



## CATHODIC PROTECTION AND GEOTHERMAL WELL APPLICATION & PERMIT

ENVIRONMENTAL MANAGEMENT DEPARTMENT (EMD) – ENVIRONMENTAL COMPLIANCE DIVISION  
11080 WHITE ROCK ROAD • SUITE 200 • RANCHO CORDOVA, CA 95670  
TELEPHONE (916) 875-8400 FAX: (916) 875-8513 EMAIL: wells@saccounty.net

**WELL INSPECTION LINE: (916) 875-8524**

<b>FOR OFFICE USE ONLY</b>	
EMD PERMIT NUMBER(S): _____	DATE APPLICATION APPROVED: _____ <small>(EXPIRES 1-YR FROM DATE OF APPROVAL)</small>

<b>WELL APPLICATION</b>			
Site Address:		Well Location:	
Nearest Major Cross Street(s):		Parcel Number:	
Property Owner Name:	Property Owner Address:	Property Owner Phone Number:	
		Property Owner E-mail:	
Well Drilling Contractor:	Mailing Address:	Phone Number:	
		E-mail:	
Contractor's CSLB License No.:		Expiration Date:	
Well/Boring Identification Number(s):			

**WELL TYPE – Attach well construction diagram to application.**

<b>INTENDED USE:</b>	<input type="checkbox"/> Cathodic Protection (4905)	<input type="checkbox"/> Geothermal Heat Exchange (4905)
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<b>DRILLING METHOD:</b>	<input type="checkbox"/> Mud Rotary	<input type="checkbox"/> Air Rotary	<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Auger	<input type="checkbox"/> Driven	<input type="checkbox"/> Other: _____
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<b>PROPOSED SPECIFICATIONS:</b>			
<i>1<sup>st</sup> Borehole</i>	Diameter (in):	<i>2<sup>nd</sup> Borehole</i>	Diameter (in):
	Depth (ft):		Depth (ft):
<i>Production Casing</i>	Diameter (in):	<i>Permanent Conductor Casing</i>	Diameter (in):
	Depth (ft):		Depth (ft):
<i>1<sup>st</sup> Annular Seal</i>	Material:	<i>2<sup>nd</sup> Annular Seal</i>	Material:
	Depth (ft):		Depth (ft):
<i>Conductor Seal</i>	Material:	<i>Transition Seal</i>	Material:
	Depth (ft):		Depth (ft):
<i>1<sup>st</sup> Borehole</i>	Diameter (in):	<i>2<sup>nd</sup> Borehole</i>	Diameter (in):
	Depth (ft):		Depth (ft):

<b>Sealing Material:</b>	<input type="checkbox"/> Neat Cement	<input type="checkbox"/> Sand Cement (10.3 min.)	<input type="checkbox"/> Concrete (6 sack mix)	<input type="checkbox"/> Bentonite Chips/Pellets
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**OTHER**

Does the well meet all setback requirements ( <i>identified on page 3</i> )? <input type="checkbox"/> Yes <input type="checkbox"/> No
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Comments: \_\_\_\_\_

Are there other wells onsite?  Yes  No *If yes - # of wells: \_\_\_\_\_ and their status:  Active  Abandoned  Inactive (permit # \_\_\_\_\_)*

If the driller does not plan to use cable tool drilling, identify the centralizers' interval placement (every 'x' feet): \_\_\_\_\_

**APPLICANT INFORMATION**

I understand and agree that all work associated with this permit is required to be done in accordance with Sacramento County Code Chapter 6.28 (Well Ordinance), California Department of Water Resources Well Standards, and the conditions of this permit. I understand that permitting and inspection time in excess of the original fee amount will be billed to the applicant - As authorized by SCC 6.99.180. I certify that the information given in this permit is correct to the best of my knowledge and that the signature below, whether original, electronic, or photocopied, is authorized and valid. Each page of this document has been reviewed and is complete and correct. I understand that it is my responsibility to notify the well owner of their responsibility to provide EMD with property access for a final well inspection. **An Authorization Letter is required if an Agent is submitting this application on behalf of the well owner or well driller.**

Applicant Name:	Applicant Signature:	Date:
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Applicant's Company Name and Mailing Address:	Applicant's Office and Cell Phone Numbers:	Applicant's Email Address:
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Applicant is the:  Agent (**Requires Authorization Form**)  Property Owner  Well Contractor

**IMPORTANT: GIVE AT LEAST 24-HOUR NOTICE TO THE EMD WELL INSPECTION LINE WHEN SCHEDULING YOUR INSPECTION.**

**WELL SITE PLAN – TO BE COMPLETED BY APPLICANT**

**MINIMUM REQUIREMENTS**

1. North arrow, parcel dimensions, and scale (1-inch = \_\_\_\_\_ feet)
2. **Minimum of two measurements (with right angles)** to the proposed well in feet (must be able to locate well using the site plan).
3. **Location of site features** including major buildings, landscaped areas, tank fields, existing wells, septic systems, easements, cross streets, etc.
4. Setback distances in feet to all existing wells, septic systems (**including all adjacent parcels w/in 150 feet of proposed well site**), and other potential pollution sources.
5. For some remote sites, include appropriate landmarks so that inspector can locate project site (e.g. access and driveway approach, mile post markers, equipment staging location).
6. **NOTE:** Incomplete site plans will delay permit processing.

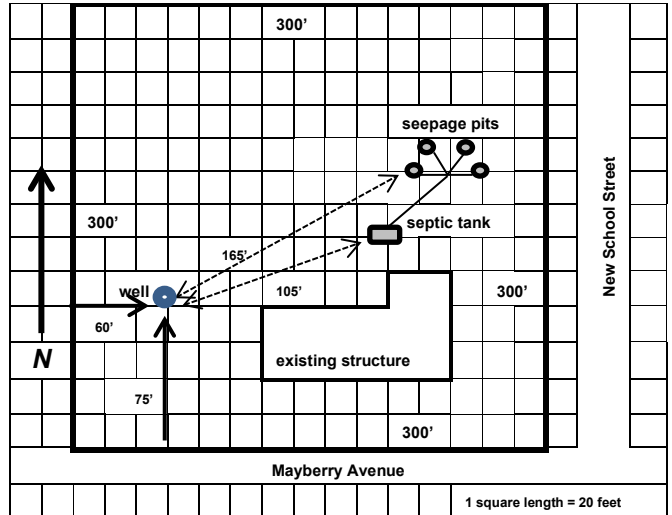
Well Site Address: \_\_\_\_\_

Well's GPS Coordinates: 38.\_\_\_\_\_, -121.\_\_\_\_\_

Well Permit Number: \_\_\_\_\_

Other Conditions (eg. Gated Community): \_\_\_\_\_

**Example**



<b>GENERAL WELL PERMIT REQUIREMENTS</b> (SEE SACRAMENTO COUNTY CODE (SCC) CHAPTER 6.28 FOR DETAILED LOCAL WELL REQUIREMENTS)	
1	<b>The annular seal's minimum borehole size must be at least 4 inches greater in diameter than the outside diameter of the well casing and any other pipe(s) in the borehole. This borehole will be drilled to the minimum annular seal depth [SCC 6.28.040(A)(2)(e)].</b>
2	<b>The minimum annular seal depth requirement is 50 feet below ground surface concurrently anchored in an impervious soil layer. At time of inspection, the applicant is required to provide a soil log demonstrating the annular seal is anchored in an impervious soil layer and to physically measure the annular seal depth [SCC 6.28.040(A)(2)(a)]. Deeper seals may be required in certain conditions, such as if the following setbacks are not met:</b> A. <b>50 feet away</b> from any sewer line, stream/ditch/drainage course, pond or lake, or public water supply well; B. <b>100 feet away</b> from a septic tank, leach lines, deep leach trench; animal or fowl enclosure; and C. <b>150 feet away</b> from a septic leaching pit or hazardous materials tank [SCC 6.28.040(A)(1)(a)]. <b>EMD REQUIRED SEAL DEPTH:_____</b>
3	<b>An EMD inspection is required for sealing material placement. Contact (916) 875-8524 to request an inspection; a minimum of 24-hours' notice is required [SCC 6.28.90].</b>
4	<b>EMD APPROVED ANNULAR SEALING MATERIALS</b> <b>Neat cement</b> will be mixed at a ratio of one ninety-four (94) pound sack of Portland cement to 5 to 6 gallons of clean water. Additional water may be required where special additives, such as bentonite, accelerators, or retardants are used. <b>Sand cement</b> will be mixed at ratio of not more than one hundred eighty-eight (188) pounds of sand to one ninety-four (94) pound sack of Portland cement (2 parts sand to 1 part cement, by weight) and about 7 gallons of clean water. This is equivalent to a "10.3 sack mix." Less water shall be used if less sand than 2 parts sand per 1 part cement by weight is used. Additional water may be required when special additives, such as bentonite, accelerators, or retardants are used. <b>Concrete</b> will consist of Portland cement and aggregate mixed at a ratio of at least 6 ninety-four (94) pound sacks of Portland cement per cubic yard of aggregate. The size of the aggregate must be less than 1/5 <sup>th</sup> the radial thickness of the annular seal. <b>Bentonite clay</b> may only be used with prior EMD approval. Bentonite shall be commercially prepared, powdered, granular, pelletized or chipped sodium montmorillonite clay. The size of pellets or chips must be less than 1/5 <sup>th</sup> the radial thickness of the annular space. Bentonite slurries are not approved [SCC 6.28.040(A)(2)(d)]. <b>EMD staff will reject any sealing materials during inspection that do not meet standard.</b>
5	<b>Transition seal materials</b> can be up to 5 feet in length, consist of bentonite or fine sand, and must be placed in the annular space using a tremie device or equivalent to separate filter pack and cement-based sealing materials. If bentonite is used and the interval to be sealed is dry, water shall be added to the transition seal and allowed to set for at least two hours before placement of cement-based sealing material [SCC 6.28.040(A)(2)(f)].
6	All casing material must meet the size and material standards listed in 6.28.040(A)(5).
7	<b>Centralizers</b> shall be equipped on the production casing to ensure the 2-inch minimum radial thickness of the annular space is maintained, unless otherwise approved by EMD [SCC 6.28.040(A)(2)(f)].
8	<b>Temporary</b> conductor casing shall be withdrawn as sealing material is placed between the well casing and borehole wall, be placed at least to the minimum annular seal depth, and kept at a sufficient height above the bottom of the temporary conductor casing as it is withdrawn. If a <b>permanent</b> conductor casing is installed, an oversized hole, at least 4 inches greater in diameter than the outside surface of the permanent conductor casing shall be drilled to the bottom of the conductor casing or to at least the minimum annular seal depth and the annular space between the conductor casing and the borehole wall shall be filled with sealing material. A welded cover shall be installed over the top in the space between the conductor casing and the well casing (see Bulletin 74-81, page 33, Figure 5B) [SCC 6.28.040(A)(2)(c)].
9	<b>Proper Disposal of Drilling Fluids and Soil Cuttings.</b> The applicant is required to see that safe and appropriate measures are taken in the handling and disposal of drilling fluids, soil cuttings, and other materials used or generated in connection with the permitted work. All drilling wastes must be controlled so as not to create conditions that violate applicable local, State and Federal regulations [SCC 6.28.030(E)(2)].
10	<b>Mud pits</b> created to confine drilling fluids shall be maintained during the well drilling operation so as not to be a nuisance. It shall be the applicant's responsibility to see that the mud pit is properly evacuated and backfilled upon completion of the job [SCC 6.28.030(E)(3)].
11	<b>The well casing, vent, electrical box, and water storage tank must extend above ground surface or the base flood elevation, whichever is higher</b> (private water well: at least 12 inches above; municipal water well: at least 18 inches above) [SCC 6.28.040(A)(3)]. <b>MIN. CASING HEIGHT:_____</b>
12	<b>The well cannot encroach on any easement</b> (information available through the County Assessor's Office) [SCC 6.28.030(A)(1)].
13	<b>Gravel used in gravel-packed wells</b> shall come from clean sources, be thoroughly washed before placement into the well, and disinfectants will be added to the gravel at a uniform rate [SCC 6.28.040(A)(4)].
14	<b>This permit may be revoked if the well is not in compliance with regulatory standards.</b> Permittee and well owner agree to construct, operate, and maintain the well according to all applicable requirements listed in the Sacramento County Code and the California State Department of Water Resources (DWR) Well Standards [SCC 6.28.120(C)].
15	<b>This permit is valid only for approved well-related work listed on the application.</b> Well construction methods (e.g. drilling methods, annular sealing material, well depth, etc.) authorized under this permit may not be changed except by written approval of an authorized EMD representative and only if EMD believes that such a change will result in equal or superior compliance with the County and DWR Well Standards (e.g. if the EMD representative finds that site conditions warrant such a change) [SCC 6.28.120(C)].
16	<b>This permit is only valid for the Assessor's Parcel Number listed on the application</b> [SCC 6.28.120(B)(2)].
17	The permittee will notify EMD <b>within 5 days of well work completion</b> [SCC 6.28.090(C)].
18	The applicant shall submit a Well Completion Report (WCR) to EMD <b>within 60 days of work completion</b> [SCC 6.28.110(A)].
19	<b>Well owner required to provide property access to EMD for final inspection;</b> well cannot be put into service until final inspection completed [SCC 6.28.090(C)].
20	<b>Permittee shall maintain a copy of the permit at the work site during all stages of permitted activities</b> [6.28.030(E)(5)].
21	Additional time is charged at the hourly rate of \$213 per hour.

SPECIAL PERMIT CONDITIONS <input type="checkbox"/> Yes <input type="checkbox"/> No	

**WELL PERMIT FORM – FOR OFFICE USE ONLY**

**PERMIT NUMBER(S):** \_\_\_\_\_

**ACCOUNTING**

Date Received: \_\_\_\_\_ Total Fees: \_\_\_\_\_

Account Number: \_\_\_\_\_ Invoice Number: \_\_\_\_\_

**APPLICATION APPROVAL:** Date: \_\_\_\_\_ By: \_\_\_\_\_ Comments: \_\_\_\_\_

**INITIAL SITE INSPECTION:** Date: \_\_\_\_\_ By: \_\_\_\_\_ Comments: \_\_\_\_\_

**ANNULAR SEAL INSPECTION:** Date: \_\_\_\_\_ By: \_\_\_\_\_ Comments: \_\_\_\_\_

Depth to water: \_\_\_\_\_ Seal depth: \_\_\_\_\_

Sealing material: \_\_\_\_\_ Seal anchored in impervious soil layer: \_\_\_\_\_

Casing depth: \_\_\_\_\_ Total depth: \_\_\_\_\_

Property owner provided verbal access approval for well final inspection: \_\_\_\_\_

**FINAL INSPECTION:** Date: \_\_\_\_\_ By: \_\_\_\_\_ Comments: \_\_\_\_\_

Casing height above ground surface: \_\_\_\_\_

Standards/conditions met: \_\_\_\_\_

GPS Coordinates: N: 38 W: -121

**WELL COMPLETION REPORT:** Date: \_\_\_\_\_ Comments: \_\_\_\_\_

**COMMENTS:**

\_\_\_\_\_