMP.

CHAPTER 7

LAMP SCOPE OF COVERAGE

Limitations for the use of OWTS include but are not limited to the amount and type of wastewater flows generated, types of systems, availability of public sewer and setbacks to water supplies. The following will not be authorized by the City and any such system or deviations can only be approved by the RWQCB.

1. Cesspools of any kind or size. If an existing cesspool is encountered by the City, the property owner will be required to replace the cesspool with an OWTS, which meets the standards of the LAMP.
2. OWTS receiving a projected flow of over 10,000 gallons per day.
3. OWTS that utilize any form of effluent disposal that discharges on or above the post installation ground surface such as sprinklers, exposed drip lines, free-surface wetlands, or a pond.
4. Leaching systems installed on slopes greater than 30 percent without a slope stability report approved by a qualified professional.
5. Decreased leaching area for IAPMO certified chamber dispersal systems using a multiplier less than 0.70.
6. OWTS utilizing supplemental treatment without requirements for periodic monitoring or inspections.
7. OWTS dedicated to receiving significant amounts of wastes dumped from RV holding tanks.
8. Separation of the bottom of dispersal system to groundwater less than 2 feet, except for seepage pits, which shall not be less than 10 feet.
9. Installation of new or replacement OWTS where public sewer is available. Public sewer availability to a property is determined when the property abuts a public sewer and the building (structure) or exterior drainage facility is within 200 feet of that sewer, as described in the California Plumbing Code. A waiver of the connection to sewer may also be considered when connection to the public sewer line is technically infeasible, or would create an unreasonable hardship, and in all instances, an OWTS can be installed

that will meet the minimum requirements of this LAMP.

10. Except as provided for in Items 11 and 12 of this Chapter, new or replacement OWTS with minimum horizontal setbacks less than any of the following:
 - a. 150 feet from a public water well where the depth of the effluent dispersal system does not exceed 10 feet in depth.
 - b. 200 feet from a public water well where the depth of the effluent dispersal system exceeds 10 feet in depth.
 - c. Where the effluent dispersal system is within 600 feet of a public water well and exceeds 20 feet in depth, the horizontal setback required to achieve a two-year travel time for microbiological contaminants shall be evaluated by a qualified professional. In no case shall the setback be less than 200 feet.
 - d. Where the effluent dispersal system is within 1,200 feet from a public water system's surface water intake point, within the catchment of the drainage, and located such that it may impact water quality at the intake point such as upstream of the intake point for flowing water bodies, the dispersal system shall be no less than 400 feet from the high water mark of the reservoir, lake or flowing water body.
 - e. Where the effluent dispersal system is located more than 1,200 feet but less than 2,500 feet from a public water system's surface water intake point, within the catchment of the drainage. If location may impact water quality at the intake point (such as upstream of the intake point for flowing water bodies), the dispersal system shall be no less than 200 feet from the high water mark of the reservoir, lake or flowing water body.
11. For replacement OWTS that do not meet the horizontal separation requirements in Item 10 above, the replacement OWTS shall meet the horizontal separation to the greatest extent practicable. The City may require that the replacement OWTS utilize supplement treatment and other mitigation measures, unless it is determined by the City that there is no indication that the previous system is adversely affecting the public water source, or if there is limited potential that the replacement system could impact the water source based on topography, soil depth, soil texture, and groundwater separation.

12. For new OWTS that cannot meet the horizontal separation requirements in item 10 above and are installed on parcels of record existing before the effective date of this LAMP, the OWTS shall meet the horizontal separation to the greatest extent practicable. The City may require that the replacement OWTS utilize supplement treatment and other mitigation measures, unless it is determined by the City that there is no indication that the systems in the vicinity of the new OWTS are adversely affecting the public water source, or if there is limited potential that the new system could impact the water source based on topography, soil depth, soil texture, and groundwater separation.

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CHAPTER 8

DATA COLLECTION, REPORTING AND PUBLIC EDUCATION

The City has certain responsibilities related to data collection and reporting to the RWQCB as well as in some instances to the owners of water systems and the State Water Resources Control Board Division of Drinking Water (SWRCB). This Chapter will detail the data that must be collected, the procedure for reporting to RWQCB, and notifications to owners of water systems and SWRCB.

REPORTING TO RWQCB

In an on-going basis, the Development Services Department will collect the following data to be reported annually to RWQCB, no later than February 1 of each calendar year.

1. The number and location of complaints pertaining to OWTS operation and maintenance, and identification of complaints investigated, and how they were resolved.
2. The number, location and description of permits issued for new and replacement OWTS and under which Tier the permit was issued.
3. The number, location and description of permits issued for OWTS where a variance from the approved LAMP was granted.
4. The number, location and results of septic tank pumper inspection reports received.
5. Summary report on the City's Water Quality Assessment Program.

WATER QUALITY ASSESSMENT PROGRAM

The Water Quality Assessment Program (WQAP) will be developed to determine the general operation status of OWTS, to evaluate the impact of OWTS discharges, and to assess the extent to which groundwater quality may be adversely impacted. The assessment program will include monitoring and analysis of water quality data, and a review of complaints, failures and OWTS inspections.

The WQAP will be focused in areas determined to be "high risk" based on various specific elements. This may include areas with existing high density OWTS, areas that may be experiencing a high number of failing systems, areas with a shallow depth to groundwater, water production well sites, and areas where water quality data indicate a trend of increasing nitrate concentrations in ground water. The "high risk" areas that will be the focus of the WQAP

are identified on Figure 4.

Water quality data will be obtained through a partnership with MWA utilizing a database that was developed by MWA for the preparation of the Mojave Salt and Nutrient Management Plan (SNMP) and /or through other available data sources.

The SNMP is the product of a collaborative effort between the RWQCB, MWA, Victor Valley Wastewater Reclamation Authority, and stakeholders in the MWA service area, including the City. The SNMP is a planning document to guide groundwater management and recycled water use in the Mojave River Basin and Morongo Basin. The plan was reviewed by both the Lahontan Water Board and the Colorado Water Board staff. On February 11, 2016, the Lahontan RWQCB accepted the MWA's SNMP.

The purpose of the SNMP is twofold: 1) Maximize the use of State Water Project supply while promoting recycled water and storm water reliance, and 2) Attain water quality objectives and protection of beneficial uses through salt and nutrient management. The SNMP will assist in forecasting long-term water quality changes associated with the accumulation of salts (total dissolved solids or TDS) and nutrients (nitrates) within the groundwater basins.

Existing groundwater quality monitoring programs implemented across the SNMP Study Area were utilized to determine whether the concentrations of salts, nutrients, and other constituents of concern as identified in the SNMP are consistent with applicable water quality objectives on a subregional scale. The current MWA groundwater monitoring program includes groundwater quality data collected by MWA and the United States Geological Survey (USGS) through their cooperative water resources program and through the Drinking Water Program directed by the SWRCB. The SNMP Groundwater Quality Monitoring Program will include data collected from these programs. Available data from special/technical studies conducted in the SNMP Study Area pertinent to salts and nutrients will be included along with RWQCB WDR site monitoring data and future USGS monitoring data.

The Water Quality Assessment Program will be developed, utilizing the SNMP model, to provide a better understanding regarding the potential impacts of OWTS to the quality of the regional groundwater basin. Monitoring data will include levels of salts, nitrates, pathogens, and possibly other constituents directly related to OWTS. In addition, other constituents that may not have a direct relation to OWTS, such as arsenic and chromium VI, may also be monitored.

The WQAP will include the following:

- Identification of existing groundwater monitoring locations used in the SNMP in relation

to sensitive areas overlying the groundwater basin.

- Additional monitoring locations may be established due to a “gap” in data coverage used in the SNMP. This analysis will be determined during refinement of the WQAP, and will focus on “high risk” areas as identified on Figure 4.
- Private residential well owners in non-sewered areas along the Mojave River and areas with high density OWTS will be identified and contacted to determine if they would be willing participants in groundwater data collection that would be included in the WQAP.
- The use of City/Hesperia Water District well and water system sampling data (the location of existing Hesperia Water District water production wells is identified on Figure 4).
- The use of new well water quality reports.
- The use of National Pollutant Discharge Elimination System (NPDES), Municipal Separate Storm Sewer Systems (MS4) permit monitoring data.
- Establishment of a benchmark of constituents at the monitoring sites.
- Annual review of the change in constituents, especially relating to nitrates and salts.
- Location and identification of OWTS complaints and failures in relation to the monitoring sites.

A summary report of the WQAP, which includes monitoring locations, groundwater quality analysis, and OWTS complaint and failure information, will be provided to the RWQCB no later than February 1 of each calendar year. Electronic mapping of existing and future OWTS, specifically in “high risk” areas, will be considered by the City as funding allows.

LAMP ASSESSMENT

During the first year after the effective date of the LAMP, the City will collaborate with affected stakeholders which may include, but is not limited to, local municipal agencies such as the City of Adelanto, Town of Apple Valley, the County of San Bernardino; and Victor Valley Wastewater Reclamation Authority; Mojave Water Agency; local water purveyors; private water well owners; and others to refine the WQAP, and ensure that areas of “high risk” are effectively monitored to assess water quality impairment. Working with the Mojave Water Agency, data will be collected and analyzed utilizing MWA’s Groundwater Quality Monitoring Program. All groundwater monitoring data generated for the WQAP will be submitted in a format for inclusion into the California Environmental Data Exchange Network (CEDEN).

Within this first year, the City will submit the final proposed WQAP to the RWQCB for review and approval. The City will continue to collaborate with affected stakeholders, and every five years, the City will evaluate the WQAP and determine whether water quality is being impacted by OWTS, and whether any changes to this LAMP are necessary to address impacts from OWTS.

This evaluation and any proposed changes to this LAMP will be submitted to RWQCB for review and approval. Any proposed change to the City's LAMP must receive approval by the RWQCB prior to implementation.

PUBLIC EDUCATION AND OUTREACH

The objective of the Public Education and Outreach Program is to provide informational materials to educate OWTS owners on how to locate, operate and maintain their septic systems.

The Public Education Program promotes public awareness through many activities, which may include:

- Distribution of information on how to locate, operate, and maintain septic systems;
- Distribution of procedures on how to maintain alternative onsite systems;
- Distribution of Homeowners Guide for Sewer System Failures;
- Providing a list of OWTS restrictions in the jurisdiction;

In addition, the Public Education and Outreach Program may utilize the Environmental Protection Agency's (EPA) Septic webpage at <https://www.epa.gov> for additional resources. EPA's SepticSmart Outreach Toolkit provides materials targeted at homeowners that can be downloaded from their website. The toolkit includes door hangers, postcards, a homeowner's guide, a homeowner's brochure, a list of Do's and Don'ts, mail insert templates and flyers to promote properly maintained septic systems.

The SepticSmart Homeowner's website at <https://www.epa.gov> also provides resources to inform homeowners about how to properly care for septic systems. Resources cover topics such as:

- How your septic system works
- Why maintain your septic system
- How to care for your septic system
- What to do if your septic system fails

The Public Education and Outreach Program will have available necessary resources and information for OTWS owners to be informed, and to protect public health and water quality.

NOTIFICATIONS TO OWNERS OF WATER SYSTEMS AND SWRCB

The owner or the SWRCB (if owner cannot be identified), of existing or proposed OWTS in close proximity to public water wells with potential to cause an impact on water quality will be notified under the following conditions:

1. Prior to issuance of a permit to install a new or replacement OWTS that is within a horizontal sanitary setback to a public well, to allow the water system owner to provide comments to the City. Notification by the City will be done electronically or via the U.S. Postal Service, along with a copy of the permit application which may include:
 - A site plan for the parcel showing the OWTS components, property boundaries, proposed structures, physical address, and name of property owner.
 - The estimated wastewater flows, intended use of proposed structure generating the wastewater.
 - A notice that the public water system owner or SWRCB shall have 15 days from receipt of the permit application to provide recommendations and comments to the City.
2. Upon discovery of a failing OWTS that is within 150 feet of a public water well. Notification will be given in writing and will include proposed corrective action that will be taken to mitigate the failure.

ONSITE WASTEWATER TREATMENT SYSTEMS NEAR IMPAIRED WATER BODIES

Existing, new and replacement OWTS that are near impaired water bodies may be addressed by a TMDL. If there is no TMDL, the new or replacement OWTS within 600 feet of impaired water bodies (listed in Attachment 2 of the State's OWTS Policy) must meet the applicable specific requirements found in Tier 3 of the State's OWTS Policy.

Currently, there are no impaired water bodies within the City's boundaries listed in Attachment 2 of the State's OWTS Policy. At such time as an impaired water body is listed, the City will follow the applicable specific requirements found in Tier 3 of the State's OWTS Policy or develop and obtain approval from the RWQCB of its own Advanced Protection Management Program.