



LEGAL NOTICE

JUN 11, 1985 LEGAL NOTICE

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Proposed regulations of the Contra Costa County Health Officer governing installation of a small water system, and an individual water system, for domestic use pursuant to Chapter 414-4 of the Ordinance Code of Contra Costa County.

Adopted by: William Walker M.D.
William Walker, M.D.
Health Officer
Contra Costa County

June 26, 1985
Effective Date

June 12, 1985
Date

These regulations were filed with the Clerk of the Board of Supervisors and posted in the Department of Health Services on June 12, 1985.

These regulations are to make more certain specific sections of the Contra Costa County Ordinance Code. Not all of the ordinance sections are described in these regulations as parts of the ordinance require no further explanation. Ordinance text is not reprinted herein.

414-4.20 GENERAL

1. Application for all proposed Subdivisions (Major and/or Minor) must comply with the following:
 - a. Each parcel must have an "on site" producing well having a minimum yield of three (3) gallons per minute with a bacterial and chemical quality in compliance with the State standards for a pure, wholesome and potable water supply. (Title 22, Section 64433). If the chemical analysis exceeds the State standards for "maximum contaminant

levels" for water potability, a statement must be attached and "run with the property deed" advising of these levels

-or-

- b. Have verifiable water availability data from adjacent parcels presented by the applicant or knowledge of the same, known by this Division concerning water quality and quantity per (a) above

-and-

Have a statement that "attaches and runs with the deed" indicating that a water well shall be installed on the subject parcel complying with the general requirements stated above prior to obtaining a Building Department permit for construction.

- c. In addition to the above, a hydro-geological evaluation may be required in known or suspected water short areas. This will include seasonal as well as yearly variations.

(1) The purpose for requesting hydrogeological evaluations is to determine the total projected numbers of dwelling units that can be supplied with drinking water from existing aquifers. The two primary circumstances that would generally require hydrogeological evaluations are:

- (1.1) Where a proposed major subdivision contemplating the addition of large numbers of dwelling units on individual wells would substantially increase the density within an existing drainage basin. Hydrogeological data relevant to recharge of aquifers and projected yield

would become essential not only to support approval of large major subdivisions under these circumstances, but also to ensure that the water supplies serving existing structures would not be depleted by the proposed increased demand.

- (1.2) In those cases where density is increasing in particular drainage basins due to the build out of previously approved subdivisions using individual wells for water supplies and existing well yields begin to evidence declines due to the increased demand. In these circumstances, or in water short basins, hydrogeological studies would be appropriate as a condition for subsequent development to provide sufficient data to protect existing uses and assure sufficient yield for proposed uses. Specific reasons will be stated in support of requested hydrogeological evaluations in each case.

414-1.202 APPROVED WATER SUPPLY SYSTEM

The requirements of Titles 17 and 22 of the California Administrative Code apply to small water systems and individual systems are not subject to these requirements.

414-1.204 LICENSED WELL DRILLER

The class of license required shall be determined by the State of California licensing agency. The Health Officer shall refer any inquiries regarding the licensing requirements to the licensing agency in writing. The decision of the licensing agency shall be the sole criteria for the Health Officer's acceptance or rejection of any license.

414-1.206 ABANDONED WELL

The Health Officer shall maintain a log of all known abandoned or inactive wells. The owner of the well shall be required annually to declare his intentions to use the well again or the well shall be permanently abandoned.

414-1.208 SMALL WATER SYSTEMS

Fees for applications to construct a small water system are an amount equal to three times the annual license fee for the proposed system plus individual permit fees for any new well(s) included as part of the proposed system. The charge that is based on the annual license fee shall be considered as a deposit to cover the Health Officer's costs of plan checking and making construction inspections. Any money remaining in the deposit fund on completion of construction shall be refunded to the applicant.

414-1.210 SMALL WATER SYSTEM - APPROVED SOURCES

The Health Officer's approval or denial of the water source shall be based on laboratory analysis of the water. If the water does not meet the requirements for domestic water, the applicant or operator shall provide water from an alternate source meeting the requirements or install treatment facilities acceptable to the Health Officer.

414-1.212 SMALL WATER SYSTEM - DISTRIBUTION

(d) Backflow protection. Backflow protection devices shall be installed when the property has an auxiliary source of water. Any other sources of real or potential backflow from auxiliary water sources or other contaminants shall be eliminated as directed by the Health Officer.

(f) Location of pipes. Water mains shall not be installed in the same trench as sanitary sewers. Water lines from buildings to the water meter or street main may be installed in the same trench as the house sewer when the sewer is constructed of material approved for use under the building. The standards adopted by the State Department of Health Services for separation of water mains and sewers, and the Uniform Plumbing Code Regulations for building sewer and water lines are adopted as a part of these regulations.

414-1.214 INDIVIDUAL WATER SYSTEMS

Chemical - physical analysis of the water may be required when there is evidence the water may not be suitable for domestic use. If tests indicate the water contains contaminants that pose a direct and immediate hazard to health, the water will not be approved for domestic use. When the water contains secondary constituents in excess of recommended standards, the Health Officer shall notify the property owner in writing but use of the water as a source of supply for an individual system may not be disapproved.

414-1.216 QUANTITY

Yield tests shall be required when there is no historical evidence to document well yield. Yield tests shall include the rate of water discharged and measurements of drawdown in the well.

On low yield wells where recharge and discharge reach equilibrium within thirty minutes of the beginning of the test, the rate of discharge shall be measured for four hours and be accompanied by hourly measurements of drawdown to verify the static or dynamic level of water in the well column does not fluctuate.

High yield wells are defined as those wells that will sustain a yield of at least twice the minimum quantity required for the proposed property development.

On high yield wells, where recharge and discharge do not reach equilibrium until one hour after the beginning of the test, measurement of pump discharge may be limited to one hour after equilibrium is reached with a minimum of two measurements of drawdown at 30 minute intervals. Yield tests shall be reported on a form provided by the Health Officer. See attached Exhibit "B".

Other methods of determining well yield may be accepted when the production requirements for the well are significantly less than the probable yield of the well as determined by a bailer test or historical data of the area where the well is located. The historical data must be acceptable to the Health Officer. The data must also be supported by a pump test for the specific well being evaluated. The pump test shall be for a minimum of two hours and the volume discharged shall be reported to the Health Officer.

414-1.218 WELLS - PERMIT REQUIRED

(a) The applicant for a permit shall specify who will perform the basic well construction which includes drilling, casing, sealing the annular space and providing a secure cover or cap for the well. The applicant shall also specify the party responsible for well development which includes yield tests and water quality analysis if required by the Health Officer and installation of the pump, sanitary seal, and concrete platform.

(b) The Health Officer shall provide permit cards that will allow for signoff or approval of the two phases of well installation described in the preceding. The Health Officer shall maintain a log of permits issued and investigate each application 12 months after issuance of a permit if the party responsible for Phase 2 has not requested a final inspection during the 12 months following permit issuance. See the attached Exhibit "A".

(c) A copy of the Department of Water Resources reporting form will be acceptable to meet the requirement for certification of the protection of the aquifers penetrated during construction of the well. The DWR form is required prior to the signoff of Phase I - Construction. The Department of Health Services shall submit copies of yield tests (pump tests) when completed prior to final approval of well permit (Phase II) upon receipt to DWR, when required by that state agency.

414-1.220 WELLS-SITE

No well shall be located any closer to the areas identified below except on written approval of the Health Officer. Other hazards will be evaluated and well setback requirements will be established by the Health Officer as needed.

With the exception of property lines, all distances are upslope from the well:

	<u>Private Wells</u>	<u>Public Wells</u>
Property Line (unsewered area)	50 feet	50 feet
Septic tank	100 feet	100 feet
Sewer Lines	50 feet	50 feet
Stream, Ditch, or Drainage Channel	50 feet	50 feet
Subsurface Leaching Device	100 feet	100 feet
Livestock Area	25 feet	25 feet

414-1.222 WELLS - PROTECTION

1. No additives shall be used in drilling mud that have not been approved by the State Department of Health Services. Chlorination of wells shall be done as described in Appendix C, Department of Water Resources Bulletin 74-81.
2. All well casings shall be new and meet the following requirements:
 - a. Well casing shall be strong enough to resist the forces imposed on it during installation and service life.

- b. Additives to accelerate the curing of cement shall not be used when thermoplastic casing is used.
 - c. Bentonite (up to 8 percent) shall be added to cement seals to reduce the heat of hydration when thermoplastic casing is used.
 - d. All casing shall meet the conditions described in Section 12, State of California, Department of Water Resources, Bulletin 74-81.
3. Sealing of the annular space shall be performed in strict compliance with the requirements described in Section 9, California Department of Resources Bulletin 74-81. The Health Officer shall be notified at least 24 hours in advance of the installation of the seal. The seal shall be placed in one continuous mass starting from the bottom of the space to be grouted and continuing upward. The depth of the seal shall be as described below:
- a. All wells shall be sealed to prevent contamination from surface sources. The minimum depth of the seal for this purpose shall be fifty (50) feet. For wells drilled to a shallow depth, where a (50) foot seal is not possible, the Health Officer shall determine the depth of the seal after consultation with the driller and a review of all pertinent information.
 - b. All wells shall be sealed to prevent the interchange of water between aquifers when this interchange would result in degradation of the quality of water in one or more aquifers. One example is where high nitrate levels have been identified in the more shallow aquifers.
 - c. Wells installed in areas where the producing aquifer or strata is not overlain with impervious material, shall be sealed to the producing aquifer. This requirement is particularly applicable to, but may not be limited to, delta peat/sand formations.

4. A completed copy of the latest revision of DWR Form 188, submitted to the Health Officer, shall serve as the driller's certification of the protection of the aquifers penetrated during drilling and completion of the well.

414-1.224 ABANDONMENT OF WELLS

a. Temporary abandonment (inactive).

The well must have no defects which will allow the degradation or contamination of the water quality in the well or in the water bearing formations penetrated by the well.

The top of the casing shall be securely capped.

The well shall be marked so it can be clearly seen.

The area around the well shall be kept clear of brush or debris.

b. Permanent abandonment.

All wells shall be destroyed in such a way that they will not act as a conduit for the infiltration of surface drainage or shallow depth groundwaters into groundwater aquifers. Shallow depth groundwater is water that is found above the first usable aquifer.

1. Obstructions shall be removed, if possible, prior to filling the hole. If the obstruction is hardware, and cannot be removed, a tremie pipe will have to be passed below the obstruction to place sealing material to the full depth of the well.
2. The casing shall be perforated, as necessary, to seal any annular space or voids.
3. In dug wells, as much of the lining as possible shall be removed prior to filling the well.
4. Wells shall be filled from the bottom up. The method used shall not allow for free fall, dilution or separation of the sealing material.

5. All wells shall be filled so as to prevent interaquifer flow through the well or around the outside of the casing. The casing shall be perforated to its full depth.
6. Special care must be exercised in wells having a significant producing flow. In such cases, the casing must be perforated opposite the area to be sealed and the sealing material forced into the surrounding formation under pressure.
7. Gravel packed wells shall be sealed so as to force the sealing material into the gravel pack under pressure.
8. The person sealing the well shall verify that the volume of material placed in the hole is at least equal to the volume of the empty hole.
9. Sealing materials used shall be impervious. Acceptable materials include:
 - a. Bentonite
 - b. Neat cement- one bag of cement to 5 to 7 gallons of water.
 - c. Cement grout - two parts of sand and one part of Portland cement to 5 to 7 gallons of water.
 - d. Concrete - the mixture shall contain a minimum five sacks of Portland cement per cubic yard.
10. Native soils shall not be used as sealing material.
11. Materials containing organic matter shall not be used.
12. All abandoned wells shall have a hole excavated around the well casing to a depth of six feet. The well casing shall be removed to this depth and the sealing material shall be allowed to spill over and provide a cap at least one foot thick over the cut end of the casing.

13. If there is an annular space between the casing and the hole, the upper 50 feet of casing must be removed. If this is not possible, the casing must be ripped from a depth of 50 feet for a distance of five feet upward. The ripped portion shall then be filled by pressure grouting to form a grout plug in the annular space. The casing shall then be ripped above the grout plug and pressure grouting repeated until grout returns to the surface in the area between the drilled hole and the well casing.

414-1.226 ENFORCEMENT -- PUBLICATION OF REGULATIONS

The Health Officer shall distribute copies of proposed changes in regulations to the drilling industry and other interested parties requesting notification in writing. Copies of proposed regulations shall be mailed to the requesting parties thirty (30) days prior to filing the regulations with the Clerk of the Board of Supervisors. The letter transmitting the proposed regulations to the well drilling industry shall indicate the date the regulations will be filed with the Clerk of the Board.

414-1.228 WATER WELL DRILLERS - REPORTING FORM

The Health Officer shall provide the well drilling industry with reporting forms that may be used to report violations of the water supply ordinance and Health Officer's regulations. The use of these forms is not mandated by these regulations. See the attached Exhibit "C".

WELL PERMIT

Contra Costa County Health Services Department

Date of Permit: _____

Permit Expires: _____

Basic Well Construction (Phase 1)

Drilling _____

Casing _____

Sealing _____

Capping _____

DWR _____

Well Development (Phase 2)

Yield Test _____

Water Quality Analysis _____

Pump Installation _____

Sanitary Seal _____

Concrete Platform _____

The inspector shall note N.A. (not applicable) for items not required for this installation.

WATER WELL PUMP TEST REPORT

Contra Costa County Health Services Department

Name of Well Permit Applicant: _____

Name of Property Owner: _____

Parcel Number: _____

Mailing Address: _____

Date of Test: _____

Time Test Was Started: _____

Time Required to Reach Equilibrium
Between Recharge and Discharge: _____

Total Time Pump Test Was Continued
After Equilibrium Was Reached: _____

Drawdown Measurements Including Distance to Water Level and Time of Day:

	<u>Time</u>	<u>Drawdown</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____

To: WELL DRILLERS

Re: Groundwater Sources

The Contra Costa County Water Supply Ordinance strongly emphasizes the need for protection of the County's groundwater sources from degradation that could result from inadequately constructed, defective, or improperly abandoned wells. To assure appropriate surveillance of the construction and abandonment of water wells requires the support of the well drilling industry and other concerned citizens. The lower portion of this form can be used to report your concerns and any incidents involving wells that you feel should be investigated by Health Services staff to assure protection of groundwater supplies.

East-Central County

To: Contra Costa County Health Services
Environmental Health Division
1111 Ward Street
Martinez, CA 94553

West County

To: Richmond Health Center
Environmental Health Division
100 - 38th Street
Richmond, CA 94805

1. Date and nature of problem observed:

2. Exact location of incident:

3. Your name, address and phone number:

(It is not necessary that you complete Item 3. This information is necessary if you desire a report describing the results of the staff investigation.)