STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, *Governor*

CALIFORNIA COASTAL COMMISSION
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Filed: November 5, 1996
49th Day: December 24, 1996
180th Day: May 4 , 1997
Staff: Bill Van Beckum
Staff Report: November 27, 1996
Hearing Date: December 13, 1996
Commission Action:

STAFF REPORT: PERMIT AMENDMENT

APPLICATION NO.: **1-96-67-A**

APPLICANT: **FITZPATRICK CONSTRUCTION, INC.**

PROJECT LOCATION: 305 Potter Avenue, Alsace Lorraine Subdivision, Half Moon Bay, San Mateo County, APN 056-105-018

DESCRIPTION OF PROJECT PREVIOUSLY APPROVED: **Construction of a single-family residence and conversion of a test well to interim domestic water well (Coastal Development Permit No. 3-90-04).**

DESCRIPTION OF AMENDMENT: Amend Special Condition No. 1 of CDP No. 3-90-04 to extend the interim use period for the domestic water well.

SUBSTANTIVE FILE DOCUMENTS: Half Moon Bay LCP; Coastal Development Permit No. 3-90-04 (Fitzpatrick Construction and Stephen McPartlan).

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1. PROCEDURAL AND BACKGROUND NOTE: Pursuant to Section 13166 of the California Code of Regulations, the Executive Director has determined that this amendment request, which proposes to affect conditions required for the purpose of protecting coastal resources, is a material change and is therefore bringing it to the Commission for their review. If the applicants or objector so request, the Commission shall make an independent determination as to whether the proposed amendment is material. 14 Cal. Code Reg. 13166. Unless the proposed amendment has been found to be immaterial, the Commission shall determine by a majority vote of the membership present whether the proposed development with the proposed amendment is consistent with the requirements of the Coastal Act.

Section 13166 of the Regulations also states that the Executive Director shall reject an amendment request if it lessens or avoids the intent of the approved permit unless the applicant presents newly discovered material information, which he or she could not, with reasonable diligence, have discovered and produced before the permit was granted.

Coastal Permit No. 3-90-04 (Fitzpatrick Construction and McPartlan) was approved by the Commission on February 13, 1990, with special conditions intended primarily to address hydrologic concerns. Specifically, Special Condition No. 1 of the permit required, prior to transmittal of the coastal permit, recordation of a deed restriction, which "shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens," stating that the following:

> (a) the permittee understands that the installation of an interim domestic water well system may be subject to potential hazards due to contamination from bacteria, iron, manganese and, or nitrates, and waives any claim of liability on the part of the Commission for approving the well, (b) the permittee understands that the well is approved on an interim basis pending the availability of imported public water supply and that it must be abandoned once a public water supply becomes available, (c) the project connected to this interim well shall connect to and use the public water supply within 30 days of availability, and (d) the permit approves the well for domestic use on an interim basis for five years from the Commission's approval of the permit, but allows for the applicants to apply for authorization for a longer period of use of the well if certain information documenting the continued viability of the well and its lack of impact on groundwater resources, including annual well monitoring reports, is submitted with the authorization request.

Special Condition No. 2 required, prior to the commencement of construction, the submittal of City approvals of the well and final project design plans. The "prior to issuance" conditions of the permit were met, and remain in effect. The coastal permit was issued, on June 7, 1990, and the development was subsequently completed.

This amendment request seeks authorization to extend the interim use period for the well specified in Special Condition No. One of the original permit beyond the initial 5-year period, for an unspecified time but presumably until such time as the the parcel is eligible to connect to the imported public water supply. The request specifically is to amend Special Condition No. 1.D., which requires that for authorization to use the interim well beyond five years from the Commission's approval date, i.e., beyond February 13, 1995, a request for a permit amendment must be submitted with certain information, including annual well monitoring reports. The permitttee did not submit an extension request before that date, and did not prepare the required monitoring reports specified in Special Condition No. 1.D. Although the applicants did not meet the specific requirements specified in Condition 1.D. to apply for an amendment to authorize additional use of the well, they have

submitted a hydrogeology report which documents that the well is having no adverse impacts on groundwater resources and that the quality of the well water is adequate for domestic consumption. The Executive Director has determined that providing such information along with the request to extend the interim use period authorized for the well does not lessen the intent of Special Condition No. 1 of the original permit and therefore has accepted the amendment request for processing.

2. STANDARD OF REVIEW: At the time the original permit application was acted upon by the Commission, the LCP for the City of Half Moon Bay was not yet certified, and the standard of review for the application was the Coastal Act. The Half Moon Bay LCP was effectively certified in April of 1996. Pursuant to Coastal Act requirements, after effective certification, the standard of review for all coastal permits and permit amendments is the LCP, not the Coastal Act. Therefore, the certified LCP is the standard of review for this amended project.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions:

The Commission hereby approves the amendment to the coastal development permit, subject to the conditions below, on the grounds that the proposed development with the proposed amendment is consistent with the provisions of the Half Moon Bay Local Coastal Program, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions: See attached.

III. Special Conditions:

The following Special Condition shall replace Special Condition No. 1 of the original permit:

1. Deed Restriction

PRIOR TO THE ~~TRANSMITTAL~~ ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the ~~permittee~~ applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which shall provide:

A. (1) That the ~~permittee~~ applicant understands that the installation of an interim domestic well may be subject to potential hazards due to contamination from bacteria, iron, manganese and, or nitrates, and, therefore, the interim well water may not be suitable for domestic use without treatment, now or in the future, and the applicant assumes the liability from these potential hazards; and 2) that the ~~permittee~~

applicant unconditionally waives any claim of liability on the part of the Commission and agrees to indemnify and hold harmless the Commission and its advisors relative to the Commission's approval of the project for any damage due to potential contamination. The document shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens.

B. That the ~~permittee~~ applicant understands the installation of a domestic water well on the lot (APN 056-105-~~010~~ 018) within the City of Half Moon Bay is on an interim basis pending the availability of imported public water supply, which is expected sometime after 1992, and that the interim water well must be drilled, installed and later abandoned in adherence to specified health and safety criteria established by the City of Half Moon Bay.

C. That the project shall connect to a public water supply within 30 days of availability. When the project is connected to a public water system, the ~~permittee~~ applicant is no longer subject to the provisions in Special Condition 1.(A.)(1).

~~D.~~ ~~That this Coastal Development Permit approves the well for domestic use on an interim basis, until February 13, 2000. Authorization to use the domestic well beyond then, for any subsequent interim use period(s), not to exceed a 5-year interval, will require a permit amendment request, submitted before the end of the preceding interim use period, accompanied by a professionally prepared hydrogeologic analysis and report that demonstrates that the well can continue to yield water of sufficient quantity and quality for single-family residential use without adversely impacting coastal groundwater resources. The report shall include as well a laboratory analysis of a then current (at the time of the permit amendment request) water sample to determine if water quality meets County Environmental Health standards, and any available measurements or estimates of then current perennial yield and annual surplus levels of the Pilarcitos Creek Subbasin. The amendment request shall be accompanied by a letter of review by the City of Half Moon Bay City Manager or Public Works Director that accepts the hydrogeologist's demonstrated conclusions.~~

~~D.~~ ~~That this Coastal Development Permit approves the well for domestic use on an interim basis until February 13, 2000. Authorization to use the domestic well beyond this period will require an extension request and request must be accompanied with copies of annual well monitoring report(s) in conformance with Half Moon Bay Ordinance 16-88. Reports shall be accompanied by a letter of review by the City Engineer.~~

D. That this Coastal Development Permit approves the well for domestic use on an interim basis, until February 13, 2000. Authorization to use the domestic well beyond then, for any subsequent interim use period(s), not to exceed a 5-year interval, will require a permit amendment request, submitted before the end of the preceding interim use period, accompanied by a professionally prepared hydrogeologic analysis and report that demonstrates that the well can continue to yield water of sufficient quantity and quality for single-family residential use without adversely impacting coastal groundwater resources. The report shall include as well a laboratory analysis of a then current (at the time of the permit amendment request) water sample to determine if water quality meets County Environmental Health standards, and any available measurements or estimates of then current perennial yield and annual surplus levels of the Pilarcitos Creek Subbasin. The amendment request shall be accompanied by a letter of review by the City of Half Moon Bay City Manager or Public Works Director that accepts the hydrogeologist's demonstrated conclusions.

Special Condition No. 2 of the original permit remains in effect.

The following special conditions shall be added to the original permit:

3. Well Level Measurements

Water well levels shall be measured and recorded, on a log sheet designed for recording a total of 10 measurements, in June and December during each year of the interim well's authorized use period. Within 30 days of each measurement the applicant shall forward a copy of the updated log sheet to the Executive Director. If at any time during the interim use period a well level measurement shows that the water level has exceeded 46 feet (sea level elevation), pumping from the well shall be discontinued until such time as a new measurement, submitted to and reviewed by the Executive Director, indicates that the water level has risen to at least 46 feet.

4. Condition Compliance

All requirements specified in the foregoing conditions that the applicants are required to satisfy as prerequisites to the issuance of the amended permit must be met within 90 days of Commission action on this permit application. Failure to comply with this requirement within the time period specified, or within such additional time as may be granted by the Executive Director for good cause will result in the nullification of this permit approval.

IV. Findings and Declarations.

The Commission hereby finds and declares:

1. Project and Site Description:

The original project approved by the Commission in 1990 was for the construction of a two-story residence and conversion of a test well to an interim domestic water well to serve the new residence on a 7,500-square-foot parcel in the Alsace Lorraine Subdivision, a developing residential neighborhood on the west side of Highway 1. The subject site is located approximately 1/2 mile inland from the Half Moon Bay shoreline. See Exhibits 1 and 2. Views of the ocean are blocked by intervening development. The parcel contains no environmentally sensitive habitat areas.

The residence constructed pursuant to Coastal Permit No. 3-90-04 is served by an on-site sewer connection. Although public water supply lines are located in the street in front of the residence, no connection to the lines is available to the residence at this time due to a shortage of water supplies within the Coastside County Water District (CCWD) system. The line is reserved for supplying water for fire protection purposes and to residences which have connected pursuant to "Phase I" eligibility provisions discussed below.

The subject on-site water well was drilled, as an alternative to a public water source, on April 12, 1989, in accordance with a City of Half Moon Bay well permit issued in early 1988 (No. 343-88) and with City Ordinance 16-86. Ordinance 16-86 sets forth regulations for drilling water wells within the City limits. These regulations include provisions for monitoring of the water

quality for domestic wells.

Ordinance 13-88 required that a Coastside County Water District (CCWD) "Phase I" connection agreement be obtained prior to the issuance of well permits for domestic use, thus establishing interim wells on those properties. A property owner who had obtained a Phase I agreement would be eligible for public water service from the CCWD's Crystal Springs Pipeline Project upon its completion, which was expected to occur in 1992 (but which actually did not occur until 1994).

The subject property is one of several properties for which City well permits were approved prior to September 20, 1988, when the City adopted Ordinance 13-88, as an amendment to City Ordinance 16-86. Well permits issued by the City prior to September 20, 1988, such as the City's well permit for the subject well, were exempted from this requirement of the ordinance, and from the ordinance requirement to connect to the public water service when available and to subsequently abandon use of the well.

When Coastal Permit application No. 3-90-04, for construction of the single-family residence and conversion of the test well drilled in April 1989 to an interim domestic well, came before the Commission, the issue of whether the proposed domestic well could be considered interim was raised, because there were no Phase I agreement assurances for a subsequent connection to a permanent public water supply.

In approving the residence and conversion of the well to an interim well, the Commission required, as conditons of approval, the recordation of a deed restriction restricting well use to an interim period with provisions for a 5-year review of yearly water quality monitoring data. Commission authorization to use the well beyond 5 years would be based on an analysis of those reports. The Commission's adopted findings, from the Commission's February 13, 1990 hearing on the original permit application, are attached as Exhibit 3. The following is an excerpt from these findings:

> Conditions of approval require the recordation of a deed restriction restricting well use to an interim period and require a waiver of liability on the part of the Commission for any damage due to potential contamination. Previous approvals of development proposals with interim wells have been justified based on the availability of Phase I connections. In this case, there is no Phase I connection and the use of the well must be viewed as a longer term commitment than that of a development with a Phase I connection. In order to minimize potential cumulative impacts on coastal groundwater resources, it is appropriate to include provision for periodic review of water quality. Conditions of this approval includes provisions for a 5 year review of yearly water quality monitoring data. The continued use of the interim well would be based on the analysis of those reports by the City of Half Moon Bay city manager in conformance with ordinance 16-88 (sic), County Environmental Health standards, and the recommendations of the City's hydrologic consultants.

As conditioned, to require periodic review for an interim domestic water well until a permanent water supply becomes available, the project will not have adverse impacts on coastal resources as set forth in Coastal Act Section 30250.

As discussed above, this amendment request seeks authorization to use the interim well beyond the original five years authorized by the Commission in the original permit, i.e., beyond February 13, 1995.

2. Local Coastal Program:

The intent of the Commissions's Special Conditions to Coastal Permit No. 3-90-04 was to ensure, consistent with Coastal Act Sections 30250 and 30254 requirements, that pumping from the aquifer remains, quantitatively and qualitatively, within safe yield limits over the long run. The permit findings discuss, for example, a number of "potential problems which can occur when coastal aquifers are overdrafted" and the concern that "continued reliance on individual domestic water wells for small-lot residential development could threaten the amounts that might otherwise be available (and are by policy reserved) for the Coastal Act priority uses."

As the Half Moon Bay LCP was effectively certified in April of 1996, the LCP, not the Coastal Act, is the standard of review for this permit amendment request.

The certified LUP contains policies regarding locating new development, the availability of public services and the protection of coastal resources. For excample, LUP Policies 9-2 and 9-4 require that prior to the issuance of any development permit a finding must be made that the proposed development has water and sewer services available to it and it is located in an area appropriate for the type of development proposed. Policy 3-10 sets forth performance standards, specifically related to development in riparian corridors (not the case with the subject site), that require any permitted development to "prevent depletion of groundwater supplies and substantial interference with ... subsurface waterflows." However, because the LUP, at the time of its certification, assumed that water and sewer services to Half Moon Bay would continue to be provided by public utilities, no specific policies governing the use of individual water wells as a water source, and their potential impacts on groundwater resources, were included in the LUP.

Nonetheless, the inclusion of such policies as Policies 9-2, 9-4 and 3-10 in the LUP demonstrate that the City has considered as basic criteria for development an adequate water source that does not adversely impact coastal resources. Furthermore, in recognition that the LUP may not include specific policies to address every issue that might be raised with future development proposals, the LUP also includes, as one of five general policies to "provide the framework for the Coastal Land Use Element," Policy 1-1, which states "The City shall adopt those policies of the Coastal Act (Coastal Act Sections 30210 through 30264) cited herein, as the guiding policies of the Land Use Plan."

Two Coastal Act policies cited in the LUP that are relevant to the proposed coastal permit amendment are Coastal Act Sections 30231 and 30250(a). Section 30250(a) requires in applicable part that new development be located where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. Section 30231 requires that coastal water quality be protected by various means, including preventing the depletion of ground water supplies.

In February 1993 the Commission certified an amendment to the City's LUP to add language to incorporate provisions of the Half Moon Bay Growth Initiative ("Measure A," passed by the voters in 1991). The amendment added a Section 9.4 to the LUP limiting the number of new dwelling units allowed per year, so that the annual population growth rate does not exceed 3%. In certifying the amendment, the Commission found, in applicable part (Public Services Availability):

> Coastside County Water District (CCWD) is the public agency responsible for supplying domestic water to the City of Half Moon Bay ... (CCWD's) supplies are already fully committed. However, in order to accommodate continued growth, the City has allowed the use of interim private wells for new residences. The City's existing water shortages are expected to be relieved, in part, by the completion of the Crystal Springs pipeline project which is under construction and is now expected to be on-line by October 1993. Until the Crystal Springs pipeline project is completed, a water connection moratorium is in effect. Except for the fraction of Crystal Springs water which is reserved for priority uses, this phase of the project is already fully subscribed, and no surplus will be available for further increments of residential growth...
>
> The only other water source currently available is local groundwater. Ultimately, this source is limited to the amount of groundwater that can be safely pumped without aggravating salt water intrusion, adversely impacting agricultural wells, or significantly degrading environmentally sensitive riparian corridors and wetlands.
>
> The issue of water supply as a limiting factor for development in Half Moon Bay is not new. In 1976, the University of California's Institute of Urban and Regional Development at Berkeley correctly predicted, in their Half Moon Bay Case Study (Dickert, et al, in Sea Grant Publication No. 53) that water supply would be the first resource restraint encountered as residential buildout proceeded.
>
> Nonetheless, when this apparent barrier was encountered in 1986, residential growth was allowed to continue when the City government temporarily authorized the use of interim private wells. When the expected Crystal Springs diversion is completed, these interim wells are to be abandoned as soon as the CCWD system is able to serve the new connections. The City and CCWD are also considering increased groundwater pumping as a permanent water source. The primary concern is overdrafting of the aquifer. A technical consultant, Geoconsultants,

> Inc., has been retained to help determine safe yield...
>
> Geoconsultants, Inc. have ... provided safe yield estimates for each of the five drainage basins available to the City. These estimates are being tested through a stream and well monitoring program.....The subdivisions of Highland Park, Alsace Lorraine and Arleta Park are all contained within the Pilarcitos Creek sub-basin...
>
> In summary, the City of Half Moon Bay is developing a comprehensive program to manage groundwater resources in the City. This plan, together with the on-going monitoring program, will minimize the risk of overdrafting the aquifer. Accordingly, the Commission has continued to approve with conditions interim domestic water wells for single family homes pending the availability of a permanent water supply.

The applicant for this permit amendment request has submitted a hydrogeologic report (Hydrogeologic Analysis Supporting Domestic Well Continued Use, 305 Potter Avenue, Geoconsultants,Inc., August 14, 1996) which summarizes Geoconsultants' annual reports prepared for the City from 1987 through 1993, the last year the City contracted for a report, and the same year the Commission adopted the certification findings for the City's LCP Amendment No. 1-93. The hydrogeologic report estimates current (1996) perennial yield and annual surplus figures for the Pilarcitos Creek sub-basin, in which the Alsace Lorraine subdivision, the location of the subject property, is situated. The report (see Exhibit 4) concludes:

> It was our intention to update the hydrogeological information so as to provide substantiation to the premise that continued use of this well would not adversely impact the aquifer. Basically, the Half Moon Bay Aquifer, and specifically the Pilarcitos Creek Subbasin, can be negatively impacted in two ways; either the amount of annual recharge is decreased, or the overall pumpage is increased. Extreme instances of one or both of these events can lead to aquifer overdraft and/or sea water intrusion.
>
> Our evaluation has shown that the amount of recharge has actually inreased (due to heavy rains of the last two years), as exemplified by a 5-foot rise in the ground-water elevation (in the vicinity of the site) between 1993 and 1996. However, since the current perennial yield estimate cannot be quantified (without a complete update of the Pilarcitos Creek Subbasin hydrogeology), we have taken a conservative viewpoint that the recharge has remained at the drought levels of 1993.
>
> We have shown that there has been a net decrease in ground-water pumpage of 43 acre-feet, due to the abandonment of 77 wells within the subbasin (since June 30, 1993). By utilizing the 1993 perennial yield figures (for the subbasin) of 1,437 acre-feet, we have shown that a ground-water surplus exists of 709 acre-feet (compared to a subbasin surplus of 666 acre-feet in 1993).

The recent (1996) water quality analysis performed on the subject well meets all primary drinking water standards.

Based on our evaluation, we conclude that usage of the subject well located at 305 Potter Avenue, will have no adverse impact on the ground-water conditions in the area. The additional pumping of 0.56 acre-feet per year (based on a single-family residential usage estimate) will still leave a ground-water surplus of 708 acre-feet within the Pilarcitos Creek Subbasin. We recommend that the following conditions be placed on the permit extension.

1. Water levels should be measured and recorded in June and December of every year of the extended time period.

2. The water level in the well should not be allowed to exceed a depth of 46 feet, or sea level elevation, during pumping.

3. The well should be properly abandoned following hookup to an imported municipal water supply.

The amendment request, as supported by the 1996 Geoconsultants' report, demonstrates that continued interim use of the water well, under current conditions of ground water level and available yield, will not have an adverse impact on coastal groundwater resources. The Commission finds it necessary, however, to ensure that future risks of overdrafting the aquifer are minimized and that water quality hazards are minimized, to require that continued interim use be limited and subject to periodic evaluation. The Commission thus attaches Special Condition No. 1, to replace the first condition of the original permit.

Special Condition No. 1 requires the recordation of a deed restriction that is identical to Parts 1.A.-1.C. of the original permit regarding a waiver of liability regarding potential contaminants, criteria for well abandonment, and connection to a public water supply when available. In Part 1.D. of new Special Condition Number 1, the original condition is modified to provide not only for an additional extension of use of the well for another 5-year period, but also to set forth specific water quantity and quality analysis requirements necessary for the authorizations of subsequent extensions, for additional use periods up to 5 years each.

The Commission also attaches a new condition, Special Condition No. 3, to help ensure, through specific biannual monitoring requirements, that continued interim pumping from the water well will not contribute to aquifer overdraft and/or sea water intrusion.

The proposed amendment therefore is consistent with Half Moon Bay LUP Policy 1-1, as certified to address Coastal Act Sections 30231 and 30250(a) provisions, because, as conditioned, continued interim use of the well will occur in such a manner that prevents the depletion of ground water supplies and therefore does not have a significant adverse effect on coastal

resources. The proposed amendment is therefore also consistent with provisions of the City's adopted LCP Zoning Ordinance intent to "Protect, conserve, and where possible, restore natural environmental resources within the City" (Ordinance Section 18.01.010.H.).

3. Alleged Violation:

The continuation of use of the existing domestic water well, beyond its originally authorized initial interim use period as proposed in this coastal permit amendment application, has occurred without benefit of an amendment to Coastal Development Permit No. 1-96-67 (formerly No. 3-90-04). Although development has taken place prior to submission of this permit amendment application, consideration of the application by the Commmission has been based solely upon the policies of the certified Half Moon Bay LCP. Approval of the permit amendment does not constitute a waiver of any legal action with regard to the alleged violation nor does it constitute an admission as to the legality of any development undertaken on the subject site without a coastal permit.

4. CEQA:

Section 13096 of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(i) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact that the activity may have on the environment. As discussed above, the proposed development with the proposed amendment will not have a significant adverse effect on the environment, within the meaning of CEQA. The Commission finds that there are no feasible alternatives or mitigation measures available which would substantially lessen any significant adverse impact that the activity may have on the environment.

EXHIBITS

1. Regional Location Map
2. Site Location Map
3. Original Staff Report
4. Geoconsultants. Inc. Report
5. Coastside County Water District Correspondence

8900p/WANG/bvb

ATTACHMENT A

Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

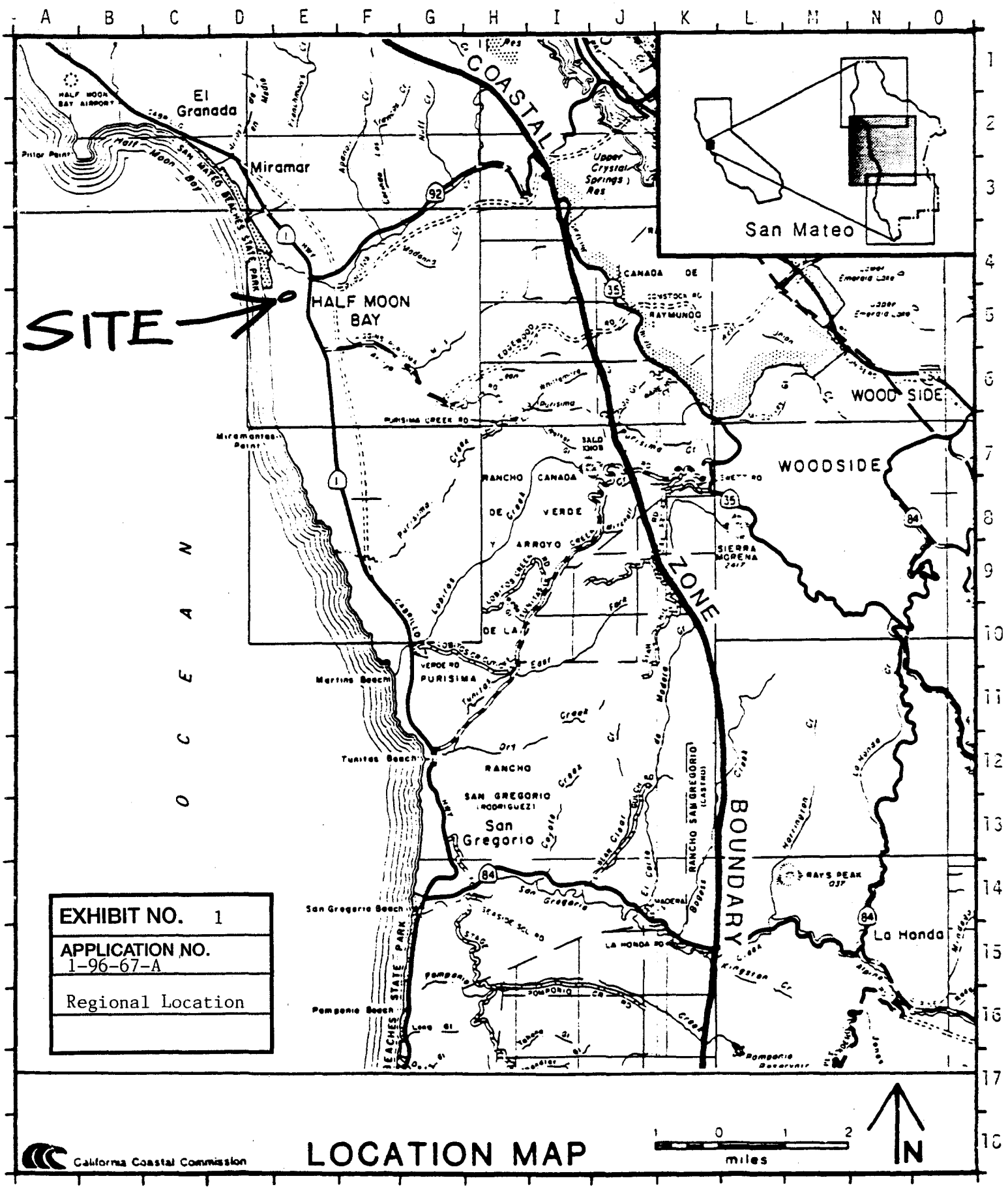
3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. Interpretation. Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.

6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.



County of San Mateo

Sheet 2 of 3

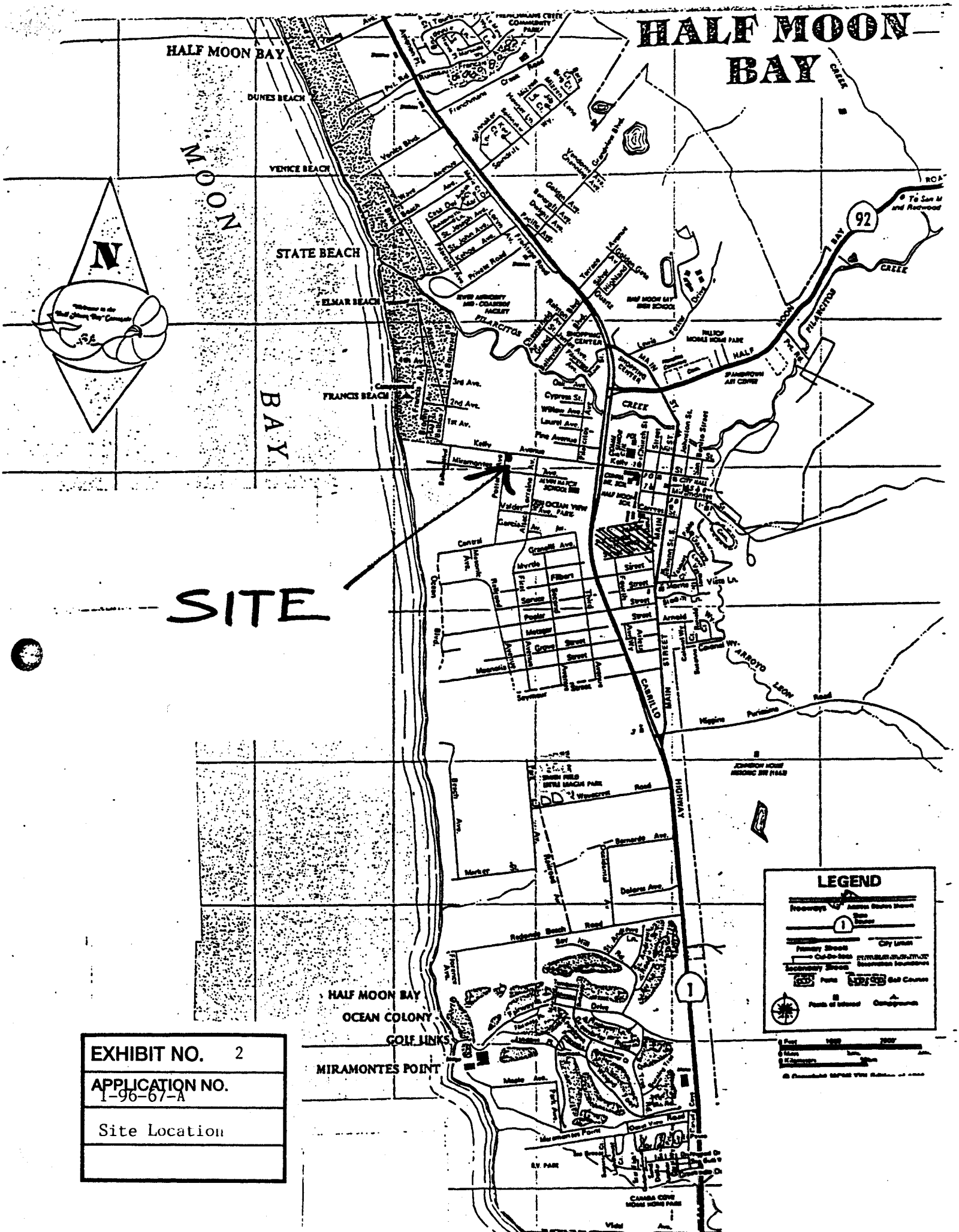


EXHIBIT NO. 2
APPLICATION NO. 1-96-67-A
Site Location

EyB JJs 1/24/90

STATE OF CALIFORNIA—THE RESOURCES AGENCY GEORGE DEUKMEJIAN, Governor

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST AREA OFFICE
640 CAPITOLA ROAD
SANTA CRUZ, CA 95062

Filed: 01/05/90
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180th Day: 07/06/90
Staff: J. Sheele/cm
Staff Report: 01/23/90 1125P
Hearing Date: 02/13-16/90
Commission Action: Approved 10-0, 2 Abstain

EXHIBIT NO. 3
APPLICATION NO. 1-96-67-A
Original staff report

STAFF REPORT: CONSENT CALENDAR

APPLICATION NO.: 3-90-04

APPLICANT: FITZPATRICK CONSTRUCTION and STEPHEN Mc PARTLAN

PROJECT LOCATION: 305 Potter Street, Alsace Lorraine Subdivision, Half Moon Bay, San Mateo County, APN 056-105-010

PROJECT DESCRIPTION: Construct single-family dwelling and convert test well to interim domestic water well..

Lot area:	7,500 sq. ft.
Building coverage:	2,120 sq. ft.
Pavement coverage:	608 sq. ft.
Zoning:	Residential
Plan designation:	Residential-Medium Density (2-8 units per acre)
Project density:	6 units per acre
Ht abv fin grade:	28 feet

LOCAL APPROVALS RECEIVED:

Zoning approval; San Mateo County Environmental Health Department and City of Half Moon Bay preliminary approvals for well installation.
CEQA - Categorically exempt.

SUBSTANTIVE FILE DOCUMENTS: Half Moon Bay Land Use Plan certified September 24, 1985. 3-81-39 City of Half Moon Bay. 3-89-78 Marfal, Inc. 3-89-215 Fitzpatrick Construction.

STAFF NOTES:

The primary issue in this application is the availability of adequate public services and the potential cumulative impact of the use of interim wells on the coastal groundwater resources. This application includes the installation of an interim well. The development does not have a Phase I connection to Coastside County Water District. Findings detail special circumstances of this project and conclude that in this case approval of this development will not set an adverse precedent for future Commission decisions.

SUMMARY OF STAFF RECOMMENDATION:
Staff recommends approval of the proposed project with special conditions which avoid possible adverse cumulative impacts.

PTT: 1A,B,C,D,

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions.

The Commission hereby grants a permit, subject to the conditions below, for the proposed development on the grounds that the development will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions.

See Exhibit A.

III. Special Conditions.

1. PRIOR TO TRANSMITTAL OF THE COASTAL DEVELOPMENT PERMIT, the permittee shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which shall provide:

A. (1) That the permittee understands that the installation of an interim domestic water well may be subject to potential hazards due to contamination from bacteria, iron, manganese and, or nitrates, and, therefore, the interim well water may not be suitable for domestic use without treatment, now or in the future, and the applicant assumes the liability from these potential hazards; and (2) that the permittee unconditionally waives any claim of liability on the part of the Commission and agrees to indemnify and hold harmless the Commission and its advisors relative to the Commission's approval of the project for any damage due to potential contamination. The document shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens.

B. That the permittee understands the installation of a domestic water well on lot (APN 056-105-010) within the City of Half Moon Bay is on an interim basis pending the availability of imported public water supply, which is expected sometime after 1992, and that the interim water well must be drilled, installed and later abandoned in adherence to specified health and safety criteria established by the City of Half Moon Bay.

C. That the project shall connect to a public water supply within 30 days of availability. When the project is connected to a public water system, the permittee is no longer subject to the provisions in Special Condition 1.(a).(1).

III. Special Conditions (continued)

D. That this Coastal Development Permit approves the well for domestic use on an interim basis for five years from the Commission's approval of this permit. Use of the interim domestic well beyond this period will require an extension request and request must be accompanied with copies of annual well monitoring report(s) in conformance with Half Moon Bay Ordinance 16-88. Reports shall be accompanied by a letter of review by the City of Half Moon Bay Engineer.

2. PRIOR TO COMMENCEMENT OF CONSTRUCTION, the permittee shall submit for the Executive Director's review and approval:

A. Final project plans (site, floor and elevations) accompanied by evidence of approval from City of Half Moon Bay.

B. Final well approval from the City of Half Moon Bay.

IV. Findings and Declarations.

The Commission hereby finds and declares:

1. Project Description and Background

The proposed development consists of the construction of a single-family dwelling and the drilling of an interim domestic water well. The property is located at 305 Potter Street in the City of Half Moon Bay. The project site is within the Alsace Lorraine Subdivision. All municipal services, water lines, sewer lines, storm drains, streets, underground utilities, curbs, gutters and sidewalks are existing within this subdivision. The municipal improvements were approved by the Commission in April, 1983, (3-83-16 City of Half Moon Bay). Water lines are available in the street in front of the proposed house. However, there is currently a water moratorium due to lack of additional water within the existing system by Coastside County Water District (CCWD), until completion of the Crystal Springs pipeline project. The projected pipeline completion date is 1992. The existing water lines are used for fire protection services only and not for residential development. The applicant is proposing an interim domestic water well to service the residence.

The Alsace Lorraine neighborhood is an existing subdivided partially developed residential area on the west side of Highway 1, immediately inland from the Half Moon Bay shoreline. The applicant's parcel is typical in size of 6,000-7,000 sq. ft.; upon full buildout, residential development at this density will result in approximately 6 to 7 units per acre.

The Commission has approved 123 interim domestic water wells within the City, 35 of these have been within the Alsace Lorraine Subdivision and 63 of these have been within the Highland Park Subdivision. The Commission has required all the applicants to connect to a public water system when it becomes available and abandon the interim domestic wells in accord with City and County health department regulations.

The applicant is proposing an interim domestic water well to service the residence, however, this property does not have a Phase I connection. The applicant has drilled a test well with City and County approvals, however, no coastal permits were requested or granted because it was assumed that because it was in the Calvo exclusion area this kind of development was excluded from obtaining a Coastal Permit. The test well will be converted to an interim domestic well and be used as the primary source of supply for the proposed dwelling.

For the past three years the City of Half Moon Bay has accepted applications for interim wells. The City adopted a Water Well Ordinance (No. 16-86) which sets forth regulations for drilling water wells within the City limits. These regulations include provisions for monitoring of the water quality for domestic wells. Approval for domestic wells is also necessary from the San Mateo County Environmental Health Department. The City is currently regulating interim domestic well installations according to their consultant's recommendations and the City's well ordinance.

In previous Commission findings the Commission based the approval of these interim wells in part, on the assurance that the proposed well use is only on an interim basis until the completion of the Crystal Springs Project, expected in 1992. There are only a limited number (2,196) of allocations for Phase I service, (connections with water agreements for service from the Crystal Springs Project) from Coastside County Water District (CCWD). According to CCWD, all of the Phase I connections have been sold. The District does not expect to offer purchase agreements for Phase II water service connections prior to 1992.

It was assumed by Commission staff that the City's approval of interim wells was limited to Phase I connections. However, in the summer of 1988, it was discovered that the City had been issuing well permits throughout the City without this requirement. As a result the Commission approved approximately 6-8 of these interim wells prior to staff realizing that that these dwellings did not have Phase I connections. Once this fact was discovered, verification of water service under the Phase I allocation has helped to assure the interim use of the well.

In September of 1988 the City of Half Moon Bay modified their well ordinance (16-86) to require a Phase I connection prior to the issuance of a permit to install an interim domestic well. (Ordinance amendment 13-88)

In response to Coastal Commission staff concerns, the City of Half Moon Bay has submitted a list of properties which do not have Phase I connections, but were approved by the City prior to the September ordinance for interim domestic wells (See Exhibit 3 - letter dated February 3, 1988). According to this list, there are a total of 70 properties with 27 located in the Alsace-Lorraine area. The proposed project site is included in this list of properties within the Alsace Lorraine Subdivision.

Past Coastal Commission findings have stated that property owners who do not have a connection available under Phase I, and who propose a well, pose the question of whether a well can be considered interim or not.

This application will be the third proposal without a Phase I connection the Commission has considered since the City's September ordinance. The first was located in the Calvo Exclusion area (3-89-78 Marfal, Inc.); and the second was located across the street from the subject application (3-89-215 Fitzpatrick Construction). The City has requested that these properties, which were approved prior to the ordinace, be allowed to obtain approval for interim domestic wells to avoid possible damage claims/suits against the City.

This list represents approved applications for interim domestic wells only. Other factors such as available sewer connections, economic factors, and zoning ordinances would reduce the number of interim wells actually installed to serve newly constructed dwellings. Therefore, the additional number of Coastal applications can be expected to be substantially less than listed by Half Moon Bay.

2. Groundwater Extraction/Half Moon Bay Aquifer

There are a number of potential problems with which can occur when coastal aquifers are overdrafted. These include subsidence of the land, saltwater intrusion, contamination and adverse effects on the health and value of wildlife habitats. The nature and importance of aquifers are discussed in detail in Exhibit B which is attached to this recommendation.

Development pressures in the Half Moon Bay area and the lack of water hook-ups due to the continuing moratorium by Coastside County Water District have led to a substantial increase in the number of well permit requests within the City of Half Moon Bay. Staff is currently evaluating the cumulative impacts of such development. According to Geoconsultants Annual Report, 1987-88, which was prepared in July, 1988, 232 wells have been drilled in Half Moon Bay. Of those 232, 154 have been drilled in the past year (7/87-7/88). Most of the well permits have been for wells in areas outside the Commission's permit jurisdiction (Calvo Exclusion Areas).

The Crystal Springs pipeline project was approved by San Mateo County. The decision was appealed to the Coastal Commission; however, the Commission ruled the appeal raised no substantial issues and the local decision stands. The final environmental impact report for the Crystal Springs pipeline project states that the current safe yield of the CCWD's existing sources of water supply falls short of demand. The EIR further states that under present conditions the CCWD's safe yield capabilities fall at least 50 million gallons below normal production requirements, and may fall by an additional 100 million gallons per year after 1984, when the District's allotment from the Pilarcitos Reservoir is scheduled to return to its former level.

Half Moon Bay Land Use Plan public works Policy 10-14(c) states that if new or increased well production is proposed to increase supply, the City shall require the amount pumped to be limited to a safe yield factor which will not impact water-dependent sensitive habitats, riparian habitats, marshes, and agricultural water use. This policy is in reference to public works projects. Individual water wells were not anticipated in the LUP. The LUP policies are directed to the provision of public services by water systems rather than individual water wells.

In a letter to the Commission dated October 29, 1986, Mr. William Ellis, Consultant in Groundwater & Geology, states, "Basically, prior hydrogeologic studies notwithstanding, the quantity of groundwater which can be withdrawn safely from wells in the Half Moon Bay area, and the most prudent manner of such withdrawal, are unknown . . . An in-depth assessment of groundwater resources should be undertaken in the near future to guide and ensure intelligent continued development of these resources."

In September, 1986, the City adopted an urgency ordinance for the installation of water wells for domestic purposes. In September of 1988, the City modified this ordinace to apply to all areas of Half Moon Bay including Calvo Exclusion areas, and to require a Phase I connection prior to the issuance of a permit to install an interim domestic well.

The City hired a consultant, Geoconsultants, Inc., to develop a long-term groundwater management program for the City. The study includes an evaluation to assess the potential safe-yield of the aquifer. This program is very important because what the safe yield of this aquifer really is, exactly what sub-surface water source supplies the creek, and what impact climatological cycles may have on the aquifer and creek are unknown. No competent studies exist to date which can even provide positive assurance that existing pumping is within the parameters of safe yield over the long run. In order to be effective, the study must include annual monitoring for the following two years. Annually, Geoconsultants is preparing a report summarizing the groundwater conditions for the year. They anticipate that the program will, by the second year, indicate trends in the extent of development of the available groundwater resources.

Geoconsultants prepared a "Ground-Water Assessment, Half Moon Bay" in June, 1987. This initial report summarizes the present hydrogeologic conditions as derived from existing information. Implementation of the report will provide for the gathering of new data and the periodic review and revision of the management practices. The major long-term objectives of the management plan are summarized below. According to Geoconsultants, these objectives should be undertaken annually, with the progress in one year serving as the basis for defining the specific tasks of the next.

1. Determine the perennial yield of the five subbasins available to the City.

2. Evaluate changes in ground-water storage.

3. Determine the availability of surface water from both a hydrologic and legal standpoint, so that any potential reduction of streamflow by increased ground-water pumpage can be evaluated.

4. Monitor surface water and ground-water quality.

5. Project future water requirements and develop plans for meeting such demand in both a feasible and economical manner.

Geoconsultant's "Annual Report 1987-1988" was prepared in July, 1988, and concludes that 154 new wells have been drilled in the City during the past year, water quality in the City remains generally fair and no discernable trends in ground-water degradation have been observed. The "Annual Report" concludes with the following information:

> Based on the Ground-Water Management Plan prepared in 1987 (Geoconsultants, Inc., 1987b) and in view of the findings of the past year, the following recommendations are presented for the water year, 1988-1989:
>
> 1. The ground-water database should continue to be added to an updated periodically in order to refine aquifer characteristics.
>
> 2. Due to low levels of rainfall in 1987-88 and because of forecasts of continued drought, water levels in the 25 key wells should be measured monthly beginning in August of 1988. Information derived from these wells will allow us to better evaluate the seasonal fluctuations in ground-water levels, and make short-term recommendations should water levels decrease to an elevation of concern.
>
> 3. Ground-water elevation maps and, as necessary, elevation change maps will be prepared semiannually.
>
> 4. An aquifer test, similar to that performed in the Alsace Lorraine area, should be conducted in the Miramar area.
>
> 5. Conductivity measurements should continue to be made on the 25 key wells on a semiannual basis so that degradation trends can be more accurately forecasted.
>
> 6. If deemed appropriate as more information becomes available, ground-water quality maps will be prepared on an annual basis. Should degradation trends be observed, water quality change maps will also be prepared.

7. Additional stream gages should be installed on Pilarcitos Creek and Frenchman's Creek in order to gain more specific information on the streamflow into the basin and the outflow to the Pacific Ocean. The gages should be located so as to more accurately determine the amount of streamflow that actually recharges the aquifer.

8. A summary of the years work will be outlined in an annual report to be issued in July of 1989. Conclusions will be presented concerning perennial yield, water quality, and the impact on water resources of future water supply demands. Recommendations for additional work will be presented for the following year.

* * * * * * *

In a letter to the Commission, Half Moon Bay staff stated that, "the City retained the firm of Geoconsultants to determine if sufficient and potable groundwater was available to allow a limited number of single-family houses to be constructed in the area in conjunction with domestic wells. That study has been completed and has determined that 178 domestic wells, drilled in adherence to specified health and safety criteria, would be appropriate on an interim basis pending the availability of imported water, which is scheduled to begin flowing in 1990." (Parker, A., 6/9/87.) Subsequently, Geoconsultants, Inc. has revised their estimates of safe yield for the five sub-basins within the City. According to the consultant, the perennial yield for the Pilarcitos sub-basin is 1,813 acre-feet.

According to Geoconsultant's Annual Report 1988-1989, prepared in July, 1989, 329 private wells have been drilled in Half Moon Bay in the last three years. Most of these wells are located within the City's "Calvo" Exclusion area and are, therefore, outside of the jurisdiction of the Commission. Almost all of the proposed projects have Phase I connections and will hook-up to Coastside County Water District (CCWD) as soon as additional public water supplies are available with the exceptions as noted earlier in this report. The premises of Geoconsultant's recommendations regarding safe yields for the individual sub-basins are quite conservative. Safe or perennial yield is calculated as one-third of the storage capacity of the sub-basin or two-thirds of the annual recharge, whichever is less. Water use rates for single-family homes are also calculated conservatively at 500 gallons per day -- substantially higher than the commonly used figure of approximately 300 gallons per day.

The consultants acknowledge that their current assumptions regarding safe yield are very cautious, but are necessary to reduce the potential for overdrafting any of the sub-basins. They indicate that as more information is developed from the continuing monitoring program, safe yield figures may be revised. The monitoring program includes monthly measurements of water levels in 25 key wells located throughout the City, analysis of all well logs, periodic reading of stream gauges and continuing analysis of water quality with particular emphasis on tracking chloride levels to ensure against salt water intrusion problems.

According to Geoconsultants, the perennial yield for the Pilarcitos Creek sub-basin is 1,813 acre-feet and the total annual surplus is 1,107 acre-feet. The possible number of new wells in this sub-basin is 1,977 according to Geoconsultants. The subdivisions of Highland Park, Alsace Lorraine and Arleta Park are all contained within the Pilarcitos Creek sub-basin.

In summary, the City of Half Moon bay has a comprehensive plan for managing groundwater resources in the City. As noted in the preceding paragraphs, the assumptions made regarding the groundwater supply are conservative. These cautious projections, coupled with the on-going monitoring program and the interim nature of the permitted wells, significantly diminish the likelihood of overdrafting City aquifers. Staff continues to recommend approval with conditions to allow for interim domestic water wells for single-family dwellings until a permanent water supply becomes available.

The Potential Long Term Use of Interim Wells

Without Phase I connections the development on these properties would be continue to use individual water wells until they were allowed to hookup to CCWD water system under a "Phase II". These residences will need to use wells for a longer time period than Phase I connections, however, it appears that additional development of interim wells as represented by the City of Half Moon Bay (Exhibit 3) is limited to a relatively small number of parcels. Consistent with past Commission approvals, it is important to assure that these properites connect to a public water system as soon as additional capacity is available in order to provide maximum protection for this aquifer.

Conditions of approval require the recordation of a deed restriction restricting well use to an interim period and require a waiver of liability on the part of the Commission for any damage due to potential contamination. Previous approvals of development proposals with interim wells have been justified based on the availability of Phase I connections. In this case, there is no Phase I connection and the use of the well must be viewed as a longer term commitment than that of a development with a Phase I connection. In order to minimize potential cumulative impacts on coastal groundwater resources, it is appropriate to include provision for periodic review of water quality. Conditions of this approval includes provisions for a 5 year review of yearly water quality monitoring data. The continued use of the interim well would be based on the analysis of those reports by the City of Half Moon Bay City manager in conformance with ordinance 16-88, County Environmental Health standards, and the recommendations of the City's hydrologic consultants.

As conditioned, to require periodic review for an interim domestic water well until a permanent water supply becomes available, the project will not have an adverse impact on coastal resources as set forth in Coastal Act Section 30250.

3. Local Coastal Program/CEQA

The Half Moon Bay Land Use Plan (LUP) was certified by the Commission on September 24, 1985, and adopted by the City. The LUP contains policies regarding locating new development, public works facilities and resource protection policies.

Half Moon Bay LUP Section 9.1.2 and Coastal Act Section 30250(a) states, in part, new residential development shall be located within developed areas able to accommodate it, or where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively on coastal resources.

The following LUP development, public works and resource protection policies are applicable:

Policy 9-2

The City shall monitor annually the rate of build-out in categories designated for development. If the rate of build-out exceeds the rate on which the estimates of development potential for Phase I and Phase II in the Plan are based, further permits for development or land divisions shall not be issued outside existing subdivisions until a revised estimate of development potential has been made. At that time the City shall establish a maximum number of development permits to be granted each year in accordance with expected rates of build-out and service capacities. No permit for development shall be issued unless a finding is made that such development can be served with water, sewer, schools, and road facilities, including such improvements as are provided with the development. (See LUP Table 9.3, p. 132).

Policy 9-4

All new development, other than development on parcels designated Urban Reserve or Open Space Reserve on the Land Use Plan Map permitted while such designations are effective, shall have available water and sewer services and shall be accessed from a public street or shall have access over private streets to a public street. Prior to issuance of a development permit, the Planning Commission or City Council shall make the finding that adequate services and resources will be available to serve the proposed development and that such development is located within and consistent with the policies applicable to such an area designated for development. The applicant shall assume all responsibility for costs incurred in the service extensions or improvements that are required as a result of the proposed project, or such share as shall be provided if such project would participate in an improvement or assessment district. Lack of available services or resources shall be grounds for denial of the project or reduction in the density otherwise indicated in the Land Use Plan. (See LUP Table 10.3, p. 189). (Emphasis added.)

Policy 10-13

The City will support and require reservation of water supplies for each priority land use in the Plan, as indicated on Table 10.3 (p. 189) for build-out, and shall monitor and limit building permits accordingly. The amount to be reserved for each phase of water supply development shall be the same percentage of capacity for priority uses as that needed at build-out, until a determination is made that a priority use need is satisfied by the available reservation.

Policy 10-14

If new or increased well production is proposed to increase supply, the City shall require that:

(b) Wells are installed under inspection according to the requirements of the State and County Departments of Public Health.

(c) The amount pumped be limited to a safe yield factor which will not impact water-dependent sensitive habitats, riparian habitats, marshes, and agricultural water use.

(d) Base the safe yield and pumping restriction on studies conducted by a person agreed-upon by the City and the applicant which shall (1) prior to the granting of the permit, examine the geologic and hydrologic conditions of the site to determine a preliminary safe yield which will not adversely affect a water-dependent sensitive habitat; (2) during the first year, monitor the impact of the well on groundwater and surface water levels and quality and plant species and animals of water-dependent sensitive habitats to determine if the preliminary safe yield adequately protects the sensitive habitats and what measures should be taken if and when adverse effects occur.

Policy 3-3 Protection of Sensitive Habitats

(a) Prohibit any land use and/or development which would have significant adverse impacts on sensitive habitat areas.

(b) Development in areas adjacent to sensitive habitats shall be sited and designed to prevent impacts that could significantly degrade the environmentally sensitive habitats. All uses shall be compatible with the maintenance of biologic productivity of such areas.

In approving the City's Land Use Plan, the Commission found, "in order to ensure that development occurs "in areas able to accommodate it", the Plan has been modified to require appropriate findings of service capabilities at the time of development approval so that the Plan's development phasing program is accurately reflective of the expected capabilities of public services and forecasts of regional population", (emphasis added). The LUP Public Works Component states, "in the case of Half Moon Bay, the amount of growth

permitted by the Land Use Plan is substantially likely to occur within the next 20 years, if adequate public works capacity is made available. LUP policies in Section 9 provide for both phasing growth and monitoring annual growth to ensure that it is in line with available services. Policies in this section are intended to assure availability in accordance with estimated needs as projected. Of even greater importance is coordinated phasing of public works capacity increases so that expansion of one service does not result in growth which cannot be accommodated by another."

The subject proposal is for a residence and an interim domestic water well in an area with existing public service infrastructure. There is currently a water moratorium by CCWD, until the completion of the Crystal Springs pipeline project which will bring water to the City. In the interim the City has adopted an urgency ordinance and their consultant has prepared a groundwater management plan. In accord with the recommendations of their consultants, the City is allowing 178 domestic wells, drilled in adherence with health and safety standards, on an interim basis for the Alsace Lorraine subdivision until imported water becomes available.

Because the LUP assumed that water and sewer services to Half Moon Bay would continue to be provided by public utilities, no consideration of individual water wells as a water source was evident in the LUP. Overdrafting of the aquifer will greatly increase the risk of saltwater intrusion, which if unchecked would spoil the capacity of the resource to serve its various users, and perhaps adversely affect CCWD wells which rely on groundwater for part of their supply. Continued reliance on individual domestic water wells for small-lot residential development could threaten the amounts that might otherwise be available (and are by policy reserved for) the Coastal Act priority uses.

This unusually high density of individual domestic water supply wells is located in a neighborhood served by a sewer system. Because the sewer lines represent a potential source of pollution, the danger represented by the combination of a faulty sewer line and an imperfect well seal increase with each additional private well. Given these considerations, it appears that the cumulative affects of individual domestic well drilling in the Alsace Lorraine and Highland Park subdivisions present a substantial risk to water quality. However, limited interim wells will not have adverse impact on coastal resources as set forth by Coastal Act Section 30250.

Coastal Act Section 30250 requires new development to be located in existing developed areas or areas where it will not significantly affect coastal resources. Section 30254 requires that where public works facilities can accommodate only a limited amount of new development, priority be given to coastal dependent land use, and recreation and visitor-serving land uses. The proposed residence is in an "existing developed area", but it cannot be accommodated with a connection to the public water system at this time. Adequate public services are not entirely available. Section 30254, gives priority land use to coastal dependent land use, recreation and recreation and visitor-serving land use, but not to residential land use.

Overall, the applicant's interim domestic well installation as proposed represents a category of development with cumulative impacts which does not fully meet the intent or the purpose and policies of the certified LUP and the Coastal Act. However, as conditioned, to allow for interim domestic well use until the completion of the Crystal Springs pipeline project, and to require the recordation of a deed restriction restricting well use to this interim period and waiving the liability on the part of the Commission for any damage due to potential contamination, the proposal can be found consistent with LUP and Coastal Act policies regarding planning and location of new development.

The City of Half Moon Bay determined the proposed residence to be categorically exempt under the California Environmental Quality Act (CEQA). As conditioned, the proposed interim domestic water well will not have an adverse impact on the environment within the meaning of CEQA.

EXHIBIT-A

RECOMMENDED CONDITIONS

STANDARD CONDITIONS:

1. Notice of Receipt and Acknowledgement. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Compliance. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.

6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

7. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

EXHIBIT NO. A
APPLICATION NO. 3-90-4
Standard Conditions

GROUNDWATER EXTRACTION/HALF MOON BAY AQUIFER

GROUNDWATER EXTRACTION - BACKGROUND

Groundwater is water pumped from underground repositories called aquifers. An aquifer is a body of rock or sediment that contains sufficient saturated permeable material to conduct groundwater and to yield economically significant quantities of water to wells and springs. In general, water will account for 15-20% of the volume of the deposit. As an example, if the aquifer contains 1,000 cubic feet of material, it will contain 150-200 cubic feet of water. An aquifer can be unconfined, i.e., composed of groundwater that has a water table and is free to rise and fall with changes in volume of stored water; or confined, where the upper surface is sufficiently impervious to sever connection except at the intake and the groundwater cannot move except at a negligible rate.

RECHARGE OF AQUIFERS

Aquifers are naturally replenished and, if pumping does not exceed replenishment (recharge), will remain viable. The source of recharge includes the percolation of rainfall on the surface above the aquifer, stream flow, and contributions from sub-surface inflow. The potential for recharge (amount and rate of recharge) depends on the following factors:

1. Permeability. Is the capacity of a rock to transmit a fluid. The degree of permeability depends upon the size and shape of interstitial pore spaces and their interconnectedness.

2. Topography and Land Use. The more impervious the surface = more runoff = less recharge. Steep, small watersheds, and the level of urban development can result in too-rapid runoff. If runoff is too rapid, the surface water will not have a full opportunity to percolate down into the aquifer, but will flow over the surface above the aquifer to run off into the sea.

3. Local Geology. Geologic structures, including fault and fracture zones also may provide valuable conduits from the surface down to the aquifer thus giving surface flows a "fast track" to the water bearing strata. On the other hand, displaced strata may block recharge by creating an impermeable geologic barrier to subsurface water flow.

4. Climate. The amount of "new" water available for recharge depends, in part, on the amount, intensity and timing of rainfall, and the evapotranspiration rate, (i.e., how much water, otherwise available for recharge, evaporates at the surface.)

EXHIBIT NO. B
APPLICATION NO. 3-90-4
Groundwater HMB

5. Size of the Aquifer. The thickness and extent of the water bearing band depends on porosity and permeability. All other things being equal, the thicker the aquifer, the more water it will soak up and retain in storage. If an aquifer remains "full", there is no available space for additional recharge.

6. Soils. Clay type soils will impede deep percolation and sandy soil will enhance deep percolation. Soil compaction, and, the interaction of rainfall and temperature on local surfaces, will also affect aquifer recharge.

PROBLEMS WITH AQUIFERS

Common problems that impair the functioning of groundwater systems include overdrafting and pollution of the aquifer. Overdrafts occur when the extraction of water exceeds recharge -- more is taken out than is put back in. Failure of the water supply will eventually occur if this happens. The failure may affect the entire aquifer or be localized if, for example, wells are located too close to one another given the permeability of the water-bearing strata. In confined aquifers, if overdrafting occurs, the aquifer may never fully recover from the experience even if pumping is stopped or decreased. This is because the materials which make up the aquifer may compress and collapse as the water is drawn out, thus decreasing the spaces between the particles where water can be stored. Subsidence of the land may also occur.

Saltwater intrusion is another problem which can occur when coastal aquifers are overdrafted. This problem occurs when the aquifer is near or below sea level. In nature, there is a hydraulic gradient that slopes seaward. Because water flows "downhill", the seawater is prevented from flowing inland, hence, a hydrostatic barrier is created, thus barring a substantial migration of saltwater into the onshore portion of the aquifer. If the freshwater flows are decreased too much, the hydrostatic barrier retreats landward and saltwater flows into the aquifer -- replacing freshwater and contaminating the aquifer.

Once saltwater intrusion has occurred, it is generally considered to be irreversible. Theoretically, some reversal could occur if the area were to be flushed with immense amounts of freshwater. This procedure is, however, usually impractical or economically infeasible.

When an aquifer is overdrafted, wetland and riparian habitats may suffer if all or a portion of their water source is dependent upon sub-surface flows. Overdrafting affects these habitats directly by causing them to dry up -- either completely or partially. Changes in water quality (i.e., increase in salinity) may also occur. Either of these situations will reduce the size, health and value of the habitat. Plants and animals dependent on wetland and riparian habitats will, of course, suffer as well.

EXHIBIT B
APPLICATION NO. 3-90-4

An aquifer can become polluted, thus causing the water supply to become unusable. Aquifers become polluted in a variety of ways. Agricultural practices can create a problem through the overuse of nitrate fertilizers, pesticides, herbicides, and stockyard operations. Poorly maintained or improperly abandoned wells may provide a conduit for pollutants to enter the aquifer. Leaking septic systems or sewer lines and toxic "spills" may also pollute underground water systems. Aquifers that lie closer to the surface and are overlain with permeable soils seem to be the most susceptible to pollution from the causes indicated above although relatively deep wells may also be polluted, particularly if the wells themselves are improperly sealed or maintained. As with saltwater intrusion, once an aquifer is significantly polluted, it becomes very difficult -- if not impossible -- to decontaminate it in a timely manner.

ASSESSING THE POTENTIAL PRODUCTIVITY OF AN AQUIFER

A reliable source of clean, abundant water is of value to urban users, agriculture and the maintenance of natural habitats. As discussed in the preceding paragraphs, underground aquifers may provide one source of this water. This resource must, however, be carefully assessed and managed in order to avoid saltwater intrusion, failure of supply or pollution. The technology exists to prevent these problems by determining the "safe yield" of the aquifer (safe yield is the amount of water which can be continuously withdrawn from a groundwater basin without causing adverse effect), testing the quality of the water, properly developing and maintaining wells and avoiding practices which will pollute the aquifer.

The safe yield of an aquifer can usually be accurately projected by hydrogeologic studies. These studies determine the physical dimensions of the aquifer -- geographic size, depth to and thickness of the water-bearing strata -- and the geologic characteristics of the aquifer. Studies will also identify sources of recharge and calculate the rate of recharge of the aquifer based on recharge sources, land use, geographic nature and size of the watershed, and aquifer storage potential. The safe rate of withdrawal of water from the aquifer can be projected by "stress" test pumping of wells. Studies can also calculate other factors which affect safe yield such as weather cycles (drought/flood), future development plans for the watershed which will affect runoff and the needs of natural systems dependent on the aquifer for all or part of their water source.

After a safe yield figure is developed (safe yield is usually expressed in acre feet per year - one acre foot is equal to 325,851 gallons of water), an on-going monitoring program of productive wells and nearby observation wells will assure that the safe yield is not exceeded. For coastal aquifers, a series of observation wells near the shoreline is prudent in order to provide an early warning of saltwater intrusion. Scheduled testing of water quality and proper well maintenance is also part of a proper groundwater management program.

EXHIBIT B
APPLICATION NO. 3-90-4

THE "HALF MOON BAY AQUIFER"

The aquifer which lies under the Half Moon Bay area (and under the applicant's site) is located beneath the coastal terrace and offshore Half Moon Bay. It is, according to information from the United States Geological Survey (USGS), generally bounded by the topographical rise to the east, Montara Point to the north, Lobitos Creek to the south and the Seal Cove Fault to the west. Because the terrace deposits are warped, part of the onshore portion of the aquifer is below sea level.

The aquifer extends under the sea at Half Moon Bay. Water drawn from this portion of the aquifer will likely be salty and therefore unusable. The onshore portion of the aquifer is divided into three categories: 1) on the coastal terrace but below sea-level; 2) on the coastal terrace and below sea-level; and, 3) above the coastal terrace and above sea-level. The aquifer water from the onshore portion is fresh.

According to Geoconsultants ("Ground-Water Assessment, Half Moon Bay", June, 1987) the Half Moon Aquifer is divided into five sub-basins based on surface drainage divides. These sub-basins are Arroyo de en Medio to Frenchman's Creek, Frenchman's Creek, Pilarcitos Creek, Pilarcitos Creek to Canada Verde and Canada Verde. The subject site is within the Pilarcitos Creek sub-basin.

An important consideration is the adequacy of this aquifer to sustain the cumulative effects of such extraction. Although groundwater is stored in the water bearing terrace deposits, the ultimate availability is determined by the amount of recharge from rainfall and streamflow on a long-term basis. According to Geoconsultants, the aquifer as a whole appears to be essentially unconfined. In the Half Moon Bay area, average annual precipitation is about 26 inches and potential evapotranspiration is about 33 inches annually. The amount of this water (rainfall/surface flows) which will percolate down to the aquifer will depend on:

1. The permeability of the soil above the aquifer and of the water-bearing strata itself. In the case of this aquifer, the undeveloped portion of the watershed contains a variety of reasonably permeable soil types. The upper portion of the aquifer has less ability to store percolated water, the lower portion -- sands and gravel -- a better capacity.

2. The level of runoff. Water which runs off quickly is lost to the aquifer because it has no opportunity to percolate into the soil. Very little of the rain which falls or collects in the urbanized portion of the watershed will find its way into the aquifer. Most of this water will runoff or be collected in storm drains and discharged into the sea. Stream flows which reach the sea are similarly lost.

EXHIBIT B
APPLICATION NO. 3-90-4

3. The rate of rainfall will also affect the quantity of water available to recharge the aquifer. Maximum recharge potential from rainfall occurs when the gross amount of annual precipitation is spaced so that no more rain falls than can be absorbed by the soil -- thus no loss to runoff. In the Half Moon Bay area, virtually all of the 26 inches of annual precipitation falls during the six months between October-May.

   Occasional heavy rainfalls in a twenty-four hour period and extended periods of moderate rainfall result in some loss to runoff in this aquifer. Sloping to steep topography and thin soils in some portions of the sub-unit also contribute to loss from runoff of the precipitation.

4. Evapotranspiration rates reduce water supplies available for recharge. This is water which evaporates at the surface of the land or body of water. Obviously hot, arid areas will have higher rates of evapotranspiration than humid cooler areas. The amount and variety of vegetation is also a factor. According to the State Water Resources Control Board, in the natural, climatological setting of the Half Moon Bay area, an estimated 35 percent of the rainfall will be lost to evaportranspiration. As the area is urbanized, the percentage will increase.

According to Groundwater by Freeze & Cherry, 1979, the safe yield of a groundwater basin is the amount of water that can be withdrawn from it annually without producing an undesired result. Any withdrawal in excess of safe yield is an overdraft.

> "Some authors have suggested that the safe yield of a groundwater basin be defined as the annual extraction of water that does not exceed the average annual groundwater recharge. This concept is not correct. (Emphasis added.) Major groundwater development may significantly change the recharge-discharge regime as a function of time. Clearly, the basin yield depends both on the manner in which the effects of withdrawal are transmitted through the aquifers and on the changes in rates of groundwater recharge and discharge induced by the withdrawals. Each increase is initially balanced by a change in storage, which in an unconfined aquifer takes the form of an immediate water-table decline."

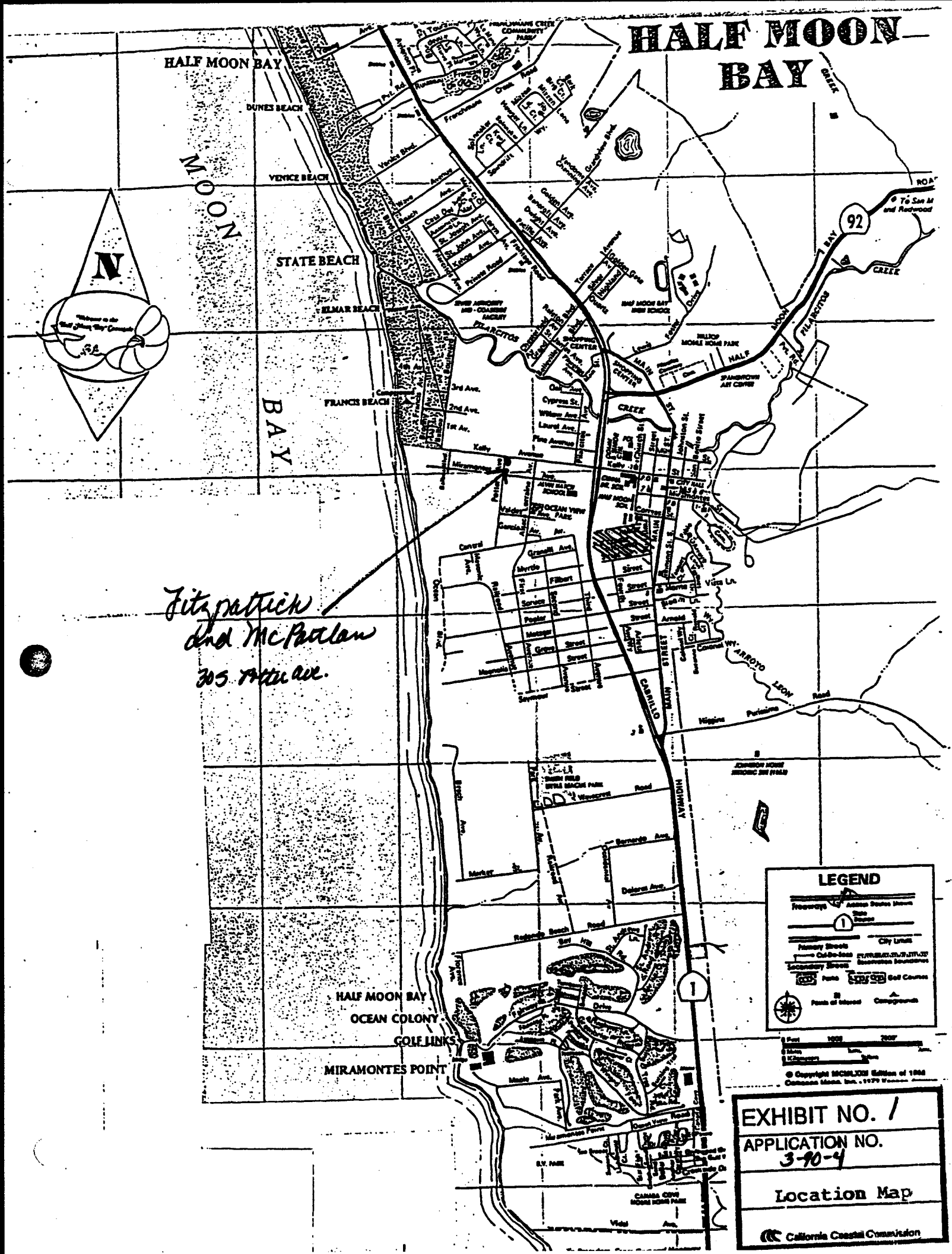
Freeze and Cherry also state that if pumping rates are allowed to increase indefinitely, an unstable situation may arise where the declining water table reaches a depth below which the maximum rate of groundwater recharge can no longer be sustained. After this point in time the same annual precipitation rate no longer provides the same percentage of infiltration to the water table. Evapotranspiration during soil-moisture-redistribution periods now takes more of the infiltrated rainfall before it has a chance to percolate down to the groundwater zone. Freeze and Cherry continue stating, the water table reaches a depth below which no stable recharge rate can be maintained, the maximum available rate of induced recharge is attained and from that time

on, it is impossible for the basin to supply increased rates of withdrawal. The only source lies in an increased rate of change of storage that manifests itself in rapidly declining water tables. Pumping rates can no longer be maintained at original levels. Production rates must allow for a factor of safety and must therefore be somewhat less than the maximum stable basin yield.

In an unconfined aquifer near the ocean, fresh groundwater occurs as a lens above the heavier sea water. The saline fluid may extend inland for about a mile. Because of the difference in density, the depth of fresh water below sea level is approximately equal to 40 times the height of the water table above sea level. If the water table is lowered by pumping, the cone of depression around the well is reflected in a rise of the boundary between fresh and salt water. Each meter decline of the water table, will cause a 40-meter rise of the lower boundary of the lens to maintain the balance. Heavy pumping can produce such a large cone of depression that salt-water intrusion will occur. Also, cones of depression from neighboring wells will eventually intersect if withdrawals continue to exceed recharge. The largest and deepest wells will draw water from below the shallower wells, taking away their water supply. Many government agencies and consultants on groundwater management are attempting to define the safe yield of major aquifers and to control pumping rates on a basis of a quantitative prediction of how each new withdrawal will affect the whole groundwater system.

0989P

EXHIBIT B
APPLICATION NO. 3-90-9


HALF MOON BAY
HALF MOON BAY
DUNES BEACH
VENICE BEACH
MOON
BAY
STATE BEACH
N
SILMAR BEACH
FRANCIS BEACH
PILARCITOS
CREEK
MAIN
HALF
MOON
BAY
92
1
HIGHWAY
CABRILLO
STREET
HALF MOON BAY
OCEAN COLONY
GOLF LINKS
MIRAMONTES POINT
Fitzpatrick
and McPartlan
305 Main ave.
LEGEND
EXHIBIT NO. 1
APPLICATION NO.
3-90-4
Location Map
California Coastal Commission

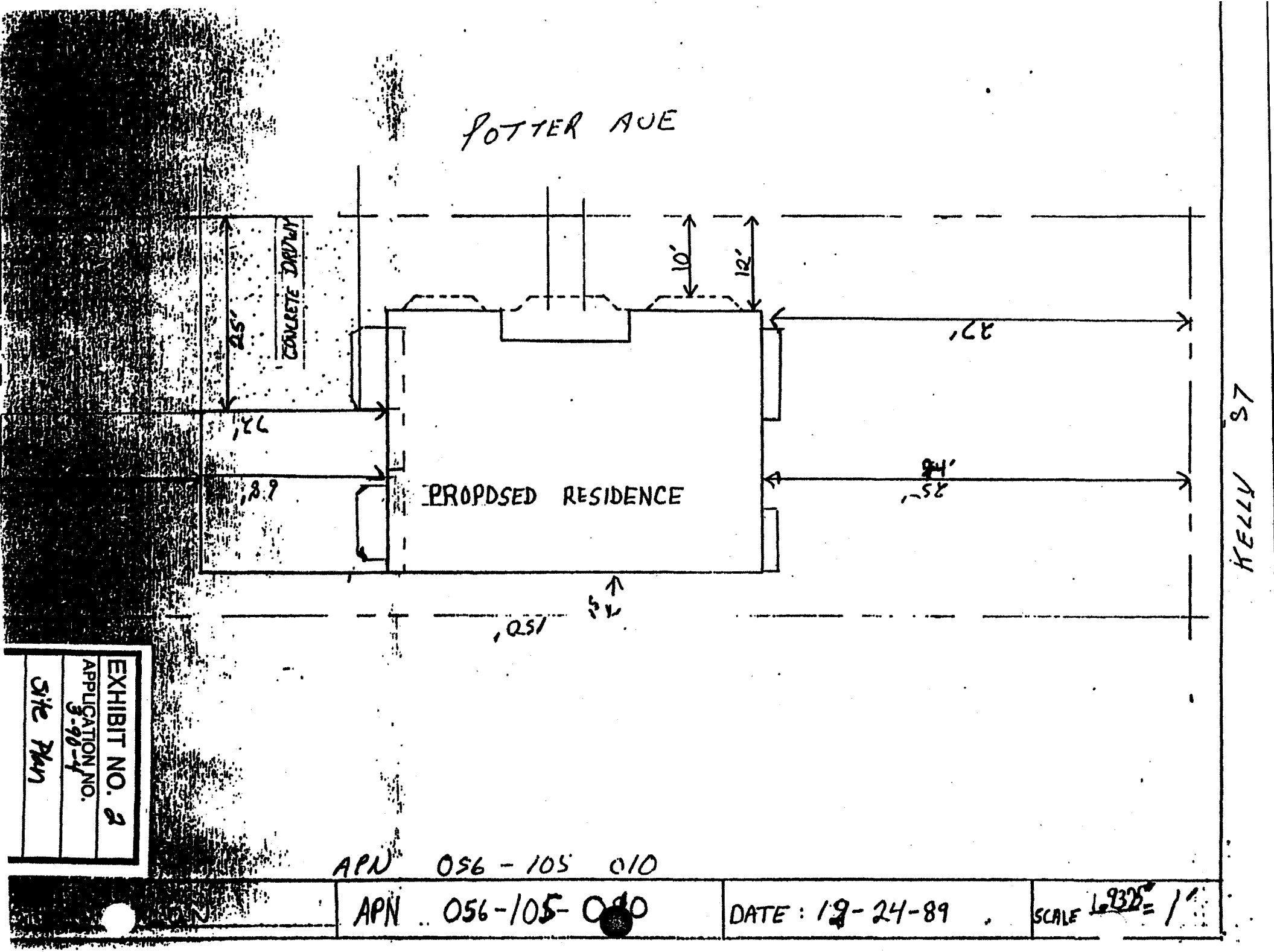


EXHIBIT NO. 2
APPLICATION NO. 3-90-4
Site Plan

APN 056 - 105 010

	APN 056-105-010	DATE: 12-24-89	SCALE 1/8"=1'

City of Half Moon Bay

CITY HALL • 501 MAIN STREET
HALF MOON BAY, CALIFORNIA 94019

FROM THE OFFICE OF

TELEPHONE (415) 726-5566

City Manager

February 3, 1989

Mr. Les Strnad, Chief of Permits
California Coastal Commission
Central Coast Regional Commission
640 Capitola Road Extension
Santa Cruz, CA 95062

Dear Les:

Pursuant to our conversation earlier this week, please find enclosed a listing of wells currently in place for which no building permit has yet been issued. Further, these properties do not have a Phase I Coastside County Water District contract.

Again, our concern is that the condition of April 15, 1988, which required a Phase I CCWD contract, was not effected by the City until September 20, 1988. As a result, representations have been made, properties bought and sold, etc., which could result in damage claims/suits against the City.

The first 40 APN's are Calvo properties. Your offices would only come into play if a variance were required. The next 27 APN's are in Alsace Lorraine. Four additional wells lie without these two areas.

Please review and let me know your thinking. Thanks.

Yours truly,

Allen J. Parker
City Manager

AJP:rg

Enclosure

EXHIBIT NO. 3
APPLICATION NO. 3-90-4
Letter from City of Half Moon Bay
p. 1 of 3

CALVO

048-085-220	048-085-230	048-085-240
048-085-260/270	048-085-760	048-091-060
048-091-070	048-091-080	048-091-440
048-092-090	048-094-140	048-094-190
048-094-240	048-095-070	048-113-140
048-114-010/020	048-116-080	048-116-150
048-116-140	048-116-110/130	048-123-090
048-205-050	056-055-030/040	056-161-110
056-192-100	056-211-020	056-211-180
056-230-120	056-230-150	056-260-070
064-092-030	064-132-380	064-132-410
064-201-220	064-202-370	064-311-010/020
064-331-020	064-342-210	064-352-200

ALSACE LORRAINE

056-096-490	056-096-540	056-101-080 - 3-89-215 Fitzpatrick
056-102-200	056-103-080	056-105-010 (1) - 3-90-04 Fitzpatrick and McPartlan
056-105-010 (2)	056-105-160	056-106-040
056-106-050	056-107-010	056-107-130
056-107-140	056-107-150	056-116-120
056-116-290	056-116-300	056-116-310
056-117-060	056-117-070	056-117-090
056-118-040	056-119-030	056-131-070
056-132-100	056-133-060	056-136-200

OTHERS

048-266-170	048-300-010	056-053-160 - 3-89-78 Martel
065-206-090		

Exhibit 3
3-90-4
p 2 of 3

City of Half Moon Bay

CITY HALL • 501 MAIN STREET
HALF MOON BAY, CALIFORNIA 94019

FROM THE OFFICE OF

City Manager

TELEPHONE (415) 726-5566

February 9, 1989

Mr. Les Strnad, Chief of Permits
California Coastal Commission
640 Capitola Road Extension
Santa Cruz, CA 95062

Dear Les:

On February 3, 1989, I mailed you a listing of wells. APN 056-053-160 was listed under "others". That parcel is "no more than 250 feet from an existing improved road adequate for use throughout the year" in a mapped Calvo area. Accordingly, it should be in the "Calvo" category. Thanks.

Yours truly,

Allen J. Parker
City Manager

Exhibit 3
3-98-4
p. 3 of 3

GEOCONSULTANTS, INC.
Hydrogeology • Ground-Water Exploration & Development • Ground-Water Resources Management •
1450 Koll Circle, Suite 114
San Jose, California 95112
Phone: (408) 453-2541 Fax: (408) 453-2543

EXHIBIT NO. 4
APPLICATION NO. 1-96-67-A
1996 Geoconsultants Report

August 14, 1996
Project No. G1084-01

Mr. David Cline
Coldwell Banker
40 North Cabrillo Highway
Half Moon Bay, CA 94019

RE: HYDROGEOLOGIC ANALYSIS
SUPPORTING DOMESTIC WELL CONTINUED USE
APN 056-105-010
305 POTTER AVENUE
HALF MOON BAY, CALIFORNIA

Dear Mr. Cline:

In accordance with the authorization of Mr. and Mrs. James Fitzpatrick dated August 7, 1996, this report presents the results of a hydrogeologic analysis for the subject property. The purpose of this study was to evaluate the current ground-water conditions in relation to the feasibility of extending an interim use permit for the existing domestic well. Our evaluation was based on information developed as part of a ground-water assessment prepared for the City of Half Moon Bay's Urgency Ordinance No. 16-86 (Geoconsultants, Inc., 1987). Report updates were developed annually through 1993 (Geoconsultants, Inc., 1988 through 1993).

HYDROGEOLOGIC CONDITIONS

Site Geology

The subject property is underlain by marine terrace deposits of predominately poorly consolidated sands and gravels with occasional interbedded clays. These materials extend to depths on the order of 80 to 100 feet, and are considered water-bearing. The driller's log of the existing well indicated that there were at least 85 feet of these materials present beneath the site. Bedrock belonging to the Purisima Formation and consisting of sandstone, siltstone, and shale, occurs below these materials. The sandstone, although permeable locally, generally produces low quantities of poor quality water.

1-96-67

Ground-Water Availability

The Half Moon Bay aquifer has been divided into five subbasins based on natural watershed drainages (Geoconsultants, Inc., 1987). The project site falls within the largest of these, the Pilarcitos Creek subbasin. The perennial yield, or the amount of ground water available for production, is dependent on the amount of annual recharge and the storage capacity of the aquifer.

The majority of recharge occurs from direct precipitation and stream runoff. The storage capacity of the subbasin is the maximum amount of available ground water contained within the aquifer materials. Because of the City's close proximity with the Pacific Ocean and the potential for sea water intrusion, conservative figures were developed for the storage capacity. Basically, only that portion of the water table above sea level was to be included. In order to minimize the chances for overdraft, the perennial yield was limited to either one-third of the storage capacity or two-thirds of the annual recharge, whichever was less.

Between 1987 and 1993, the storage capacity was updated for each subbasin yearly. Beginning in 1991, total recharge and perennial yield figures were also adjusted. The following Table A presents the fluctuation within the Pilarcitos Creek Subbasin.

TABLE A
PERENNIAL YIELD FOR PILARCITOS CREEK SUBBASIN
1987 - 1993*

Year	Recharge (Acre-Feet)	Storage Capacity (Acre-Feet)	Perennial Yield (Acre-Feet)
1987	2,719	5,590	1,813
1988		4,575	
1989		5,590	
1990		4,541	
1991	2,261	4,541	1,507
1992	2,155	4,541	1,437
1993	2,156	4,954	1,437
Averages	**2,323**	**4,905**	**1,549**

*Data from Geoconsultants, Inc., 1987 through 1993)

The water level contour map prepared for the 1993 annual report (Geoconsultants, Inc., 1993) indicated that the ground-water elevation in the vicinity of the site was roughly 10 feet above sea level. A pumping test on the well performed on July 8, 1996, showed the static water level to be at a depth of 31 feet, which calculates to an elevation of roughly 15 feet above sea level. This would suggest that at least this portion of the Pilarcitos Creek Subbasin profited greatly from the increased rainfall and decreased ground-water usage over the past three years.

Ground-Water Usage

In 1993, the last year of annual reports, Geoconsultants, Inc. estimated that 253 residential wells were being used within the Pilarcitos Creek Subbasin. Total ground-water usage was estimated from all sources including residential wells, row crop acreage, orchard and nursery acreage, and exported water to irrigate the Half Moon Bay Golf Course. The total usage amounted to 771 acre-feet, which when subtracted from the perennial yield of 1,437 acre-feet, resulted in a surplus of 666 acre-feet.

Since June 30, 1993, 77 residential wells have been abandoned within the subbasin, according to the City of Half Moon Bay. Additionally, recharge has undoubtedly increased due to the heavy rains of the last two years. However, without a complete update of the hydrogeology, the increased perennial yield cannot be calculated. Therefore, as a conservative approach, we will assume that the perennial yield has remained the same throughout the subbasin. If we further assume that the agricultural usage has remained the same, then the abandonment of 77 wells would result in a corresponding reduction in overall water usage of 43 acre-feet, based on a residential usage estimate of 0.56 acre-feet per year.

Based on the assumptions presented above, ground-water usage can be compared between 1993 and 1996. The following Table B presents those comparisons.

TABLE B
GROUND-WATER USAGE COMPARISONS
PILARCITOS CREEK SUBBASIN
1993 AND 1996

Year	Residential Wells	Row Crop Acreage	Orchard/ Nursery Acreage	Perennial Yield (Acre-Feet)	Water Usage* (Acre-Feet)	Annual Surplus (Acre-Feet)
1993	253	162	-	1,437	771	666
1996	176	162	-	1,437	728	709

* Includes 403 acre-feet used to irrigate the Half Moon Bay Golf Course located outside the Pilarcitos Creek Subbasin.

WELL DESCRIPTION

Construction Details

The subject well was constructed on April 12, 1989 in accordance with City Permit No. 343-88 by Aqua Science Engineers, Inc. According to the California Department of Water Resources Water Well Drillers Report No. 17592, the well was completed to 85 feet in depth with 4.5-inch diameter plastic casing installed within a 10-inch borehole. The casing was perforated with 0.32-inch slots from 20 to 85 feet, and

No. 3 sand was placed in the annular space below 20 feet in depth. A surface sanitary seal was installed above the sand pack in accordance with San Mateo County Health Department standards.

Pumping Tests

A well yield test was performed on the well on April 18, 1989 by Aqua Science Engineers, Inc. The static water level, measured before the test, was 34 feet in depth, or an elevation of 12 feet above sea level. The well was pumped between 5 and 10 gallons per minute (gpm) for a period of four hours. Total drawdown during the test was 2.5 feet, and the water level recovered to its initial level of 34 feet within 15 minutes following pump shutoff.

Another pumping test was performed on May 10, 1991 by Simms Plumbing and Water Equipment, Inc. The static water level before the test was 40 feet in depth, or 6 feet above sea level. The well was pumped between 13 and 15 gpm for a period of four hours. Total drawdown during the test was 10 feet. Recovery was not monitored.

A third test was performed by Simms Plumbing and Water Equipment, Inc. on July 8, 1996. At that time the static water level was measured at 31 feet in depth, or 15 feet above sea level. The well was pumped at 8 gpm for a period of 4 hours, and exhibited a total drawdown of 3.5 feet. Recovery was not monitored.

Water Quality

A water sample was obtained for laboratory analysis on April 24, 1989, and again on July 8, 1996. The results of these analyses along with the E.P.A. drinking water requirements are presented in Table C below.

TABLE C
WATER QUALITY ANALYSES

Constituent	1989 Level	1996 Level	E.P.A. Standards
Chloride (mg/L Cl)	120	69	< 500
Iron (mg/L Fe)	0.13	0.066	< 0.30
Manganese (mg/L Mn)	0.58	0.036	< 0.05
Nitrate (mg/L NO_3)	38	3.5	< 45
Specific Conductance (μmhos/cm)	990	805	< 1,600
Total Coliform Bacteria (CFU/100 ml)	< 1	Absent	Absent

NOTES: mg/L = milligrams per liter; μmhos/cm = micromhos per centimeter; CFU/100 ml = colony forming units per 100 milliliters.

It can readily be seen that, although the water sample taken in 1989 did not

meet E.P.A. requirements, the current water quality is excellent and requires no treatment.

DISCUSSION

Use of the subject well as an interim source of water supply was originally granted by the California Coastal Commission (Permit No. 3-90-04) on February 14, 1990. We understand that the Coastal Commission has objected to the granting of an extension of this use permit which expired on February 14, 1995. It was our intention to update the hydrogeological information so as to provide substantiation to the premise that continued use of this well would not adversely impact the aquifer. Basically, the Half Moon Bay Aquifer, and specifically the Pilarcitos Creek Subbasin, can be negatively impacted in two ways; either the amount of annual recharge is decreased, or the overall pumpage is increased. Extreme instances of one or both of these events can lead to aquifer overdraft and/or sea water intrusion.

Our evaluation has shown that the amount of recharge has actually increased, as exemplified by a 5-foot rise in the ground-water elevation between 1993 and 1996. However, since the current perennial yield estimate cannot be quantified, we have taken a conservative viewpoint that the recharge has remained at the drought levels of 1993.

We have shown that there has been a net decrease in ground-water pumpage of 43 acre-feet, due to the abandonment of 77 residential wells within the subbasin. By utilizing the 1993 perennial yield figures of 1,437 acre-feet, we have shown that a ground-water surplus exists of 709 acre-feet.

The recent water quality analysis performed on the subject well has shown that there is no evidence of sea water intrusion, and that the water meets all primary drinking water standards.

CONCLUSIONS

Based on our evaluation, we conclude that usage of the subject well located at 305 Potter Avenue, will have no adverse impact on the ground-water conditions in the area. The additional pumping of 0.56 acre-feet per year will still leave a ground-water surplus of 708 acre-feet within the Pilarcitos Creek Subbasin. We recommend that the following conditions be placed on the permit extension.

1. Water levels should be measured and recorded in June and December of every year of the extended time period.

2. The water level in the well should not be allowed to exceed a depth of 46 feet, or sea level elevation, during pumping.

3. The well should be properly abandoned following hookup to an imported municipal water supply.

LIMITATIONS

Geoconsultants, Inc. has provided its findings, recommendations, specifications, and professional advice after preparing such information in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the fields of hydrogeology. This acknowledgment is in lieu of all warranties either express or implied.

Geoconsultants, Inc. makes no guarantee of the granting of well approval, well use, and/or pumping permits by city, county, state, or other governmental authorities. No guarantee is made that water will be found in any specific quantity or mineral quality at the proposed test well location or within specific depth intervals stated. Environmental changes, either naturally-occurring or artificially induced, may cause the quality and/or quantity of water produced to change with time. Therefore, we do not guarantee continued production or consistent mineral quality of ground water from any well in the future.

It has been a pleasure performing this service for you. If you have any questions regarding the data, conclusions, or recommendations, do not hesitate to call.

Sincerely,

GEOCONSULTANTS, INC.

John K. Hofer
Engineering Geologist, EG-1065

JKH:rls
(G1084-01.doc)

SELECTED REFERENCES

Geoconsultants, Inc., 1987, Ground-water assessment, Half Moon Bay, California: Report to City of Half Moon Bay, Project No. G671-01, 59 p.

_____, **1988,** Annual report, 1987 - 1988, ground-water resources, Half Moon Bay, California: Report to City of Half Moon Bay, Project No. G671-01.88, 66 p.

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_____, **1993,** Annual report, 1992 - 1993, ground-water resources, Half Moon Bay, California: Report to City of Half Moon Bay, Project No. G671-01.93, 178 p.

September 27, 1995

Sent By Facsimile
(726-8676)

Mr. David Cline
c/o Coldwell Banker, Oceanshore Brokerage
40 N. Cabrillo Highway
Half Moon Bay, CA 94019

COUNTY · COASTSIDE · COUNTY WATER DISTRICT

EXHIBIT NO. 5
APPLICATION NO. 1-96-67-A
1995 CCWD Correspondence

RE: Water Service Availability to 305 Potter, Half Moon Bay

Dear Dave:

This letter is in response to your letter of September 26, 1995 regarding availability of a CCWD water service connection for the above referenced address. The CCWD has no Phase I, CSP Water Service Connections for sale at this time. All of the 2,198 non-priority water service connections that resulted from construction of the Crystal Springs Water Supply Project were sold many years ago, prior to the start of construction. Of the 2,198 connections emanating from the project, approximately 600 have hooked up to the municipal system to date. Consequently, there has developed a "grey market" in water service connections where willing sellers and willing buyers have exchanged uninstalled water service connections for valuable consideration. The District is aware of this situation because transfers from one owner to another and from one parcel to another, require District approval prior to the transfer actually taking place.

You asked when a Phase II water supply expansion project will be undertaken. My opinion is that a Phase II project will probably occur after most, if not all, of the remaining 1,600 uninstalled Phase I non-priority water service connections are installed and connected to the CCWD system. As to the timing, your guess is as good as mine. You are no doubt aware of the growth limitation by both the City of Half Moon Bay and San Mateo County with respect to the number of non-priority structures that can be constructed in any one year period. I believe it is 125 per year for Montara, Moss Beach and El Granada and approximately 100 per year for Half Moon Bay. Simple math would indicate that a Phase II project may be considered as soon as 6 years hence if sewer is available and no other development obstacles are in place. A more likely scenario is that a Phase II project will be considered six to nine years after sewer becomes available, which requires completion of an expanded sewer treatment facility by the Sewer Authority Mid-coastside. As of this writing the sewer expansion project has still not broken ground. Once construction begins, I estimate that it will take approximately 36 months to complete.

In so far as your client's particular issue with the well is concerned, that is a matter for you and the Coastal Commission and County staff to resolve. If one could consider the well to have failed, which appears to be a stretch to me, it may be possible to apply and receive permission from the San Mateo County Planning Department to

purchase a hardship water service connection from the CCWD. There is a formal Resolution in process at the County level that when fully adopted, will provide up to 10 water service connections for bona fide hardships resulting from failed wells. For father information about the failed well-hardship policy I suggest that you contact Paul Koenig or Bill Rozar at 363-4000.

Dave, I hope the information in this letter answers your questions and is helpful to you in resolving the water service problem at 305 Potter. Please do not hesitate to call or stop by if you need additional information.

Very truly yours,

Robert R. Rathbome
General Manger