

**Root Creek Water District
Agriculture Water Flow Meter and Water Level Measurement Policy**

Adopted: January 8, 2018

Purpose and Scope

The purpose of this policy is to enact Root Creek Water District's (the "District") Agriculture Meter guidelines to ensure that groundwater pumping within the District is documented.

Policy Statement

This policy details how the District requires permits, reviews, inspects, and documents groundwater pumping within the District's boundaries. To ensure clarity of understanding of obligations of this policy and to provide a consistent procedure for the construction and installation of groundwater wells and associated infrastructure, the Board establishes this policy to guide the District in carrying out its duties.

The County sets ordinances and requirements for the construction of wells. The District has accepted these standards for construction of wells within its boundaries. The County of Madera enacted Ordinance No. 674 on December 2, 2014 and made minor amendments in 2017, requiring the installation of flow meters and water level meters on new wells or replacement wells. Consistent with the County Ordinance, the County finds and the District recognizes the following:

The State of California has recently found and declared that:

- (a) The people of the state have a primary interest in the protection, management, and reasonable beneficial use of the water resources of the state, both surface and underground, and that the integrated management of the state's water resources is essential to meeting its water management goals.
- (b) Groundwater accounts for more than one-third of the water used by Californians in an average year and more than one-half of the water used by Californians in a drought year when other sources are unavailable.
- (c) Excessive groundwater extraction can cause overdraft, failed wells, deteriorated water quality, environmental damage, and irreversible land subsidence that damages infrastructure and diminishes the capacity of aquifers to store water for the future.
- (d) When properly managed, groundwater resources will help protect communities, farms, and the environment against prolonged dry periods and climate change, preserving water supplies for existing and potential beneficial use.
- (e) Failure to manage groundwater to prevent long-term overdraft infringes on groundwater rights.
- (f) Groundwater resources are most effectively managed at the local or regional level.
- (g) Groundwater management will not be effective unless local actions to sustainably manage groundwater basins and sub-basins are taken.
- (h) Local and regional agencies need to have the necessary support and authority to manage groundwater sustainably.
- (i) Information on the amount of groundwater extraction, natural and artificial recharge, and groundwater evaluations are critical for effective management of groundwater.

The State has, through enactment of legislation namely the Sustainable Groundwater Management Act of 2014 (“SGMA”), as amended, authorized and directed that local agencies, including water districts, adopt and implement effective monitoring and management plans to protect, preserve and maintain sustainable groundwater levels and water supply for long-term reliability. The Root Creek Water District Groundwater Sustainability Agency, encompassing the entirety of the District’s boundary, will be required to submit annual reporting of groundwater use as a member agency of the Madera Subbasin. This reporting is a requirement under the SGMA, commencing in 2020.

The District recognizes that groundwater levels in the District generally have lowered due to increased drafts of water and the effects of drought. In 2001, in connection with adoption of Chapter 13.100 pertaining to groundwater banking, the Board of Supervisors already made findings that the Madera, Chowchilla, and Delta-Mendota Basins “were severely overdrafted”. Since 2001, the situation has significantly worsened. Unabated and unmanaged, the lowering of groundwater basin water levels will continue, which would be detrimental to the health, safety, and general welfare of the District.

Therefore, the District finds that developing, implementing and maintaining an effective monitoring and management of the groundwater in the District are matters of essential local concern.

Further, the District finds that adopting and implementing a policy requiring the installation of water flow meters and water level measurement on new water wells, well repairs or well reconstruction, is in the best interest of the District, and its farmers, businesses, and residents.

Finally, for reasons set forth above, the District finds that the adoption of this policy will promote the health, safety, and general welfare of the District

REQUIREMENTS

Consistent with Madera County Ordinance No. 674, the owner of any new well, or replacement well, shall install a flow meter and allow for water level measurement. The flow meter will be installed to acceptable District measurement standards. Measurements from these devices will be transmitted to the District annually.

Pumps Installed prior to Ordinance No. 674

For those installations that have been constructed prior to the Madera County Ordinance, when repairs or replacements are made to the well pump, the requirements to install the measurement devices pursuant to this policy will occur.

- A. In the absence of a flowmeter and level device, the requirement to provide an estimate of the groundwater pumping can be made by the following:
 - i. Landowner or well owner to submit electrical use numbers for a pump with a pump test that determines the power consumption related to water produced from a well.

- ii. Satellite imagery and associated estimation of irrigation use from the Cal Poly Irrigation and Training Institute evapotranspiration system or using tools or system from approved alternatives.
- iii. Estimate of pumping using an estimate of cropped acreage, a local evapotranspiration rate for the crop and estimated irrigation efficiency.

Attachment: Madera County Ordinance No. 674

BEFORE
THE BOARD OF SUPERVISORS
OF THE COUNTY OF MADERA
STATE OF CALIFORNIA

ORDINANCE NO. 074c

AN ORDINANCE AMEND CHAPTERS 13.101 AND 13.28 TO REFLECT DEPARTMENT ASSIGNMENTS IN REGARDS TO THE INSTALLATION OF WATER METERS.

The Board of Supervisors of the County of Madera, State of California, ordains as follows:

SECTION 1

Chapter 13.101 of the Madera County Code is amended to read in its entirety as shown on Exhibit "A."

SECTION 2

Chapter 13.28 of the Madera County Code is amended to read in its entirety as shown on Exhibit "B."

* * * * *

The foregoing Ordinance was adopted this 21st day of November 2017, by the following vote.

Supervisor Frazier voted: yes

Supervisor Rogers voted: yes

Supervisor Poythress voted: yes

Supervisor Rodriguez voted: yes

Supervisor Wheeler voted: yes

Max Frazier
Chairman, Board of Supervisors



ATTEST:

Blenda Garcia
Clerk, Board of Supervisors

Approved as to Legal form:
COUNTY COUNSEL

By Douglas W. Nelson
Douglas W. Nelson
Assistant County Counsel

EXHIBIT “A”

EXHIBIT “A”

Chapter 13.101
 INSTALLATION OF WATER FLOW METERS
 AND WATER LEVEL METERS REGULATIONS¹

Sections:

- 13.101.010 - Title and purpose.
- 13.101.020 - Definitions.
- 13.110.030 - Water flow meter and water level measuring device permit required.
- 13.101.040 - Exempt applications.
- 13.101.050 - Reporting requirements.
- 13.101.060 - Application for determination of exemption to the Environmental Health Deputy Director.
- 13.101.070 - Application for water flow meter and water level measuring device permit to the Environmental Health Deputy Director .
- 13.101.080 - Processing of water flow meter and water level measuring device permit applications through the Environmental Health Deputy Director.
- 13.101.090 - Appeals.

13.101.010 - Title and purpose. This chapter shall be known as the "Installation of Water Flow Meters and Water Level Meters Regulations." The purpose of this chapter is to mandate installation of water flow meters and water level measuring devices on all new water wells and replacement water wells in the unincorporated areas, and to establish other regulatory requirements in connection with these purposes to monitor and regulate the groundwater usage and levels to promote the health, safety and general welfare.

13.101.020 - Definitions.

A. Definitions. For the purpose of this chapter, the following definitions shall apply:

"Agricultural land development" means the development, new plantings, or other improvement of a property greater than one-quarter of an acre for the purposes of farming a crop, orchard, vineyard or other agricultural product.

"Agricultural land re-development" means the re-development or replanting of an existing crop, orchard, vineyard or other agricultural product of greater than one-quarter of an acre.

"Aquifer" means a geologic formation, underground layers of porous rock that are saturated from above or from structures sloping toward it, that stores, transmits and yields significant quantities of water to wells and springs. Aquifer capacity is determined by the porosity of the subsurface material and its area.

"Certified" means certified by a licensed vendor or otherwise reasonably accepted determination that based on calibrations that confirm accuracy of meter readings regarding water flow and water level. Standards to be set and published by Madera County Code Chapter 13.28 – Standards – Water Meters and Measuring Devices.

¹ **Editor's note**— Ord. No. 674A, § 2, adopted February 3, 2015, amended Chapter 13.101 in its entirety to read as herein set out. Former Chapter 13.101, §§ 13.101.010—13.101.090, pertained to similar material, and derived from Ord. No. 674, adopted February 2, 2015.

EXHIBIT A

"Conservation" means the conscious effort to prevent waste and minimize the consumption of groundwater by utilizing reasonable and economically justifiable methods to improve its delivery and use, thus increasing water supplies for optimum long-term benefits. When referring to landscaping or agricultural uses of groundwater this term includes water reuse, processes to reduce the amount of water irretrievably lost to moisture deficient soils, water surface evaporation, or evapotranspiration.

"Contiguous parcel" means parcels which abut, adjoin or otherwise touch each other at more than one point along a common boundary or which would do so except for separation by a strip of land over which some person or entity, other than the owner of the parcels, has some property interest, including fee title or some lesser interest, such as a leasehold or easement. Examples of such strips of land include but are not limited to roads, streets, utility easements, railroad rights-of-way, canals and drainage channels.

"Department" means the County Department of Planning, Building, and Environmental Health Division.

"Director" means the County Director of the Community and Economic Development Department (Planning, Building, and Environmental Health Division) or the designee of the director.

"Director of Water and Natural Resources" means the Director of Water and Natural Resources or the designee of the Director of Water and Natural Resources.

"Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

"Environmental Health Deputy Director" means the Deputy Director of Environmental Health or the designee of the Deputy Director of Environmental Health.

"Groundwater" means all water beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water.

"Groundwater deficient area" means an area where the amount of groundwater is inadequate to meet particular demands at a particular time, as shown in Map 13-1 at the end of this chapter.

"Harvested water" means the collection and use of rainwater as a means to augment or replace other sources of water.

"Improvement" or "improve," as related to a well or water supply system, means the construction, re-construction, replacement, or addition to, any portion of a water supply and distribution system for the purposes of providing water for a new use or an additional use (unless specifically exempt under this chapter). "Minor improvement" means a modification to an existing water supply that involves simple repair or replacement of pipes, fittings, faucets, hoses, meters, components of irrigation systems, sinks, tubs, toilets, showers, washing machines.

"Overdraft" means the withdrawal of water from an aquifer in excess of the amount of water that recharges the basin over a period of years during which water supply conditions approximate the average, and which, if continued over time, could eventually cause the underground supply to be exhausted, cause subsidence, cause the water table to drop below economically feasible pumping lifts, cause a detrimental change in water quality, or produce other adverse environmental impacts.

"Parcel" means a legal lot of record.

"Public water supply" means a water supply provided by a local agency, publicly owned corporation, approved utility company, mutual water supply system, privately owned water system, and / or community water system.

"Recharge" means replenishment of groundwater by flows to groundwater storage from precipitation, irrigation, infiltration from streams, a spreading basin or other sources of water.

"Recycled water" means the reclamation and reuse of wastewater or graywater for beneficial use.

"Site" means the location of a system to extract and distribute groundwater, such as a well and connecting plumbing which supplies water to a residence or other structure or use.

"Water flow meter" means an electronic or mechanical device designed to measure water flow, volume and quantities in gallons or any portion thereof by date and time [whether per minute, per hour, per day or other typical time period] regarding the water well to which it is connected and from which the particular water well draws groundwater.

"Water supply system" means any system including the water source the purpose of which is to extract and distribute groundwater.

"Water table" means the surface or level where groundwater is encountered in an unconfined aquifer.

"Water level measuring device" means an electronic or mechanical device either affixed to the well head in a semi-permanent or permanent fashion or a portable type, designed to electronically and or mechanically measure vertical water table levels regarding the water well to which it is connected and from which the particular water well draws groundwater.

"Water well motor" means the electrical or mechanical device that powers a "water well pump" whether or not as a single or separate unit, submerged or not.

"Water well replacement" or "replacement water well" is an additional or replacement water supply system for a pre-existing water supply system of one or more water wells.

"Water well pump" means the electrical or mechanical device that propels, draws or pumps water from the groundwater source into/up the water well by use of a "water well motor" or other device whether or not as a single or separate unit, submerged or not.

"Water well sounding" means an electrical or mechanical device, manual and/or licensed service utilizing an electrical or mechanical device to gauge/monitor or "read" and record groundwater static vertical level of the groundwater one hour or more after well pumping ceases at the water well site.

13.110.030 - Water flow meter and water level measuring device permit required.

A. No applications filed for development of a new water supply system or replacement water supply system of an existing water supply system within Madera County that may use groundwater as a water source shall be approved by any employee, department or body of Madera County unless it is specifically exempted by this chapter or unless a water flow meter and water level measuring device permit is obtained as required by this chapter. All such applications shall be submitted to the Environmental Health Deputy Director for review and determination regarding the water flow meter and the water level measuring device permit.

13.101.040 - Exemptions.

A. The applications for a water flow meter and water level measuring device permit must be obtained unless the application or development:

1. Is for a project that will only rely on hard rock wells or a flowing artesian well or is located on a parcel included within foothills and mountainous areas depicted on the Madera County Valley Water Basin Map and is specifically exempted;

2. Is where the development or improvement, regardless of number of parcels served is able to connect to a public water supply.

B. In the case of only minor improvements to a water system.

C. The Environmental Health Deputy Director shall make all such determinations required by this chapter. (Ord. No. 674A, § 2, 2-3-15).

13.101.050 - Reporting requirements.

A. The permittee shall install a water flow meter and water level measuring device for each new water well and each replacement water well serving the parcel to measure groundwater usage and levels on the parcel. The configuration of the installation shall conform to a drawing prepared by the permittee and shall conform to a drawing prepared by the permittee and shall conform to the technical standards set forth by Madera County Code Chapter 13.28.

B. Between October 1 and October 30 of each year, the permittee shall read and record the reading for the water flow meter. This data shall be provided to the Water and Natural Resources Department yearly (by November 15). The permittee shall grant to the Director of Water and Natural Resources the right to access and verify the operation and readings of the meters and well water levels at any reasonable time during regular working hours.

C. Water Level Measurements. The permittee shall grant to the Director of Water and Natural Resources the right to access and verify the operation and readings of the meters and well water levels at any reasonable time during regular working hours.

13.101.060 - Request for determination of exemption to the Director. All request for exemption from a water flow meter and a water level measuring device permit shall be submitted to the Director for determination based on the provisions of this chapter.

13.101.070 - Application for water flow meter and water level measuring device permit to the Environmental Health Deputy Director. Each applicant shall be required to obtain a water flow meter and water level measuring device permit, unless an exemption from the Director has been approved. The applicant shall submit a water flow meter and water level measuring device permit application to the Environmental Health Deputy Director, using a form provided by the Environmental Health Division. That application shall:

A. Identify any present and future uses of any existing water supply system, including whether and to what extent groundwater is or will be used as a water source on the affected property;

B. Identify any water sources other than groundwater intended to be used;

C. If the proposed application is for the development of a new water supply system, replacement water well, or improvement to an existing water supply system, the applicant shall state the minimum information as entailed below:

1. the number of parcels
2. number of service connections, defined as...
3. intent and purpose of water services,
4. identify the location of the structures

D. Whether the intent is to transfer some or all of the groundwater extracted pursuant to the permit to a public agency for use by a public agency following issuance of the water flow meter and water level measuring device permit;

13.101.080 - Processing of water flow meter and water level measuring device permit applications through the Environmental Health Deputy Director. The following procedures and standards shall govern the review and disposition of permit applications for a water flow meter and water level measuring device:

A. The Environmental Health Deputy Director shall review an applicant's water flow meter and water level measuring device submitted under this chapter for compliance with the requirements of this chapter and any other applicable provisions of law in determining the type of water flow meter and the type of water level measuring device.

B. If the Environmental Health Deputy Director determines after review that the applicant's water flow meter and water level measuring device satisfies the groundwater permitting requirements of this chapter, and any other applicable provisions of law, the Environmental Health Deputy Director shall issue a water flow meter and water level measuring device permit and impose any reasonable condition consistent with the provisions of this chapter. If the Environmental Health Deputy Director determines the application and water flow meter and water level measuring device does not meet the permitting requirements of this chapter, or any other applicable provisions of law, the Environmental Health Deputy Director shall issue a decision denying the water flow meter and water level measuring device permit and setting forth the reasons therefore.

13.101.090 - Appeals.

A. Appeals. Any person may appeal to the Board of Supervisors a final decision of the Environmental Health Deputy Director made, following a request in writing submitted within ten days from the date of the decision of the Environmental Health Deputy Director for hearing in accordance with the procedures set forth in this chapter. Such written appeal shall contain all factual information supported by a registered civil engineer's report when technical and engineering questions are involved.

B. Hearings on Appeal. At the hearing, all relevant and material evidence regarding the matter shall be considered.

C. Decisions. The Board of Supervisors may affirm, reverse, or modify the determination of the Environmental Health Deputy Director, but such decision shall be in writing, and shall specify the reasons for its decision and contain specific directives to the administrative staff for the carrying out of such decision.

13.101.100 - Enforcement - Violation.

A. Criminal Penalties. Any person, firm or corporation, whether acting as principal, agent, employer or otherwise, who violates any provision of this chapter, or the terms and/or conditions of any permit issued pursuant to this chapter, shall be guilty of a misdemeanor, punishable by a fine not to exceed one thousand dollars per violation, or imprisonment not exceeding six months, or both such fine and imprisonment. Any person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any such violation is committed, continued, or permitted.

B. Alternative Remedies. Madera County may elect additionally, or alternatively, to proceed with a civil action, including, but not limited to, seeking injunctive relief, rather than, or in addition to criminal actions as described in subsection A of this section. Any person, firm or corporation, whether acting as principal, agent, employer or otherwise, who willfully violates any

EXHIBIT A

provision of this chapter, or the terms and/or conditions of any permit issued pursuant to this chapter, shall be liable for a civil penalty not to exceed one thousand dollars for each day or portion thereof (as per Title 8, Section 8.01.050 (E)), that the violation continues to exist. Any person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any such violation is committed, continued, or unpermitted. In determining the amount of the civil penalty to impose, the court shall consider all relevant circumstances, including, but not limited to, the extent of the harm caused by the conduct constituting the violation, the nature and persistence of such conduct, the length of time over which the conduct occurred, the assets, liabilities, and net worth of the violator, whether corporate or individual, and any corrective action taken (and timing of such corrective action), or lack thereof, by the violator. Nothing in this section shall be construed to limit the ability of the County to pursue administrative remedies under Title 8 of the Madera County Code.

EXHIBIT “B”

EXHIBIT “B”

Chapter 13.28
STANDARDS—WATER METERS AND MEASURING DEVICES

Section:

13.28.010 - Water flow meters.

13.28.020 - Water level measuring devices.

13.28.010 - Water flow meters.

A. Meter Types. Water flow meters shall be capable of measuring water flow, volume, and quantities used for recording and reporting as required under Section 13.101.050 of Madera County Code. Water meters shall be one of the following, or approved alternative, as dictated by the well discharge pipe size:

5/8 -inch to 1-inch pipes (residential):

Sensus iPerl™ Electromagnetic Flow Measurement System

1½-inch to 2-inch pipes (residential):

Sensus OMNI™ R² Meter

1½-inch and larger pipes (industrial/commercial):

Sensus OMNI™ T² or OMNI™ C² Meter

1½-inch and larger pipes (agricultural):

Sensus Mainline Propeller Meter fitted with a tamper proof register

All proposed alternates to those listed above must comply with NSF/ANSI Standard 60/ 61 specifications.

B. Meter Installation. The water flow meter must be installed on the primary well discharge pipe, prior to any filtering or treatment systems, tanks, service connections, or discharge outlets. Installation shall comply with the manufacturer's recommended installation guidelines.

C. Calibration and Accuracy. The certification of calibration and accuracy must be made available to the Director of Water and Natural Resources upon request. (Ord. No. 674B, § 2, 2-3-15).

13.28.020. - Water level measuring devices.

A. Water Level Measuring Devices. Water level measuring devices shall be either a semi-permanent meter affixed to the well head or temporary/portable type device capable of providing readings for recording and reporting as required under Section 13.101.050 of Madera County Code.

Semi-Permanent Meter:

Semi-permanent water level meters shall be NSF/ANSI Standard 60/61.

Temporary/Portable Device:

Temporary/portable devices shall be capable of obtaining measurements of well water levels through the well sounding tube or port/tap hole using either of the following methods:

Electric Sounding Tape Method
Sonic Water Level Meter Method
Pressure Transducer Method

B. Measuring Device Installation. Semi-permanent water level measuring device installation shall comply with the manufacturer's recommended installation guidelines. Temporary/portable water level measuring devices shall be operated and used in accordance with manufacturer's instructions.

C. Calibration and Accuracy. The certification must be made available to the Director of Water and Natural Resources upon request.