MENDOCINO CITY COMMUNITY SERVICES DISTRICT
ORDINANCE NO. 07-1
GROUNDWATER EXTRACTION PERMIT

Pursuant to the authority as set forth in the California Water Code Sections 10700 through 10717, the Mendocino City Community Services District (MCCSD) adopts the following Groundwater Extraction Permit Ordinance amending and replacing Groundwater Extraction Permit Ordinance No. 90-1, No. 91-3, No. 92-2, No. 00-1, No. 01-1, and No. 04-1. All real property within the boundaries of MCCSD shall be subject to these regulations. The intent of this ordinance is to protect the groundwater resources within the boundaries of the MCCSD for the common good of all present and potential users.

1. Permits Required

No person shall extract groundwater within the boundaries of the MCCSD for "new development", "change in use", or "expansion of existing use" and no water shall be extracted from a well constructed or modified following the adoption of this ordinance within the boundaries of MCCSD unless the person possesses a valid and current Groundwater Extraction Permit as set forth herein.

A Groundwater Extraction Permit shall be required:

1. prior to the issuance of a Mendocino County Use Permit; or Coastal Development Permit
2. prior to the issuance of a Mendocino County Building Permit for other than minor repair and maintenance;
3. prior to the issuance of a Mendocino County Well Permit; or
4. following the sale of real property within the boundaries of the MCCSD.

A Groundwater Extraction Permit shall not be necessary for minor repair and maintenance to existing structures and wells, or cleaning of an existing well, but a Groundwater Extraction Permit shall be required for any modifications in the structure or depth of the well. The District shall not issue a Groundwater Extraction Permit unless the applicant has obtained all other appropriate drilling permits, including but not limited to permits required by the California Coastal Commission and the County of Mendocino.

The District Superintendent is authorized to advise appropriate agencies that no permit action is required with regard to cases exempt from permit procedures established by this Ordinance.

2. **Application Required for Groundwater Extraction Permit**

Application for a Groundwater Extraction Permit shall be made in writing on forms provided by MCCSD. The Groundwater Extraction Permit application shall contain the assessor's parcel number, a description of the parcel, the address of the parcel, a description of the proposed change to the parcel, a description of the proposed new development and/or the change in use, a list of all adjacent property owners and their addresses, the existing and proposed placement of wells and water storage facilities on the parcel, the location of existing wells on all adjacent properties, if known, and the maximum amount of water per day anticipated to be extracted by the applicant for the project. A scaled plot map showing all structures, wells, and the proposed development shall be attached to the Groundwater Extraction Permit application. A floor plan for all existing and proposed structures shall be included with the Groundwater Extraction Permit Application. A fee in an amount determined by the Board to cover the cost of administering this groundwater extraction permit process shall accompany the application. The application shall be deemed complete once it is reviewed by the District Superintendent and accepted as complete. The District Superintendent shall contact the applicant regarding the completeness of the application within 30 days of submission and may require further information from the applicant.

3. **Hydrological Study**

Except as set forth below in Section 4 of this ordinance, all applicants shall be required to submit a hydrological study prior to the issuance of a Groundwater Extraction Permit. A qualified hydrologist (see definition, Appendix B) must perform the hydrological study. Once an application is deemed complete, the applicant shall be permitted to conduct an aquifer pump test for the proposed well(s), as set forth in the application, for the purpose of proving that the amount of water capable of being extracted from that well will support the proposed project as described in the application, based on water use standards established by the Board. The aquifer pump test is also required in order to determine whether the proposed water extraction will have any adverse effect and adverse cumulative effect on hydrologically contiguous wells (see definitions, Appendix B).

The aquifer pump test (Appendix A) shall be conducted continuously over a seventy-two (72) hour period, followed by a monitored twenty-four (24) hour recovery period. Said test shall be conducted during the Hydrological Testing Period (see definitions). The Board may modify the time of year for the test upon determination that weather conditions make such modification appropriate. All aquifer pump tests in the District shall be scheduled by the District Superintendent to avoid conflict

in the data obtained. Water pumped shall be conserved by storage or shall be routed to a recharge/discharge area beyond the influence of the pump test at the applicant's expense.

The hydrological study shall present data obtained and conclusions derived from the aquifer pump test (see Appendix A for hydrological study outline). The hydrological study should include consideration of local geology and hydrology, documentation of current groundwater development, estimation of water use by the development, a pump test, assessment of on-site availability of groundwater, analysis of potential impacts of the proposed groundwater development, and an analysis of cumulative effects to hydrologically contiguous wells. The hydrological study should be documented in a report summarizing the information and analyses, and
it should include appendices containing supporting data.
The following report outline is suggested:

- Introduction
- Estimated Water Allotment
- Hydrological Setting
- Performance of Pump Test
- Pump Test Data Analysis
- Mitigation of Adverse Effect and Adverse Cumulative Effects
- Conclusions
- Appendices

All conclusions expressed by the hydrologist in the hydrological study shall be supported by data and other facts, consistent with good hydrological practices. All assumptions and equations relied on by the hydrologist in conducting the aquifer test and forming his/her conclusions shall be included in the hydrological study report. The hydrological study shall consider: 1) the adequacy of the water supply to support the proposed new development, expansion of existing use, or change in use during the dry summer months and drought conditions, and 2) any adverse effects and adverse cumulative effects to hydrologically contiguous wells. Once a hydrological study has been completed it shall be delivered to the District Office for review.

4. <u>Exceptions to Hydrological Study Requirement</u>

a. <u>No Increase in Water Extraction</u>

If it is clear, based on the Groundwater Extraction Permit Application, that the proposed water extraction will not increase the applicant's existing quantity of water extraction, the District Superintendent may administratively issue the requested Groundwater Extraction Permit without

requiring an applicant to submit a hydrological study. If the proposed new use results in a decrease in water use, a new allotment shall be calculated, and shall be based on the new use. If there is an existing deed restriction for a previous Groundwater Extraction Permit, the applicant shall be required to execute a new deed restriction for the new allotment.

b. Limited Increase in Water Extraction

Based on the information contained in the Groundwater Extraction Permit application, the Board may issue a Groundwater Extraction Permit without requiring an applicant to submit a hydrological study if the proposed change results in a limited increase in water demand. A limited increase is the quantity of water required for "new development", "change in use", or "expansion of existing use", as defined by the Water Use Standard adopted by the Board. A limited increase is determined by the increased water demand for the proposed project. As calculated from the Water Use Standard, a limited increase shall not exceed:

1. 30% of an existing water demand that is less than or equal to 320 gallon per day.
2. 10% of an existing water demand that is greater than 320 gallons per day.

As a condition of approval for an exception to the hydrological study requirement, the applicant agrees not to exceed the water use allotment for current and present use. A limited increase only applies to Section 4(b) of the ordinance. Following the issuance of a Groundwater Extraction Permit under Section 4(b) Exceptions to Hydrological Study Requirements, future "new development", "change in use", or "expansion of existing use", which result in a limited increase in water demand, may require approval of a Hydrological Study prior to issuance of a new Groundwater Extraction Permit to review the effect that incremental development may have on adjacent wells or the aquifer.

c. Modification in the Structure or Depth of an Existing Well or Drilling a New Well

No hydrological study shall be required for modification in the structure or depth of an existing well or to construct a new well for residential or commercial property.

Permittees who have received a permit pursuant to this section 4 shall install water meters, record monthly water meter readings, and submit readings to the District as required. Permits shall specify the quantity of groundwater that the permittee may extract. For those properties assigned water use allotments under provisions of this Ordinance, a penalty will be assessed for continued water use in excess of such allotment. If total use exceeds that allowed by the permit by 25% for three months, the Board may revoke the Groundwater Extraction Permit.

d. **Prior to Issuance of a Mendocino County Use Permit or a Coastal Development Permit**

A Groundwater Extraction Permit shall be required prior to the issuance of a Mendocino County Use Permit or a Coastal Development Permit. No hydrological study shall be required prior to issuance of a Mendocino County Use Permit unless project is a "new development", "change of use", or "expansion of existing use". The District may administratively issue a Groundwater Extraction Permit with an allotment for current and present use. An administrative fee shall be charged for issuance of a Groundwater Extraction Permit.

e. **Prior to Issuance of a Mendocino County Building Permit**

A Groundwater Extraction Permit shall be required prior to the issuance of a Mendocino County Building Permit. A Groundwater Extraction Permit shall not be necessary prior to issuance of a Mendocino County Building Permit for minor repair and maintenance, such as painting, minor repairs to structures, and repair and replacement of roofs. No hydrological study shall be required prior to issuance of a Mendocino County Building Permit unless project is a "new development", "change of use", or "expansion of existing use". The District may administratively issue a Groundwater Extraction Permit with an allotment for current and present use. An administrative fee shall be charged for issuance of a Groundwater Extraction Permit.

f. **Following the Sale of Real Property**

A Groundwater Extraction Permit shall be required, following the sale of developed real property within the boundaries of the MCCSD. The applicant shall have 30 days to submit an application for a GWEP, and 90 days to complete all of the application approval conditions and obtain the GWEP final. No hydrological study shall be required for the sale of real property. The District may administratively issue a Groundwater Extraction Permit with an allotment for current and present use. An administrative fee shall be charged for issuance of a Groundwater Extraction Permit.

5. **Board Shall Adopt Water Use Standards and Require Conservation Devices**

Water use standards shall be established by the Board designating the quantity of water necessary for a new development or change in use. These water use standards shall be periodically re-evaluated based on actual data collected by the District. The Board shall require water conservation devices including, but not limited to, low flush toilets, to be installed by permittees.

6. **Hydrological Study Review**

Once a hydrological study has been completed it shall be delivered to the District Office for review.

The District shall refer the hydrological study to an approved hydrologist for review. This review shall include, but not be limited to, consideration of adherence to testing conventions, completeness of data, adequacy of the groundwater supply for the proposed development or change in use, cumulative impact on the District's groundwater resources, and any reported adverse effects and adverse cumulative effects to hydrologically contiguous wells. The applicant shall pay a fee as determined by the Board to cover the cost of such review. The hydrological review and the initial study shall then be submitted to the Board for consideration.

7. **Board's Decision on Permit**

Within 60 days after the filing of said hydrological study the Board shall consider the Groundwater Extraction Permit application at a regular meeting or a special meeting. Public comment on the proposed Groundwater Extraction Permit shall be heard at the regular or special meeting called by the Board. If necessary, the Board may require the applicant, reviewing hydrologist, or author of the hydrological study to submit supplemental information before deciding whether to approve or deny a Groundwater Extraction Permit. In such case, the Board shall explain the reasons why such information is required.

a. In making their decision, the Board shall independently consider the findings of the aquifer pump test and the hydrological study, all challenges to the aquifer pump test and the hydrological study that have been received by the District during or prior to the public hearing, all information provided by the reviewing hydrologist, and any and all public comment.

b. If, based on the considerations as set forth above, the Board finds that the issuing of a proposed Groundwater Extraction Permit would more likely than not have an adverse effect on the groundwater supply, or the evidence shows that there is insufficient groundwater to support the change in use and/or new development, the Board shall deny the permit. The Board may consider mitigation measures that eliminate adverse effects and adverse cumulative effects to hydrologically contiguous wells as a condition for approval of the hydrological study.

c. The Board shall approve or deny a permit or grant a continuance, within one hundred twenty (120) days of the time the applicant's hydrological report is filed. If the Board does not so act, a Groundwater Extraction Permit shall automatically be approved for the requested water extraction quantity as set forth in their application.

d. The Board shall establish the maximum amount of groundwater an applicant is allowed to extract, and the permit for groundwater extraction shall be issued on condition of that limitation. If

total use exceeds that allowed by the permit by 25% for three months, the Board may revoke the Groundwater Extraction Permit.

8. **Reconsideration of Denial**

If an applicant is denied a Groundwater Extraction Permit, the applicant may request reconsideration. Said request shall be in writing stating the reason for the request and must be filed with the District Office within 20 days of the Board's decision. The Board shall continue, approve or deny the reconsideration within forty-five (45) days of said request and if they do not act within forty-five (45) days, the request is deemed approved.

9. **Water Meter Requirement**

Prior to the issuance of any Groundwater Extraction Permit, the applicant shall agree in writing to install an approved water meter prior to any groundwater extraction, at his/her expense. The applicant agrees to install the water meter as a condition of the groundwater extraction permit approval within the date specified in the approval condition. All applicants and permittees shall give permission for the meter to be read by a District employee. Following the issuance of the Groundwater Water Permit, the District, its agents and assigns, may enter onto owner's real property at reasonable times to read the water meter if the property owner fails to submit monthly meter readings for two consecutive months. The water meter shall be accessible by the District during regular business hours. Applicants and Permittees shall provide permission for District employees to sample and test water and to take well depth readings as required for District records, at District expense.

A letter from the District will be sent with self-addressed envelopes requesting that the applicant provide the District with water extraction readings beginning 30 days after the issuance of the Groundwater Extraction Permit, and thereafter on the first of each month. The District will give the applicant 50 days to respond to this notice. (15 day advance notice and 30 days to develop monthly extraction data plus 5 days grace period to submit readings). If the applicant has not responded to the first correspondence, the District will then contact that person in writing and ask them to comply with the earlier request or to establish an acceptable timetable for expected compliance within 30 days. If the second correspondence is not answered within 30 days, the District will write a third letter asking again for compliance and telling the applicant that in the event that they do not comply the matter will be referred to the Board of Directors. The applicant will have two weeks to respond to this letter. This matter will then be administratively referred to the Board Attorney for legal enforcement. The staff attorney will contact the applicant in writing and tell the applicant that Section 15 of the Groundwater Extraction Ordinance will be enforced and damages will begin to accrue in the amount of $100.00 a

day. The applicant will have two weeks to respond to that letter. If the applicant does not respond within two weeks, the staff attorney will advise the applicant that a court complaint will be filed in which damages of $100.00 a day will be sought. If no response to this letter, the complaint will be filed. In the event the District prevails, the applicant shall be responsible for expert witness and attorney's fees and court costs.

10. Completion of the Groundwater Extraction Permit Process

Once a permittee has complied with the conditions of the Groundwater Extraction Permit, including evidence to show that all required well permits have been obtained, the deed restriction has been recorded (see Section 16), and the water meter has been installed, the District shall issue a final Groundwater Extraction Permit. The District shall have the right to inspect the well site and to inspect all improvements and/or changes to the property relative to increased groundwater extraction as enumerated in the permit.

11. Revocation of Permitted Water Extraction

The applicant shall have two years to complete the Groundwater Extraction Permit process if the water source was not in use at the time of the Groundwater Extraction Permit Approval was issued. If groundwater is currently extracted from an existing well, the applicant shall complete the groundwater extraction permit process within the timeframe stated as a condition of the approval. The Groundwater Extraction Permit Application Approval shall automatically expire by its own terms if the applicant does not obtain final approval within the time frame stated as a condition of the approval of his/her application. The applicant may request from the Board an extension for a period of two years and the Board shall approve or deny that request for extension based on information showing that the conclusions of the hydrological study are still valid. There will be a fee for a Groundwater Extraction Permit extension.

If total use exceeds that allowed by the permit by 25% for three months, the Board may revoke the Groundwater Extraction Permit.

12. Permitted Water Extraction Allotment

The Groundwater Extraction Permit shall state the maximum amount of water to be extracted. This limit shall constitute an allotment of groundwater to be extracted by the applicant, and the District shall not reduce this amount unless there is evidence of an error in the hydrological study, discovered within twelve months, evidence of a changed circumstance, which the Board determines is sufficient to justify a quantity modification, or there is a change of use under section 4(a), which would lower the water use allotment.

13. **Monitoring of Prior Approvals by County**

The District will monitor any restrictions on water usage imposed by the County in groundwater extraction permits issued prior to effective date of this Ordinance, and enforce such restrictions under provisions of this Ordinance.

14. **Action on County Referrals of Applications for Use Permits, Land Use Permits, Land Divisions, Local Coastal Plan Consistency Reviews and Coastal Development Permits**

The provisions of this Ordinance shall be applied to all County referrals regarding use permits, land divisions, Local Coastal Plan consistency reviews and Coastal Development Permits.

15. **Misdemeanor and Penalty**

After the adoption and publication of this ordinance, it shall be a misdemeanor for any person to violate any provision, restriction or prohibition contained in this ordinance or any condition of any valid permit issued pursuant to this ordinance, until said ordinance has been repealed. For those properties assigned water use allotments under provisions of this Ordinance, a penalty will be assessed for continued water use in excess of such allotment. Penalty will be at a rate of two cents per gallons of excess use per month, up to 10% overage, five cents for each gallon in excess of 10%, after there has been excess use for two consecutive months, or for three months during any yearly period. If total use exceeds that allowed by the permit by 25% for three months, the Board may revoke the Groundwater Extraction Permit. The District is authorized to read meters to verify water usage. For all other violations, a penalty of $100.00 shall be incurred for each violation. Each day of non-compliance with this ordinance or with the permit conditions shall be deemed a separate violation for purposes of assessment of penalties under this Ordinance. Non-compliance shall be determined commencing with the first day of water extraction activities regulated by the program.

In the event the District is required to file legal action to enforce any provision of this ordinance, the District shall be entitled to recover reasonable attorneys fees and costs (including expert costs) incurred in such legal proceedings in addition to such other relief as may be granted.

16. **Conditions shall be Part of Real Property Title Record**

The District shall record with the Mendocino County Recorder the conditions on which the permit is issued.

All conditions on the Groundwater Extraction Permit including, but not limited to, the amount of water extraction allowed shall be binding on the applicant as well as his/her heir, assigns or successors in interest to the real property. If the applicant, his/her heirs, or assigns or successor in interest breaches any conditions, the Board may revoke the permit after providing notice of hearing.

17. **Severability**

If any section, subsection, paragraph, sub-paragraph, sentence, clause or phrase of this is for any reason held to be invalid or unconstitutional, such invalidity or unconstitutionality shall not affect the validity or constitutionality of the remaining portions of this ordinance and such remaining portions of this ordinance shall remain in full force and effect.

18. **Board May Issue Emergency Permit**

Nothing in this permit process shall be deemed to diminish the authority of the Board to act in any manner consistent with the existing laws. Nothing in this permit process shall prohibit the Board from issuing any permit for groundwater extraction or other water development without public notice in the event that the Board determines that an emergency situation requires the issuance of such permit.

19. **Constitutionality**

This ordinance is not intended to authorize, and shall not be construed as authorizing, the MCCSD to exercise its power in a manner which will take or damage private property for public use. This ordinance is not intended to increase or decrease the rights of any owner of property under the Constitution of the State of California or the United States of America.

This ordinance shall be published once in the Mendocino Beacon, a newspaper of general circulation published within the District. This Ordinance was introduced at a meeting of the Board of Directors on December 18, 2006, and adopted by the Board of Directors on January 29, 2007 by the following vote:

AYES: Directors Kraynek, Bowery, Jelic, Schwartz, and O'Brien
NOES: None
ABSENT: None

Edward O'Brien III, Board President

ATTEST:

Jodi Mitchell, District Secretary

Appendix A

Hydrological Study Guidelines

General

No person shall extract groundwater within the boundaries of the MCCSD for "new development", "change in use", or "expansion of existing use" and no water shall be extracted from a well constructed or modified following the adoption of this ordinance within the boundaries of MCCSD unless the person possesses a valid and current Groundwater Extraction Permit. Except as noted in the ordinance, all applicants shall be required to submit a hydrological study prior to issuance of a Groundwater Extraction Permit.

Approved Hydrologists

MCCSD will maintain a list of approved hydrologists who are authorized to conduct hydrological studies and/or peer review hydrological studies conducted by other approved hydrologists.

Professional Qualifications of Hydrologist

A California Registered Geologist, who is a hydrologist , a Certified Engineering Geologist, and/or a California Certified Hydrogeologist /or a California licensed Civil Engineer, or Registered Geologist with a minimum of five (5) years of experience in groundwater hydrology are eligible to be approved hydrologists.

Elements of the Hydrological Study

The hydrological study should include consideration of local geology and hydrology, documentation of current groundwater development, estimation of water use by the development, a pump test, assessment of on-site availability of groundwater, analysis of potential impacts of the proposed groundwater development, and an analysis of cumulative effects to hydrologically contiguous wells. The hydrological study should be documented in a report summarizing the information and analyses, and should include appendices containing supporting data. The following report outline is suggested:

- **Introduction**

The introduction should include: 1) a description of the project, 2) a description of the location of the proposed development with respect to contiguous properties and wells, and 3) location and site maps. The well head location and elevation should be surveyed in using a benchmark and datum acceptable to MCCSD.

- **Estimated Water Allotment**

The water allotment for the proposed development shall be calculated from the Groundwater Extraction Permit Ordinance Water Use Standard. The allotment is based on the size and type of proposed development described in the Water Use Standard.

- **Hydrological Setting**

Include a summary of the local hydrological setting, site characteristics, and present groundwater use on the contiguous properties and current groundwater use on the proposed development parcel. Discuss the following:

1. **Local Geology and Groundwater**

   Describe the local geology and occurrence of groundwater. Locate all streams and springs on the project parcel and on contiguous parcels, and measure the spring and stream flows, or estimate their dry season flow from available reports by California Department of Water Resources, State Water Resources Control Board, and others.

2. **Aquifer Description**

   Identify the aquifer(s) to be developed. For terrace aquifers, note the extent of the aquifer, average thickness, and average storage capacity. For bedrock aquifers, and composite terrace/bedrock aquifers, provide information on weathering and fracturing, depth to hard bedrock, and other relevant information.

3. **On-Site Hydrological Conditions**

   Document on-site hydrological conditions, including geologic materials encountered during the drilling of the well, and static depth to water during the Hydrological Testing Period (see Appendix B Definitions). DWR Water Well Drillers Report(s) of the well(s) should be included.

4. Existing Wells

Identify all wells on the study parcel and on contiguous parcels. Show well locations and elevations on the assessors parcel map and on the well inventory and topographic map of the Mendocino Headlands available from MCCSD show measured distances to the pumping well. Describe each well, including depth, pump setting, well construction details, geological log if available, static water level in wells, use and estimated pumpage, and water level fluctuations. Observed well interference between hydrologically contiguous wells identified in previous hydrological studies that are within the radius of influence of the test well must be included in the Hydrological Study. Geologic cross-sections illustrating information from available well logs are recommended.

- **Performance of Pump Test**

The pump test is intended to document that an adequate groundwater supply is available on the site for the proposed project and to determine any adverse effect and adverse cumulative effects on local groundwater users and the aquifer(s) as a whole. Pump testing requirements for hydrological studies are as follows:

1. Notice Requirements for Aquifer Pump Test

At least ten days before the beginning of the aquifer test, the District shall publish notice of the test in a local paper of general circulation in the town of Mendocino. The District shall also post notice of the aquifer test at the District Office, the Mendocino Fire House and the Mendocino Post Office ten days before the beginning of said test. At least ten days before the beginning of the aquifer pump test the District shall notify in writing all adjacent property owners along with any person who requests notice in writing. All notifications will be mailed certified-return receipt requested. The **Notice(s) of Aquifer Test** supplied by MCCSD shall be posted in conspicuous visible location(s) on the parcel where the test is to be conducted ten days prior to the test. Such notices shall inform such property owners of date, time, location and purpose of the pump test, and provide a contact name, phone number and address in the event that their wells are apparently affected by the test. The notices will emphasize the importance of response as soon as any effects are observed. The notices shall also advise property owners that they can request that their wells be included in the monitoring process. Surrounding property owners who feel that their wells may be hydrologically contiguous may request that their wells be included in the monitoring process. Such request shall be made to

the District at least 72 hours prior to beginning of the pump test. Any expense related to this monitoring of wells involved in the pump test shall be borne by the applicant. Any property owner that requests that their well be monitored must agree not to use the well during the aquifer pump test. The Superintendent shall schedule all aquifer tests that are to be conducted in the District.

2. Pump Testing Method

A hydrological study aquifer pump test shall be designed and conducted by or under the supervision of an approved Hydrologist. Pump testing shall be conducted generally in accordance with the procedures outlined in the Mendocino County Coastal Groundwater Development Guidelines (Questa, Engineering, 1989), which details the test procedures for the Constant Rate and Step Drawdown Tests.

Authorization to use any other than the constant rate pump test must be obtained from the District Superintendent before conducting the actual test, and shall be based on submission of items "a", "b", and "c" below.

a) Provide peer reviewed, multiple literature documentation showing that the substitute test provides equal or greater accuracy for predicting aquifer and well characteristics in the study area setting, compared to the constant rate pump test.

b) Supply industry recognized literature thoroughly documenting how the substitute pump test should be conducted, and the limitations of the test.

c) Supply industry recognized literature showing how the substitute pump test is analyzed.

The minimum pump test duration will be for 72-hours, with a 24-hour monitoring of aquifer recovery. A minimum of 10 groundwater level measurements per log cycle shall be collected from the test well and monitoring well used to determine aquifer characteristics. Water level measurements are to be accurate within 0.1-foot (or 1-inch). The pump discharge rate is to be monitored and maintained to within 10-percent of the selected pump test rate. Any variation from these guidelines including total length of pumping time, gaps in pumping, and variation in pump discharge, will require a technical explanation by the professional under whom the tests were performed. It should be noted that these guidelines are not rigid requirements, with the understanding that the ultimate goal of the pump test is to allow a determination of ground water availability and potential effects on the aquifer and nearby wells.

3. Monitoring Well(s)

Pump testing for hydrological studies shall include water level observations in at least one monitoring well throughout the pumping period. It is recommended that at least one monitoring well be installed within the area of influence of the pumped well specifically for use in the pump test. If a monitoring well is installed specifically for the pump test, care should be taken to assure that the screened interval of the monitoring well intersects the aquifer from which the pumped well draws water. As an alternative, existing nearby water wells may be suitable as monitoring wells, provided: (a) they have a screened interval, which intersects the same aquifer as the well to be tested; (b) they are not pumped during the test. A 24-hour pre-test monitoring of water levels in the well to be pumped and in the monitoring wells is recommended. The pre-test monitoring is used to establish any background influences on groundwater levels, i.e., other pumping activities.

Throughout the full duration of the pump test and recovery period, water level measurements in the monitoring well(s) should be made at regular intervals, similar to readings taken for the pumped wells. Measurements are to be accurate within 0.1-foot.

- **Pump Test Data Analysis**

An analysis should be provided of the pump test results and other information in order to document proof of adequate water supply and to determine impacts on local water users and the regional aquifer.

1. Well and Aquifer Characteristics

The following calculations and data should be provided from field measurements to characterize the pumped well and local aquifer.

a) Drawdown and Recovery. Plot aquifer drawdown and recovery curves on log paper for both the pumped well and monitoring well(s). The curves should be presented for easy comparison. Tabulate all time, water level, and pump rate data in an appendix.

b) Transmissivity and Storativity. Compute transmissivity and storativity for the local aquifer using the Theis equation, Cooper-Jacobs method (Todd, 1980) or other appropriate techniques. Document methodology, including equations and assumptions, and interpretations. If pump testing data analysis software is used, provide information on the software (program name and synopsis).

c) Well Efficiency and Specific Capacity. Compute well efficiency and the specific capacity of the well, if appropriate (Todd, 1980).

2. Proof of Adequate Water Supply

The observed pump rate during the pump test should be a minimum of 2.5 times the estimated daily water use allotment to establish proof of an adequate water supply for the proposed development.

3. Aquifer Effects

The observed and computed drawdown at neighboring wells or installed monitoring wells will provide the basis for assessing the extent of adverse effects and adverse cumulative effects on the aquifer and wells on surrounding properties.

a) Evaluation Criteria for Adverse Effects and Adverse Cumulative Effects

Adverse Effect: An adverse effect on the water table or aquifer shall be considered to occur if the pump rate during the aquifer test results in an aquifer drawdown at the well of an adjacent property or at a well within the radius of influence which either:

1) amounts to more than 10-percent of the available water column at such well; or,
2) causes a decline (estimated or observed) in the existing well yield to a level, which is less than 90-percent of maximum day water use demand for the hydrologically contiguous property.

Adverse Cumulative Effect: An adverse cumulative effect will be considered to occur when the sum of incremental drawdown(s) from the current test well(s) and test well(s) from previously approved hydrological studies:

1) amounts to more than 10-percent of the maximum available water column at a hydrologically contiguous well.

The cumulative effect is based on the calculated drawdown using:

1) the aquifer parameters computed for each well when the well was tested,
2) the aquifer conditions for the current test,
3) the pump rate for the drawdown calculation for each test well that is equivalent to their approved allotment, and
4) a three day pumping period for the calculation.

This analysis assumes that adjacent wells or wells within the radius of influence operate under similar hydrogeologic conditions and physical characteristics as the pumped well, unless evidence to the contrary is available. If more than one well is proposed; it must be demonstrated by calculations, or by actual pump testing, that the cumulative drawdown effect from all wells will be less than 10-percent of the available water column at adjacent wells or wells within the radius of influence.

b) Pump Test Results. Aquifer drawdown at all wells within the radius of influence of the production well in the study area shall be reported or computed for conditions during pump testing. Various procedures for computing drawdown and the zone of influence of the pumping well are provided in Appendix A of the Mendocino County Coastal Groundwater Development Guidelines, 1989.

c) Projected Drawdown. The projected drawdown effect on the aquifer and the adjacent wells should also be estimated for the following conditions: 1) maximum day water use demand, 2) 90-day dry weather conditions, and 3) 180-day drought conditions.

4. Regional Aquifer Impact

To evaluate the regional impact on the aquifer, the expected annual pumpage of the well should be computed. If the well penetrates a terrace aquifer, compare the annual well pumpage amount to the storage capacity of the local aquifer and annual recharge as estimated from water balance calculations. Refer to the Groundwater Modeling Study of the Mendocino Headlands (Questa Engineering and ETIC, June 2004) for additional background information. The Regional Aquifer Impact determination is for informational purposes and for use by MCCSD in further developing and implementing a groundwater management plan, and will not be the basis for issuing the groundwater extraction permit.

- **Mitigation of Adverse Effect And Adverse Cumulative Effect**

Mitigation measures that eliminate adverse effects and adverse cumulative effects on hydrologically contiguous wells shall be included in the hydrological study.

- **Conclusions**

Conclusions should include: 1) comparison of the estimated water allotment for the proposed development and the well capacity used to establish proof of an adequate water supply for the development; 2) summary of effects on hydrologically contiguous wells; and, 3) comparison of

annual well pumpage and storage capacity of the aquifer to assess the impact of the well on available groundwater supply.

- **Appendices**

Appendices should include all relevant pump test data and well logs, as well as letters or other communications from nearby well owners, and written responses.

Peer Review of Hydrological Studies

The District shall refer the hydrological study to an approved hydrologist for review. This review shall include, but not be limited to, consideration of adherence to testing conventions, completeness of data, adequacy of the groundwater supply for the proposed development or change in use, cumulative impact on the District's groundwater resources, and any reported adverse effects and adverse cumulative effects to hydrologically contiguous wells. The applicant shall pay a fee as determined by the Board to cover the cost of such review. The hydrological review and the initial study shall then be submitted to the Board for consideration.

REFERENCES

1. Calif. Dept of Water Resources (DWR) Town of Mendocino Groundwater Study, June 1985, 53 pp
2. Driscoll, F. G., Groundwater and Wells, 1995.
3. Questa Engineering Corp., Mendocino County Coastal Groundwater Development Guidelines,1989
4. Questa Engineering Corp. and ETIC, Inc. Groundwater Modeling Study of the Mendocino Headlands, Mendocino, Calif., Consultant Report prepared for MCCSD. June 2004
5. Todd, David Keith, Groundwater Hydrology, 1980 2nd edition, John Wiley & Sons, New York, 535p.

Appendix B

DEFINITIONS

ADEQUATE WATER SUPPLY: Sufficient quantities of water to support proposed uses and to maintain contiguous and surrounding uses. Adequate water supply is 2.5 times the daily water use allotment established by this Ordinance for the project involved.

ADJACENT: Any real property parcels that shares a common border with an applicant's parcel and all surrounding parcels that are separated by a road or easement.

ADVERSE CUMULATIVE EFFECT: An adverse cumulative effect will be considered to occur when the sum of incremental drawdown(s) from the current test well(s) and test well(s) from previously approved hydrological studies:

1) amounts to more than 10-percent of the maximum available water column at a hydrologically contiguous well.

The cumulative effect is based on the calculated drawdown using:

1) the aquifer parameters computed for each well when the well was tested,
2) the aquifer conditions for the current test,
3) the pump rate for the drawdown calculation for each test well that is equivalent to their approved allotment.
4) a three day pumping period for the calculation.

ADVERSE EFFECT: An adverse effect on the water table or aquifer shall be considered to occur if the pump rate during the aquifer test results in an aquifer drawdown at the well of an adjacent property or at a well within the radius of influence which either:

1) amounts to more than 10-percent of the available water column at such well; or,
2) causes a decline (estimated or observed) in the existing well yield to a level, which is less than 90-percent of maximum day water use demand for the hydrologically contiguous property.

ALLOTMENT: The maximum amount of water an applicant may extract on a daily basis, as averaged over a thirty-day (30-day) period.

APPLICANT: Any person as defined herein who applies for a Groundwater Extraction Permit.

AQUIFER: A saturated bed, formation, or group of formations or strata, which yields water in sufficient quantity to be economically useful.

AQUIFER PUMP TEST: Physical testing for evaluation of an aquifer to determine the existence of an adequate water supply and to provide data for the hydrological study. Test to be conducted during Hydrological Testing Period.

BOARD: Mendocino City Community Services District Board of Directors.

CHANGE IN USE: Any change in use of the property to a different use category as defined in the Water Use Standard.

CHANGED CIRCUMSTANCE: A hydrological change that diminishes water availability within the boundaries of the Mendocino City Community Services District or any part therein.

CLEANING: Shall include removal of silt and other soft materials, but does not include removal of rock or rock materials.

CONE OF DEPRESSION: The depression, roughly conical in shape, produced in a water table by the extraction of water from a well at a given rate. The volume of the cone varies with the rate and duration of withdrawal of water.

CUMULATIVE EFFECTS: The sum of incremental drawdown effects by the test well(s) and by previous aquifer pumps tests performed for hydrological studies for granted Groundwater Extraction Permit Approval(s) on a hydrologically contiguous well.

DEPLETE: The lowering of groundwater levels in an aquifer to the point where there is no longer an adequate water supply for existing uses.

DISTRICT: Mendocino City Community Services District (MCCSD)

EMERGENCY: A sudden, generally unexpected occurrence or set of circumstances demanding immediate action.

EXPANSION OF EXISTING USE: Any increase in water usage by action other than New Development or Change of Use.

GROUNDWATER: That part of the subsurface water which is the zone of saturation, including underground streams.

HYDROLOGY: The science that deals with continental water (both liquid and solid), its properties, circulation, and distribution, on and under the Earth's surface and in the atmosphere, from the moment of its precipitation until it is returned to the atmosphere through evapotranspiration or is discharged into the ocean.

HYDROLOGIST: A Registered Geologist, a Certified Engineering Geologist, a Registered Hydrologist, or a Registered Civil Engineer with a minimum of five (5) years of experience in groundwater hydrology and hydrological studies.

HYDROLOGICALLY CONTIGUOUS WELL: Any well serving a contiguous or surrounding property where such well is hydraulically connected to the pumping well where there is a reasonable expectation of well interference during the aquifer test or increase in water extraction.

HYDROLOGICAL STUDY: A study of the hydrology of a defined area.

HYDROLOGICAL TESTING PERIOD: The hydrological testing period will commence on August 20 of any given year and will terminate when 6 inches of rainfall has been recorded beginning August

1st of the same year, as measured on the Community Services District's rain gauge. After December 31st, if 6 inches of rainfall has not been recorded, the testing period will be extended and will terminate when 7 inches of rain has fallen since August 1st of the prior year. After January 31st, if 7 inches has not been recorded, additional extension will allow hydrological testing until 8 inches has fallen as measured from August 1st of the prior year. After February 28th, termination of the testing period will occur when 9 inches of rain has fallen or March 31st, whichever comes first. During the defined testing period, no hydrological testing will be allowed for 5 consecutive days following a recorded rainfall of 1 inch or more. Testing may be resumed after the 5-day waiting period, provided that the total rainfall has not exceeded the above-defined limits of the hydrological test period. The hydrological test period as defined may be modified by Board action in case of unusual rainfall patterns.

LIMITED INCREASE: A limited increase is the quantity of water required for "new development", "change in use", or "expansion of existing use", as defined by the Water Use Standard adopted by the Board. A limited increase is determined by the increased water demand for the proposed project. As calculated from the Water Use Standard, a limited increase shall not exceed:

1. 30% of an existing water demand that is less than or equal to 320 gallons per day.
2. 10% of an existing water demand that is greater than 320 gallons per day.

As a condition of approval for an exception to the hydrological study requirement, the applicant agrees not to exceed the water use allotment for current and present use. A limited increase only applies to Section 4(b) of the ordinance. Following the issuance of a Groundwater Extraction Permit under Section 4(b) Exceptions to Hydrological Study Requirements, future "new development", "change in use", or "expansion of existing use", which result in a limited increase in water demand, may require approval of a Hydrological Study prior to issuance of a new Groundwater Extraction Permit to review the effect that incremental development may have on adjacent wells or the aquifer.

MAXIMUM DAY WATER USE DEMAND: Daily water allotment based on the Groundwater Extraction Permit Water Use Standards.

MINOR REPAIR AND MAINTENANCE: Repair and maintenance to the existing well structure or equipment. Minor repair and maintenance does not include deepening the well or replacing the casing in the well. Minor repair and maintenance includes painting or minor repairs to structures, replacement of windows, floor coverings, and interior and exterior siding, and repair and replacement of roofs. Construction of a foundation under an existing structure is not considered minor repair and maintenance.

NEW DEVELOPMENT: Development of any new water source, division of an existing parcel, or any project, which requires a building or use permit according to Mendocino County regulations.

PERSON: Includes any state or local governmental agency, private corporation, partnership, individual, group of individuals, owner(s) or developer(s) of a property subdivision, or, to the extent authorized by law, any federal agency.

RADIUS OF INFLUENCE: Is the horizontal distance from the center of a pumping well to the limit of the cone of depression.

SAFE YIELD: The maximum quantity of water that is allotted in the Groundwater Extraction Permit Water Use Standard for the proposed development, which can be withdrawn from an aquifer without causing an undesirable effect.

SUSTAINED YIELD: Is the maximum pumping rate that a pump can remove water from a well without lowering the water level in the well below the pump intake. A sustained yield in a well exists when drawdown stabilizes and equilibrium conditions are achieved during the aquifer test.

WATER DEMAND: Is the quantity of water use calculated from the Water Use Standards for all uses on a parcel. Existing allotments may be greater than or less than the parcel water demand.

WATER METER: Any device used to accurately measure water that is extracted from a groundwater source.

Appendix C

Water Use Standard	Gallons/Day	Units
Residential:		
Single Family Residence-		
1) 1-2 Bedrooms	200 gal/ d	per unit
2) Each additional bedroom, attached or detached	60 gal/ d	each bedroom
Additional Residence		
1) Additional residence w/ 1 or 2 bedrooms	200 gal/ d	per unit
2) Each additional bedroom	60 gal/ d	per bedroom
Guest Cottage	100 gal/ d	per unit
Commercial Visitor Accommodations:		
Bed and Breakfast, Hotel, Motel, Inn		
1) Dwelling unit, w/ kitchen	160 gal/ d	per bedroom
2) Sleeping unit, w/o kitchen,	120 gal/ d	per bedroom
3) With on-site Laundry	40 gal/ d	per bedroom
Vacation Home Rental		
1) 1-2 bedrooms	200 gal/ d	per unit
2) Each additional bedroom	60 gal/ d	per bedroom
Single Unit Rental		
1) 1-2 bedrooms, w/ kit.	200 gal/ d	per unit
2) 1-2 bedroom, w/o kit.	140 gal/d	per unit
3) Each additional bedroom	60 gal/d	per bedroom
Commercial Business:		
Cottage Industry/ Home Occupation		
1) Residence w/ 1-2 bedrooms	200 gal/ d	per unit
2) Each additional bedroom	60 gal/d	per bedroom
3) Business portion of residence	.15 gal/d/ft^2	business portion
Retail Store/ Gallery/ Office		
1) Retail store/Gallery	.15 gal/d/ft^2	Display Area
2) Office	.15 gal/d/ft^2	Work Area
Food and Beverage Establishments		
1) Full Service w/ bar	3.4 gal/d/ft^2	dining area
2) Full Service w/o bar	2.9 gal/d/ft^2	dining area
3) No Service, w/ seating, no dish washing	2.1 gal/d/ft^2	dining area
4) No On-Premise Consumption	2.1 gal/ d/ ft^2	work area

Water Use Standard	Gallons/Day	Units
Bar		
1) Bar area	6.7 gal/d/linear ft.	bar length
2) Patron area	1.4 gal/d/ft^2	patron area
Laundromat		
1) Per machine	400 gal/ d	per machine
Service Station	1,000 gal/ d	per service station
Grocery Store	.2 gal/d/ft^2	work area
Church		
1) w/ kitchen	5 gal/ d	per sanctuary seat
2) w/o kitchen	3 gal/ d	per sanctuary seat
Hall/Auditorium	3 gal/ d	per seat
Theater	5 gal/ d	per seat
School		
1) Public	15 gal/ d	per student
2) Private	15 gal/ d	per student
Government Office or Building	.15 gal/d/ft^2	work area
Personal Services		
1) Beauty Salon/Barber Shop	1 gal/d/ft^2	work area
2) Spa Services	1.5 gal/d/ft^2	work area

The Board will handle types of establishments not listed here or special requests, on a case-by-case basis.

Appendix D
Water Use Standard Definitions

Additional Residence shall mean occupancy, by non-transient residents, of a second dwelling unit on a parcel, attached to or detached from the primary residence or commercial business, with provisions for, sleeping, eating, cooking, and sanitation. Typical uses include an apartment or studio.

Bar shall mean an establishment or place of business primarily engaged in the sale of prepared food or beverages for on premises consumption.

Bed & Breakfast shall mean any building or portion thereof or group of buildings containing no more than four (4) dwelling units or sleeping units, which are designed or intended to be used, let, or hired out for occupancy by transient guests for compensation or profit, with the express permission of the owner, wherein breakfast may be provided for compensation or profit.

Cottage Industry shall mean a secondary use of a parcel containing a Single Family Residence, which is the primary residence of the owner or operator of the Cottage Industry. No Cottage Industry may occupy more than 640 square feet of area within any building or buildings on the same parcel and not more than 10 customers or clients shall come to the parcel for service or products during any one-day. Specific standards are:

1. Not more than one (1) outside person may be employed on the premises in addition to the members of the family residing on the premises;
2. The Cottage Industry shall be a secondary use of a parcel containing a Single Family Residence or Dwelling Unit as a principal residence of the owner or operator of the Cottage Industry.
3. No Cottage Industry permitted pursuant to the Ordinance may occupy more than 640 square feet of area within any building or buildings on the same parcel.
4. Not more than ten (10) customers or clients shall come to the residence for service or products during any one-day.

Detached Bedroom shall mean a separate incidental structure containing one (1) room only without a kitchen or sanitation facilities, designed for and intended to be used as a sleeping or living facility for family members to be used in conjunction with a main structure which includes kitchen and sanitation facilities. A detached bedroom shall be located no farther than one hundred fifty (150) feet from the main structure, and shall not exceed five hundred (500) square feet of floor area.

Dwelling Unit shall mean a living space, which provides independent living facilities for one or more persons, including provisions for sleeping, eating, cooking, and sanitation.

Food and Beverage Establishments shall mean:

1) Full Service w/ Bar: Eating and drinking establishments or places of business engaged in the sale of prepared food and beverages for on-premise consumption with a bar and full service.
2) Full Service w/o Bar: Eating and drinking establishments or places of business engaged in the sale of prepared food and beverages for on-premise consumption without a bar and with full service.

3) No Service: Eating and drinking establishments or places of business engaged in the sale of prepared food and beverages for on-premise consumption with seating and no dish washing and no service.
4) No On-Premise Consumption: Eating and drinking establishments or places of business engaged in the sale of prepared food and beverages, and which no consumption of the product occurs on the premises.

Gallery shall mean an establishment that engages in the retail sale of art or specialty items.

Guest Cottage shall mean a living space without provisions for cooking, with provisions for sleeping, and sanitation, and where the person or persons are guest(s) of the regular occupants of the primary residence. Living space shall be restricted to 640 sq. ft.

Home Occupation shall mean an accessory use within a Single Family Residence for gainful employment, which involves the manufacture, provision or sale of goods and /or services, where such uses are clearly incidental and secondary to the use of the Single Family Residence for residential purposes, and must not change the character thereof, or adversely affect the residential or rural nature of its surroundings. Specific Standards are:

1. No person other than members of the family residing on the premises shall be engaged in such occupation;
2. No additional water or sewer demands will be created by the use;
3. The Home Occupation shall be incidental and subordinate to its use for residential purposes and not more than 25 % of the floor area of the residence shall be used for such occupation. Use of any accessory building or garage for these purposes shall be prohibited.
4. No more than ten (10) customers or clients shall come to the residence for service or products in any one-day.

Hotel shall mean any building or portion thereof containing five (5) or more dwelling units or sleeping units each used, designed or intended to be used, let or hired out for occupancy by transient guests for compensation or profit wherein meals may be provided for compensation or profit.

Inn shall mean any building or portion thereof or group of buildings containing five (5) or more dwelling units or sleeping units each used, designed or intended to be used, let or hired out for occupancy by transient guests for compensation or profit, and where regular meals may be provided for compensation or profit.

Motel shall mean any building or portion thereof or group of buildings containing five (5) or more dwelling units or sleeping units where such units are directly accessible from an outdoor parking area and where each is used, designed or intended to be used, let or hired out for occupancy by transient guests for compensation or profit.

Office shall mean private firms or organizations, which are primarily used for the provision of professional, executive, management, or administrative services.

Personal Services shall mean an establishment or place of business primarily engaged in the provision of services of a personal nature. Typical uses include: beauty salon, barbershop, massages studio, or dance studio.

Retail Store shall mean a business that is engaged in the sale or rental of commonly used goods and merchandise for personal or household use.

Single Family Residence shall mean the occupancy of the primary residential unit of a parcel on a non-transient basis, and the dwelling unit shall provide provisions for sleeping, eating, cooking, and sanitation.

Single Unit Rental shall mean the rental of an attached or detached structure (not the primary residence or business) on a parcel for Visitor Accommodations for transient guests for compensation or profit (30 days or less), and shall provide provisions for sleeping, sanitation, and with or without eating and cooking.

Sleeping Unit shall mean a living space, which provides living facilities for one or more persons, but does not include provisions for cooking and eating within the unit.

Vacation Home Rental shall mean the rental of Single Family Residence, that the only use on the property is for Visitor Accommodations, to be let or hired as an entire unit for occupancy by transient guests for compensation or profit, and limited to one unit per parcel (30 days of less).

Visitor Accommodations shall mean establishments engaged in the provision of lodging services on a less than monthly basis, which may provide incidental food and drink intended for the convenience of the guests.