CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST AREA
89 SOUTH CALIFORNIA ST., SUITE 200
VENTURA, CA 93001
(805) 585-1800

Th26a

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ADDENDUM

DATE: October 3, 2016

TO: Commissioners and Interested Parties

FROM: South Central Coast District Staff

SUBJECT: Agenda Item Th26a, Santa Barbara County Appeal No. A-4-STB-16-0078 (Hair), Thursday, October 6, 2016

The purpose of this addendum is to attach correspondence received to date regarding the staff report. Staff has received one letter dated September 30, 2016 from Donna Senauer in support of staff recommendation.

Attachments:

Letter from Donna Senauer, dated September 30, 2016. (52 pages with attachments)

30 September 2016

California Coastal Commission
South Central Coast Area
89 So. California Street Suite 200
Ventura, CA 93001

RE: A-4-STB-16-0078
6 October 2016, Agenda Item 26a

Chair Kinsey and Commissioners:

As a Montecito resident in the Coastal Zone of Montecito Water District and living just blocks from the subject water well development, I write in strong support of Staff recommendations finding that Substantial Issue exists and de novo denial. The Staff report recommending denial is extraordinarily exceptional and comprehensive in its' analysis in all subject areas.

I have previously submitted public comment letters supporting denial of other water well developments in the Montecito Coastal Zone that have recently come before you (A-STB-0060/Makarechian; A-STB-0061/Schlesinger. I have addressed in public testimony support for denial of A-STB-0073/CTS Properties Toro Canyon water well development), and A-STB-0046/McGaughey water tanks/storage with truck deliveries 4 x weekly. The Commission has denied these subject water well developments.

My previously submitted public comment letters of record (7 August 2016 and 8 August 2016 at August 2016 Commission) supporting denial of the Makarechian and Schlesinger water well developments are relevant to the Hair subject water well development agendized for the Coastal Commission Meeting of 6 October 2016, and am therefore am attaching these previous letters as Attachment #1 and 1a.

In summary, among the primary reasons for the Coastal Commission to find for Substantial Issue and denial of the Hair applicant's application for development of a private water well development include:
- the applicant parcel is served by the Montecito Water District
- the applicant intends to irrigate abundant, lush, non- drought tolerant landscaping by extracting groundwater from a depleted, overdrafted, oversubscribed and seawater induced Coastal Zone groundwater basin.

<u>HAIR WATER WATER WELL RELOCATION</u>

This relocation and second iteration of Mr. Hair's water well development now locates the water well development just feet from the applicant's first proposed water well

development (which had been appealed by the CCC, and was subsequently withdrawn by the applicant) and just north of the geographical CCC appeal zone.

While the physical water well casing may be located in a fixed geographical location, the groundwater which is withdrawn, extracted, and pumped from the underlying aquifer, this groundwater is in fact siphoned from a much greater sub-soil perimeter. This siphoning is the mechanism which contributes to well interference and cumulative impacts.

With respect to the CCC 'appealable geographical zone' demarcated by a drawn line on paper, a basic principle of groundwater hydrology is that groundwater moves, is not static but dynamic and does not remain stationary in one spot directly below a particular parcel boundary. Groundwater does not obey drawn lines on paper. Hence this applicant's water well development is in fact clearly within the physical area subject to the CCC appeal authority as the groundwater intended to be withdrawn is actually siphoned from distances beyond the well casing.

SEAWATER INTRUSION/OVERDRAFTED COASTAL BASIN

1) The proposed Hair well development is located within 300-350 feet from the Mean High Tide Line)

2) The water well will extract and withdraw groundwater of approximately 4 Acre Feet of water per year and over 300,000 gallons from the Coastal Zone aquifer basin which is overdrafted, oversubscribed, and depleted (Dr. Loaiciga CCC Report and Memorandum.) Groundwater withdrawals in the Coastal Zone sub-basin 3 have breached the safe yield threshold, and there is evidenced seawater intrusion induced by approximately 200 permitted water wells within the Coastal Zone (See Attachment 1)

3) Below Sea Level Water Well Levels: Water Well Elevation Level Monitoring by the Montecito Water District:

Of the 68 water wells that are monitored twice a year by the Montecito Water District, Spring and Fall, (on a voluntary basis by private well owners), as of Spring 2016 (the most recent reporting) 19 water wells that are monitored are located within the Coastal Zone Sub Basin. Of those 19 water wells, 6 water well elevation levels are either below Sea Level (some as much as 55 feet below Sea Level) or DRY. One water well less than 600 feet from the Hair proposed well is drawing water from below Sea Level as of Spring 2016. (Attachment 2)

WATER WELL INTERFERENCE & OTHER SIGNIFICANT ADVERSE IMPACTS

This Hair proposed water well is located within a 40-1000 feet radius of 12 existing permitted water wells in the Coastal Zone Basin would potentially contribute to well interference and its' associated cumulative and adverse impacts to groundwater depletion and overdraft, to the dying and loss of environmental habitat and coastal resources, and induced seawater intrusion.

Note: The parcel immediately to the west and contiguous with the Hair parcel property line has a permitted water well (86-CDP-131 and is often referred to as the Haber Well.) This "Haber" well is no less than 40ft from the proposed Hair water well development. (Attachment 3)

The Hair proposed water well is also located a mere 600 feet west of the Biltmore Hotel where at least 3 and possibly 5 water wells exist. The Biltmore water wells are pumping groundwater from the Coastal Zone that, as reported by the Santa Barbara County Environmental Health Department records, demonstrate high levels of chloride. The 2008 letter of geologist Michael Hoover(Attachment 1) on file with Santa Barbara County and referenced both in the Coastal Commission Staff report and in my 7 August 2016 letter regarding other Montecito water well appeals, emphasizes that the chloride levels in groundwater pumped by the Biltmore groundwater wells indicates evidenced seawater intrusion.

SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA)

While the Montecito Water District with its Groundwater Basin 3-49 (Sub Basins 1, 2, 3 and 4) is not at this time mandated by the State to organize into a Groundwater Sustainability Agency (GSA) and to produce a Groundwater Sustainability Plan (GSP), the Montecito Water District does have a Groundwater Management Plan from 1998 organized under Assembly Bill 3030.

The difficulty and challenge today is that efforts by the Montecito Water District to further sustainably manage their Groundwater Basin with a request for Water Well Permit Moratorium from the Santa Barbara County Board of Supervisors was met with public opposition from seekers of water wells and their supporters, and this moratorium request from the Montecito Water District was unfortunately then denied by the Board of Supervisors A water well permit moratorium would have been the most effective best

practices management tool the Montecito Water District could employ- at this time of continuing extraordinary drought and continual water well development- to begin to sustainably manage their groundwater.

The Coastal Commission Staff under direction from the Coastal Commission, on September 7 2016 issued two letters (Attachment 3) which hopefully will encourage a positive sustainable groundwater best management approach by the Santa Barbara County Environmental Health Services Dept. (the water well permitting Agency)and the Central Coast Regional Water Quality Control Board. The partnership of these Agencies along with the Montecito Water District could positively result in sustainable management of the Montecito Water District's overdrafted, depleted and oversubscribed groundwater basin.

The floodgates of pending Coastal Zone water well developments will burst forth if denial of the Hair water well development is not granted. There are at least 4 pending private water wells in the Coastal Zone at this time. Also currently, there is a CUP application for an existing Coastal Zone water well where the private well owner and a trucking company are requesting commercial use status to withdraw, extract and sell 1,000,000 gallons of groundwater per month using 27 water trucks per day to transport and deliver for landscaping purposes the extracted 1 million gallons of groundwater from the Coastal Zone Basin.

In closing, I urge the Commission to deny this Hair Water Well Development.

Without groundwater protection and sustainable water resource management, irreparable and irreversible harm is the only outcome.

Sincerely,

Donna Senauer
1155 Summit Road
Montecito, Ca. 93108

4 Attachments: See following page 5

ATTACHMENTS 1 and 1a: My previously submitted comment letters Re: Makarechian and Schlesinger Appeals (includes Michael Hoover 2008 Letter regarding seawater intrusion); Dr. Loaiciga's Memorandum 2015

ATTACHMENT 2: Montecito Water District Water Well Level Elevation Coastal Zone Sub Basin 3 Monitoring Wells

ATTACHMENT 3: Haber Water Well, 1159 Hill Rd. with approximate locations of Haber, Hair and Chase/Olsten Trust water wells

ATTACHMENT 4: Coastal Commission Staff Letters to EHS Santa Barbara County and State

7 August 2016

California Coastal Commission
Care of Ventura District Office

RE: CCC APPEALS: Agenda Items: F13a&b
A-4-STB-14-0060
A-4-STB-14-0061

Chair Kinsey and Commissioners:

I write in support of Staff recommendations to the Commission to find for Substantial Issue, and to deny the private water well development projects for Schlesinger and Makarechian referenced above.

I am a Montecito resident and community member and live in the Montecito Coastal Zone and within the service area of Montecito Water District (MWD.) I am deeply concerned about our depleted groundwater especially in our coastal zone basin. I have long been an advocate for groundwater commons stewardship, and protection through evidence based best management practices. To better ensure that I can intelligently support groundwater and water resource advocacy, I am a regular attendee and participant in Montecito Water District Board and their committee meetings, attend Board of Supervisor hearings and attend Montecito Planning Commission meetings which have greater and greater agenda items requesting approval for coastal private water well developments. I actively research current and historical groundwater scientific literature, have taken hydrology courses, have researched both Montecito Water District and Santa Barbara County's public records including EIR documents.

The recent explosion of private water well development in coastal Santa Barbara County exemplifies the so-called "Race to the Bottom" and ensures that the "Tragedy of the Commons" will be fulfilled as the groundwater resources are further depleted. The Oversubscription of the Montecito Water District groundwater is manifest and has been for some time. Groundwater is aggressively being depleted in this the 5th year of extraordinary drought. 3 dozen or more water wells in the Montecito Water District service area have gone dry within this time. No measurable groundwater recharge event has occurred since 2004-2005 per the Montecito Water District. This depletion of the Montecito Groundwater Basin is taking place most alarmingly in the coastal sub-basin, also called sub-basin 3. It may be helpful to note that the Montecito Groundwater Basin is comprised of 4 hydrologically distinct sub

basins, called Montecito Groundwater Basin sub-basin 1, sub-basin 2, and sub-basin 3 (which is the coastal sub-basin) and a fourth sub-basin that is part of the Toro Canyon Groundwater Basin, but is sometimes called sub basin #4).

Despite this historical extreme drought, the Montecito Planning Commission continues unabated, irresponsibly and repeatedly to approve Coastal Zone private water well development to owners in an existing oversubscribed, depleted, and overdrafted groundwater basin. In addition to the already existing and these 2 subject approved private coastal water wells, there are presently pending coastal private water well developments on the coastal edge of the coastal sub basin lined up and waiting for approval if the Coastal Commission approves the Makarechian and Schlesinger wells. One pending coastal water well permit proposes two private groundwater wells: one for the existing residential property (with existing metered Montecito Water District water supply) and one for an adjacent lot in common ownership. This is in the southwestern coastal section that has been cited by geologist Michael Hoover in 2008 as having identified sea water intrusion, confirmed also by USGS monitoring of nearby water wells in the contiguous Santa Barbara Storage Basin #1. (See attachment 1)

In support of denial, I believe that these County approved coastal private water well development projects:

- are inconsistent with the certified LCP because there is a public water supply to the property and in use to support the existing residences

-pose a substantial threat of well interference to other wells in the area and nearby

-whether operated alone or in combination with other existing wells in the Montecito Water District coastal groundwater basin, the subject wells pose adverse effects and threat of further groundwater depletion, sea water intrusion, loss of environmental water needed to support sensitive habitat (coastal streams and their riparian corridors, oak woodlands, etc.), and these wells will add increasingly additional water well development inventory to the existing oversubscription of the Montecito Coastal Zone portion ....which is 90% of sub basin/ storage unit #3. (As you may know, the Montecito Groundwater Basin is not one single basin of underground water, but rather a series of sub basins/storage groundwater units.... each with singular and distinct water capabilities and limitations.)

I also advance the following observations to support denial:

-These two approved private groundwater production wells overlie the montecito water district service area Coastal Zone Groundwater Basin sub unit/storage unit #3. It is noteworthy that this Montecito Water District sub basin #3 is a hydrologically single unit groundwater basin with Santa Barbara City Groundwater Storage Basin #1: the Montecito Water District sub basin #3 and Santa Barbara City Sub basin #1 are "separated" only administratively by a dotted a line on paper for the convenience of the two water purveyors sharing it (the Montecito Water District and the City of Santa Barbara. This single hydrological coastal unit is evidenced by numerous County Water Agency groundwater reports testifying to its connectivity. This is of import considering: 1)sea water intrusion has been documented by geologist Michael Hoover in 2008 (2008 letter, attachment 1) on the Montecito "side" of the coastal unit, and by the USGS on the santa barbara "side"). 2) the City of Santa Barbara in May 2015 approved a Private water well construction prohibition ordinance on properties served with City Water, and 3) while the Montecito Water District requested a water well moratorium in 2014 to the Board of Supervisors, the request was denied .....even with compelling Montecito Water District realization and evidence to the County Board of the gravity, compromise and depletion of its groundwater basins "The Montecito Water District recognizes the finite safe yield limitations of groundwater in Montecito. Groundwater is being pumped from the different storage basins by customers for non potable purposes without regard to the adverse effect to District and community public health and safety of water supplies....there is urgency due to the current groundwater degradation." (watch Montecito Water District's very informative Nov. 2014 briefing at: http://sbcounty.granicus.com/MediaPlayer.php?view_id=11&clip_id=2335) and associated power point at:http://sbcountyplanning.org/PDF/boards/mpc/11-19-2014/WATER-WELLS-BRIEF/GROUNDWATER%20Basin%20Presentation.pdf The Montecito Water District, while charged with protecting and managing groundwater in its service area, has no authority over permitting water wells in its service area, hence the Montecito Water District request for a well moratorium from the county, and lastly, 3) in 2008 SB County referenced groundwater thresholds of significance (pp. 67-108) to include Sea Water intrusion and well interference in SB City Basin #1.....which is MWD Sub basin #3)

-The Montecito Water District Service Area is under extreme drought condition ordinances which limits metered water supply through allocations, penalties, and Water drought Surcharges, but the Montecito Water District has no authority to limit private groundwater extractions or water well development permits (see above.)

-The Montecito Groundwater Basin is oversubscribed, depleted, and in overdraft, with many water well static water level elevations below sea level.

-The Montecito Water District increased non essential portion of metered water allocation by 26% in April 1, 2015 in an attempt to mitigate groundwater withdrawals and encourage metered water use.

-Permitted water well inventory in the Monticeto Water District Service Area (6 sqaure miles):
Public records from Santa Barbara County Environmental Health Service and Montecito Water District (pre-1973 through April 2016) reveal the private water well permit inventory within the Montecito Water District Service Area is as high as 1280 permitted water wells, with between 50--100 alone in the Coastal portion of sub basin/storage #3, and as many as 250 in the entire sub basin #3, with many permits pending. this equates to approximately 200 wells per square mile. (attachment 2 for partial inventory)
(And while one can assert that a permit does not necessarily equate to a well development, the reverse can also be asserted: a permit does not preclude that a well has been developed and is active.) Environmental Health Service and Montecito Water District records for water well status is essentially non existent.

-There is an ongoing demand for increased private water well development in the Coastal portion (90%) of sub basin #3. This Coastal Basin has become the go-to source for most of the groundwater production in the Montecito Water District Service Area, especially during the past 2 decades.

-Private water well development has multiplied unchecked during this current drought throughout the Montecito Water District Groundwater Basin, particularly in the Coastal Zone of storage unit 3.

-Water well development permit applications in the Montecito Water District Service Area have increased 300% during the past 2 years.

RE: MAKARECHIAN AND SCHLESINGER water developments operating pumpage: During the Montecito Planning Commission hearing the Commission had questions about how much groundwater would be pumped from these wells. there was testimony that these wells would operate at 5 gallons per minute 12 hours per day, which would be groundwater extraction per well of 1,314,000 gallons/year or 109,500 gallons per month....thats about 4.03 Acre Feet Per Year. If these parcels were to use

metered water instead for their supplemental irrigation, they would be allocated about 20,000 gallons per month for their parcel size.

-As the Montecito Water District metered water use cost and fees increase, those who can afford a water well development for onsite supplemental irrigation often choose that option in lieu of paying the high costs of Montecito Water District metered water, for there are no metrics or data collection imposed on private groundwater extraction: no extraction fees, no usage fees, no metering, no allocations, no oversight etc. As more land owners choose private water well development for their supplemental on site landscaping and opt out of metered Montecito Water District water for irrigation, the Montecito Water District customers that rely solely on metered water have the disproportionate burden of having to carry more and more of the cost of infrastructure and operating costs. Private water well developments can offer improvement to property value especially in drought conditions as metered MWD water supply becomes more costly, as one can liberally irrigate and enhance landscape with no meter or usage charge or allocation constraints.

-The County's CEQA guidelines and thresholds call for preparation of an EIR when an individual project in the montecito groundwater basin proposes extraction of 4.0AFY or more of water. Both subject wells pose the extraction of that amount and certainly CUMULATIVELY more. No cumulative impact analysis was prepared by County staff nor presented at any of the public hearings.

-Private Groundwater extraction is a function land use choices. Montecito private water well owners have long been extracting groundwater for non potable on site landscaping irrigation and continue to do so. (For example, in a historical context, a1973-74 study by Geotechnical Services (Slade/Gardner) for the Montecito Water District determined that private groundwater extractions "reflected the rather substantial use of water devoted to irrigation for maintaining the extensive landscaping prevalent in the area." " As a result of this increased water demand which exceeds both the safe yield of the basin and their import allotments, the Montecito Water District initiated a water rationing program in July 1973") (Hydrologic Investigation of the Montecito Ground Water Basin, 1974.) Land use in Montecito today continues to reflect a desire for lush landscape. Well development is a means to achieve this without the cost of metered water. Or could it be "something else", perhaps there might be an intent with a water well development to support additional housing development on adjacent lots in common ownership during MWD's current moratorium on new water meters. Installation of

private water wells "for onsite irrigation" could provide "under the radar"...with public concern only later.

-Well Interference
Due to the magnitude and density of water well location proximities to other wells, the Montecito Water District is unable to recharge the their Groundwater Basin with recycled water per a recent Dudek study. ((Dudek September 2015 Monticito Groundwater Recharge Feasibility Study Final)

-Safe Yield of Montecito Water District Coastal Zone Groundwater Basin Storage Unit 3. With regard to both safe yield compromise/ overdraft (sub basin 3) and sea water intrusion: Hydrologist Michael Hoover in his 1980 safe yield study 40 years ago (the last safe yield study that has been completed for the Montecito Water District Groundwater Basin), cites "safe yield in storage unit 3 as 600AFY until safe yield testing under stressful drought conditions be undertaken.

-No stressful testing of sub basin 3 has occurred for 40 years, and we are certainly in sustained drought conditions. Mr. Hoover estimated at the time 40 years ago that withdrawals from sub basin 3 had reached 585AFY which left only 32 AF buffer to reach overdraft. One can conservatively extrapolate that in the intervening 40 years, with the additional water wells developed during that time, the safe yield of 600 AFY has been breached.

-In 1980 Mr. Hoover estimated that private well extraction per acre was approximately 1.5AFY (488,766 gallons) or about 122,00 gallons per quarter acre. For comparison, Montecito Water District metered water supply allocation for approximately one quarter acre is 20,000 gallons, with penalties over allocation added if and water surcharge added per each HCF.

-Sea Water Intrusion

-In 2008 geologist Michael Hoover cites sea water intrusion in Montecito Water District Coastal sub basin #3 in his assessment and evaluation report regarding an approved, not yet built, Miramar Water well development for onsite landscaping. (See Attachment #1)

"There is significant likelihood for sea water intrusion at the Miramar site. Overpumping at nearby sites such as SB Cemetery, Hill rd, Biltmore Hotel and Toro Canyon have resulted in elevated chloride levels, a clear indication of sea water intrusion." Michael Hoover, 2008. (attachment 1) (and for sites see attachment 2)

NOTE: The above cited location sites are extremely proximate to both the Makarechian and Schlesinger parcels (See Attachment 2) and therefore relevant in context of Mr. Hoover's 2008 sea water intrusion concerns.

Further, This approved Miramar well development for on site landscape irrigation was eliminated from the Miramar Hotel project, predicated upon his sea water intrusion assertion, and further, the existing Miramar well was destroyed.

-Re: Santa Barbara Storage Unit #1(the same hydrological unit as montecito coastal Sub Basin/storage unit #3): per Santa Barbara County 2008 Environmental Thresholds: "Recent USGS studies have shown that salt water has intruded a few hundred feet onshore in Storage Unit No. 1. Computer modeling conducted as part of this work indicted that the rate of salt water advance was four times greater than the rate at which the salt water could be flushed out by natural processes (hydrologic gradient). Prevention of salt water intrusion is thus a key concern of projects supported by coastal pumpage."

-In the Montecito Coastal Sub Basin #3 numerous private water wells are located and extracting groundwater one block from the sea. These cumulative extractions place at great risk the critical balance and inherent protective nature of the hydrologic state of coastal groundwater movement seaward (sea water is "heavier" than fresh water.) This fresh groundwater seaward movement ensures that the seawater landward movement into the fresh groundwater sub basin is resisted and prevented. If too much coastal groundwater is extracted, this dynamic is destroyed and sea water intrusion occurs inducing sea water inland with the hydrologic head reversal.

-RE: Montecito Water District sea water intrustion: Private water well inactivation exchange for MWD metered water meter service. There was a period of time in the 1970's where due to evidenced sea water intrusion in the Montecito Water District groundwater secondary to water well extractions, the Montecito Water District offered metered water service to private water well owners in exchange for inactivating their water wells. Abandonment was not required, rather inactivation.

-CEQA:
Before granting CDP's for water well developments, studies should be performed under CEQA and a cumulative impact analysis obtained considering the number of wells and extent of groundwater extraction. No CEQA exemptions should be made before this analysis can be undertaken.

The Santa Barbara County Water Agency has evidence that the Montecito Groundwater Basin is becoming drastically depleted with hundreds of cumulative water wells extracting, but appears to be paralyzed by the politics of water and the imposing will of influential landowners who want to have private wells in furtherance of their development interests, without regard for the protection of the community GROUNDWATER COMMONS. The County can no longer avoid its duty to advise the Montecito Planning Commission accordingly, so that appropriate environmental review of well applications will no longer be avoided through CEQA exemptions.

-<u>REMEDY</u>

To ensure aquifer and groundwater protection, there must accurate and up to date data and metrics of actual cumulative private water well developments and their status (active, inactive,etc). It is the County's burden secure this data, and to responsibly track on an ongoing and consistent basis. Absent this, the Montecito Water District should have the authority to secure all data and metrics required within its service area to effect appropriate evidenced based groundwater management best practices.

Crafting a remedy cannot be achieved by continuing the pro forma approvals for private water well developments ...be it ministerial or discretionary.

The tragedy of the Commons is manifest here and now in the Montecito Groundwater Basin, with the associated adverse effects due to more straws in the ground. There is less groundwater for the Commons and overlying community, and for the sensitive resources dependent on groundwater: trees, plants and fish.

I support that Dr. Loiaciga's recommendations for comprehensive, sustainable management of groundwater recourses be offered as a guide and pathway to effect and ensure evidence based best management practices for the Montecito Groundwater Basin, particularly the Coastal Basin sub unit #3.

Dr. Loiaciga's recommendations are found as Item #5 in his memorandum accompanying his Geotechnical/Hydrologic Report November 2015. (Attachment 3)

In closing, crafting a remedy cannot be achieved by continuing the pro forma approvals for coastal private water well developments.

These two subject water well developments must be denied. If they are not denied, their approval will set a precedent and it will

serve as the "green light" for the unconstrained and irresponsible growth of coastal private water well development with all the associated adverse effects.

Crafting a remedy will take commitment to groundwater evidence based best management practices. Implementing aggressive stewardship and protection is critical to ensure sustainable GROUNDWATER COMMONS for the greater good and the good of the whole rather than of the few.

Respectfully,

Donna Senauer
1155 Summit Road
Montecito, Ca 93108

Attachment 1: 2008 letter to Santa Barbara County Planning Department by geologist Michael Hoover on behalf of Susan Petrovich/client providing his observations that seawater intrusion is a significant problem due to overpumping of Coastal Montecito groundwater and recommending that a then-approved new water well not be included in the Miramar project (located between the Schlesinger approved water well and the Makarechian and Hair(July 20, 2016) approved water wells. NOTE: many of the locations identified in Mr. Hoover's 2008 letter surround the approved Makarechian and Hair(July 20, 2016) water well sites near Butterfly Beach, shown in Attachment 2 Map.

attachment 2: Annotated Montecito Coastal Groundwater Map. Butterfly beach coastal fronting neighborhood and southern coastal sub basin #3 area. Note a number of locations referenced in the 2008 Hoover letter (Attachment 1) are located including Hill Road and Biltmore Hotel. According to County EHS staff, Mr. Hoover served as geologist of record for the installation of numerous wells in this vicinity in the years before he drafted the 2008 letter. NOTE: on the basis of this information alone, which is part of the public records of the County of Santa Barbara Planning Department and which processed each of the CDPs for the approved private water wells in coastal Montecito, a study should have been performed under CEQA and a cumulative impact analysis should have been part of that study, given the number of wells and the extent of groundwater extraction already occurring. Instead, the County has approved CEQA Exemptions for these well development approvals, and most recently again improperly approved a CEQA exemption for the Hair well development (July 20, 2016.)

Attachment 3 Recommendations for Basin Overdraft: Dr Loiaciga Memorandum Item #5 November 1,2015. This memorandum

accompanies his november 1 2015 “Geotechnical/Hydrologic Evaluation of the Impacts of Proposed Private Water Wells in the Coastal Sub-Basin of the Montecito Groundwater Basin, Santa Barbara County, California

ATTACHMENT 1: 2008 Michael Hoover Letter

MICHAEL F. HOOVER Consulting Geologist • Hydrologist

P.O. BOX 30860 • SANTA BARBARA, CALIFORNIA 93130 • (805) 569-9670 - TELEFAX (805) 569-9561
E-mail: Mfhoover@Hoovergeo.com
May 13, 2008

Mr. Dave Ward
Santa Barbara County Planning & Development Department
123 E. Anapamu Street
Santa Barbara, CA 93101

Subject: Draft Subsequent Environmental Impact Report and Addendum to Negative Declaration for Miramar Beach Resort and Bungalows Project

At the request of Ms. Susan Petrovich of Brownstein Hyatt Farber Schreck, LLP, I have evaluated an environmental document entitled, "Draft Subsequent Environmental Impact Report and Addendum to Negative Declaration for the Miramar Beach Resort and Bungalows Project," as it pertains to ground water issues. I have also evaluated a letter from Fugro West, Inc. addressed to Caruso Affiliated dated March 13, 2008 (Revised March 27, 2009). Based on my analysis of these documents, it appears that the project applicant has made the following findings and proposes the following actions:

1. To drill a water well intended to supply landscape irrigation and laundry water to the renovated project.
2. To pump the proposed new well at the rate of 25 gallons per minute on a 50% operational basis.
3. It is estimated by the applicant's geologist that the proposed new well will have an impact on water levels more than 700 feet from the Miramar well site. These calculations are based on theoretical values (no well has been drilled at the proposed site) and thus no site specific data are available.
4. The applicant's proposed mitigation, intended to prevent over pumping of the proposed well, is to adjust well pumping rates and install a "safety device" to maintain water levels above sea level.

5. The applicant-estimated historical water use from the existing water well on the Miramar property is 14 acre feet per year.

6. It is acknowledged that elevated levels of chlorides are found in the existing Miramar well.

7. The application estimates that future water demand at the project site is estimated to be 13.7 acre feet per year.

As a mater of background, in 1987 I located, designed and supervised the construction of the well on the Miramar property for the previous owner, Mr. William Gautzner. I have also located, designed and/or tested 12 water wells within 4,000 feet of the Miramar site, including 6 water wells for the Montecito Water District, the Lingate Water Company (mentioned in the Fugro West, Inc. letter to Caruso Affiliated dated March 2, 2008), Ivydene Water Company, Montecito Estates and 3 other proximal private wells.

After a review of the relevant portions of the County file pertaining to this project, I conclude the following:

1. The environmental document does not contain an adequate analysis of potential ground water impacts of this project. A thorough analysis of the proposed project's impacts on neighboring wells is necessary. There are numerous wells closer to the Miramar site which will be more significantly impacted than the more distant wells analyzed by Fugro in its letter referenced above. These wells include: Miramar Addition Improvement Company, Eldred, the Montecito Water District's Paden, Ennishmok and Amapola wells, and the Montecito Estates well.

2. There is a significant likelihood for sea water intrusion at the Miramar Hotel site. Over pumping at nearby sites such as Santa Barbara Cemetery, Hill Road, Biltmore Hotel and Toro Canyon have resulted in elevated chloride levels, a clear indicator of sea water intrusion. A complete analysis needs to be made in the environmental document of the current status of and potential for future sea water intrusion. This analysis should include

an evaluation of water chemistry, historic water levels, and well pumping tests (with observation wells).

3. The project water demand should be re-evaluated in the context of similar projects such as the Biltmore Hotel and the old Miramar Hotel.

4. More information is needed regarding the current water quality of the existing Miramar well. It appears that this well may have been adversely impacted by over pumping, resulting in a sea water intrusion problem. Moving the new well to a more inland location, closer to neighboring wells may create an even greater area of adverse impact if the new well draws sea water further north and closer to neighboring wells.

5. There are no meaningful measures mentioned in the environmental document that will lessen or prevent sea water intrusion at this site. I have designed over 300 water wells during the last 30 years, and I know of no fool proof "safety device" that can maintain water levels in the well above sea level. Any such device, if one exists, could be easily circumvented.

6. I see no justification for a private well at this site (other than lowering water costs for the hotel operator).

7. Fugro West's letter evaluating the Miramar's impacts on neighboring wells is based on theoretical aquifer values. Their use of theoretical values was necessary because no well currently exists at the proposed well location -- the northwest corner of the Miramar Hotel property. Clearly, before any sound environmental analysis can be performed to determine the potential for sea water intrusion and for well interference with existing neighboring wells, a new test well needs to be drilled at this location and extensive well tests conducted prior to completion of the CEQA document.

In conclusion, the analysis of potential impacts upon water resources in this document is inadequate. I hope my comments have been helpful in your evaluation of the new Miramar Hotel project. If you have any questions or if I can be of further assistance, please contact me.

MICHAEL F. HOOVER
Consulting Geologist • Hydrologist

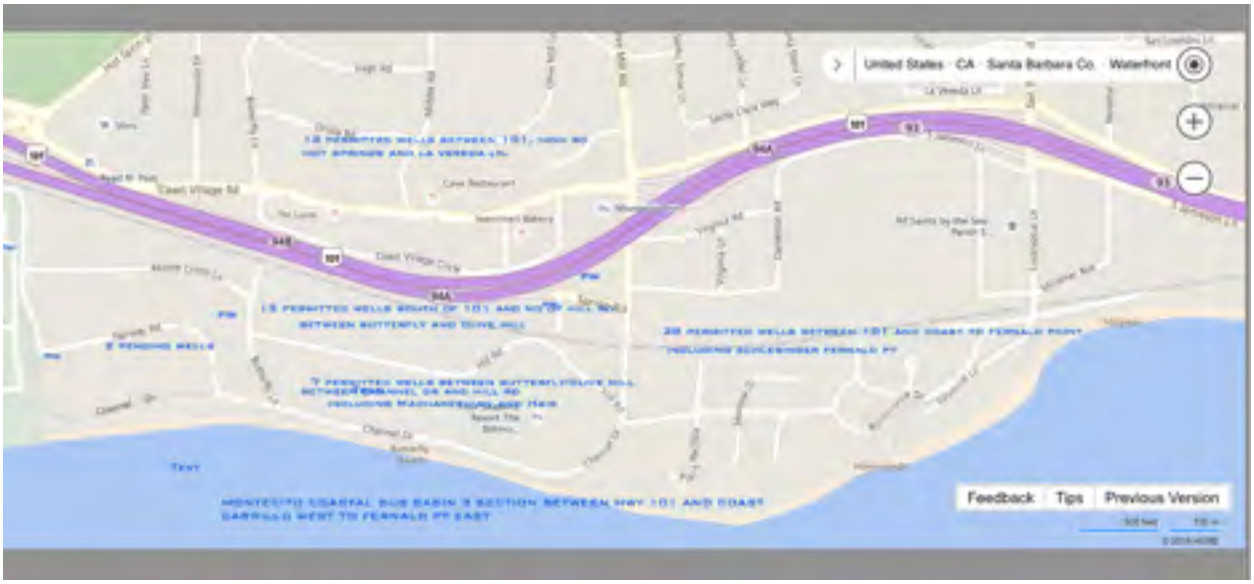
Sincerely,

MICHAEL F. HOOVER
CONSULTING GEOLOGIST-
HYDROLOGIST

Michael F. Hoover
Principal Geologist

MFH:ra

ATTACHMENT 2:



Attachment 3:

Dr Loiaciga Memorandum November 1,2015 Item #5 of his "geotechnical/hydrologic evaluation of the impacts of proposed private water wells in the coastal sub-basin of the Montecito Groundwater basin, Santa Barbara County, California which accompanied his November 1, 2015 Geotechnical/Hydrologic Evaluation of Three Proposed Groundwater Wells in the Coastal Sub-Basin (Storage Unit 3) of the Montecito Groundwater Basin

Memorandum, Item #5: Recommendations for Basin Overdraft

"The following are recommendations by this Contractor to agencies that have regulatory, administrative, or managerial jurisdictions over the coastal sub-basin (storage unit 3) of the MGWB, that is, to the California Coastal Commission, the County of Santa Barbara, and the Montecito Water District, as applicable.

(1). Set a groundwater threshold of significance equal to zero in the coastal zone of the MGWB under the jurisdiction of the California Coastal Commission. This means that no new wells should be permitted during the current drought and thereafter until recommendations (2) and (3) are fulfilled by the appropriate agency or agencies.

(2). Conduct comprehensive survey of all the active wells in storage unit 3 of the MGWB to determine: (i) their locations, (ii) their extraction rates, and (iii) their condition (year of construction, years of service, and well-construction characteristics). Make a data-based, accurate, estimation of groundwater extraction in storage unit 3 of the MGW and of its safe yield, 20

(3). Implement groundwater-level and water-quality monitoring program (including chloride as a target indicator of water quality) in storage unit 3 of the MGWB. Groundwater level and groundwater quality measurements should be made at least once a year, preferably in early Autumn following elevated groundwater extraction during the Summer. Monitoring of water levels and groundwater quality should be conducted principally, but not uniquely, in wells near the coastline in storage unit 3 that are actively extracting groundwater. Ideal wells for such measurements are those owned by the Montecito Sea Meadows Mutual Water Company, the Biltmore Hotel, and the Montecito Water District. Make a data-based, accurate, assessment of groundwater quality and groundwater-storage conditions in storage unit 3 of the MGWB.

(4). Conduct a program of pumping tests in wells within storage unit 3 of the MGWB. The pumping tests should be conducted with modern technology that allows isolating the various formations (strata) tapped by a well while conducting individual tests in each formation. Conduct the tests by pumping in a well and measuring water level in nearby well or wells. The pumping tests would yield estimates of formation-specific transmissivity and storage coefficient that are imperative in making credible predictions of well interference, drawdown, storage change, stream flow impacts, and seawater intrusion. The aquifer parameters obtained from the pumping-test program (i.e., transmissivity and storage coefficient) should be used to evaluate likely impacts of proposed new wells.

(5). Provide training in groundwater principles and field practice to personnel involved with the permitting of new wells and with the management of groundwater resources in storage unit 3 of the MGWB.

This Contractor recognizes that recommendations (1)-(4) should be extended to the entire MGWB. Time and funding constraints, however, may render that extension infeasible. Implementation of the five recommendations in storage unit 3 of the MGWB is an urgent priority that appears within practical reach. “

DATE: November 1, 2015

TO: Mr. John Ainsworth,
Senior Deputy Director
California Coastal Commission
89 South California Street, Suite 200
Ventura, CA 93001

FROM: Hugo A. Loáiciga, Ph.D., P.E.;

320 N. Fairview Avenue, Suite 3, Goleta California 93117; (805) 450 4432; hloaiciga@hotmail.com

SUBJECT: Contract CC-15-30 Report: Geotechnical/hydrologic evaluation of the impacts of proposed private water wells in the coastal sub-basin of the Montecito Groundwater basin, Santa Barbara County, California.

I have prepared this memorandum addressing the five items listed in the scope of work of contract CC-15-30 based on my review of evidence and analysis concerning (i) hydrologic status, (ii) seawater intrusion, (iii) safe yield and overdraft, (iv) groundwater thresholds, (v) drawdown and well interference, and (vi) aquifer-stream interactions in the Montecito Groundwater Basin (MGWB),

This memorandum is a synthesis of the discoveries this Contractor made while evaluating the geotechnical/hydrologic impacts of three proposed private water wells that would be installed in the MGWB if approved. The proposed wells are herein named the Hair, Makarechian, and Schlesinger wells. There is a companion report to this memorandum. The report is titled: "Geotechnical/hydrologic Evaluation of Three Proposed Groundwater Wells in the Coastal Sub-basin (Storage Unit 3) of the Montecito Groundwater Basin, Santa Barbara County, California". The report provides in-depth information and evaluation about the proposed wells. This memorandum summarizes my answers to the five items cited in the scope of work of contract CC-15-30 and refers the reader to specific sections of the companion report for technical details.

While the companion report is technical in its presentation of facts and conclusions, this Contractor made an attempt to write the contents of this

memorandum in non-technical language as accessible as possible to non-specialists in groundwater hydrology.

Item 1. ***Discussion of the accuracy and validity of the assertions and conclusions made by representatives of the subject project applications, with emphasis an emphasis on those of the applicants' consulting geologist.***

The applicants' consulting geologist is Mr. Adam Simmons. In assessing the accuracy and validity of his assertions and assumptions made in relation to the three proposed wells (the Hair, Makarechian, and Schlesinger wells) I relied on the following documents that he authored:

(a). Simmons, A. (October 15, 2014). Presentation to the Montecito Planning Commission.

(b). Simmons, A. (unknown date, 2014). Presentation to staff of the California Coastal Commission.

(c). Simmons, A. (January 29, 2015). Proposed water well Commission Appeal No. A-4-STB-14-0062 Santa Barbara County Permit 14CDH-00000-00005, 1169 Hill Road, Santa Barbara, California.

(d).Simmons. A. (May 11, 2015). Proposed water well addendum report Commission Appeal No. A-4-STB-14-0062 Santa Barbara County Permit 14CDH-00000-00005, 1169 Hill Road, Santa Barbara, California.

(e). Simmons. A. (May 14, 2015). Proposed water well addendum report Commission Appeal No. A-4-STB-14-0060 Santa Barbara County Permit 14CDH-00000-00007, 1685 Fernald Point Road, Santa Barbara, California.

This Contractor identified several assertions and assumptions made by Mr. Simmons concerning the proposed wells that appear to summarize his position concerning the proposed wells that deserve rebuttal:

(i) Seawater intrusion is not a concern in regards to the proposed wells because "we have the Rincon Fault right offshore in Montecito that blocks seawater" (quote taken from document (a));

(ii) If the proposed wells are not allowed to be installed "the water now flowing through these properties will go into the ocean and be wasted" (quote taken from document (b));

(iii) The portion of storage unit 3, which is the coastal sub-basin of the MGWB, where the proposed wells would be installed "shows no sign of overdraft" (quote taken from document (b));

(iv) Drawdowns and well interference do not pose cumulative impacts to the MGWB (statements made in this respect by Mr. Simmons are found in documents (a), (b), (c), (d), and (e)).

Answer to assertion and assumption (i): Mr. Simmons believes that the offshore Rincon Creek Fault constitutes a barrier to seawater intrusion. Seawater intrusion in storage unit 3 (the coastal sub-basin) of the MGWB has been known to occur for many decades. This Contractor reviewed a dataset of chloride measurements made in wells of the MGWB by the United States Geological Survey and the California Department of Water Resources. The measurements show that wells in the MGWB have reached high chloride concentrations at various times from 1949 through 2012. The high chloride concentrations ranged between 312 mg/L to 1,220 mg/L, which are typical of groundwater contaminated with seawater. Two of the MWD's wells, Ennisbrook 2 and Ennisbrook 5, exhibited high chloride concentrations in recent surveys. The former well had a chloride concentration equal to 540 mg/L in February 2014, and the latter well had a chloride concentration equal to 490 mg/L in May 2015. The evidence of seawater intrusion in the MGWB is very strong. Section 5 of the companion report establishes that there is not such a thing as an impervious seawater barrier on the southern perimeter of the MGWB. The three proposed wells are very close (less than 400 feet) from the high-tide sea level in the coastal sub-basin. Section 9 of the companion report demonstrates that the Hair and Makarechian wells and several adjacent wells would lower the groundwater level on the coastline adjacent to them by 12 feet. In addition, the operation of these two wells and several adjacent wells would lower their own water levels by 15.63 feet. This magnitude of drawdown at the Hair and Makarechian wells would drive their water levels below sea level, and they most likely would be pumping saline water after some time of operation.

Figure 1 depicts the approximate locations of the proposed Hair and Makarechian wells, two existing wells (Chase and Haber), and two wells (A, B) operated by the Biltmore Hotel. There are many other private wells near the proposed wells. It is seen in Figure 1the short distances separating these wells and their proximity to the sea. Section 9 of the companion report established that pumping groundwater at the

Schlesinger well would lower its own groundwater level by 17.76 feet and the groundwater level on the coastline adjacent to it by 6.65 feet. With these magnitudes of water-level declines the Schlesinger most likely would be pumping saline groundwater after some time of operation.

Figure 1. Google image showing the approximate locations of the appealed Makarechian and Hair wells, the existing Chase, Haber wells, and two other wells (A and B) operated by the Biltmore Hotel.

Answer to assertion and assumption (ii): Mr. Simmons believes that the groundwater that flows under the properties where the proposed wells are located would be wasted if it is not pumped by the wells. The belief stated by Mr. Simmons in this regard reflects a common misconception about the role that seaward groundwater discharge plays in coastal groundwater basins, such as the coastal sub-basin of the MGWB. Federal hydrogeologists (see, e.g., Muir, 1968) and consulting hydrogeologists working for the Montecito Water District (see, e.g., Slade, 1987) have demonstrated that a minimum amount of groundwater flow towards the ocean is necessary to prevent the migration of seawater into the coastal aquifer. Section 5 of the companion report demonstrates that the minimum amount of seaward discharge of groundwater needed in the coastal sub-basin of the

MGWB ranges between 74 and 300 acre feet per year (1 acre foot year is approximately equal to 326,000 gallons of water). The necessity of such discharge of groundwater to the ocean floor is a consequence of basic laws of physics, and has been known for centuries. Figure 2 below illustrates why the seaward discharge of groundwater is imperative in coastal aquifers.

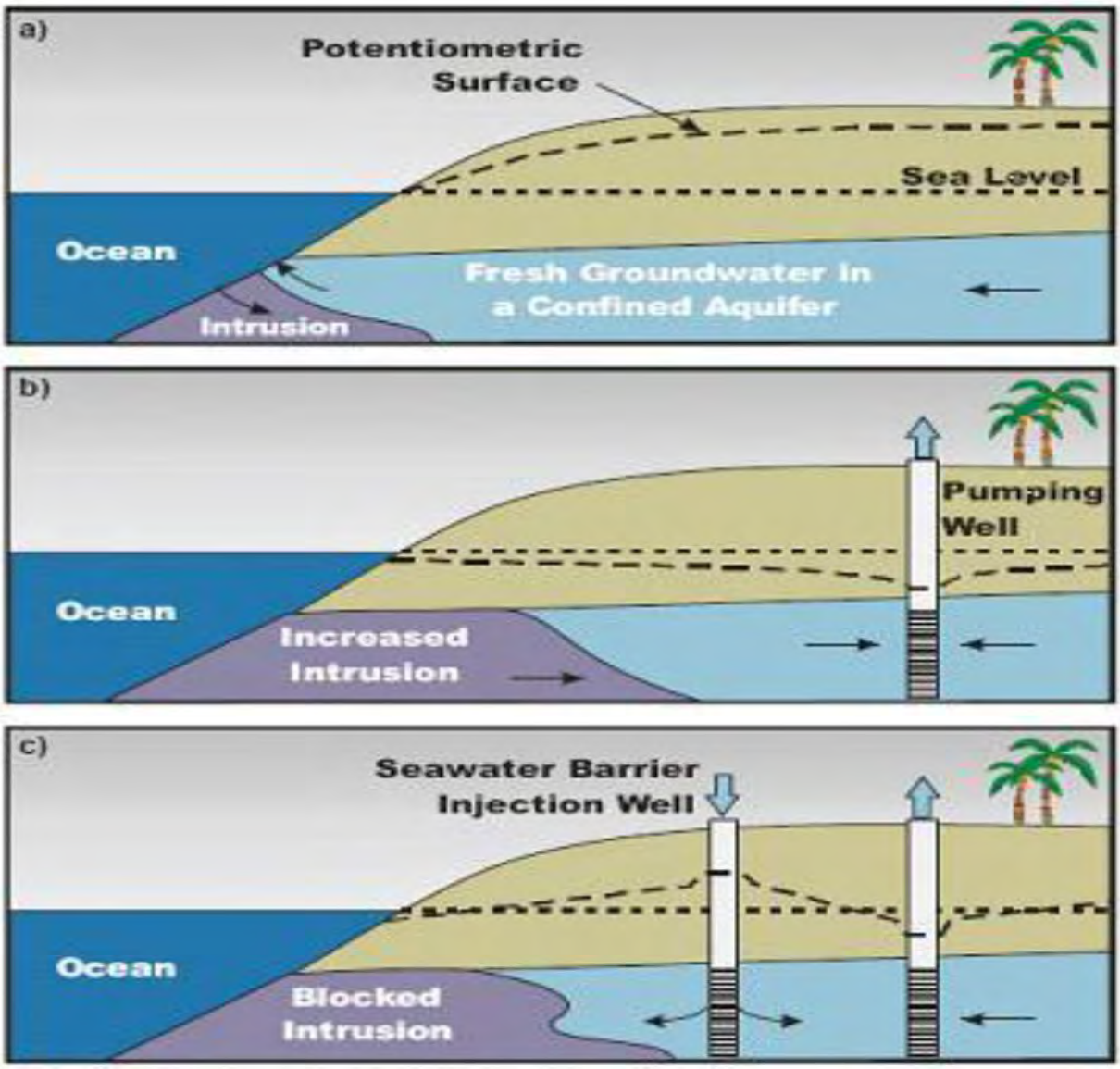


Figure 2. Basic principles about seawater intrusion.

Figure 2(a) shows groundwater discharging to the sea floor when there are no wells pumping in the coastal zone. This is the normal condition of healthy groundwater

basins. Notice, however, in Figure 2(a) that seawater migrates landward to some extent under natural conditions because it is denser than fresh groundwater. How far seawater moves landward depends on how much higher the groundwater levels on the coastline are than the sea level. This is a very delicate equilibrium that if broken by pumping in the coastal zone can ruin the coastal aquifer. Figure 2(b) depicts seawater intrusion into the coastal aquifer and cessation of groundwater discharge to the sea floor by the lowering of groundwater levels by wells pumping groundwater in the coastal zone. Eventually, the well would be pumping saline water. Figure 2(c) portrays a method used to stop seawater intrusion. It consists of placing injection wells between the advancing wedge of seawater and the production wells. The injection wells inject treated sewage water and raise the groundwater level thus containing further landward migration of seawater. This method of creating seawater barriers to protect groundwater resources is used in Los Angeles County and other coastal aquifers throughout the world.

Answer to assertion and assumption (iii): Mr. Simmons believes that there is no overdraft in the MGWB. Overdraft is the amount of groundwater extracted in a basin in excess of its safe yield during a relevant period of analysis. Safe yield is the maximum quantity of water that can be continuously withdrawn from a groundwater basin without adverse effect. These two definitions were adapted from the California Department of Water Resources' Bulletin 118: California's Groundwater (2003 revision). Safe yield and overdraft in the MGWB are calculated respectively in sections 7 and 9 of the companion report. Overdraft and safe yield are commonly expressed in acre feet per year. Mr. Simmons' belief that the MGWB is not overdrafted is contradicted by the 2015-revised version of the County of Santa Barbara's Environmental Thresholds and Guidelines Manual that classifies the MGWB as being in overdraft. Furthermore, the 2014 County of Santa Barbara's Groundwater Basins Status Report declared groundwater level in the MGWB to be in decline since the 1960s and at historic low presently (see page 12 of the 2104 report).

Table 1 lists the groundwater levels measured in Spring 2015 at the Montecito Water District's four municipal wells. It is seen in Table 1 that the water levels are below sea level. These municipal wells are located in the coastal sub-basin of the MGWB.

Table 1. Groundwater levels in the four MWD municipal wells, Spring 2015. The four featured wells lie within storage unit 3, the coastal sub-basin.

Well name	Groundwater level	Units
Amapola	-20	Feet below mean sea level
Ennisbrook 2	-26	Feet below mean sea level
Ennisbrook 5	-47	Feet below mean sea level
Paden 2	-58	Feet below mean sea level

Section 7 of the companion report shows that storage unit 3, the coastal sub-basin of the MGWB, is overdrafted by about 591 acre feet per year. Some in the groundwater well industry believe that there is no reason to worry about the effects of long droughts on aquifers, because, eventually, it will rain again and aquifers will be replenished. According to their logic it is always a good idea to install more wells, regardless of climatic conditions. In their view, wells are needed to extract groundwater and prevent its waste by leaving it in the ground. The flaw with this logic is that during long droughts seawater intrusion may ruin coastal aquifers if pumping rises, there is loss of well yield as groundwater storage is depleted, many wells fail (as they have by the dozens in the MGWB and by the thousands in the State of California during the current drought), stream flow is reduced and surface-water resources are significantly and adversely impacted, land subsides in many regions. Sections 6 and 7 of the companion report make a strong case for the sustainable management of groundwater resources. They provide reasons for regulating groundwater extraction to ensure the long-term beneficial use of aquifers. The most effective manner to regulate over pumping in threatened coastal aquifers is by controlling groundwater extraction and wisely managing the permitting of wells in these basins.

Answer to assertion and assumption (iv): Mr. Simmons believes that the proposed three wells do not pose cumulative impacts on the MGWB. It was stated in the answer to assertion and assumption (i) that the coastal zone of storage unit 3 under the jurisdiction of the Coastal Commission is tapped by many private wells. Preliminary research by staff of the Coastal Commission indicates that there are at least a dozen wells within a half mile from the Schlesinger, Makarechian, and Hair wells, and at least 250 wells lie within storage unit 3. Figure 3 depicts the approximate locations of wells permitted within storage unit 3 and the associated

coastal zone (the latter under CCC jurisdiction). It is striking in Figure 3 the agglomeration of wells in the vicinity of the coastline and near creeks, two environments particularly vulnerable to groundwater extraction. It is also remarkable in Figure 3 the clustering of many wells within the coastal zone, a practice conducive to well interference and loss of well yield.

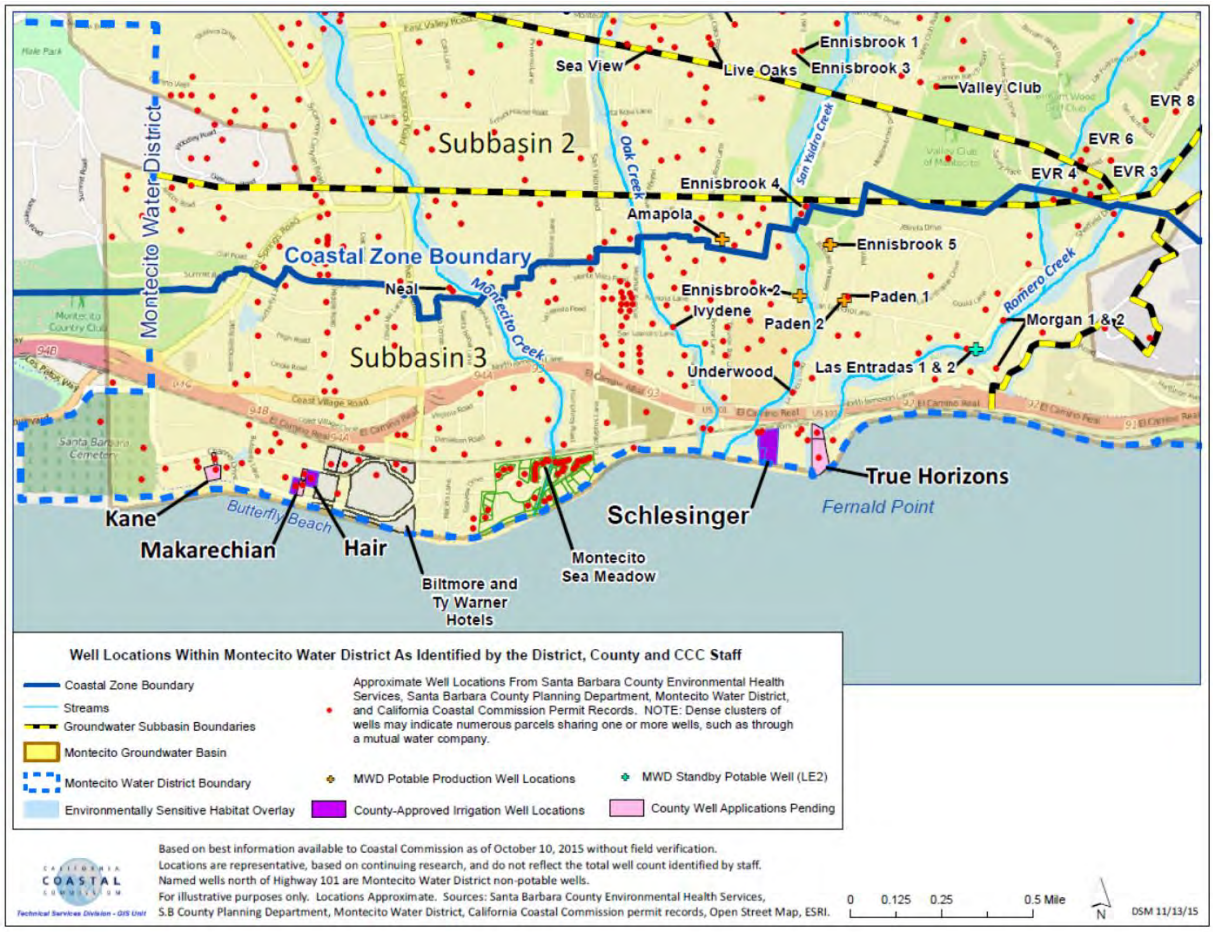


Figure 3. Approximate locations of wells permitted within storage unit 3 and the associated coastal zone (the latter under CCC jurisdiction). Source: California Coastal Commission.

The adverse cumulative impacts of groundwater wells in the MGWB are already evident. In a letter dated November 21, 2014, from the Montecito Water District to

the County of Santa Barbara, the former acknowledged that it "had no mechanism for accurately determining the active number of active wells, or the private well water use and demand; nor does it have a viable mechanism for monitoring the extraction of groundwater from the aquifers within its service area". The same letter reported the failure of "approximately three dozen private wells" within the MWD service area and asked the County of Santa Barbara for a moratorium of well permits within the boundary of the MGWB.

Another type of adverse cumulative impact would be that posed by the Schlesinger to the stream flow in San Ysidro Creek. Figure 4 depicts the approximate location of the proposed Schlesinger well with respect to San Ysidro Creek and the Pacific Ocean.

Figure 4. Google image showing the approximate location of the appealed Schlesinger well. Notice the proximity of the Schlesinger well to San Ysidro Creek and to the sea.

It can be seen in Figure 4 that the Schlesinger well would be within the riparian corridor of San Ysidro Creek. It is estimated that the distance from the Schlesinger well to the nearest point on the San Ysidro Creek stream channel would be less than 100 feet. It is proven in section 9 of the companion report that pumping at the Schlesinger well would lower the groundwater level in the aquifer underlying San Ysidro Creek by at least 8.41 feet. One must add to this the lowering of the water level caused by neighboring wells, whose rates of extraction are unknown. The lowering of the groundwater level in the aquifer surrounding San Ysidro Creek most likely would reduce its streamflow when hydrologic conditions allow it. This is a significant adverse impact to surface water resources in storage unit 3 that was not adequately addressed by consulting geologist A. Simmons in his May 14, 2015, memorandum to Coastal Commission staff. In the latter memorandum A. Simmons wrote that "The proposed well is situated at an elevation of approximately 23 feet above mean sea level with an estimated static water level of approximately 18 feet in depth. This swl is approximately 6 feet below the bottom of San Ysidro Creek and is therefore unlikely to cause any issues with any riparian corridor given the distance to the creek, depth of the concrete sanitary seal, and low yield of 5 gpm or less. Therefore the proposed well would have no or negligible impacts on any existing or proposed water wells and/or riparian corridors". Mr. Simmons's analysis of the Schlesinger's well impacts on San Ysidro Creek was incorrect. Comparing the static water level at the Schlesinger well with the bottom of the San Ysidro Creek at an undetermined location is not meaningful. Section 9 of the companion report established that the drawdown that would be caused by the Schlesinger would propagate long distances (hundreds of feet) from the well, capturing groundwater that could otherwise support stream flow in San Ysidro Creek when hydrologic conditions allow flow in the creek.

Item 2. ***Review and discussion of maximum or "worst case" annual pumpage proposed for each of the three subject water wells based on the available information (such as project applications) contained in the administrative record County's approval of each well provided by the County to Commission staff. If the County materials are not sufficiently accurate and/or complete to make such a determination, provide an estimate of the maximum or "worst case" pumpage for the wells based on the contractor's best professional judgement including disclosed correction factors and assumptions. If relevant, include in the***

determination evidence of current water demand factors established by the 2014 water well pumpage data reported to the State for a similarly situated 32-unit detached residential estate development near the subject well sites, in coastal Montecito.

Consulting geologist A. Simmons cited a pumping rate of 5 gpm (gallons per minute) for the three proposed wells in one or more of documents (a), (b), (c), (d), and (e) cited above. It was stated by this Contractor in Item 1 (above) that pumping at the three proposed wells at a rate of 5 gpm would worsen seawater intrusion in the coastal sub-basin of the MGWB. The maximum or "worst case" pumpage proposed for each of the three subject wells (Hair, Makarechian, and Schlesinger wells) was not stated in the applications for the proposed wells, at least not using such denomination. This Contractor calculated, however, the groundwater threshold of significance for the three proposed wells with two different approaches. The County of Santa Barbara defines groundwater threshold of significance as the rate of groundwater extraction at which a project's estimated contribution to the overuse of groundwater in an alluvial basin or other aquifer is considered significantly adverse (County of Santa Barbara's Environmental Thresholds and Guidelines Manual, revised July 2015).

Using the first approach, this Contractor determined in section 9 of the companion report that the groundwater threshold of significance (herein synonymous to "worst case" pumpage of a new well) equals zero acre feet per year in the coastal zone of the MGWB under the jurisdiction of the California Coastal Commission. This approach evaluated the groundwater threshold of significance based on site-specific impacts of a new well. Those site-specific impacts are: (a) seawater intrusion, (b) drawdown and well interference, and (c) reduction of stream flow. The meaning of a zero groundwater threshold of significance is that no new wells should be permitted in the coastal zone of the MGWB under the jurisdiction of the California Coastal Commission.

The second approach used by this Contractor to calculate the groundwater threshold of significance in storage unit 3 (the coastal sub-basin) of the MGWB relied on the County of Santa Barbara's 2015 version of the Environmental Thresholds and Guidelines Manual's method. This method involves an elaborate calculation that uses an idealized reference groundwater basin and several

subjective weighting ratios. The details of the calculations are presented in section 8 of the companion report. The final result was that the groundwater threshold of significance in the coastal sub-basin of the MGWB equals 0.71 acre feet per year. A well pumping 0.44 gpm continuously would extract 0.71 acre feet per year, or, pumping 0.88 gpm half the time would extract the same volume of groundwater annually. This Contractor does not consider economically rational to construct a groundwater well to extract 0.71 acre feet per year in storage unit 3 of the MGWB. Applicants would be better off purchasing water from the Montecito Water District. This Contractor used the web-posted current water rates charged by the Montecito Water District and determined that a typical (existing) single-family water connection using an additional 0.71 acre feet per year (309.3 hundreds of cubic feet annually) for landscape irrigation would pay an extra $ 2,790 annually for water. A 250-foot well constructed with a total lineal cost equal to $ 200/foot (all permitting, construction, and operation and maintenance costs included) would cost $ 50,000. It would take about 18 years of well operation before the well would pay itself, and, by that time, the well's service life would be over and it would have to be rebuilt anew.

This Contractor recommends a groundwater threshold of significance equal to zero in the coastal zone of the MGWB under the jurisdiction of the California Coastal Commission.

Item 3. A*nalysis and discussion of the extent of existing pumpage demands on the Montecito Groundwater Basin and the potential that depletion of the basin and/or coastal subbasin exists and/or may be substantially threatened by recently approved and pending well applications, and/or other projects under consideration locally that may also affect the Montecito Groundwater Basin.*

Sections 4, 5, 6, 7, 8 and 9 of the companion report provide information on groundwater extraction in the MGWB. This section synthesizes key parts of the companion report that are most pertinent to answering Item 3.

Preliminary research by Commission staff suggests that there are at least a dozen wells within a half mile from the Schlesinger, Makarechian, and Hair wells, and at least 250 wells lie within storage unit 3. This Contractor reviewed County of Santa Barbara records of well permits issued since 1906 till present that revealed 1,280

such permits. It is evident from the abundance of well permits that the MGWB is intensely mined for groundwater. The following extraction data and analysis apply to storage unit 3 of the MGWB, which contains the coastal zone under the jurisdiction of the California Coastal Commission, and, therefore, is the one of concern to this Contractor's evaluation.

The Biltmore wells (see Figure 1) have a combined permitted groundwater extraction equal to 32 acre feet/year (AFY) according to the Coastal Commission. There are several other active wells near the proposed Hair, Makarechian, and Schlesinger wells. Those include wells owned by the Montecito Sea Meadows Mutual Water Company and the Ivydene Mutual Water Company, respectively. Senior Environmental Health Specialist Norman Fujimoto (Public Health Department, County of Santa Barbara) reported in a site inspection dated January 22, 2014, that the two wells functioning at the Montecito Sea Meadows Mutual Water Company were pumping a combined 164 gpm (gallons per minute) in November 2013. If that rate were maintained constantly if would amount to 264 AFY of groundwater extraction. The Ivydene well has a permitted extraction equal to 20 AFY according to the Coastal Commission. Other active wells near the appealed wells belong to the Sykes Mutual Water Company, the Lingate Lane Mutual Water Company, and the Miramar Addition & Improvement Water Company. The latter three water companies have a combined groundwater extraction of approximately 68 AFY (from letter by Mrs. George P. Kerns to the South Central Coast Regional Commission, dated April 21, 1977).

The four municipal wells operated by the Montecito Water District, namely, the Amapola, Ennisbrook 2, Ennisbrook 5, and Paden 2 wells, had a combined groundwater extraction of approximately 495 AFY in water year 2014-2015 (that is from September 1, 2014, through August 31, 2015). The combined extractions of the Biltmore wells, the wells belonging to the Ivydene, Sykes, Lingate Lane, and Miramar Addition & Improvement water companies, and those operated by the Montecito Water District are estimated by this Contractor to be about 879 AFY. To this amount one must add the extractions of many other wells within the coastal sub-basin (storage unit 3) of the MGWB. This Contractor estimates that during current drought conditions the groundwater extraction in the coastal sub-basin of the MGWB may exceed 1,000 AFY.

To gain a perspective of what this level of extraction in the coastal sub-basin of the MGWB means it is necessary to examine the safe yields of the MGWB's storage units calculated by this Contractor in section 7 of the companion report. Table 2 lists the safe yields.

Table 2. The safe yields in the MGWB calculated in section 7 of the companion report.

Sub basin (storage unit)	Safe yield (AFY)
1	545
2	38
3 (coastal sub-basin)	409
Toro Canyon	130
MGWB	1,122

Using a groundwater extraction rate and safe yield in storage unit 3 (the coastal sub-basin) equal to 1,000 and 409 AFY, respectively, establishes that the overdraft in the coastal sub-basin equals 591 AFY. This Contractor calculated in section 8 of the companion report that with an overdraft equal to 591 AFY and drought-impacted usable storage equal to 3,710 acre feet the remaining life of the coastal sub-basin equals 6.3 years. If one assumes that the drought-impacted usable storage of the coastal sub-basin was reached at the beginning of water year 2013-2014, this means that if (i) average annual rainfall continues at the level observed during the current drought, and (ii) groundwater extraction continues at 1,000 AFY, then the usable storage of the coastal sub-basin would run out by the end of 2019. But it could be sooner than that. Furthermore, this Contractor calculated in section 8 of the companion report using the Environmental Thresholds and Guidelines Manual's method that the groundwater threshold of significance in the coastal sub-basin equal 0.71 AFY. However, it was stated above in this report that this Contractor calculated the groundwater threshold of significance in the coastal sub-basin of the MGWB to be equal to zero acre feet per year based on site-specific impacts (see sections 8 and 9 of the companion report, also). Some in the groundwater well industry dismiss these projections of significant and adverse groundwater extraction in the MGWB by claiming that it will rain heavily sooner

than later and this will take care of any current concerns. This Contractor prefers to err on the side of protecting groundwater resources.

Item 4. ***Analysis and discussion of the risk of seawater intrusion in the Montecito Groundwater Basin, including examples of existing or previous seawater intrusion in the basin and/or other coastal areas with similar hydrogeological conditions, and the potential of the proposed projects, individually and cumulative, to induces seawater intrusion.***

Part of the answer to this item was written in the reply to consulting geologist A. Simmons' assertion that "we have the Rincon Fault right offshore in Montecito that blocks seawater", see item 1 (above). Section 5 of the companion report contains an in-depth coverage of seawater intrusion in the MGWB. The following is a summary of what is known about seawater intrusion in the MGWB.

Muir, K.S. (1968). "Groundwater reconnaissance of the Santa Barbara-Montecito Area, Santa Barbara County, California". US Geological Survey Water Supply Paper 1859A. Muir (1968) wrote that "the groundwater outflow to the ocean required to prevent seawater intrusion seems to be about 100-300 acre feet per year".

Martin, P. (1984). "Groundwater monitoring at Santa Barbara, California, Phase 2". US Geological Survey Water Supply Report 2197. This was a continuation of the seawater-intrusion studies in the Santa Barbara groundwater basin started by the United States Geological Survey in 1979. It is known that the Santa Barbara and the Montecito groundwater basins are physically connected (see section 4 of the companion report). Martin (1984) stated that: "Previous investigators believed that saltwater intrusion was limited to the shallow part of the aquifer, directly adjacent to the coast. The possibility of saltwater intrusion into the deeper water-bearing deposits in the aquifer was thought to be remote because an offshore fault truncates these deeper deposits so that they lie against consolidated rocks on the seaward side of the fault. Results of this study indicate, however, that ocean water has intruded the deeper water-bearing deposits, and to a much greater extent than in the shallow part of the aquifer. Apparently the offshore fault is not an effective barrier to saltwater intrusion. No physical barriers are known to exist between the coast and the municipal well field. Therefore, if the pumping rate maintained

during the basin-testing program were continued, the degraded water along the coast could move inland and contaminate the municipal supply wells. The time required for the degraded water to move from the coast to the nearest supply well is estimated, using Darcy's equation, to be about 20 years".

The importance of Martin's (1984) study is that it was a controlled experiment of groundwater extraction that established that the offshore fault is neither a barrier to shallow seawater intrusion nor to deep seawater intrusion into the adjacent coastal basin.

Slade, R.M. (1987). "Hydrogeologic assessment proposed water augmentation measures item No. 8 seaward migration of groundwater: for Montecito Water District". Slade's (1987) study assessed the feasibility of developing additional groundwater supplies for the Montecito Water District by installing wells along the southern margin of storage unit 3 of the MGWB. Seawater intrusion was a key consideration of Slades's (1987) study. Slade's (1987) report addressed the role of the Rincon Fault Creek as a possible barrier to subsurface flow. It stated on pages 4 and 5 that: "Because bedrock is thrust upward on the southern side of the fault, it may create at least a partial barrier to seawater intrusion in the deeper aquifers of this storage unit; the shallow aquifer zone do remain, however, open to potential invasion by seawater". Furthermore, Slade (1987) stated: "There are unfortunately, no data whatsoever on the effectiveness and/or integrity of the Rincon Creek Thrust Fault as a continuous barrier to landward migration of seawater in the deeper, Santa Barbara Formation-type deposits". It is evident that hydrogeologist Slade was unaware of the Martin's (1984) USGS report that had established through experimental evidence that seawater intrusion had occurred deep through the Rincon Creek Fault in the neighboring Santa Barbara Groundwater Basin.

The Slade (1987) study recommended quantitative criteria ((a) and (b) below) to be observed to prevent seawater intrusion in storage unit 3 of the MGWB:

(a). A seaward hydraulic gradient not less than 1/100 in coastal aquifers;

(b). Groundwater levels in new wells must not be allowed to drop below about elevation + 5 feet (above mean sea level) to maintain a positive seaward gradient of fresh water.

The groundwater levels measured in the Spring 2015 at MWD's production wells, which are listed in Table 1, show that the wells' levels were at least 25 feet below the recommended safe elevation recommended by Slade (1987).

Slade (1987) calculated the groundwater discharge to the sea floor in storage unit 3 as being equal to 74 acre feet/year. It is noteworthy that the Slade's (1987) recommended groundwater discharge to the coastal zone in storage unit 3 is less than the 100 to 300 AFY recommended in Muir's (1968) study needed to prevent seawater intrusion into the MGWB.

The seaward groundwater discharge calculated by Slade (1987) is not water that would be wasted to the ocean, as implied by geologist Adam Simmons in an October 15, 2014, presentation to the Montecito Planning Commission and to Commission staff in an undated 2014 presentation arguing in favor of permitting the proposed Schlesinger, Makarechian, and Hill wells. Rather, this groundwater discharge is maintained by seaward hydraulic gradient that prevents seawater intrusion into storage unit 3, a fact recognized decades ago by USGS hydrogeologist Muir (Muir, 1968) and consulting hydrogeologist Slade (1987), who studied the MGWB, by USGS hydrogeologists Hutchinson (1979) and Martin (1984), who worked in the neighboring Santa Barbara Groundwater Basin, and, more recently, by this Contractor (see Loáiciga, 2014), who worked in the neighboring Carpinteria groundwater basin (CGWB).

Consulting geologist M. Hoover wrote a professional opinion dated May 13, 2008, Mr. Dave Ward of the Planning and Development Department of Santa Barbara County concerning a proposed well intended to supply landscape-irrigation water and laundry water to the Miramar Beach Resort and Bungalows project. The well would have been located in storage unit 3 of the MGWB. Geologist Hoover wrote in his opinion that: "There is a significant likelihood for seawater intrusion at the Miramar Hotel site. Over pumping at nearby sites such as Santa Barbara Cemetery, Hill Road, Biltmore Hotel, and Toro Canyon have resulted in elevated chloride levels, a clear indication of seawater intrusion". The Miramar site is located about 1,500 feet west of the appealed Schlesinger well.

This Contractor reviewed a dataset of chloride measurements made in wells of the MGWB by the US Geological Survey and the State of California. The

measurements show that wells in the MGWB have reached high chloride concentrations at various times from 1949 through 2012. The high chloride concentrations ranged between 312 mg/L to 1,220 mg/L, which are typical of groundwater contaminated with seawater. Two of the MWD's wells, Ennisbrook 2 and Ennisbrook 5, exhibited high chloride concentrations in recent surveys. The former well had a chloride concentration equal to 540 mg/L in February 2014, and the latter well had a chloride concentration equal to 490 mg/L in May 2015. These chloride levels constitute evidence of seawater intrusion that is factual and pertinent to this report's evaluation of adverse impacts by new wells. Yet, it is stressed that water quality and water-level monitoring in the MGWB is inadequate. It seems appropriate to make measurements of various indicator chemicals in well water, including chloride among them. This should be done at least once a year, preferably in early Fall following elevated groundwater extraction during the Summer. Those measurements should be made principally, but not uniquely, in wells near the coastline in storage unit 3 that are actively extracting groundwater. Ideal wells for such measurements are those owned by the Montecito Sea Meadows Mutual Water Company, the Biltmore Hotel, and the Montecito Water District. The County of Santa Barbara's 2014 Groundwater Basins Status report states that the County maintains a well-monitoring cooperative program with the USGS. The program provides for annual monitoring of about 300 wells in Santa Barbara County. This Contractor recommends that wells in the MGWB be added to that cooperative monitoring program and actively sampled for groundwater level and water quality assessment.

Section 9 of the companion report demonstrates that the Hair and Makarechian wells and several adjacent wells would lower the groundwater level on the coastline adjacent to them by 12 feet. In addition, the operation of these two wells and several adjacent wells would lower their own water levels by 15.63 feet. This magnitude of drawdown at the Hair and Makarechian wells would lower their water levels below sea level, and they most likely would be pumping saline water after some time of operation. Furthermore, Section 9 of the companion report established that pumping groundwater at the Schlesinger well would lower its own groundwater level by 17.76 feet and the groundwater level on the coastline adjacent to it by 6.65 feet. With these magnitudes of water-level decline the

Schlesinger most likely would be pumping saline groundwater after some time of operation.

The available evidence and this Contractor's analysis establish that there is not such a thing as an impervious seawater barrier on the southern perimeter of the MGWB. This evidence refutes statements made by geologist Adam Simmons to the Montecito Planning Commission on October 15, 2014, and to the Commission staff in an undated 2014 presentation asserting that the Rincon Creek Fault "blocks seawater".

Item 5. ***If the Contractor concludes that the subject water wells projects individually and/or cumulatively of depletion or overdraft of the groundwater basin or risk of seawater intrusion, please provide clear guidance on what should be addressed in a future groundwater basin analysis or management plan to more accurately assess the potential impacts of proposed water wells and to ensure that pumpage from the groundwater resource is planned and undertaken in a manner that prevents groundwater depletion and protects the long-term sustainability of coastal water resources (ground and surface waters), and including habitat resources dependent upon coastal waters.***

The following are recommendations by this Contractor to agencies that have regulatory, administrative, or managerial jurisdictions over the coastal sub-basin (storage unit 3) of the MGWB, that is, to the California Coastal Commission, the County of Santa Barbara, and the Montecito Water District, as applicable.

(1). Set a groundwater threshold of significance equal to zero in the coastal zone of the MGWB under the jurisdiction of the California Coastal Commission. This means that no new wells should be permitted during the current drought and thereafter until recommendations (2) and (3) are fulfilled by the appropriate agency or agencies.

(2). Conduct comprehensive survey of all the active wells in storage unit 3 of the MGWB to determine: (i) their locations, (ii) their extraction rates, and (iii) their condition (year of construction, years of service, and well-construction characteristics). Make a data-based, accurate, estimation of groundwater extraction in storage unit 3 of the MGW and of its safe yield,

(3). Implement groundwater-level and water-quality monitoring program (including chloride as a target indicator of water quality) in storage unit 3 of the MGWB. Groundwater level and groundwater quality measurements should be made at least once a year, preferably in early Autumn following elevated groundwater extraction during the Summer. Monitoring of water levels and groundwater quality should be conducted principally, but not uniquely, in wells near the coastline in storage unit 3 that are actively extracting groundwater. Ideal wells for such measurements are those owned by the Montecito Sea Meadows Mutual Water Company, the Biltmore Hotel, and the Montecito Water District. Make a data-based, accurate, assessment of groundwater quality and groundwater-storage conditions in storage unit 3 of the MGWB.

(4). Conduct a program of pumping tests in wells within storage unit 3 of the MGWB. The pumping tests should be conducted with modern technology that allows isolating the various formations (strata) tapped by a well while conducting individual tests in each formation. Conduct the tests by pumping in a well and measuring water level in nearby well or wells. The pumping tests would yield estimates of formation-specific transmissivity and storage coefficient that are imperative in making credible predictions of well interference, drawdown, storage change, stream flow impacts, and seawater intrusion. The aquifer parameters obtained from the pumping-test program (i.e., transmissivity and storage coefficient) should be used to evaluate likely impacts of proposed new wells.

(5). Provide training in groundwater principles and field practice to personnel involved with the permitting of new wells and with the management of groundwater resources in storage unit 3 of the MGWB.

This Contractor recognizes that recommendations (1)-(4) should be extended to the entire MGWB. Time and funding constraints, however, may render that extension infeasible. Implementation of the five recommendations in storage unit 3 of the MGWB is an urgent priority that appears within practical reach.

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Subbasin 2
Subbasin 3
Montecito Water District
Coastal Zone Boundary
Valley Club
EVR 8
EVR 6
EVR 4
EVR 3
Ennisbrook 4
Amapola
MW 3-22
Ennisbrook 5
MW 3-26
MW 3-25
Ennisbrook 2
Paden 1
MW 3-12A
Paden 2
Ivydene
MW 3-9
MW 3-10
MW 3-11
MW 3-15
Underwood
MW 3-13
MW 3-24
Las Entradas 1 & 2
MW 3-2
Morgan 1 & 2
TEXT
MW 3-23
MW 4-1
MW 3-17
MW 3-8
T. Neal
MW 3-16
MW 3-19
MW 3-18
MW 3-20
MW 3-7
MW 3-5
Kane
Makarechian
Hair
Biltmore and
Montecito
Sea Meadow
Schlesinger
True Horizons
Fernald Point
Butterfly Beach
Oak Creek
Montecito Creek
Romero Creek
BLUE OVALS ARE MWD COASTAL ZONE MONITORING WELLS SUB BASIN 3
NUMBERED:
3-2 3-9 3-13 3-18 3-23 4-1(SB 4)
3-5 3-10 3-15 3-19 3-24
3-7 3-11 3-16 3-20 3-25
3-8 3-12A 3-17 3-22 3-26

CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST AREA
89 SOUTH CALIFORNIA ST., SUITE 200
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(805) 585-1800

September 7, 2016

Santa Barbara County Environmental Health Services
Attn: Lawrence D. Fay, Jr.
225 Camino del Remedio
Goleta, California 93110

RE: Approval of Private Water Well Permits on Parcels that Receive Municipal Water Service

Dear Mr. Fay,

I am writing to inform you of past and upcoming Coastal Commission actions regarding private water wells in Santa Barbara County. I believe the Coastal Commission's recent action—and possibly its future actions as well—will affect the manner in which your agency needs to consider future Coastal Development Permit applications for private water wells in the County's coastal zone. I appreciate your consideration of the following issues and look forward to working with your agency to protect groundwater and groundwater-related coastal zone resources, in compliance with the County's Local Coastal Program.

As you know, your agency and the County have approved numerous applications for private water wells in the coastal zone over the past few years. For example, in October, 2014, the County approved the installation and operation of a well at 1150 Channel Drive in Montecito.[1] This well was intended to provide water for the irrigation of extensive, non-drought tolerant landscaping and would have allowed the applicant to use a volume of water in excess of the amount otherwise allowed under mandatory water rationing imposed by the State and the Montecito Water District (District). The Coastal Commission appealed this County approval and, at its August 12, 2016 meeting, denied a coastal development permit for the proposed new private water well,[2] which was proposed on an urban parcel developed with an existing single-family residence in the Montecito area that already receives municipal water service from the Montecito Water District. The Coastal Commission is scheduled to hear the appeals of two additional, County-approved private water wells[3] at its September and October 2016 hearings. These wells were also permitted by the County for the irrigation of landscaping on residential, developed urban parcels that already receive water service from the District.

The construction of a well and extraction of water constitutes "development" as defined by the County's Local Coastal Program (LCP), and such development must be authorized by a Coastal Development Permit, which the County may issue only if is consistent with the policies and provisions of the LCP. Although the County retains broad discretion over how to interpret and carry out its LCP policies, the Coastal Act has given the Commission, and not the County, the

[1] APN 009-352-027
[2] See staff report, at http://documents.coastal.ca.gov/reports/2016/8/f13a-s-8-2016.pdf
[3] Located at 1685 Fernald Point Lane (APN 007-374-006) and 1169 Hill Road (APN 009-352-038)

final word on questions on LCP interpretation. *Charles A. Pratt Const. Co., Inc. v. California Coastal Com'n* (2008) 162 Cal.App.4th 1068, 1078. Where the Commission has interpreted an LCP in the context of a permit appeal, the Commission's decisions shall guide future local government actions pertaining to the same issue. Pub. Resource Code § 30625(c). Here, the Commission has now interpreted some provisions of the County's LCP in a way that should guide future County actions on water well applications.

Pursuant to its recent action, the Coastal Commission has found that the permitting of private water wells on parcels that already receive municipal water service is generally inconsistent with County LCP policies that protect water resources and priority land uses. Land Use Plan Policy 2-4 of the County's certified LCP, as well as Coastal Act Section 30250(a), require all new, non-agricultural development within designated urban areas to be serviced by a municipal water district exclusively, if such service is available. This LCP policy, as well as Coastal Act Sections 30250(a) and 30254, are intended to direct the prudent allocation of water resources for new development and to ensure the availability of limited water resources for priority land uses, such as agriculture and coastal dependent land uses. Each of the three subject water wells that were permitted by the County are located within a designated urban residential area, would not be used for agricultural purposes, and are located on properties that already receive water service from the District. To permit a second water connection for a private residential use directly conflicts with Policy 2-4 and raises significant issues regarding the proper allocation of water resources during an extended drought and the availability of groundwater supplies for higher priority land uses.

Additionally, Land Use Plan Policy 2-2 and Coastal Act Section 30231 require that the long-term integrity of groundwater basins within the coastal zone shall be protected and proscribe the depletion of groundwater supplies. As you are aware, the State is currently in its fifth year of one of the most severe droughts on record, and the Governor has declared a State of Emergency and called upon government officials throughout the State to take the necessary actions to prepare for water shortages. To facilitate this preparation, the Governor has also issued two Executive Orders to mandate substantial water use reductions and stringent water conservation measures. The County and the District have similarly declared a Water Shortage Emergency, and the District has suspended new meter water service within its service boundaries. The District has also adopted three Ordinances to require stringent water conservation measures, set water supply allocations, and establish water rationing provisions for the District's customers.

Commonly, water purveyors and private well owners increase groundwater extraction during periods of drought to compensate for the reduced availability of surface water sources. Since 2013, the District's groundwater wells have been extracting *five times* more groundwater (nearly 500 AFY) than the wells' pre-drought extraction rate. This strategy of resorting to groundwater supplies to mitigate temporary shortfalls of surface water supplies, with the expectation that rainfall will return to replenish aquifer storage and restore normalcy, is jeopardized when a drought lasts longer than usual. This strategy poses significant adverse impacts to coastal groundwater sub-basins, because groundwater storage may be severely depleted, leading to such impacts as heightened seawater intrusion (potentially to the point of irreversible freshwater

groundwater basin degradation), hydraulic (well) interference, reduction in well yields, and, eventually, well failures.

The Commission retained the services of a consulting hydrologist, Dr. Hugo Loáiciga, in August 2015 to conduct a geotechnical and hydrologic evaluation of the potential hydrologic impacts of installing and operating the three appealed irrigation wells in the coastal sub-basin (Storage Unit 3) of the Montecito Groundwater Basin (MGWB). In his extensive analysis of the potential impacts of the three wells, Dr. Loáiciga evaluated the applications to install and operate the wells, data concerning groundwater extraction and the conditions of the MGWB, and several previous reports concerning the hydrogeological characteristics of the MGWB. In his final report, Dr. Loáiciga concluded that the MGWB is currently in a state of overdraft due to the fact that there has been no measured recharge to the groundwater basin since the 2004-05 winter season and that private well extractions alone are presently exceeding the safe yield of the Basin. Dr. Loáiciga's report also documents strong evidence that seawater intrusion has occurred since the drought began and is ongoing within the Basin.

Land Use Plan Policy 2-3 mandates the responsible management of groundwater extraction through record-keeping. Although groundwater is an essential coastal resource that can be over-utilized and degraded, it appears that records of individual or cumulative water extraction are not maintained by the County. It remains unknown how much groundwater is being extracted by District customers via private water wells within the District service area to supplement the water they are obtaining from the District, nor is it known how much water private water companies are extracting within the District's service area. Since 1970, your Department has apparently issued over 550 well permits within the District's boundaries, most without the environmental analysis required as part of a Coastal Development Permit, and there have been no mechanisms with which to accurately determine the actual number of active wells, private well water use and demand, or monitor the extraction of groundwater from aquifers within the District's service area. As you know, the County has received a staggering surge in the number of water well applications since the drought began—80 applications in the Montecito and Carpinteria area during the first year of the drought, compared with a previous average of only 9 well applications per year in that part of the County. Each of the three subject private water wells that were approved by the County would be installed within this intensely groundwater-mined portion of Storage Unit 3. As you are aware, the majority of the District's own high-producing groundwater wells are located in Storage Unit 3, and at least three other private water companies extract from Storage Unit 3 as their sole source of potable water to service approximately 60 residential properties.

On November 21, 2014, the District sent a letter to the County requesting the placement of a moratorium on the issuance of new water well permits within the service boundary of the District until the Water Shortage Emergency is lifted. However, despite this request from the agency charged with management of the groundwater aquifer, the County has continued to issue well permits. To allow these private water wells to extract supplemental water supplies for irrigating extensive, non-drought tolerant landscaping obviates the need for the applicants to conserve water consistent with State, County (including LCP), and District rules and policies. The Commission has already found that approval of the coastal development permit for one of these

three water wells is inconsistent with LCP Policy 2-4, which directs new development to use District services, if available. The LCP does not contain *any* policies that allow the installation and operation of private wells for the purpose of supplementing the District's water service and thereby circumventing its water use restrictions, especially during a water shortage emergency.

Therefore, the Commission requests that the County halt issuance of any new private water well permits for residential properties in designated urban areas with existing municipal water district service connections. It also requests that the County abide by the Commission's interpretation of relevant, groundwater-related LCP policies, as identified in the Commission's recent action on the proposed well at 1150 Channel Drive, Montecito.[4] The Commission would also like to work with the County to avoid these types of appeals in the future, which result in increased workload for both our staffs, and costly delays and confusion for applicants. The Commission is requesting your assistance in this matter to ensure that the County continues to prioritize coordination between the County and the Commission to resolve the above issues and minimize the number of future appeals.

Thank you for your consideration of this request. Commission staff remains prepared to work with you and your staff toward this goal. If you have any questions about this letter, please do not hesitate to contact our South Central Coast District Staff at (805) 585-1800.

Sincerely

Steve Hudson
Deputy Director

Cc: Jack Ainsworth, Acting Executive Director, CCC
Glenn Russell, Director, Santa Barbara County Planning and Development
Diane Black, Assistant Director, Santa Barbara County Planning and Development
John Robertson, Executive Officer, Central Coast Regional Water Quality Control Board

[4] See http://documents.coastal.ca.gov/reports/2016/8/f13a-s-8-2016.pdf.

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September 7, 2016

John Robertson
Executive Officer
Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906

RE: Approval of Private Water Well Permits in Santa Barbara County on Parcels that Receive Municipal Water Service

Dear Mr. Robertson,

I am writing to inform you of past and upcoming Coastal Commission actions regarding private water wells in the Montecito area of Santa Barbara County and to ask for your agency's assistance in protecting coastal zone groundwater resources in the County. I appreciate your consideration of the following issues and look forward to hearing if there are ways we can work together to protect these important groundwater resources.

Since 1970, the County's Environmental Health Department has apparently issued over 550 well permits within the Montecito Water District's (District) boundaries. Since the current drought began, however, the County has received a staggering surge in the number of water well applications—80 applications in the Montecito and Carpinteria area during the first year of the drought, compared with a previous average of only 9 well applications per year in that part of the County. Concerned that these new wells could impact its own high-producing groundwater wells that are located in the same storage unit of the water basin, the District sent a letter to the County on November 21, 2014 requesting a moratorium on the issuance of new water well permits within the District's service boundary until the current Water Shortage Emergency is lifted. Despite this request, the County has continued to issue well permits.

For example, in October, 2014, the County approved the installation and operation of a well at 1150 Channel Drive in Montecito. As with many other wells, this well was intended to provide water for the irrigation of extensive, non-drought tolerant landscaping and would have allowed the applicant to use a volume of water in excess of the amount otherwise allowed under mandatory water rationing imposed by the State and the local Montecito Water District. The Coastal Commission appealed this approval and, at its August 12, 2016 meeting, denied a coastal development permit for the proposed new private water well, which was proposed on an urban parcel developed with an existing single-family residence that already receives municipal water service from the District. The Coastal Commission is scheduled to hear the appeals of two additional, County-approved private water wells at its September and October 2016 hearings.

Pursuant to its recent action, the Coastal Commission has found that the permitting of private water wells on parcels that already receive municipal water service is generally inconsistent with the County's Local Coastal Program policies that protect water resources and priority land uses.

The Commission's full reasoning is available in its staff report at http://documents.coastal.ca.gov/reports/2016/8/f13a-s-8-2016.pdf. As described in this staff report, permitting private wells for supplemental, irrigation purposes is not only inconsistent with relevant LCP policies, but also has the potential to do lasting damage to the area's groundwater resources. As you are aware, the State is currently in its fifth year of one of the most severe droughts on record, and the Governor has declared a State of Emergency and called upon government officials throughout the State to take the necessary actions to prepare for water shortages. To facilitate this preparation, the Governor has also issued two Executive Orders to mandate substantial water use reductions and stringent water conservation measures. The County and the District have similarly declared a Water Shortage Emergency, and the District has suspended new meter water service within its service boundaries. The District has also adopted three Ordinances to require stringent water conservation measures, set water supply allocations, and establish water rationing provisions for the District's customers.

Within this context, the Commission is concerned that the potential approval of more private well permits could have lasting, negative impacts on groundwater resources and other coastal resources dependent on that groundwater. To analyze these issues, the Commission retained the services of a consulting hydrologist, Dr. Hugo Loáiciga, in August 2015 to conduct a geotechnical and hydrologic evaluation of the potential hydrologic impacts of installing and operating three, proposed, private irrigation wells in the coastal sub-basin (Storage Unit 3) of the Montecito Groundwater Basin (MGWB). In his extensive analysis of the potential impacts of the three wells, Dr. Loáiciga evaluated the applications to install and operate the wells, data concerning groundwater extraction and the conditions of the MGWB, and several previous reports concerning the hydrogeological characteristics of the MGWB. In his final report, Dr. Loáiciga concluded that the MGWB is currently in a state of overdraft due to the fact that there has been no measured recharge to the groundwater basin since the 2004-05 winter season and that private well extractions alone are presently exceeding the safe yield of the Basin. Dr. Loáiciga's report also documents strong evidence that seawater intrusion has occurred since the drought began and is ongoing within the Basin. You can find Dr. Loáiciga's report as Exhibit 6 of the Commission's staff report here: http://documents.coastal.ca.gov/reports/2016/8/f13a-s-8-2016.pdf.

The Commission is now contacting you to request a determination by your agency as to whether the Central Coastal Water Quality Control Board has regulatory authority or other role(s) with regard to the withdrawal of groundwater in Santa Barbara County, particularly given the potential for significant cumulative impacts to groundwater supply that can result from the above referenced types of projects. Given that the Commission only has jurisdiction over resources within the narrow coastal zone, but that groundwater is an interconnected resource that does not recognize such artificial boundaries, the Commission is interested in coordinating with your agency and Santa Barbara County on protecting the region's groundwater and groundwater-dependent resources. Any information you can provide will be greatly appreciated.

Thank you for your consideration of this request. If you have any questions about this letter, please do not hesitate to contact our South Central Coast District Staff at (805) 585-1800.

Sincerely

Steve Hudson
Deputy Director

cc: Jack Ainsworth, Acting Executive Director, CCC
Glenn Russell, Director, Santa Barbara County Planning and Development
Diane Black, Assistant Director, Santa Barbara County Planning and Development

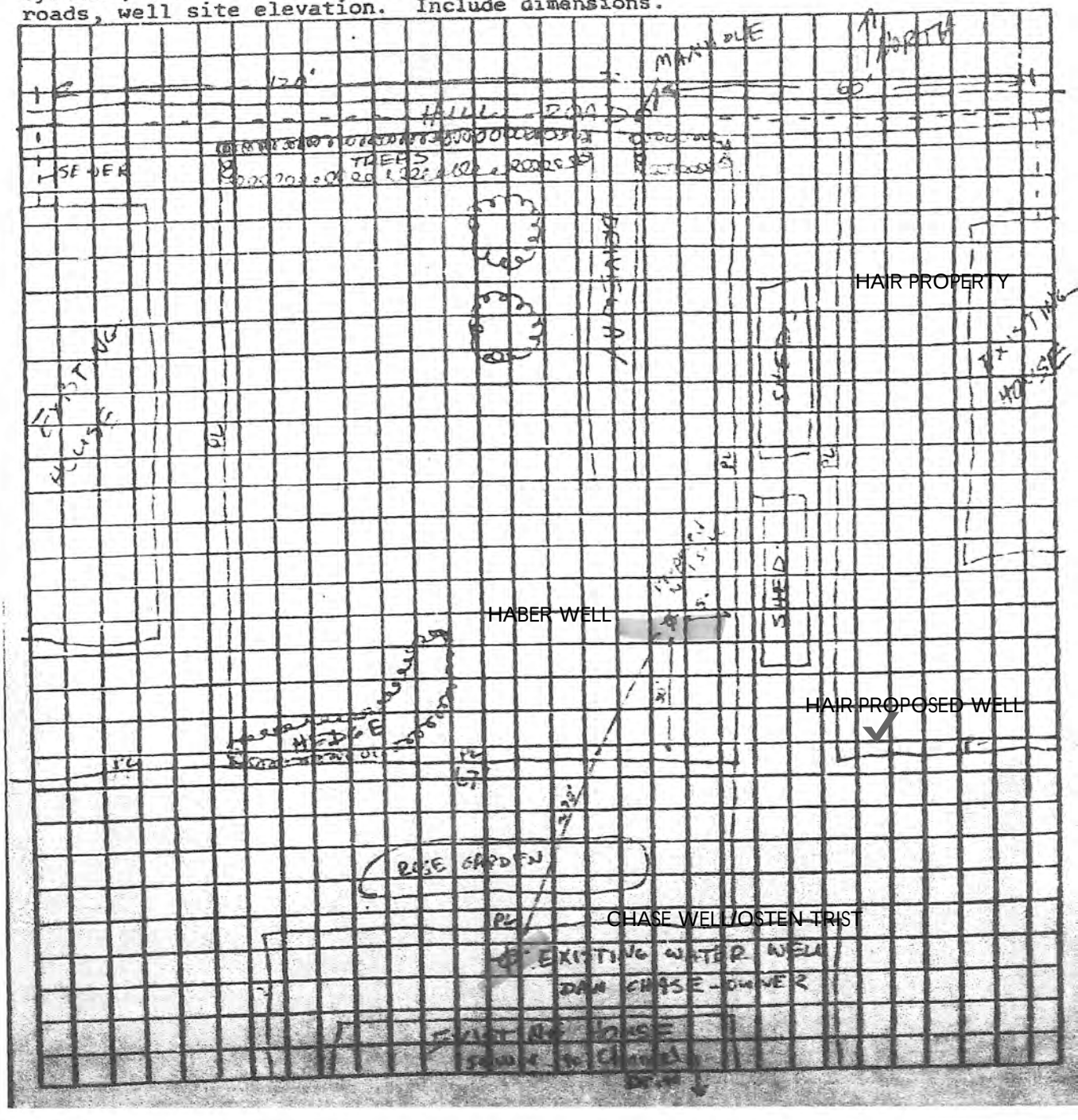
From original Haber Well CDP approval 86-CDP-131:
1159 Hill Rd.(Haber Well); 1169 Hill Rd (Hair Property) with approximate new water well location; Chase/Olsten Trust Water Well- 1154 Channel Drive.
3 Water Wells within 50-100 feet of each other

Permit No. 2757
Page 2 of 2 Pages

HABER UTILITY EASEMENT

WELL PERMIT APPLICATION
Plot Plan
~~Scale: 1/4" = 20'~~
NO SCALE

Indicate below the exact location of the well with respect to the following items within 200' of the well: Property lines, sewers and private sewage systems, water bodies on watercourses, drainage pattern, existing wells, access roads, well site elevation. Include dimensions.



CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST AREA
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Th26a

Appeal Filed:	08/25/16
49th Day:	10/13/16
Staff:	M. Sinkula - V
Staff Report:	09/22/16
Hearing Date:	10/06/16

STAFF REPORT: APPEAL - SUBSTANTIAL ISSUE DETERMINATION & DE NOVO HEARING

APPEAL NUMBER: A-4-STB-16-0078

APPLICANT: Michael Hair

PROJECT LOCATION: 1169 Hill Road (APN 009-352-038), Santa Barbara County

APPELLANTS: Commissioner Steve Kinsey and Commissioner Dayna Bochco

PROJECT DESCRIPTION: Construction of a new private well to provide water for residential landscaping irrigation in excess of water supplied by a public water district.

STAFF RECOMMENDATION: Substantial Issue Exists; **Denial**

MOTIONS & RESOLUTIONS: **Page 9**

NOTE: Commission will not take public testimony during the substantial issue phase of the appeal hearing unless at least three commissioners request it. The Commission may ask questions of the Applicant, any aggrieved person, the Attorney General, or the Executive Director prior to determining whether or not to take testimony regarding whether the appeal raises a substantial issue. If the Commission takes testimony regarding whether the appeal raises a substantial issue, testimony is generally (and at the discretion of the Chair) limited to three minutes total per side. Only the Applicant, persons who opposed the application before the local government (or their representatives), and the local government shall be qualified to testify during this phase of the hearing. Others may submit comments in writing. If the Commission finds that the appeal raises a substantial issue, the de novo phase of the hearing will follow, during which the Commission will take public testimony.

SUMMARY OF STAFF RECOMMENDATION

The State of California is currently in its fifth year of one of the most severe droughts on record and the water supply portfolios of the County of Santa Barbara municipal water districts are facing unprecedented shortfalls. To address these shortfalls, the Montecito Water District (MWD) has adopted multiple ordinances to mandate strict water conservation measures, closely manage water supply allocations, and establish water rationing provisions for the District's customers. Further, to protect water resources from overuse and preserve water resources for priority land uses such as agriculture and coastal dependent land uses, the County's certified Local Coastal Program (LCP) requires urban, residential development to be served by water district services exclusively, if available. Notwithstanding the MWD's measures to address the water shortage emergency and the policies of the LCP, the County of Santa Barbara (County) approved a Coastal Development Permit (CDP) (No. 15CDP-00000-00099) on July 20, 2016 to allow the construction of a private water well on a residential parcel for supplemental irrigation of extensive ornamental landscaping on a site developed with an existing single family residence in the Montecito Community Plan area (Exhibit 10). The water well was approved despite the fact that the property on which the well is proposed already receives municipal water service from the MWD.

Commissioners Steve Kinsey and Dayna Bochco appealed the County's approval on the grounds that the approval is inconsistent with numerous policies and standards in the County's LCP, including those related to water resources, cumulative impacts, protection of agriculture and other priority land uses where limited public services or public works capacity exists, and related policies and provisions, including provisions requiring that coastal development permit applications be supported by adequate information (Exhibit 11).

Staff recommends that the Commission take two actions. First, staff recommends that the Commission find that the County's approval of the CDP raises substantial issue on the grounds that the authorized development does not conform to the LCP's water supply resources, cumulative impacts, and protection of priority land uses policies and standards. Second, staff recommends that the Commission deny the project because it is inconsistent with the LCP's policies and standards designed to promote the prudent use of water resources, to protect the quality of groundwater, and to protect priority land uses.

On the substantial issue portion of this appeal, a substantial issue is raised by the County's approval of a private water well intended to provide supplemental irrigation for existing residential landscaping on a property that already receives a municipal water allocation from MWD during a prolonged and ongoing drought. The County's approval raises substantial issue regarding the project's consistency with LCP policies intended to protect and prudently allocate the County's water supply resources. Additionally, the County's approval did not address the cumulative impacts that the water well could have on the coastal sub-basin of the Montecito Groundwater Basin which is not only currently in a state of overdraft but is showing evidence of salt water intrusion.

On the de novo portion of the appeal, the project is inconsistent with LCP policies and standards that protect water supply because it does not address the critical need for careful and conservative planning regarding water resources, does not demonstrate that it will not adversely

affect a natural freshwater groundwater supply during this extended period of drought, and because it is intended to circumvent State, County and MWD mandated water rationing to provide supplemental water for ornamental residential landscaping. The Commission has recently found that two other water well projects in the Montecito area violate these LCP policies and, on that basis, appealed the well approvals and denied the permits for them. This appeal raises the same issues, and the proposed well is inconsistent with the relevant LCP policies for the same reasons.

Staff recommends that the Commission find that the appeal raises a substantial issue, consider the project de novo, and deny the CDP for the project. The motions and resolutions to implement these recommendations are found on page 9.

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I. APPEAL JURISDICTION AND PROCEDURES

A. APPEAL PROCEDURES

The Coastal Act provides that after certification of Local Coastal Programs (LCPs), a local government's actions on Coastal Development Permit (CDP) applications for development in certain areas and for certain types of development may be appealed to the Coastal Commission. Local governments must provide notice to the Commission of their CDP actions. During a period of ten working days following Commission receipt of a notice of local permit action for an appealable development, an appeal of the action may be filed with the Commission.

1. Appeal Areas

Approvals of CDPs by cities or counties may be appealed if the development authorized is to be located within the appealable areas, which include the areas between the sea and the first public road paralleling the sea, within 300 feet of the inland extent of any beach or of the mean high-tide line of the sea where there is no beach, whichever is greater, on state tidelands, along or within 100 feet of natural watercourses, or within 300 feet of the top of the seaward face of a coastal bluff. (Coastal Act Section 30603(a)). Any development approved by a County that is not designated as the principal permitted use within a zoning district may also be appealed to the Commission irrespective of its geographic location within the Coastal Zone. (Coastal Act Section 30603(a)(4)). Finally, developments which constitute major public works or major energy facilities may be appealed to the Commission. (Coastal Act Section 30603(a)(5)).

In this case, the County's CDP approval is appealable to the Coastal Commission because the permitted development does not constitute a principally permitted use and because it authorizes development within 300 feet of the inland extent of the beach. The County properly provided notice that the permit was appealable in its Notice of Final Action received by Commission staff on August 12, 2016. The applicant sued the County on August 26, 2016, alleging that the County issued a defective Notice of Final Action that incorrectly stated that the proposed development was appealable to the Coastal Commission and asserting that the permit approved by the County is already final and effective. The applicant named the Commission as a real party in interest in that lawsuit. Due to the fact that the appealability of the subject CDP was an issue that the applicant disputed at the County level, the following discussion provides a more in-depth analysis of this issue.

a. Principal Permitted Use

Coastal Act Section 30603(a)(4) provides that approval by a coastal county of any development that is not designated in the LCP as "the principal permitted use" is appealable to the Coastal Commission. Division 8 of the Santa Barbara County's certified Coastal Zoning Ordinance (CZO), which governs the siting of small scale public works, utilities and private service facilities, states that "[f]acilities which require only a Coastal Development Permit for approval shall be considered principal permitted uses. Projects which require a Minor or Major Conditional Permit or Special Use Permit shall be considered conditional uses." CZO § 35-146.2. The CZO then states that only a CDP is needed for water wells and appurtenant structures that serve one domestic "connection."

Here, the subject water well is not proposed to serve a domestic connection. It will not be used at all for potable, residential consumption and will not link with the existing connection that the applicant already has with the Montecito Water District (MWD). Rather, it will be used exclusively to irrigate landscaping on the applicant's property. As the County's permit condition states, the project consists of a "new private water well to be used for on-site irrigation of existing landscaping (common-ownership APNs 009-352-038, 009-352-030, 009-352-029, and 009-353-013) and shall not be used for any other purpose (i.e., residential connection(s)…" The well therefore does not fall within the ambit of the above provision, which only applies to wells that serve a domestic connection.

Just as a non-agricultural irrigation well such as this is not listed as a principal permitted use under Division 8 of the CZO, it is also not a principal permitted use pursuant to other, more general CZO sections. Section 35-71.3 of the CZO allows "uses, buildings, and structures accessory and customarily incidental to [a single-family dwelling]" as a permitted use in the E-1 single family residential zone district where the subject property is located. However, just because an accessory use is *permitted* does not make it *the principal* permitted use in a particular zone. See Coastal Act § 30603(a)(1). Here, residential development—and not this type of water well—is the principal permitted use in the subject zoning district. Water wells, even if otherwise permitted (which, as described below, is not the case here), are not the principally permitted use in this zoning district.

Moreover, the drilling of a water well for supplemental irrigation of a non-agricultural use, namely ornamental landscaping, is not accessory and customarily incidental to a residential home in designated urban areas of Montecito, and therefore is not even a permitted use under Section 35-71.3. The subject property is already connected to a water service line and receives an appropriate supply of water from the MWD, and the LCP specifically requires new development in designated urban areas to be serviced by the appropriate public water district. Within this context, water wells such as this one are not customarily incidental to residential development in urban areas of the County and therefore are not part of the principally permitted use in residential zones. Thus, the County's action approving the development is appealable to the Commission.

b. Geographic Appeals Jurisdiction

In October 2014, the Montecito Planning Commission approved a prior application from the same applicant for a water well on the subject property. The Commission appealed this approval in November 2014. Subsequently, the applicant withdrew his application, thereby mooting the Commission's appeal. The applicant then revised his plan and reapplied to the County with a new application proposing the same private water well, but located farther landward – intending to relocate the well just outside of the geographic appeals jurisdiction of the Coastal Commission. That application is the subject of this appeal.

The proposed project would drill a well approximately 10-20 feet landward of the Coastal Commission's geographic appeal jurisdiction boundary, which reaches 300 feet from the inland extent of any beach. Accordingly, the well itself falls approximately 10-20 feet outside of the Commission's geographic appeals jurisdiction. However, the actual drilling of the well, and the associated casing, pump and other related equipment, are not the only "development" permitted

by the CDP. Rather, the CDP permits pumping of up to 5 gallons per minute of groundwater, which will be drawn into the well from the surrounding area.

Section 30106 of the Coastal Act defines "development," in relevant part, as "on land, in or under water…[the] extraction of any materials." Likewise, a "change in the intensity of use of water, or of access thereto," constitutes "development." Here, the proposed water well would extract material—namely, water—from the ground and from the underlying aquifer. It would also change the intensity of use of that water and/or change the access to that water. Thus, the extraction of water itself constitutes "development," and if some portion of this extraction occurs from within the Commission's geographic appeals jurisdiction, the County's approval of that extraction is subject to Commission appeal. If the portion of a project that lies within the Commission's geographic appeals jurisdiction raises substantial issues regarding conformity with an LCP, then the Commission takes jurisdiction over the entire project, including the portions lying outside of its geographic appeals jurisdiction.

Here, the evidence demonstrates that the proposed well will draw water from within the Commission's geographic appeals jurisdiction – i.e., from within 300 feet of the inland extent of the beach. The September 20, 2016 geotechnical and hydrologic evaluation performed by Dr. Loáiciga calculates that the continuous (24 hours per day) pumping rate of 5 gallons per minute of the Hair well would extract 8.1 acre-feet of water per year. Figure 24 of Dr. Loáiciga's report (attached in full as Exhibit 9) demonstrates that drawdown of groundwater increases with continued pumping, and that although the amount of drawdown decreases with distance from a well, it nevertheless extends for great distances. This drawdown extends radially in all directions from a water well, and extraction of water from the Hair well will therefore extend well into the Commission's geographic appeals jurisdiction. For example, after 365 days of pumping, the drawdown at a point 100 feet from the well—a point well inside the Commission's appeal jurisdiction—would be over two feet.

Dr. Loáiciga's report assumed that the well would extract water 24 hours per day, however, when the County finally approved the well permit, it conditioned the permit to allow only 12 hours of pumping per day (which would extract 4.05 acre-feet of water per year). Given these facts, Dr. Loáiciga's figures for drawdown likely overstate the volume of the Hair well's projected extraction. However, it must be noted that the restriction placed on the permit to authorize extractions for only 12 hours per day is very difficult to enforce. More importantly, Dr. Loáiciga's analysis demonstrates that even a much less significant amount of pumping than he analyzed would still extract some water from the Commission's geographic appeals jurisdiction, which is located only 10-20 feet from the Hair well.

2. <u>Grounds for Appeal</u>

The grounds for appeal of a local government approval of development shall be limited to an allegation that the development does not conform to the standards set forth in the certified Local Coastal Program or the public access policies set forth in the Coastal Act (See Public Resources Code Section 30603(b)(1)).

3. Substantial Issue Determination

Section 30625(b) of the Coastal Act requires the Commission to hear an appeal unless the Commission determines that no substantial issue exists with respect to the grounds on which the appeal was filed. When Commission staff recommends that a substantial issue exists with respect to the grounds of the appeal, a substantial issue is deemed to exist unless three or more Commissioners wish to hear arguments and vote on the substantial issue question. If the Commission decides to hear arguments and vote on the substantial issue question, proponents and opponents will have three minutes per side, at the Chair's discretion, to address whether the appeal raises a substantial issue. Pursuant to Section 13117 of the Commission's regulations, the only persons qualified to testify before the Commission at the substantial issue stage of the appeal process are the applicant, persons who opposed the application before the local government (or their representatives), and the local government. Testimony from other persons must be submitted in writing. It takes a majority of Commissioners present to find that no substantial issue is raised by the appeal.

4. De Novo Permit Hearing

Should the Commission determine that a substantial issue exists, the Commission will consider the CDP application de novo. The applicable test for the Commission to consider in a de novo review of the project is whether the proposed development is in conformity with the certified Local Coastal Program and, if the development is between the sea and the first public road paralleling the sea, the public access and recreation policies of the Coastal Act. If a de novo hearing is held, testimony may be taken from all interested persons.

B. LOCAL GOVERNMENT ACTION AND FILING OF APPEAL

On July 20, 2016, the County of Santa Barbara approved the subject CDP (No. 15CDP-00000-00099) to allow the construction of a private water well to be used for supplemental on-site irrigation of existing landscaping on a 1.71-acre residential property (comprised of four County Assessor's parcels) in Montecito that is developed with a single-family home.

The Notice of Final Action for the approved CDP was received by Commission staff on August 12, 2016 (Exhibit 10). A ten working-day appeal period was set and notice provided beginning August 15, 2016, and extending to August 26, 2016.

An appeal of the County's action was filed by Commissioners Steve Kinsey and Dayna Bochco on August 25, 2016, during the appeal period. Commission staff notified the County, the applicant, and interested parties that were listed on the appeal form and requested that the County provide its administrative record for the permit. The administrative record was received on September 16, 2016.

II. MOTIONS AND RESOLUTIONS

A. Substantial Issue Determination for Appeal Number A-4-STB-16-0078

Motion:

I move that the Commission determine that Appeal Number A-4-STB-16-0078 raises NO substantial issue with respect to the grounds on which the appeal has been filed under Section 30603 of the Coastal Act.

Staff Recommendation:

Staff recommends a **NO** vote. Failure of this motion will result in a de novo hearing on the CDP application, and adoption of the following resolution and findings. Passage of this motion will result in a finding of No Substantial Issue and the local action will become final and effective. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Find Substantial Issue:

The Commission hereby finds that Appeal Number A-4-STB-16-0078 presents a substantial issue with respect to the grounds on which the appeal has been filed under Section 30603 of the Coastal Act regarding consistency with the certified Local Coastal Program and/or the public access and recreation policies of the Coastal Act.

B. De Novo CDP Determination for Appeal Number A-4-STB-16-0078

Motion:

*I move that the Commission **approve** Coastal Development Permit Number A-4-STB-16-0078 for the development proposed by the applicant.*

Staff Recommendation:

Staff recommends a **NO** vote. Failure of this motion will result in denial of the CDP and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Deny CDP:

The Commission hereby denies Coastal Development Permit Number A-4-STB-16-0078 on the grounds that the development will not be in conformity with the policies and provisions of the County of Santa Barbara Local Coastal Program. Approval of the permit would not comply with the California Environmental Quality Act because there are feasible mitigation measures and/or alternatives that would substantially lessen the significant adverse effects of the development on the environment.

III. FINDINGS AND DECLARATIONS FOR SUBSTANTIAL ISSUE

The Commission hereby finds and declares:

A. PROJECT DESCRIPTION AND BACKGROUND

On July 20, 2016, Santa Barbara County's Montecito Planning Commission approved a coastal development permit for construction of a water well on an urban, residential lot in the unincorporated community of Montecito (Exhibit 10). The proposed well would be constructed on a property that is currently being serviced by the delivery of public, metered water service by the Montecito Water District.

The well is proposed to be sited on a 1.71-acre residential property (comprised of four County Assessor's parcels) developed with an existing 6,264 square foot single family residence. The property is located on both the landward and seaward side of Channel Drive and within the first line of residential development along the coastline. The water well is proposed to be sited approximately 320 feet from the inland extent of beach. The water well is intended to extract groundwater and use the water to provide supplemental irrigation for approximately 0.75 acres of ornamental, residential landscaping.

The State of California is currently in its fifth year of one of the most severe droughts on record. The current drought surpasses the 1976-1978 drought, such that the period from 2012 to 2014 constitutes the driest three-year span in the State's recorded history.[1] On January 17, 2014, the Governor declared a state-wide drought State of Emergency and asked that officials throughout the state take all necessary actions to prepare for water shortages. On April 25, 2014, the Governor proclaimed a Continued State of Emergency due to the ongoing drought. The Governor has also issued Executive Order Nos. B-29-15 (on April 1, 2015) and B-37-16 (on May 9, 2016) that mandate substantial water reductions to achieve a 25% reduction in potable urban water usage across the state, and mandate that the reductions become permanent even after the drought ends in order to prepare for more frequent and persistent periods of limited water supply. Executive Order B-29-15 also calls for the replacement of lawns and ornamental turf with drought-tolerant landscaping and increased water efficiency standards for new and existing landscaping through more efficient irrigation systems.

As a consequence of the ongoing severe drought, the water supply sources of water districts within Santa Barbara County are facing unprecedented shortfalls. One such District, namely the Montecito Water District ("MWD" or "District"), provides water service for the unincorporated Montecito and Summerland areas of southern Santa Barbara County. As a public water agency, MWD is charged with managing groundwater resources within its service boundaries. However, the County of Santa Barbara is vested with the authority to permit the construction, rehabilitation, and destruction of water wells in the County. As such, the County of Santa Barbara has the authority to regulate development that facilitates the use of groundwater

[1] *See* California Department of Water Resources (February 2015). *California's Most Significant Droughts: Comparing Historical and Recent Conditions.* Retrieved from http://www.water.ca.gov/waterconditions/publications.cfm

resources, while the unaffiliated MWD is charged with the task of managing groundwater resources to provide an adequate and reliable supply of water to the residents of Montecito and Summerland. MWD's ability to provide an adequate and reliable water supply may be hindered by the permitting of private water wells within MWD's service area.

Although groundwater is an essential coastal resource that can be over-utilized and degraded, it is currently largely unmanaged. It remains unknown how much groundwater is being extracted by District customers via private water wells within the MWD service area to supplement the water they are obtaining from MWD, nor is it known how much water private water companies are extracting within the MWD service area. Since 1970, the Santa Barbara County Environmental Health Department has issued over 550 well permits within MWD District boundaries and there has been no mechanism with which to accurately determine the actual number of active wells, private well water use and demand, or monitor the extraction of groundwater from aquifers within its service area. However, the MWD does monitor groundwater levels within their District bi-annually and has observed a lowering of static groundwater levels.

On January 21, 2014, the County of Santa Barbara declared a Water Shortage Emergency, and in February 2014, the MWD declared a Water Shortage Emergency and suspended new meter water service within its service boundaries. Facing this extreme water supply jeopardy, the MWD also adopted Ordinances that require stringent water conservation measures, set water supply allocations, and established water rationing provisions for the District's customers. These measures are set forth in Ordinances 92, 93, and 94, as well as various MWD publications. To manage remaining water supplies and reduce customer water usage, the MWD enacted Ordinance No. 92 on February 11, 2014, which declared a Stage 3 Water Shortage Emergency and mandated water use regulations, including encouraging MWD customers to reduce water consumption by thirty percent. The regulations adopted under Ordinance No. 92 were not significant enough to lessen the stress on water supplies and, in response, the MWD declared a Stage 4 Water Shortage Emergency and enacted Ordinance No. 93, which imposed monthly water supply allocation limits on each property and monetary penalties for those customers who exceeded their monthly water allocation. The conservation measures of Ordinance No. 93 proved successful in alleviating the stress on local water supplies. In the months preceding the adoption of Ordinances 92 and 93, the MWD was informed by District customers of the failure of approximately three dozen private wells within its service boundary.

The MWD passed Ordinance No. 94 on March 24, 2015, which updated monthly allocations to customers and prohibited any waste of water. Pursuant to Section 8.2 of Ordinance No. 94, any consumption of water that is in excess of 25% of the mandated monthly allocations shall result in the installation of a flow restriction device on the service lines for the account. Additionally, any account that is fitted with a flow restriction device and continues to exceed the allowable monthly allocation shall be subject to discontinuation of water service. Water service for the account will then not be restored until a water management plan is implemented to ensure that future consumption will not exceed the allowable monthly allocations.

Single Family Residential (SFR) accounts serviced by the MWD under Ordinance No. 94 are allocated 25 Hundred Cubic Feet (HCF) per month for essential health and sanitation purposes. In addition, SFR accounts are provided monthly water allocations for non-essential uses. The

total water allocation for a SFR, including non-essential uses, is determined by multiplying the adjusted annual total of 140 HCF by the Monthly Allocation Factor (MAF) for the SFR class of development by the acreage of the parcel.

Monthly Water Allocation = 25 HCF + (140 HCF)(MAF)(acreage)

Table 1. Single Family Residential Monthly Allocation Factors

Month	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*
MAF	*.115*	*.113*	*.107*	*.095*	*.067*	*.048*	*.055*	*.046*	*.068*	*.081*	*.102*	*.103*

Using this equation, monthly municipal water allocations for the existing single family residence on the subject property[2] is shown in the following table in both HCF[3] and gallons.

Table 2. Total Monthly Water Allocation per Single Family Residential Account

Month	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Jan*	*Feb*	*Mar*	*Apr*	*May*	*Jun*
Monthly Allocation Factor (MAF)	*.115*	*.113*	*.107*	*.095*	*.067*	*.048*	*.055*	*.046*	*.068*	*.081*	*.102*	*.103*
Monthly Allocation (HCF)	*39.2*	*38.9*	*38.2*	*36.7*	*33.3*	*30.9*	*31.8*	*30.7*	*33.4*	*35.0*	*37.6*	*37.7*
Monthly Allocation (Gallons)	*29,298*	*29,113*	*28,560*	*27,455*	*24,874*	*23,123*	*23,768*	*22,939*	*24,966*	*26,164*	*28,100*	*28,192*

As indicated in the table above, the total municipal water allocation (for essential and non-essential uses) from MWD for the subject residential property ranges from 22,939 to 29,298 gallons per month, depending on the time of year.

MWD depends primarily on surface water supplies (95%). It relies less on groundwater but that has been increasing. MWD's main water source, Lake Cachuma, is currently (as of September 2016) holding only 7.5% of its capacity. Jameson Lake, MWD's other surface water supply is currently (as of September 2016) holding only 10.7% of its capacity. In the last three years, MWD has received only 0-10% of its previous State Water Project deliveries. Due to these staggering shortfalls in water supply for the District, the MWD is currently negotiating the largest ever supplemental water purchase (5,000 acre-feet of water) from sources north of the Sacramento-San Joaquin Delta.

In October 2014, a drought task force appointed by the County CEO briefed the Board of Supervisors, noting that the County had received a staggering surge in the number of water well applications—80 applications in the Montecito/Carpinteria area in the previous year, compared with a previous average of only 9 well applications per year in that part of the County.

On November 21, 2014, the MWD sent a letter (Exhibit 8) to the County requesting the placement of a moratorium on the issuance of new water well permits within the service

[2] Monthly allocations are based on the acreage of the Assessor's Parcel on which the public service water meter is installed; the Assessor's Parcel (one of four) on the subject property where the meter is installed is 0.88 acres.
[3] 1 HCF equals 748 gallons.

boundary of the District until the Water Shortage Emergency is lifted. However, despite this guidance from the agency charged with management of the groundwater aquifer, the County has continued to issue well permits. In fact, as described above, there has been a surge in new water well permit applications that have been submitted and approved by the County since the MWD requested a moratorium on the issuance of new water well permits. Two such approvals by the County were appealed by the Commission, and the Commission took action at the August 2016 Commission hearing (Appeal No. A-4-STB-14-0061 "Makarechian") and September 2016 Commission hearing (Appeal No. A-4-STB-14-0060 "Schlesinger") to find substantial issue with the County's approval of the two water wells and deny both applications to permit the wells.

On July 20, 2016, the Montecito Planning Commission approved the construction of another water well, namely the subject private water well, which is also intended to extract groundwater and use the water to provide supplemental irrigation for landscaping that requires substantial amounts of water on a lot developed with an existing single family residence that already receives water service from MWD (Exhibit 10). The proposed water well would be installed in an intensely groundwater-mined portion of Storage Unit 3 (the coastal sub-basin of the Montecito Groundwater Basin) within the Coastal Zone between Fernald Point to the east, Highway 101 to the north, the Pacific Ocean to the south, and the Santa Barbara Cemetery to the west (Exhibit 4). The majority of MWD's own high-producing groundwater wells are located in Storage Unit 3, and at least three other private water companies extract from Storage Unit 3 as their sole source of potable water to service approximately 60 residential properties (Exhibit 5). Since 2013, MWD's groundwater wells have been extracting five times more groundwater (nearly 500 AFY) than the wells' pre-drought extraction rate (Exhibit 7).

Currently, the Montecito Groundwater Basin, where the subject well is located, is in a state of overdraft due to the fact that groundwater levels are at a historic low and extraction has exceeded natural recharge for several consecutive years. In fact, MWD studies have indicated that there has been no measured recharge to the groundwater basin since the 2004-05 winter season. Additionally, there is evidence that seawater intrusion has occurred and is ongoing within the Montecito Groundwater Basin.

B. SUMMARY OF APPEAL CONTENTIONS

The appeal filed by Commissioners Steve Kinsey and Dayna Bochco is attached as Exhibit 11. The appeal asserts that the approved development is inconsistent with the County of Santa Barbara's Local Coastal Program (LCP) policies regarding existing public services and new development, protection of water resources, and cumulative impacts, including Land Use Plan (LUP) Policies 1-4, 2-2, 2-3, 2-4, 2-5, 2-6, Coastal Act Sections 30231, 30241, 30250(a), 30253(d), 30254 (as incorporated into the LCP pursuant to Policy 1-1), and Coastal Zoning Ordinance (Article II) Sections 35-60.1, 35-60.2, 35-60.3, 35-60.4, and 35-60.5.

C. ANALYSIS OF SUBSTANTIAL ISSUE

Pursuant to Sections 30603 and 30625 of the Coastal Act, the appropriate standard of review for an appeal is whether a substantial issue exists with respect to the grounds raised by the appellants relative to the project's conformity to the policies contained in the certified County of Santa Barbara Local Coastal Program (LCP) or the public access policies of the Coastal Act. The

appellants contend that the projects, as approved by the County, are inconsistent with the County of Santa Barbara's LCP policies with regard to existing public services and new development, protection of water resources, and cumulative impacts. No public access policies were raised here.

The term "substantial issue" is not defined in the Coastal Act or its implementing regulations. The Commission's regulations indicate simply that the Commission will hear an appeal unless it "finds that the appeal raises no significant question" (Cal. Code Regs., Title 14, Section 13115(b)).

In evaluating the issue of whether the appeal raises a substantial issue, the Commission considers the following factors:

1. The degree of factual and legal support for the local government's decision that the development is consistent or inconsistent with the certified LCP;
2. The extent and scope of the development as approved or denied by the local government;
3. The significance of coastal resources affected by the decision;
4. The precedential value of the local government's decision for future interpretation of its LCP; and
5. Whether the appeal raises only local issues, or those of regional or statewide significance.

In this case, for the reasons discussed below, the Commission determines that the appeals raise a **substantial issue** with regard to the grounds on which the appeals have been filed.

1. Existing Public Services and New Development

The appellants assert that the proposed project fails to conform to the following LCP policies and provisions regarding the capacity of existing public services to serve new development.

Land Use Plan (LUP) Policy 1-1 states that all Chapter 3 policies of the Coastal Act have been incorporated in their entirety in the certified County LUP as guiding policies of the LCP.

LUP Policy 1-4 states:

> *Prior to the issuance of a coastal development permit, the County shall make the finding that the development reasonably meets the standards set forth in all applicable land use plan policies.*

LUP Policy 2-4 and **Article II CZO Section 35-60.3** state:

> *Within designated urban areas, new development other than that for agricultural purposes shall be serviced by the appropriate public sewer and water district or an existing mutual water company, if such service is available.*

LUP Policy 2-5 and **Article II CZO Section 35-60.4** state:

> *Water-conserving devices shall be used in all new development.*

LUP Policy 2-6 and **Article II CZO Section 35-60.5** state in relevant part:

> *Prior to issuance of a development permit, the County shall make the finding based on information provided by environmental documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e. water, sewer, roads, etc.) are available to serve the proposed development. The applicant shall assume full responsibility for costs incurred in service extensions or improvements that are required as a result of the proposed project. Lack of available public or private services or resources shall be the grounds for denial of the project or reduction in the density otherwise indicated in the land use plan…*

Coastal Act Policy 30241 states in relevant part:

> *The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas' agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through…the following…By assuring that public service and facility expansions and non-agricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.*

Coastal Act Policy 30250(a) states in relevant part:

> *New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, or contiguous with, or in close proximity to, existing 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…*

Coastal Act Policy 30254 states in relevant part:

> *…Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal-dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.*

As described above, the approved CDP includes the construction and operation of a private water well intended to extract groundwater to augment existing Montecito Water District (MWD) municipal water service for the supplemental irrigation of landscaping that requires substantial amounts of water on a lot developed with an existing single-family residence within the Montecito Community Plan area (Exhibits 1-3 and 10). At the time of the County's approval of the well, the ornamental landscaping (as described within the County's findings for approval of the well) that the proposed water well is intended to service consisted predominately of an expansive grassy lawn area and non-drought tolerant plant species. Commissioner Steve Kinsey and Commissioner Dayna Bochco appealed the County's approval of the CDP on grounds that the approval is inconsistent with the County's certified LCP (Exhibit 11).

Land Use Plan (LUP) Policy 2-4 of the County of Santa Barbara's LCP as well as Coastal Act Section 30250(a) (incorporated into the LCP as guiding policies through LUP Policy 1-1), as enumerated in relevant portions above, require all new, non-agricultural development within designated urban areas to be serviced by a municipal water district exclusively, if such service is available. This LCP policy, as well as Coastal Act Sections 30250(a) and 30254, are intended generally to direct the prudent allocation of water resources for new development and, concurrently, to ensure the availability of water resources for priority land uses, such as agriculture and other more coastal dependent land uses. Further, these policies are also intended to ensure that new development is appropriately sized and located within existing developed areas able to accommodate the new development. Coastal Act Sections 30241 and 30254 go a step further and protect priority of development by prohibiting development from impairing the agricultural viability of land or the needs of coastal dependent land uses, and LUP Policy 2-5 requires all new development to implement water conservation devices.

LUP Policy 2-6 states that new development may be served by public *or* private services; however, that policy is broader than Policy 2-4 and applies to sewer, road, and other services in addition to water. While Policy 2-6 may allow development to be served by private roads or sewer systems, its more general provisions are subordinate to the more specific requirement in Policy 2-4 that development in urban areas obtain water from *public* water districts (if such service is available, as it is in this case).

In this case, the project site is located within a designated urban residential area, does not qualify as agricultural use, and already receives water service from the MWD. Pursuant to Ordinances 92, 93 and 94, the MWD has limited its customers' water use during the ongoing drought, particularly water that is intended to be used for irrigation of landscaping and water features. Although these MWD Ordinances impose limits on water service to the applicant, these restrictions do not constitute a denial of service. Rather, MWD services remain available to the subject property, and the proposed well's extraction of supplemental water for the irrigation of landscaping obviates the need for the applicant to conserve water consistent with State, County and District rules and intent. Approval of the CDP for the well would be inconsistent with LCP Policy 2-4, which directs new development to use District services, if available. The LCP does not contain any policies that allow the construction and operation of a private water well for the purpose of supplementing the MWD's water service and thereby circumventing its water use restrictions, especially during a water shortage emergency. Thus, the project, which does not utilize water conservation devices or assist in water conservation in any other manner, directly contravenes the intent and plain language of Policies 2-4, 2-5, and 2-6 of the County's certified LUP.

The County's findings for approval of the CDP interpret LUP Policy 2-4 to be consistent with the proposed water well due to the fact that the well would service existing landscaping on the project sites, and not new development. While the well would serve existing development, the County's interpretation of Policy 2-4 is not mandated by the Policy's language and is plainly inconsistent with the underlying intent of the policy. At its core, LUP Policy 2-4 requires development (except agriculture) within urban areas in the District's boundaries to use District water. Nothing in the policy suggests that, should there be an underestimation of water demand required by a permitted and constructed development, or should circumstances change so that the

existing development no longer receives the amount of public water that it is accustomed to, that a separate, private water source may be utilized to supplement or offset shortfalls.

In fact, when read in combination with LUP Policy 2-6, the intent is clearly to approve development in urban areas only where there are adequate water district services. LUP Policy 2-6 states that lack of available services (public or private) is grounds for denial or a reduction to a proposed project. Therefore, if an urban site can be served by the District, the project must be served by the District and the applicant must pay for any applicable public works extensions; however, where "adequate" services (LUP Policy 2-6) are not available from the District, as required by LUP Policy 2-4, then development must be denied or the density reduced. In addition, the LCP does not contain any policies that would allow the installation and operation of private wells to compensate for water use and allocation restrictions during a severe drought. Such a policy would wholly contradict the State, County and MWD's clear rules and intent to conserve water at this time.

Policies LUP 2-4 and 2-6 (and the purpose of Ordinances 92, 93 and 94) would be completely ineffectual if all developed properties could, as soon as construction is complete, obtain supplemental water to serve the then-"existing" development. Such an interpretation would circumvent the findings that adequate public services and resources are available to serve the proposed development. It would also allow applicants to circumvent the water rationing efforts of the MWD through the installation of private water wells. Notably, County staff originally recommended denial of the subject well, finding that it violated LUP Policy 2-4 because "[t]he applicability of this policy does not end the moment a new residence or residential addition is completed, but rather, it extends to the continued use of the new development." The Commission finds that this interpretation of Policy 2-4 is the proper one and the one most consistent with its underlying intent.

The County's findings also state that the approved well is consistent with Policy 2-4 because it would not be sensible to construe the policy as requiring a water well (i.e., the "new development") to be serviced by a public water district. Clearly, Policy 2-4 does not require a water well intended to extract groundwater to be serviced by a municipal water district. But this does not mean that a new water well—which does constitute "development," as defined in the LCP (Appendix A) and the Coastal Act (§ 30106)—may be approved whenever it serves preexisting, nonagricultural homes or other land uses. Rather, the interpretation that is most consistent with the language and purpose of both Policy 2-4 and the LCP as a whole is that any new "development" on a property—including any improvements to a preexisting home that are not otherwise exempt from the Coastal Act permitting process—must be served by public water, if it is available. Here, the proposed water well constitutes new "development." Although it does not make sense to construe Policy 2-4 to require that the wells themselves be serviced by public water, it is logical to construe the policy as requiring the denial of the permit application because the new development—i.e., the well—*cannot* be served by public water. In fact, the well is intended to and has the effect of allowing the landowner to circumvent Policy 2-4's restrictions and the MWD's water delivery limits. Therefore, the intent of Policy 2-4 is to avoid the exact situation that is the subject of this appeal.

Further, the County's findings of approval for the water well do not address the ability of the existing, public water service to provide water to the project location or why an additional source

of water is needed. As stated above, the County's LUP incorporates Coastal Act Section 30250(a) as a guiding policy of the LCP. Section 30250(a) requires new development to be concentrated in existing developed areas with adequate public services. Section 30250(a) does not direct new development to be concentrated within existing developed areas with unlimited public services, but rather, *adequate* public services. LUP Policy 2-6 also requires "adequate" public services. The subject project site currently receives adequate water service from MWD. Although MWD must ration the water available for service during the drought, the District is still able to provide adequate service to the single family residence on the project site. The MWD also provides online and in-person assistance to homeowners to help them devise ways to use less water while still maintaining their landscaping. See http://www.montecitowater.com/drought-conservation-tips.htm.

In conclusion, the County's approval did not include adequate evidence to demonstrate that the project is consistent with all applicable policies of the certified LCP. The County's approval of the private water well raises a substantial issue with regard to conformity with the LCP's policies concerning the capacity of existing public services to serve new development. Specifically, the approval of the CDP for the water well raises substantial issue due to the lack of consistency with LUP Policies 1-4, 2-4, 2-5 and 2-6, as well as with Coastal Act Sections 30241, 30250(a) and 30254. The approval of the CDP also raises substantial issue regarding consistency with LUP Policy 1-4, as the approval of the water well conflicts with, and therefore does not meet the standards set forth in the LUP.

2. Protection of Water Resources

The appellants assert that the proposed project fails to conform with the following LCP policies and provisions regarding the protection of water resources.

LUP Policy 2-2 and **Article II CZO Section 35-60.1** states, in relevant part:

> *The long term integrity of groundwater basins or sub-basins located wholly within the coastal zone shall be protected. To this end, the safe yield as determined by competent hydrologic evidence of such a groundwater basin or sub-basin shall not be exceeded except on a temporary basis as part of a conjunctive use or other program managed by the appropriate water district. If the safe yield of a groundwater basin or sub-basin is found to be exceeded for reasons other than a conjunctive use program, new development, including land division and other use dependent upon private wells, shall not be permitted if the net increase in water demand for the development causes basin safe yield to be exceeded, but in no case shall any existing lawful parcel be denied development of one single family residence…*

LUP Policy 2-3 and **Article II CZO Section 35-60.2** state:

> *In the furtherance of better water management, the County may require applicants to install meters on private wells and to maintain records of well extractions for use by the appropriate water district.*

LUP Policy 2-4 and **Article II CZO Section 35-60.3** state:

Within designated urban areas, new development other than that for agricultural purposes shall be serviced by the appropriate public sewer and water district or an existing mutual water company, if such service is available.

LUP Policy 2-5 and **Article II CZO Section 35-60.4** state:

Water-conserving devices shall be used in all new development.

Coastal Act Section 30231 states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

As discussed previously, the County of Santa Barbara approved a CDP for a private water well that was intended to provide irrigation water for ornamental landscaping that requires substantial amounts of water, including an extensive grassy lawn area and other non-drought tolerant plant species, during a period of extended drought and on a site that is already serviced by a municipal water purveyor.

LUP Policy 2-2 requires that the long-term integrity of groundwater basins within the coastal zone shall be protected. To further protect groundwater resources, LUP Policy 2-3 mandates the responsible management of groundwater extraction through record-keeping. Coastal Act Section 30231, which serves as guiding policies of the County's LCP, requires that the depletion of groundwater supplies be prevented.

Although LUP Policy 2-2 requires the safe yield[4] to not be exceeded, and prohibits the authorization of private water wells for uses that may exceed safe yield, the County's findings for approval of the private water well did not analyze or mention this criteria. Similarly, the County's findings for approval of the subject water well failed to analyze the potential for significant adverse impacts on the groundwater resources of the Montecito Groundwater Basin's (MGWB) coastal sub-basin if the well is installed and operated. Further, the County's findings for approval failed to consider or analyze the cumulative impacts of the well on groundwater levels given that the proposed water well is proposed to be installed within an intensely groundwater-mined portion of Storage Unit 3, a coastal sub-basin of the MGWB. Currently, the MGWB, which includes Storage Unit 3, is in a state of overdraft due to current extractions exceeding natural recharge for several consecutive years. Additionally, there are many high-producing public supply water wells operated by MWD located within the Coastal Zone (See Exhibit 5), and the number of private well applications has surged in Montecito during the drought, concomitant with the rationing of municipal water service. As a consequence of the ongoing drought and this cumulative increase in the number of wells extracting groundwater from the same groundwater bearing formations, many water wells have stopped producing.

[4] Safe yield (also known as perennial yield) represents the maximum amount of water which can be withdrawn from a groundwater basin (or aquifer) on an average annual basis without inducing a long-term progressive drop in water level.

As mentioned previously, the proposed water well would be constructed within the coastal sub-basin of the MGWB (Exhibits 1, 2 and 4). Coastal sub-basins, due to their proximity to the ocean, are particularly vulnerable to the damaging effect of salt-water intrusion should their groundwater levels fall below the level necessary to prevent seawater encroachment. Importantly, records demonstrate that seawater intrusion has spiked during historic periods of drought, and there is evidence that seawater intrusion is currently occurring within the MGWB (Exhibit 9).

Although the County conditioned the approved water well to require a flow meter and annual monitoring, there was no condition or discussion within the findings for approval of the well that would clarify what would be done with this gathered information. The County also did not require a threshold that would compel the applicant to cease pumpage should extractions exceed the safe yield of the groundwater basin.

Additionally, the private water well for irrigation of substantial residential landscaping is not required to be managed for water-conserving purposes. On the contrary, it allows residential development to avoid conserving water, which would otherwise be required by the MWD, and to continue irrigating water-intensive landscaping, despite statewide and MWD efforts to have homeowners conserve water.

In conclusion, the County's approval of the subject water well does not demonstrate that the project is consistent with the water resource protection policies of the County's LCP. Specifically, the approval of the CDP raises substantial issue due to the lack of consistency with LUP Policies 2-2, 2-3, and 2-5, as well as with Coastal Act Section 30231.

3. Substantial Issue Factors Considered by Commission

An analysis of the following five factors demonstrates that the appeal raises a substantial issue with respect to the grounds on which the appeal was filed.

The first factor in evaluating the issue of whether the appeal raises a substantial issue is the degree of factual evidence and legal support for the local government's decision that the development is consistent with the subject provisions of the certified LCP. In this case, the County's findings for approval of the water well did not adequately address the approved development's consistency with the public services and the protection of groundwater resource provisions of the LCP. As discussed previously, the water well would circumvent requirements to conserve water, would tap into an already over-drafted and groundwater-mined source of water for the purpose of irrigating extensive, non-drought tolerant landscaping, and was not sufficiently analyzed to determine the potential for individual and cumulative impacts on groundwater resources or conditioned to prevent significant impacts to coastal water resources.

The second factor in evaluating the issue of whether the appeal raises a substantial issue is the extent and scope of the development as approved. As described above, the subject development includes a water well that was approved by the County and permitted to pump up to 5 gallons per minute for 12 hours per day, for a total maximum pumping of 3,600 gallons per day, or 1,314,000 gallons per year. While the approved water well only occupies a small physical area,

the scope of the development is significant because it involves the potential for significant extraction of scarce water resources.

The third factor in evaluating the issue of whether the appeal raises a substantial issue is the significance of the coastal resources affected by the decision. Groundwater resources are a coastal resource of great significance. The County's findings for approval of the subject water well do not analyze the individual or cumulative impacts on groundwater resources from the well.

The fourth factor in evaluating the issue of whether the appeal raises a substantial issue is the precedential value of the local government's decision for future interpretation of its LCP. The certified County LCP contains strong policies that require new development in urban areas to be serviced by existing public services, including public water supplies. These policies are intended to ensure that new development is appropriately sized and located in existing developed areas able to accommodate the new development. The approved development circumvents the water use restrictions imposed by the existing public service water purveyor, the MWD, and permits extractions of significant amounts of groundwater resources during ongoing severe drought conditions. If the subject water well is allowed to be installed and operated, it will indicate to all future applicants that private water wells may be used to compensate for the required rationing of water resources during the ongoing drought. As such, the precedential value of the County's action is extremely significant.

The final factor in evaluating the issue of whether the appeal raises a substantial issue is whether the appeal raises only local issues, or those of regional or statewide significance. The approved development that is the subject of this appeal involves significant extraction of groundwater, which not only raises local issues, but also has implications for resources of regional and statewide significance. The State of California is experiencing one of the most prolonged and severe droughts in recorded history. Governor Brown has issued multiple executive orders asking Californians to voluntarily reduce water consumption, and on April 1, 2015 (No. B-29-15) and May 9, 2016 (No. B-37-16), Governor Brown issued two additional executive orders mandating substantial water reductions across the state. The County's action raises issues of regional and statewide significance because these actions ignore the previous orders to voluntarily reduce water consumption and circumvent the most recent executive order mandating water reductions.

In conclusion, the Commission finds that each of the five factors listed above, used to evaluate whether a substantial issue exists, are satisfied in this case. For the reasons discussed in detail above, the appeal raises a substantial issue with respect to the consistency of the approved development with the policies and provisions of the County' certified LCP with regard to existing public services and new development, protection of water resources, and cumulative impacts. In evaluating whether the subject appeals raise a substantial issue, the Commission has explicitly addressed several factors that play a part in identifying if the issues raised in an appeal are significant. The Commission finds that there is not adequate factual and legal support for the County's position that the proposed project complies with LCP policies. Further, because the County has not ensured that the project conforms to the existing policies and provisions of the LCP and has not provided sufficient evidence to support its decision, the project will have adverse precedential value regarding interpretation of the County's LCP for future projects.

Therefore, the Commission finds that a substantial issue exists with respect to the grounds raised by Commissioners Kinsey and Bochco in the subject appeal, relative to the approved project's conformity to the policies and provisions of the certified LCP.

4. Substantial Issue Conclusion

The County-approved project raises substantial LCP conformance issues in terms of existing public services and new development, protection of water resources, and cumulative impacts. Therefore, the Commission finds that **a substantial issue** exists with respect to the County-approved project's conformance with the certified Santa Barbara County LCP.

IV. DE NOVO COASTAL DEVELOPMENT PERMIT DETERMINATION

The standard of review for this CDP determination is the Santa Barbara County certified LCP. All Substantial Issue Determination findings (Section III) above are incorporated herein by reference.

A. WATER SUPPLY RESOURCES

The following policies and provisions of the Santa Barbara County LUP and the associated Implementation Plan (IP) standards provide for the protection of groundwater basins and water supply, require water conservation, and restrict the installation of new water systems for development that is already served by a public water system. In addition, Policy 1-1 of the LUP incorporates the Chapter Three policies of the Coastal Act as guiding policies of the LCP. Coastal Act Section 30231 provides for the protection of groundwater basins by proscribing the depletion of groundwater supplies and substantial interference with surface water flows.

LUP Policy 2-2 and **Article II CZO Section 35-60.1** states, in relevant part:

> *The long term integrity of groundwater basins or sub-basins located wholly within the coastal zone shall be protected. To this end, the safe yield as determined by competent hydrologic evidence of such a groundwater basin or sub-basin shall not be exceeded except on a temporary basis as part of a conjunctive use or other program managed by the appropriate water district. If the safe yield of a groundwater basin or sub-basin is found to be exceeded for reasons other than a conjunctive use program, new development, including land division and other use dependent upon private wells, shall not be permitted if the net increase in water demand for the development causes basin safe yield to be exceeded, but in no case shall any existing lawful parcel be denied development of one single family residence…*

LUP Policy 2-3 and **Article II CZO Section 35-60.2** state:

> *In the furtherance of better water management, the County may require applicants to install meters on private wells and to maintain records of well extractions for use by the appropriate water district.*

LUP Policy 2-4 and **Article II CZO Section 35-60.3** state:

> *Within designated urban areas, new development other than that for agricultural purposes shall be serviced by the appropriate public sewer and water district or an existing mutual water company, if such service is available.*

LUP Policy 2-5 and **Article II CZO Section 35-60.4** state:

> *Water-conserving devices shall be used in all new development.*

Coastal Act Section 30231 states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Due to the complexity of the hydrogeological issues raised by the proposed water well, Commission staff retained the services of a consulting hydrologist, Dr. Hugo Loáiciga, in August 2015 to conduct a geotechnical and hydrologic evaluation of the potential hydrologic impacts of installing and operating the subject irrigation well in the coastal sub-basin (Storage Unit 3) of the Montecito Groundwater Basin (MGWB). In his extensive analysis of the potential impacts of the approved development, which is attached in full as Exhibit 9, Dr. Loáiciga evaluated the application to install and operate the new well, data concerning groundwater extraction and the conditions of the MGWB, and several previous reports concerning the hydrogeological characteristics of the MGWB. The following analysis is based on Dr. Loáiciga's report on the geotechnical and hydrologic impacts for the Hair groundwater well. The Commission's staff geologist, a California-licensed hydrogeologist, has reviewed Dr. Loáiciga's report, as well as these findings, and concurs with the conclusions as set forth herein.

The MGWB underlies the unincorporated town of Montecito and the Toro Canyon watershed (Exhibit 4). Generally, precipitation ranges from 17 to 21 inches per year in this area. However, rainfall in this area during the ongoing drought averaged only 9.17 inches per year (Exhibit 6). The MGWB's surface area equals 6,270 acres (9.8 square miles) and is divided into four sub-basins, namely Storage Units 1 (northern—2,784 acres), 2 (central—608 acres), 3 (southern coastal—1,674 acres) and the Toro Canyon Unit (1,204 acres)(Exhibit 4). The MGWB is bounded on the north by the Santa Ynez Mountains and the Arroyo Parida fault, on the east by consolidated rocks, on the southeast by the Fernald fault, and on the northeast by a surface drainage divide that separates the Montecito and Carpinteria Groundwater Basins. The offshore Rincon Creek fault and the Pacific Ocean bound the basin on the south. An administrative boundary on the west separates the MGWB from the Santa Barbara Groundwater Basin, although there is no physical separation between the two basins.

The area overlying the basin is drained by six small creeks (Buena Vista, Montecito, Oak, Romero, San Ysidro, and Toro Canyon) that flow from the Santa Ynez Mountains towards the

Pacific Ocean. The primary groundwater-bearing deposits in the MGWB are unconsolidated alluvial deposits, namely the Casitas and Santa Barbara Formations.

Safe Yield of the Montecito Groundwater Basin

Safe yield, also known as perennial yield, constitutes the maximum amount of water that can be withdrawn from a groundwater basin on an average annual basis without adverse effect.[5] The concept of safe yield is a baseline number that can be used to determine whether or not a groundwater basin is being used in a sustainable manner that will assure long-term beneficial use without adverse impacts. Sound management of groundwater basins requires adjustment of this baseline figure as conditions change from wet or average climatic conditions to protracted drought conditions. Commonly, water purveyors and private well owners increase groundwater extraction during droughts to compensate for the reduced availability of surface water sources. This strategy of resorting to water stored as groundwater to mitigate temporary shortfalls of surface water, with the expectation that rainfall will return to replenish aquifer storage and restore normalcy, is jeopardized when a drought lasts longer than usual. This strategy poses significant risks to coastal groundwater sub-basins, such as Storage Unit 3 of the MGWB, because groundwater storage may be severely depleted, leading to such impacts as seawater intrusion (potentially to the point of irreversible freshwater groundwater basin degradation), hydraulic (well) interference, reduction in well yields, and, eventually, well failures. Depleting groundwater resources can cause an additional significant adverse impact of a reduction or termination in base flows from aquifers to support stream flows as the aquifer-stream hydraulic connection is broken when groundwater levels drop to a certain level.

In Sections 6 and 7 of Dr. Loáiciga's hydrological report, attached in full as Exhibit 9, he calculates the safe yield for Storage Unit 3 to be 409 acre-feet per year (AFY). On May 19, 2015, the MWD's Engineering Manager informed its Board of Directors that the private extraction of groundwater within the basin was believed to range between 700 to 1,000 AFY at that time. Dr. Loáiciga's analysis estimates that the amount of private extraction from the MGWB exceeds the 700 to 1,000 AFY estimate, and may exceed 1,500 AFY. Dr. Loáiciga's analysis further estimates that the groundwater extraction in Storage Unit 3 of the MGWB may alone exceed 1,000 AFY. In fact, Dr. Loáiciga's calculation of a safe yield of 409 AFY is less than the amount currently extracted by the four MWD municipal water wells in Storage Unit 3 alone (500 AFY).

Groundwater overdraft is defined as the condition of a groundwater basin or sub-basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin.[6] Overdraft can be characterized by groundwater levels that decline over a period of years and never fully recover. There are significant adverse impacts of both ongoing overdraft conditions and irreversible overdraft conditions. Specifically, these include increased extraction costs (such as those for well deepening or replacement), well interference, loss of well yield, well failures, land subsidence, water quality degradation, increased risk of pervasive seawater intrusion, and reduction in nearby surface water flows. The County's 2014 Groundwater Basin Status Report, produced by the Water Resources Division of the County's Public Works Department triennially since 2006 to provide a status on the water resources of groundwater

[5] Definition taken from the California Department of Water Resources (2003) Bulletin 118
[6] Definition taken from the California Department of Water Resources (2003) Bulletin 118

basins, addressed the long-term measured groundwater levels in the MGWB and stated "the hydrograph from the Montecito Basin shows a consistent decline over the period of record (since the early 1960s) and, with the exception of a couple of data points which may not reflect accurate measurements, shows a historic low water elevation." The declining groundwater level analyzed in the County's report provides strong evidence that the MGWB is in a state of overdraft. In addition, the County's 2015 Environmental Thresholds and Guidelines Manual records an overdraft of 426 AFY in the MGWB. Dr. Loáiciga calculates the net overdraft in Storage Unit 3 alone to be 591 AFY.

Dr. Loáiciga's report provides strong evidence that the safe yield of the MGWB is currently exceeded, and his analysis concurs with the County's 2015 assessment that the MGWB is in a state of overdraft. To allow the subject water well to be installed and operated in a groundwater basin that is known to have exceeded safe yield would directly conflict with Policy 2-2 of the County's LCP which specifically proscribes such authorization. Further, the operation of the water well risks the use of a water resource for private supplemental irrigation at the expense of other priority coastal land uses if groundwater is depleted or degraded by the subject well and thus rendered unavailable for other, higher priority land uses. These higher priority land uses, including but not limited to visitor-serving land uses such as overnight accommodations, public recreational opportunities such as parks, and agriculture, rely on the water resources within the MGWB. The operation of the water well would also be inconsistent with Coastal Act Section 30231 because the operation would further deplete already overdrafted groundwater supplies.

Cumulative Impacts of the Hair Well

Exhibits 1-3 depict the approximate location of the property where the subject water well is proposed to be installed and the location of the well site. As Exhibit 1 demonstrates, the Hair well is proposed to be installed and operated in the immediate vicinity of the "Haber" well (within 300 feet), "Chase" well, and wells labeled "A" and "B" which are owned by the Biltmore Hotel. The Hair well would be sited within 400 feet from the high-tide line of the coast. The approximate locations of the MWD's four active municipal wells, namely "Amapola", "Ennisbrook 2", "Ennisbrook 5" and "Paden 2" are also depicted in Exhibit 5. Within the approximate half-mile radius of the Hair well, there are at least three dozen known, active water wells, and there are at least 250 additional private water wells in Storage Unit 3 (Exhibit 5).

Most of the water wells in Storage Unit 3 are within the immediate vicinity of the coastline and/or creeks, which are two environments that are vulnerable to groundwater extraction. Clustering of wells often leads to well interference and loss of well yield (both of which are discussed in greater detail below). In a letter dated November 21, 2014 (discussed in Section III(a) above) from the MWD to the County of Santa Barbara, the MWD acknowledged that it "had no mechanism for accurately determining the number of active wells, or the private well water use and demand; nor does it have a viable mechanism for monitoring the extraction of groundwater from aquifers within its service area" (Exhibit 8) The letter further reports on the failure of "approximately three dozen private wells" within the MWD service area and, in response, asked the County for a moratorium on well permits within the boundary of the MGWB. The letter further notes that, "these groundwater supplies, critical to the District and private water companies, could be permanently damaged if further extraction from the

groundwater basin occurs through the permitting of new wells." As discussed more fully in Section III(a) above, the County has continued to issue new well permits.

In addition to the potential individual impacts of the new well, there will be cumulative impacts on groundwater supply resulting from the operation of the new well and existing wells in the area together, plus the operation of any future wells that the County may approve. The effect on groundwater level by a new extraction well is to magnify the lowering of the groundwater level caused by the existing wells. Additionally, the existing wells magnify the lowering of the groundwater level caused by the new well. This mutual superposition of the influences on the groundwater level by a neighboring well or wells is known as hydraulic or well interference. Drawdown (see Figure below) is the depth to which the groundwater level or hydraulic head[7] is lowered in a well (or any other part of an aquifer) by groundwater extraction relative to the initial groundwater level or hydraulic head (baseline condition). Drawdown is magnified, and thus well interference is worsened, when there are multiple wells extracting from the same aquifer and there is a superposition of drawdowns caused by the wells.

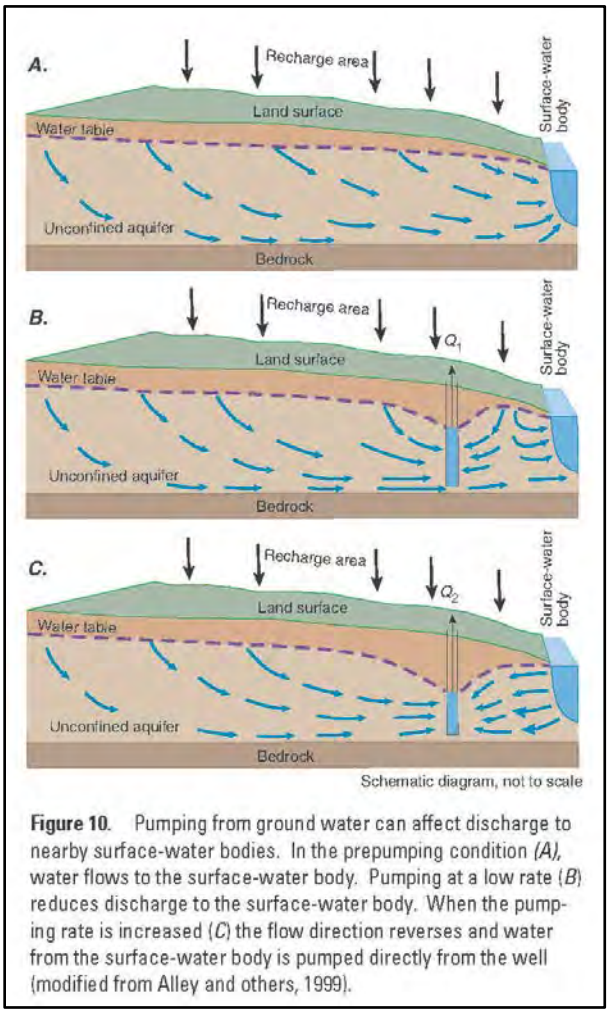


Figure 10. Pumping from ground water can affect discharge to nearby surface-water bodies. In the prepumping condition *(A)*, water flows to the surface-water body. Pumping at a low rate *(B)* reduces discharge to the surface-water body. When the pumping rate is increased *(C)* the flow direction reverses and water from the surface-water body is pumped directly from the well (modified from Alley and others, 1999).

[7] Hydraulic head is a term used to characterize the force exerted by a column of liquid expressed by the height of the liquid above the point at which the pressure is measured; although head refers to a distance or height, it is used to express pressure, since the force of the liquid column is directly proportional to its height.

Dr. Loáiciga's analysis includes detailed calculations of potential groundwater drawdown that will be caused by the operation of the Hair well. Dr. Loáiciga used a continuous pumpage rate of 5 gallons per minute for these calculations as it is the pumpage rate cited by the applicants' hydrologist (and the maximum rate allowed by the County's permit). Dr. Loáiciga's calculations demonstrate that if the Hair, Chase, Haber, and Makarechian wells were each pumping at 5 gallons per minute continuously for one year, they would lower the groundwater level 6 feet at a point on the coast with a radius of five hundred feet from the wells. In addition, if the "A" and "B" wells owned by the Biltmore Hotel together extract 10 gallons per minute continuously for one year, they would lower the groundwater level 6 feet at a point on the coast within a radius of five hundred feet from the wells. Thus, the total decline of groundwater level on the coast caused by the six wells (Hair, Chase, Haber, Makarechian, and Biltmore Hotel wells A and B) would be 12 feet. Dr. Loáiciga's report states that this magnitude of water-level decline would likely lower the hydraulic pressure enough to induce seawater intrusion.

However, as discussed in Section III(a) above, the Commission denied on appeal the permit for the Makarechian well (Appeal No. A-4-STB-14-0061 at the September 2016 Commission hearing), and the applicant for the Hair well has indicated in a court Petition (Case No. 16CVO3775) that the Chase well has been or will soon be capped. If these two wells are excluded from the drawdown calculation above, drawdown at the coast would be 9 feet, which will likely also lower the hydraulic pressure enough to induce seawater intrusion. In addition, the County's approval of the Hair well limited the pumping rate to 12 hours per day, or half that assumed by Dr. Loáiciga. However, that condition is very difficult to enforce, and the Precautionary Principle could therefore be applied here, making Dr. Loáiciga's assumption of continuous pumping reasonable. But even if pumping is less than he assumed, the well will still likely have adverse impacts. As will be discussed below, some wells in Storage Unit 3 are already showing signs of saltwater intrusion. *Any* reduction in hydraulic head caused by a new well will therefore exacerbate saltwater intrusion in the basin.

The cumulative impacts caused by the operation of the subject water well and the numerous additional water wells in the immediate vicinity of the Hair well and the larger vicinity of the coastal sub-basin, render the development directly inconsistent with the County's LCP and the Coastal Act. The drawdown caused by the operation of the proposed well will have significant adverse impacts on groundwater resources. These are impacts that Policies 2-2, 2-3, 2-4, 2-5, and Section 30231 of the Coastal Act are intended to prevent through responsible management and proper use of groundwater resources. Section 30231 specifically proscribes the depletion of groundwater supplies and any substantial interference with surface water flows. These policies and provisions of the LCP and the Coastal Act do not allow for the installation and operation of a supplemental irrigation well for landscaping that will have such significant adverse impacts on freshwater groundwater resources, surface water flows and riparian corridors. If the subject well is installed and operated, it will serve to circumvent drought-imposed water rationing for the benefit of water-intensive ornamental landscaping and would have adverse impacts to the water resources of the MGWB and the coastal eco-systems that the MGWB supports.

Seawater Intrusion within Storage Unit 3 of the Montecito Groundwater Basin

One of the most significant adverse impacts that can be caused by intensified groundwater extraction and an exceedance of safe yield is seawater intrusion. Once seawater intrusion begins, it is a largely irreversible process that can lead to complete degradation of a freshwater coastal aquifer. The drawdown of groundwater elevation, directly caused by groundwater extraction that exceeds the safe yield, causes a decline of hydraulic head in the coastal groundwater sub-basin that allows seawater, which is denser than fresh water, to migrate in the direction of the decreased hydraulic head (landward). Once seawater intrusion becomes pervasive, it renders a freshwater coastal aquifer useless as a water source for human, industrial, and irrigation uses unless desalination technology is utilized to remove salts from the extracted contaminated freshwater groundwater. The use of desalination technology raises significant issues such as brine disposal, elevated energy and operational costs for water purveyors, and the potential for contamination of additional freshwater sources.

Seawater intrusion within Storage Unit 3 of the MGWB has been known to occur for many decades, but as of yet, has not reached a pervasive level. The location of the MGWB, particularly that of Storage Unit 3, in relation to the Rincon Creek Fault which lies approximately 1,000 feet offshore, is geologically predisposed to allow for contact with seawater. Storage Unit 3 extends under the sea floor until encountering the upthrown side of the Rincon Creek Fault. Seawater is in contact with the surficial, permeable layers of Storage Unit 3 in the area comprised between the coastline and the fault, and most likely with deeper deposits through submarine canyons eroded over geologic time by streams flowing through the fault. These streams are able to flow through the fault due to the fact that fractures in consolidated rocks on and near the Rincon Creek Fault allow the motion of submarine fluids (those fluids below the sea floor) through the fault. The direction of this flow depends on the hydraulic heads in the Storage Unit 3 aquifers. The flow will remain seaward as long as the hydraulic gradient drives groundwater flow towards the sea. If, however, the hydraulic head in the aquifer is lower than the sea level on the coast, seawater will advance landward to create the condition known as seawater intrusion. Therefore, it is imperative that the extraction of groundwater within the coastal sub-basin of Storage Unit 3 does not exceed safe yield in order to prevent seawater flows from moving landward and irreversibly and entirely degrading the freshwater groundwater.

The hydrologist hired by the applicant asserts that there is no possibility of saltwater intrusion into the MGWB due to the location of the Rincon Creek Fault. However, this assertion is based on inaccurate, historic studies that stated the Rincon Canyon Fault truncated the deeper water-bearing deposits so that they lie against consolidated rocks on the seaward side of the fault. In fact, these consolidated rocks are fractured and can serve as conduits for seawater. Furthermore, sea water directly overlies the shallow part of the aquifer north of the Rincon Fault. Martin (1984) conducted a controlled experiment[8] of groundwater extraction that established that the offshore fault is neither a barrier to shallow seawater intrusion nor to deep seawater intrusion into the adjacent coastal basin. Martin's experiment demonstrated that seawater intrusion had occurred deep through the Rincon Creek Fault, past the shallow portions of the aquifer, and into the MGWB and the connected Santa Barbara Groundwater Basin. In fact, no physical barriers are known to exist between the coast and the well field that is the subject of this report.

[8] Martin, P. (1984). "Groundwater Monitoring at Santa Barbara, California, Phase 2." U.S. Geological Survey Water Supply Report 2197.

The applicant's hydrologist also asserts that the subject water well will function to capture groundwater that would otherwise be wasted and discharged into the ocean. This assertion is completely unfounded, as the groundwater that is proposed to be extracted by the Hair well would otherwise function to maintain the seaward hydraulic gradient that prevents seawater intrusion into Storage Unit 3. This assertion by the applicants' hydrologist disregards well-established scientific principles developed decades ago by United States Geologic Service hydrogeologists K. S. Muir, W. R. Hutchinson, and Peter Martin, consulting hydrogeologist Richard Slade, and supported by the Coastal Commission's consulting hydrogeologist on the subject appeal, Dr. Loáiciga. A minimum amount of groundwater flow towards the ocean is necessary to prevent the migration of seawater into the coastal aquifer. The necessity of such discharge of groundwater to the ocean floor is a consequence of the basic laws of physics. Seawater is denser than fresh groundwater, and thus, how far seawater moves landward depends on how much higher the groundwater levels on the coastline are than the sea level. This represents an extremely delicate equilibrium that, if broken by over-pumping in the Coastal Zone, can irreversibly degrade the coastal aquifer. In fact, municipalities with groundwater resources in areas of Los Angeles County and other coastal aquifers worldwide protect against seawater intrusion with injection wells that inject treated sewage water into the ground to contain the landward migration of seawater. These injection wells function to inject water that would otherwise be naturally occurring (if not extracted through water wells) to maintain the seaward hydraulic gradient.

The presence of chloride in groundwater in coastal aquifers is strong evidence of seawater intrusion. Dr. Loáiciga analyzed a dataset of chloride measurements made in wells of the MGWB by the United States Geologic Service and the State of California. Dr. Loáiciga concluded that these measurements demonstrate that wells in the MGWB have reached high chloride concentrations at various times from 1949 through 2012. The dataset demonstrated that high chloride concentrations have historically ranged between 312 mg/L to 1,220 mg/L, which is strong evidence that the groundwater within the MGWB has historically been contaminated with seawater. In a written professional opinion dated May 13, 2008 by consulting geologist M. Hoover to Dave Ward of the Planning and Development Department of Santa Barbara County concerning a proposed well located in Storage Unit 3 and intended to supply landscape irrigation water and laundry water to the Miramar Beach Resort and Bungalows Project, Hoover states that "there is a significant likelihood for seawater intrusion at the Miramar Hotel site." Hoover further concludes that "over pumping at nearby sites such as Santa Barbara Cemetery, Hill Road, Biltmore Hotel, and Toro Canyon have resulted in elevated chloride levels, a clear indication of seawater intrusion." The Miramar site is located less than one mile from the proposed Hair well. The data analyzed by Dr. Loáiciga and the professional opinion by Hoover strongly indicate that reliance on groundwater during historic periods of drought has caused seawater to intrude into the coastal sub-basin. Dr. Loáiciga also analyzed records that indicated that two of the MWD's wells, namely Ennisbrook 2 and Ennisbrook 5, have exhibited high chloride concentrations in recent surveys. Ennisbrook 2 was found to have a chloride concentration equal to 540 mg/L in February 2014, and Ennisbrook 5 was found to have a chloride concentration equal to 490 mg/L in May 2015. Therefore, it is very likely that groundwater extractions from Storage Unit 3 are currently causing conditions that allow seawater to flow into the coastal aquifer.

Further evidence of this condition may be found in a May 19, 2015 memorandum from the MWD's Engineering Manager to the Board of Directors regarding present groundwater-level

data for the four active MWD wells, as shown on the Table directly below. Each of the four municipal wells listed in Column 1 below extract from the coastal sub-basin of Storage Unit 3 of the MGWB.

MWD Well Name	**Groundwater Level** (feet below mean sea level)
Amapola	-20
Ennisbrook 2	-26
Ennisbrook 5	-47
Paden 2	-58

The groundwater levels measured in each of MWD's municipal wells listed in the Table above strongly demonstrate that an over-reliance on well water as a source of water during the ongoing drought has caused a significant drawdown of the sub-basin to levels considerably below sea level. In 1987, R. M. Slade conducted a study[9] to assess the feasibility of developing additional groundwater supplies for the MWD through the installation of wells along the southern margin of Storage Unit 3 of the MGWB. In his study, Slade recommends quantitative criteria to prevent seawater intrusion in Storage Unit 3 of the MGWB. These criteria include (1) a seaward hydraulic gradient not less than 1/100 in coastal aquifers and (2) groundwater levels in new wells must not be allowed to drop below an approximate elevation of +5 feet (above mean sea level) to maintain a positive seaward gradient of fresh water. As is shown by the Table above, all four of MWD's water wells within the vicinity of the Hair well site are at levels that are significantly below sea level and at least twenty-five feet below Slade's recommendation of five feet above mean sea level.

The policies and provisions of the County of Santa Barbara's certified LCP contain specific protections for the water quality, integrity, and prudent use of groundwater resources. The installation and operation of the subject Hair water well will only function to further draw down the groundwater levels of the sub-basin and decrease the availability of a positive seaward gradient of fresh water. To allow the installation and operation of the water well when there exists such compelling evidence of the exceedance of safe yield and an increase in seawater intrusion into the sub-basin would directly contravene Policy 2-2 of the County's LCP, which prohibits new connections to a groundwater basin when demand on that source has surpassed safe yield. Further, to allow the operation of the well would also contravene the general intent of policies 2-3 and 2-5 which require the management, conservation and proper allocation of water resources within the Coastal Zone. To allow the installation and operation of the well would directly conflict with Policy 2-4, which requires new, non-agricultural development in designated urban areas to be serviced by a municipal water purveyor. By requiring sites to be serviced by an existing municipal water system, it ensures that water resources can be managed to accommodate the needs of approved development and cumulative local buildout. Therefore, the installation and operation of the water well is inconsistent with the water resource protection policies and provisions of the County's LCP and the Coastal Act.

[9] Slade, R. M. (1987). "Hydrogeologic Assessment Proposed Water Augmentation Measures Item No. 8 Seaward Migration of Groundwater: For Montecito Water District."

Denial of the proposed project will not prevent or unreasonably limit productive use of the Applicant's property. Without the well, the existing home can continue to remain and receive water from the MWD, and the landowner could reconfigure the landscaping to use drought-tolerant species, innovative site planning and water conservation measures, and/or hardscape or other features to reduce landscaping water demand. Approving the well would allow the unreasonable use and wasting of water on non-agricultural, water-intensive landscaping in violation of LCP and Coastal Act policies as well as in contravention of State and local efforts to address the ongoing drought. As such, alternatives to the proposed development exist that would allow reasonable use of the site while maintaining consistency with the applicable policies of the County's certified LCP.

B. CEQA

Santa Barbara County determined that the proposed development is exempt from further environmental review requirements of the CEQA pursuant to State CEQA Guidelines Section 15303. Public Resources Code (CEQA) Section 21080(b)(5) and Sections 15270(a) and 15042 (CEQA Guidelines) of Title 14 of the California Code of Regulations (14 CCR) state in applicable part:

> ***CEQA Guidelines (14 CCR) Section 15042.*** *Authority to Disapprove Projects. [Relevant Portion.] A public agency may disapprove a project if necessary in order to avoid one or more significant effects on the environment that would occur if the project were approved as proposed.*
>
> ***Public Resources Code (CEQA) Section 21080(b)(5).*** *Division Application and Nonapplication. …(b) This division does not apply to any of the following activities: …(5) Projects which a public agency rejects or disapproves.*
>
> ***CEQA Guidelines (14 CCR) Section 15270(a).*** *Projects Which are Disapproved. (a) CEQA does not apply to projects which a public agency rejects or disapproves.*

Section 13096 (14 CCR) requires that a specific finding be made in conjunction with coastal development permit applications about the consistency of the application with any applicable requirements of CEQA. This report has discussed the relevant coastal resource issues with the proposed projects. All public comments received to date have been addressed in the findings above. All above findings are incorporated herein in their entirety by reference. As detailed in the findings above, the proposed projects would have significant adverse effects on the environment as that term is understood in a CEQA context.

Pursuant to CEQA Guidelines (14 CCR) Section 15042 "a public agency may disapprove a project if necessary in order to avoid one or more significant effects on the environment that would occur if the project were approved as proposed." Section 21080(b)(5) of the CEQA, as implemented by Section 15270 of the CEQA Guidelines, provides that CEQA does not apply to projects which a public agency rejects or disapproves. The Commission finds that denial, for the reasons stated in these findings, is necessary to avoid the significant effects on coastal resources that would occur if the projects were approved as proposed. Accordingly, the Commission's

denial of the projects represents an action to which CEQA, and all requirements contained therein that might otherwise apply to regulatory actions by the Commission, do not apply.

APPENDIX 1

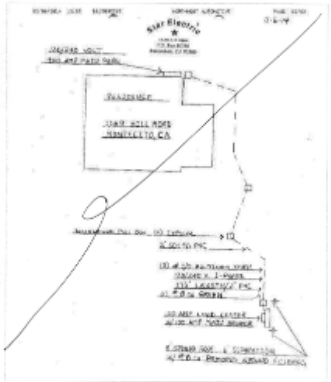
Substantive File Documents

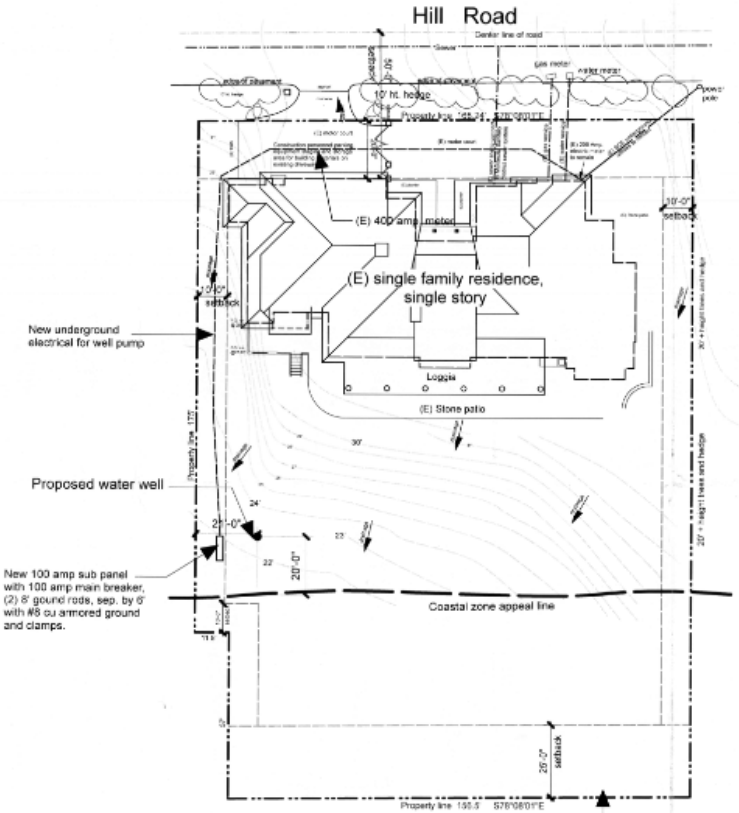
Certified Santa Barbara County Local Coastal Plan; Certified Montecito Community Plan; Santa Barbara County Montecito Planning Commission Findings and Conditions dated August 4, 2016 (Local Permit No. 15CDP-00000-00099); Geotechnical/Hydrologic Evaluation of Three Proposed Groundwater Wells in the Coastal Sub-Basin (Storage Unit 3) of the Montecito Groundwater Basin by Dr. Hugo Loáiciga and dated September 20, 2016; Montecito Water District Board of Supervisors Ordinance No. 92 dated February 11, 2014; Montecito Water District Board of Supervisors Ordinance No. 93 dated February 21, 2014; Montecito Water District Board of Supervisors Ordinance No. 94 dated March 24, 2015; Montecito Water District Newsletter dated March 23, 2016; Montecito Water District Newsletter dated April 22, 2016.

Exhibit 1
Approximate Locations of the Appealed Hair well, & the Haber, Chase & Biltmore Hotel wells (A & B)
A-4-STB-16-0078

Exhibit 2
Aerial View of Project Site
A-4-STB-16-0078

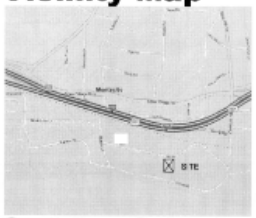
Topographic Map (Flood Control, 1990) Scale 1 inch = 200 feet ^ North
Proposed well in blue with arrow; approximate existing residence in yellow, court green





Site Plan
1" = 20'-0"

Vicinity Map



Scope of work:

New water well for irrigation,
New 100 amp. electrical sub panel for well pump.

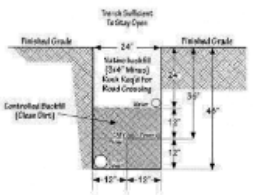
Site data:

Owner:
Olive Mill Trust
Mr. Michael F. Hair Sr.
6501 Fruitvale Ave.
Bakersfield, CA
93308
(661) 393-4523

Designer:
Calvin Design
Sophie Calvin
P.O. Box 50716
Santa Barbara, CA 93150
(805) 969-0559
sophiecalvin@cox.net

APN: 009-352-038
Lot Size (net): 0.88 acres
Zone: 20-R-1
Coastal Zone: appealable
Construction type: V-non rated
High Fire Area: No
Occupancy:
Use of structure: residential
Stories:One
Fire sprinklers: Yes

Sheet Index



Calvin Design
(805) 969-0559
Sophie Calvin
P.O. Box 50716
Santa Barbara, CA 93150
sophiecalvin@cox.net

Proposed new water well for
Olive Mill Trust
1169 Hill Road, Montecito, CA

Site plan

November 2, 2015

A1

Exhibit 3
Site Plan of Hair Well
A-4-STB-16-0078

MONTECITO GROUNDWATER BASIN
STORAGE UNIT MAP

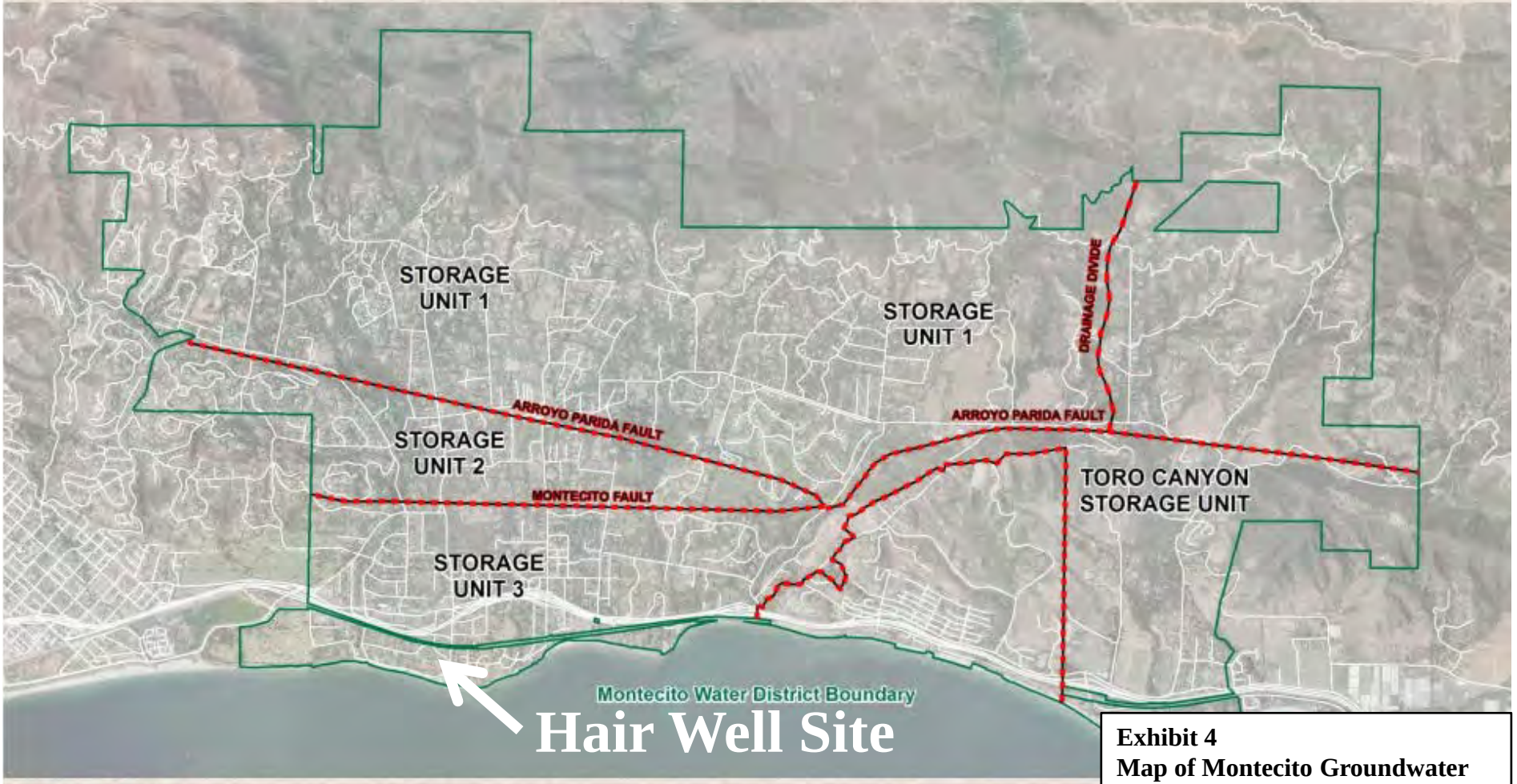


Exhibit 4
Map of Montecito Groundwater Basin Boundaries and Component Groundwater Storage Units
A-4-STB-16-0078

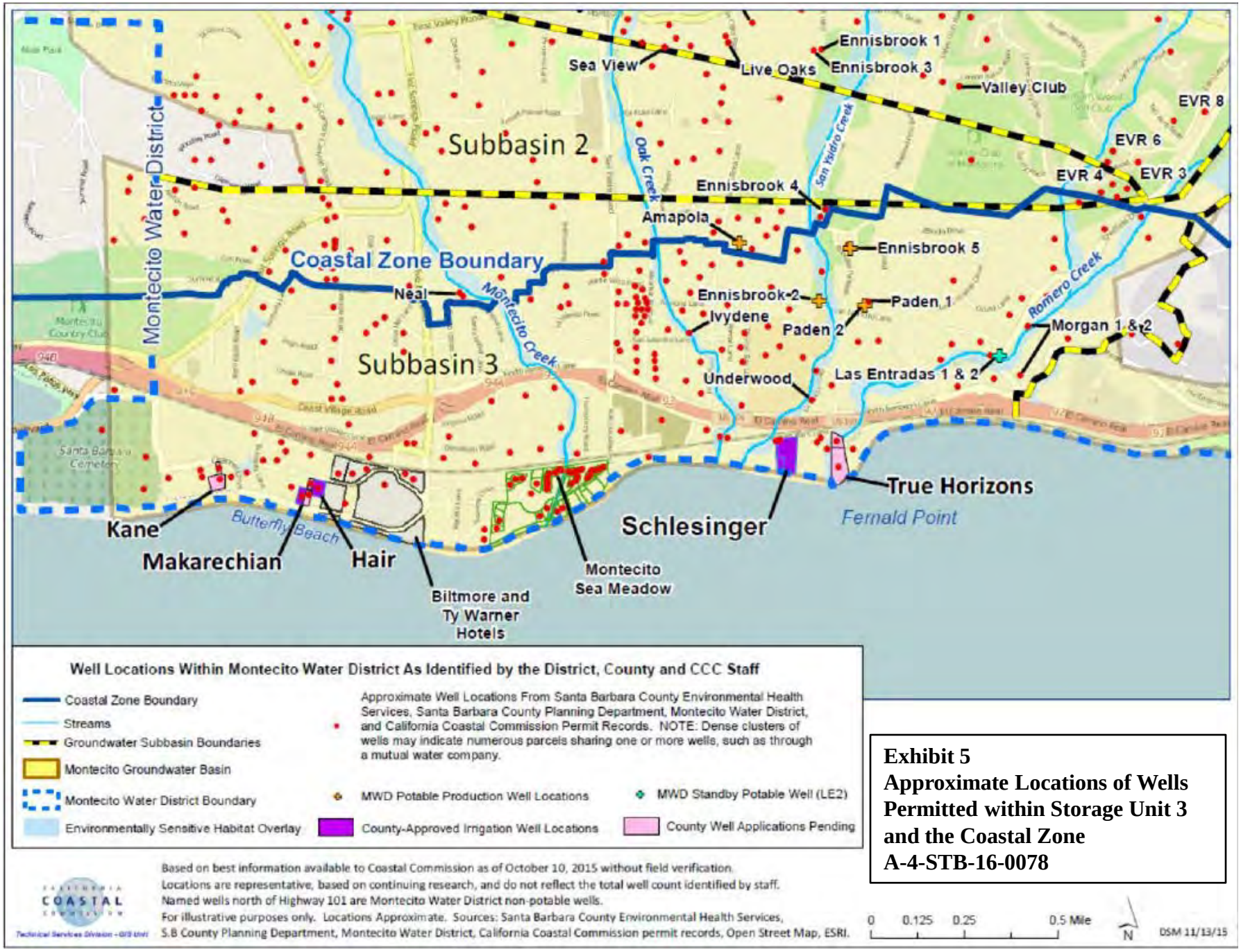


Exhibit 5
Approximate Locations of Wells Permitted within Storage Unit 3 and the Coastal Zone
A-4-STB-16-0078

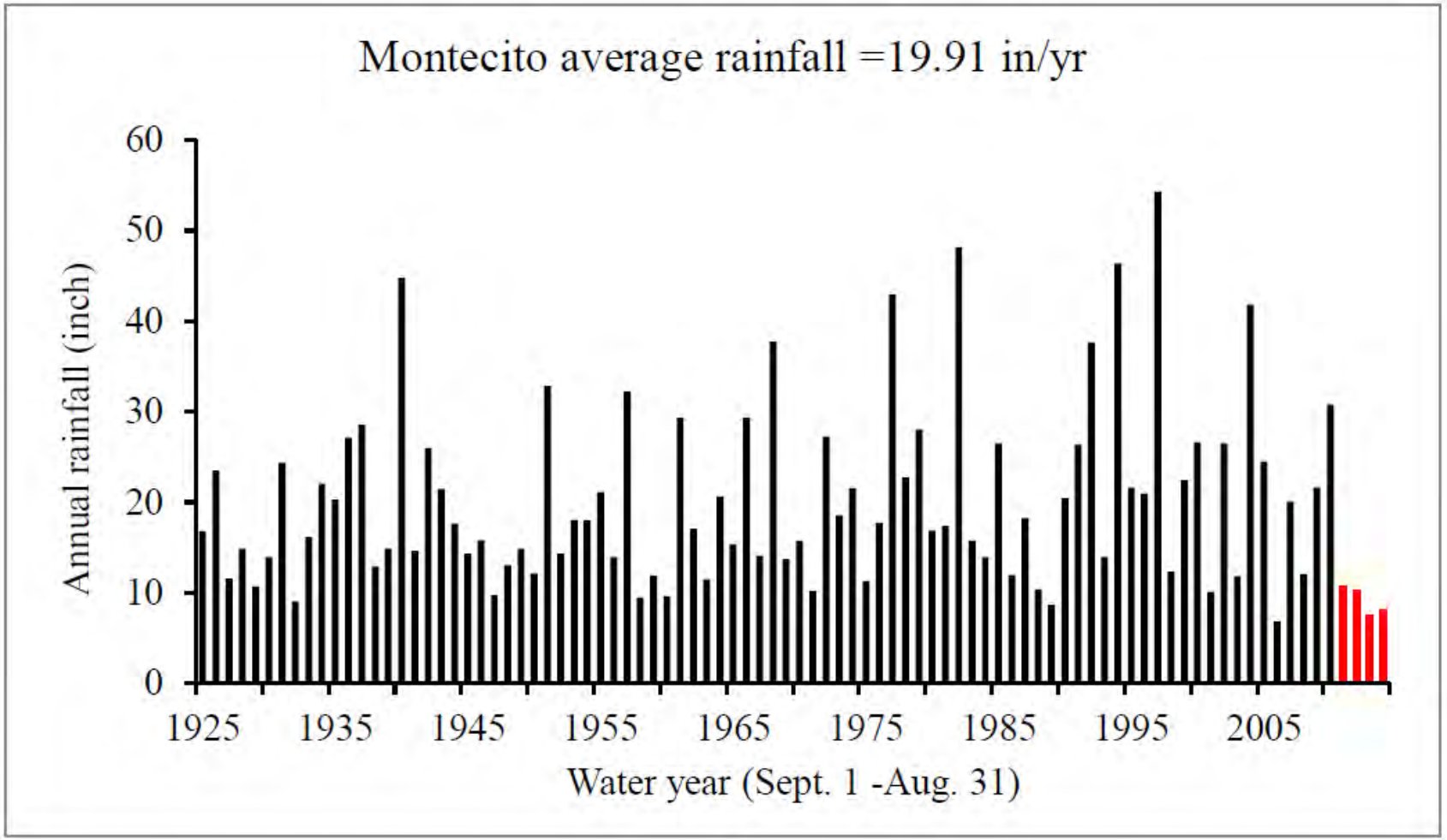


Figure 6. Annual rainfall in Montecito, California, since water year 1925-1926. The last four water-year rainfalls are shown in red.

Exhibit 6
Annual Rainfall in Montecito
A-4-STB-16-0078

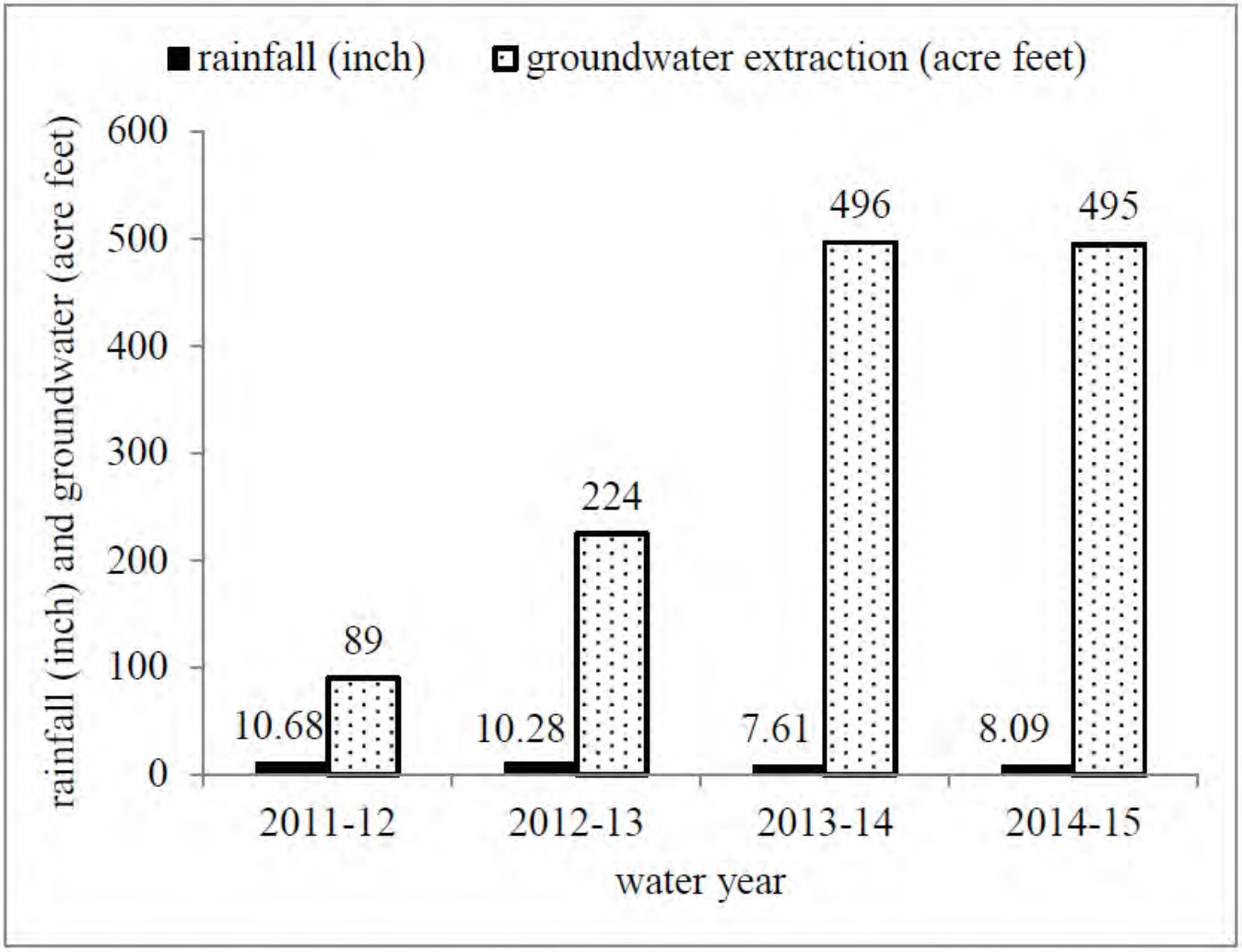


Exhibit 7
Bar Graph Comparing Rainfall with MWD Groundwater Extractions
A-4-STB-16-0078

Figure 8. Combined groundwater extraction by the MWD's four wells that are sources to potable water after treatment (Amapola, Ennisbrook 2, Ennisbrook 5, and Paden 2) and annual rainfall in Montecito.

MONTECITO WATER DISTRICT

#21150 → Glenn R.
Dianne
Alice McC.
Rachel VanM.

RECEIVED
NOV 24 2014
S.B. COUNTY
PLANNING & DEVELOPMENT

November 21, 2014

Norman Fujimoto, Specialist
Santa Barbara County
Environmental Health Department
225 Camino Del Remedio
Santa Barbara, CA 93110

Santa Barbara, CA 93101
Mr. Glenn Russell, Director
SBCO Planning & Development
123 East Anapamu Street
Santa Barbara, CA 93101

Salud Carbajal, 1st District
Supervisor
County of Santa Barbara
105 East Anapamu Street
Santa Barbara, CA 93101

Mona Miyasato, Executive Officer
County of Santa Barbara
105 East Anapamu Street
Santa Barbara, CA 93101

Re: Request for County Suspension on New Well Drilling Permits – Montecito Water District Service Area

Dear County Officials,

As a public water agency, Montecito Water District is charged with managing groundwater resources within its service boundaries. However, Santa Barbara County is vested with the authority to permit the construction, rehabilitation and destruction of water wells in Santa Barbara County. As a result of this disconnect between our respective agencies, the County of Santa Barbara has the full authority to protect and control groundwater resources until such time as a groundwater basin becomes imperiled and is legally adjudicated. We are herein requesting that the County work with us in proactively bridging this illogical situation and protect our community's groundwater resources.

As you are aware, the County of Santa Barbara declared a Water Shortage Emergency on January 21, 2014 and the Montecito Water District (MWD) declared a Water Shortage Emergency and suspension of new meter water service within its service boundaries in February 2014. The District's dependence on surface water for 95% of its water supplies, coupled with an acceleration of water usage, was the cause of the current water shortage that resulted in the adoption of Ordinances 92 and 93.

In the months leading up to the adoption of Ordinances 92 and 93, MWD was informed by District customers of the failure of approximately three dozen private wells within its service boundary, resulting in residents who had previously used groundwater for outside irrigation purposes shifting from groundwater to the District's potable water supply for irrigation

583 San Ysidro Road
Santa Barbara, CA
93108-2124

Ph 805.969.2271
Fax 805.969.7261

webmaster@montecitowater.com
http://www.montecitowater.com

Exhibit 8
Letter from MWD to County of Santa Barbara
A-4-STB-16-0078

purposes. The combination of a rapidly increasing demand for water due to climatic conditions and well failures, coupled with severely curtailed community water supplies, led us to enact strict water rationing to all District customers. Along with water rationing, the District enacted penalty charges and other mechanisms to protect against water overuse.

MWD customers responded to the Water Shortage Emergency and have reduced their District water demand by an average of 45%. However, it remains unknown how much ground water is being extracted by District customers to supplement the water they are obtaining from MWD, nor is it known how much water private water companies are extracting within the MWD service area to service the domestic needs of their customers.

The bottom line is, with the Environmental Health Department issuance of over 550 well permits within District Boundaries since the 1970s, MWD has no mechanism for accurately determining the actual number of active wells, or private well water use and demand; nor does it have a viable mechanism for monitoring the extraction of groundwater from the aquifers within its service area.

Since declaring a Water Shortage Emergency, MWD has been able to supplement its diminishing water supplies with special water purchases; however, its local surface water supplies at Lake Cachuma and Jameson Lake will only provide 33% of their normal deliveries in the 2014/15 water year which began October 1, 2014. If conditions remain dry, it is estimated that the District may have only 50% of its 2014/15 water supply available to our customers in 2015/16. As a result, it is imperative that groundwater resources, which are expected to play a larger role in the District's water supply, be appropriately managed and monitored in order to protect everyone within the community.

The water shortage emergency condition and implementation of water rationing has caused District customers to turn to alternate water supplies, and we have observed a surge in new water well permit applications to the County. This is of serious concern to Montecito Water District since this increase in well construction permit applications and well construction will lead to additional demand on the groundwater basin. The District monitors groundwater levels through the different storage units bi-annually and has observed not only lowering of static groundwater levels, but also a significant reduction in groundwater production from our own District wells.

The District has conducted numerous studies by professional geologists over the last several decades and recognizes the finite safe yield limitations of groundwater in Montecito. Groundwater is being pumped from the different storage basins by customers for non-potable purposes without regard to the adverse effect to District and community public health and safety water supplies. In fact, District studies have indicated that there has been no measured recharge to the groundwater basin since the 2004-05 winter season.

The County must understand that the majority of our District's producing groundwater wells are located in Storage Unit 3 which is within the coastal zone. In addition to District water well production in Storage Unit 3, there are at least three other private water companies within the same storage unit that are the sole source of potable water to about 60 residential properties. These private water companies do not have backup water supplies and the further lowering of groundwater levels or water quality degradation due to possible seawater intrusion could lead to serious public health and safety consequences for these private water company customers as well as District customers. These groundwater water supplies, critical to the District and private water companies, could be permanently damaged if further extraction from the groundwater basin occurs through the permitting of new wells.

As a result of the above mentioned situation, MWD is requesting that the County take immediate action to protect the public health and safety by:

1. **Water Well Moratorium** - Placing a moratorium on the issuance of new well drilling permits within the service boundary of the Montecito Water District until such time as MWD's Water Shortage Emergency is lifted.

2. **Future County Permitted Wells** - Any future County-permitted new, rehabilitated or replaced water well within the District's service boundary shall include the following conditions:

   a. Flow metering device, meeting MWD's requirements be installed at the wellhead discharge piping and the transmittal of the annual groundwater extraction information be provided by the owner to both the County and MWD.

   b. District's Bi-Annual Well Monitoring Program Participation - MWD shall be provided reasonable access to the well twice annually to monitor the well static water levels.

   c. Cross Connection Program Enrollment - A backflow device be installed in accordance with District standards and enrolled in MWD's Cross Connection Program in order to prevent cross-contamination of the District's potable water supply with the non-potable well water supply.

3. **Water Wells and County New Land Use Permits** - Whenever the County has permitting authority on a property with an existing well, numbers 2.a, 2.b, and 2.c above be conditions of the issuance of the permit.

The District is available to discuss this matter with you at your earliest convenience. We realize that the mechanisms outlined above fall within the authority of multiple departments within the County (i.e. Planning and Development, Environmental Health, etc) however, due to the urgency of this matter and the current groundwater basin degradation, it is important that a coordinated approach be undertaken to protect the

public health and safety in the near-term as well as the long-term. Please contact the undersigned at 969-2271 if you have any questions.

I look forward to working together with you on this important issue.

Sincerely,

Tom Mosby
General Manager

cc: Chair, Board of Supervisors
Tom Fayram

Geotechnical/Hydrologic Evaluation of Three Proposed Groundwater Wells in the Coastal Sub-Basin (Storage Unit 3) of the Montecito Groundwater Basin

Santa Barbara County, California

By

Hugo A. Loáiciga, Ph.D., P.E., Consulting Hydrologist

320 N. Fairview Avenue Suite 3, Goleta, California 93117

Tel: (805) 450 4432; hloaiciga@hotmail.com

September 20, 2016

Prepared for the California Coastal Commission

Report of Contract Number CC-15-30

Submitted to Mr. John Ainsworth,

Senior Deputy Director

California Coastal Commission

89 South California Street, Suite 200

Ventura, CA 93001

Exhibit 9
Geotechnical/Hydrologic Evaluation by Dr. Hugo Loáiciga
A-4-STB-16-0078

TABLE OF CONTENTS

1. List of acronyms

AFY: acre feet per year (1 acre foot = 43,560 cubic feet = 325,851 gallons)

CDWR: California Department of Water Resources

CGWB: Carpinteria Groundwater Basin

CVWD: Carpinteria Valley Water District

ETGM: Environmental Thresholds and Guidelines Manual

gpm: gallons per minute

mg/L: milligrams per liter

MGWB: Montecito Groundwater

MWD: Montecito Water District

RCF: Rincon Creek Fault

R: Groundwater threshold of significance

SBGWB: Santa Barbara Groundwater Basin

SRGWB: Idealized standard reference groundwater basin

SYUGWB: Santa Ynez Uplands Groundwater Basin

TDS: Total dissolved solids

USGS: United States Geological Survey

2. List of Figures. The Appendix contains the following Figures.

3. Executive Summary.

This summary presents the key findings derived from the analysis of (i) the applications to install three new wells in storage unit 3 (the coastal sub-basin) of the Montecito Groundwater Basin, (ii) data concerning groundwater extraction and the conditions of the Montecito Groundwater basin, and (iii) several previous reports written about the hydrogeologic characteristics of the Montecito Groundwater basin. The key findings of this report are as follows:

(i). The proposed three new wells (the Schlesinger, Makarechian, and Hair wells) are very likely to cause significant adverse impacts on the groundwater resources of the Montecito Groundwater Basin's coastal sub-basin if constructed and operated.

(ii). The Makarechian and Hair wells would be installed in an intensely groundwater-mined portion of storage unit 3 comprised between Fernald Point to the east, highway 101 to the north, the Pacific Ocean to the south, and the Santa Barbara Cemetery to the west. The Makarechian and Hair wells would have significant adverse impacts on the groundwater resources of storage unit 3 concerning (a) well interference, (b) loss of well yield, and (c) seawater intrusion.

(iii). The Schlesinger well would have significant adverse impacts on the groundwater resources of storage unit 3 concerning (a) seawater intrusion, and (b) stream-aquifer interactions (that is, reduction of stream flow in San Ysidro Creek by groundwater extraction).

(iv). The safe yields of the Montecito Groundwater Basin and its storage units (storage units 1, 2, 3, and the Toro Canyon storage unit) stipulated in the Montecito Water District's 1998 Groundwater Management Plan overestimate the actual safe yields of the four storage units and the basin-wide safe yield. It was herein determined that the safe yields of storage units 1, 2, 3, the Toro Canyon storage basin, and the entire Montecito Groundwater basin equal 545, 38, 409, 130, and 1,122 acre feet per year, respectively. For comparison, the Montecito Water District's 1998 Groundwater Management Plan adopted a basin-wide safe yield equal to 1,650 acre feet per year.

(v). The Montecito Groundwater Basin is in a state of overdraft, which means that groundwater extraction has exceeded natural recharge for several consecutive years, groundwater levels are at historic low, and there are significant adverse impacts on its groundwater resources. The 2014 County of Santa Barbara's Groundwater Basins Status Report stated the following concerning long-term measured groundwater levels in the MGWB: "The hydrograph from the Montecito Basin shows a consistent decline over the period of record (since the early 1960s) and, with the exception of a couple of data points which may not reflect accurate measurements, shows a historic low water elevation". This condition of long-term declining ground water level (with adverse impacts, as shown by this Contractor in this report) is called groundwater overdraft. The County of Santa Barbara's Environmental Thresholds and Guidelines Manual, revised in July 2015, classified the Montecito Groundwater Basin in state of overdraft. This report demonstrates that the extent of overdraft in the Montecito Groundwater Basin is more severe than that stated by the County of Santa Barbara in 2015. The current net overdraft in storage unit 3 (the coastal sub-basin), for example, equals 591 acre feet per year.

(vi). There is ample evidence from high chloride concentrations measured in water from wells within the Montecito Groundwater Basin that seawater intrusion has occurred and is occurring in the Montecito Groundwater Basin.

(vii). The groundwater threshold of significance in storage unit 3 of the Montecito Groundwater Basin equals 0.71 acre feet per year when calculated with the County of Santa Barbara's Environmental Thresholds and Guidelines Manual procedure; yet, it equals zero when site-specific impacts are considered. The three appealed wells (Schlesinger, Makarechian, Hair) are very near the coastline and most likely will worsen seawater intrusion in storage unit 3 of the Montecito Groundwater Basin.

(viii). The Environmental Thresholds and Guidelines Manual's method to calculate groundwater thresholds of significance in alluvial basins of Santa Barbara County does not adequately consider site-specific impacts to groundwater resources in the storage units of the Montecito Groundwater Basin. The Environmental Thresholds and Guidelines Manual's method relies on an idealized reference groundwater basin with characteristics similar to those of the Santa Ynez Uplands Groundwater Basin that does not account for site-specific threats to groundwater resources posed

by well interference, loss of well yield, seawater intrusion, and depletion of stream flow.

(ix). This report's findings concur with the California Coastal Commission's reason to appeal the local permits issued to install the Schlesinger, Makarechian, and Hair wells in that the local permits are inconsistent with the County of Santa Barbara's local coastal program.

(x). There are perplexing gaps of knowledge and lack of transparency about the Montecito Groundwater Basin. Neither the Montecito Water District nor the County of Santa Barbara knows with certainty how much groundwater is extracted from the Montecito Groundwater Basin, nor the number of active wells, their locations, and groundwater extraction rates. It is impossible to protect the groundwater resources of the Montecito Groundwater Basin without such knowledge. There is also at present inadequate monitoring of the Montecito Groundwater Basin, both in terms of the frequency and the spatial coverage of measurements of its groundwater levels and groundwater quality.

The remainder of this report provides an analysis of the reasons leading to findings (i) through (x). This report's Writer concluded –based on the reviewed data- that applications for new wells in the Montecito Groundwater Basin must demonstrate that proposed extraction of additional groundwater would not adversely impact the groundwater resources of this overdrafted basin.

Drought recurrence is a characteristic of the climate of Santa Barbara County. Droughts will recur in the future, perhaps with increasing severity, as they have recurred in the past. Stresses on the Montecito Groundwater Basin will be aggravated if well permitting continues unabated. Seawater intrusion is an irreversible process that cannot be mitigated by rainfall during wet years during which groundwater recharge adds to storage to the coastal sub-basin of the Montecito Groundwater Basin. Depletion of stream flow and loss of well yield by aquifer dewatering are likely to be accentuated in the Montecito Groundwater Basin by the proliferation of new wells.

Other factors pose additional threats to the Montecito Groundwater Basin. The National Research Council (2012), for example, predicted sea-level rise by year 2100 for the coasts of California, Oregon, and Washington to range between 1.3

and 5.6 feet relative to the 2000 mean sea level. Such degree of sea-level rise would exacerbate seawater intrusion in the intensely groundwater-mined storage unit 3 of the Montecito Groundwater Basin.

4. **Background and Scope**.

Dr. Hugo A. Loáiciga (henceforth "Contractor") was retained in August 2015 by the California Coastal Commission (henceforth "Commission") to conduct a geotechnical/hydrologic evaluation of the possible hydrologic impacts of installing and operating three irrigation wells to be drilled and operated in the coastal sub-basin (storage unit 3) of the Montecito Groundwater Basin (MGWB, henceforth).

The County of Santa Barbara's approvals will be considered by the Commission pursuant to Appeal No. A-4-STB-14-0060 (Schlesinger, 1685 Fernald Point Lane, Montecito); Appeal No. 14CDH-00000-00016 (Makarechian, 1150 Channel Drive); and Appeal A-4-STB-14-0062 (Hair, 1169 Hill Road).

The California Department of Water Resources' (CDWR) Bulletin 118 (California's Groundwater, 2003) provides a succinct description of the Montecito Groundwater Basin (MGWB), which underlies the unincorporated town of Montecito and the Toro Canyon watershed. Precipitation ranges from 17 to 21 inches per year. The MGWB's surface area equals 6,270 acres (9.8 square miles). It is divided into four sub-basins or storage units 1, 2, 3, and the Toro Canyon unit. Storage units 1, 2, and 3 are the northern, central, and southern (coastal) sub-basins, respectively. The Toro Canyon unit lies on the eastern portion of the MGWB. The acreages of storage units 1, 2, 3 and the Toro Canyon unit equal 2,784, 608, 1,674, and 1,204, respectively. Figure 1 depicts the MGWB and its storage units. The MGWB is bounded on the north by the Santa Ynez Mountains and the Arroyo Parida fault, on the east by consolidated rocks, on the southeast by the Fernald fault, and on the northeast by a surface drainage divide that separates the Montecito and Carpinteria Groundwater Basins. The offshore Rincon Creek fault and the Pacific Ocean bound the basin on the south. An administrative boundary on the west separates the MGWB from the Santa Barbara Groundwater Basin (SBGWB), although there is no physical separation between the two basins. The area overlying the basin is drained by several small creeks (Buena Vista, Montecito, Oak, Romero, San Ysidro, Toro Canyon) that flow from the Santa

Ynez Mountains towards the Pacific Ocean. The primary groundwater-bearing deposits in the Montecito Groundwater Basin are unconsolidated alluvial deposits, the Casitas and Santa Barbara Formations. Groundwater is generally unconfined within alluvial deposits, where well yields are modest. The upper Casitas Formation is the main groundwater-bearing stratum of the Montecito Groundwater basin. It is partially confined in some parts of storage units 1 and 3. The Santa Barbara Formation occurs only in a restricted area in the southwest portion of the basin and, therefore, is of negligible use as a groundwater source in the MGWB (CDWR's Bulletin 118, 2003; see also, CDWR, 1999).

Figure 2 depicts the approximate locations of the properties where the Schlesinger, Makarechian, and Hair wells would be installed if approved. It is seen in Figure 2 that the Makarechian and Hair wells would be located less than 300 feet away from each other and less than 300 feet from two other existing wells (Haber, Hair). Figure 2 shows that the Schlesinger well would be located less than 200 feet from the nearest point along the course of San Ysidro Creek. The County-approved Schlesinger, Makarechian, and Hair wells would lie within 400 feet from the high-tide line.

Wells A and B, shown in Figure 2, are owned by the Biltmore Hotel and are about 500 feet east of the Makarechian and Hair wells. The Biltmore wells have a combined permitted groundwater extraction equal to 32 acre feet / year (AFY) according to the CCC. There are several other active wells near the Schlesinger, Makarechian, and Hair wells. Wells labeled C and D, for example, are private wells owned by the Montecito Sea Meadows Mutual Water Company and the Ivydene Mutual Water Company, respectively. Senior Environmental Health Specialist Norman Fujimoto (Public Health Department, County of Santa Barbara) reported in a site inspection dated January 22, 2014, that the two wells functioning at the Montecito Sea Meadows Mutual Water Company were pumping a combined 164 gpm (gallons per minute) in November 2013. If that rate were maintained constantly if would amount to 264 AFY of groundwater extraction. The Montecito Sea Meadows Mutual Water Company reported to the State's Drinking Water Program that it extracted approximately 58 acre feet of groundwater in 2014 with the two wells constructed on site in 1984 as part of the Ocean Meadows Development Plan project. The Ivydene well has a permitted extraction equal to 20 AFY according to the CCC. Other active wells near the appealed wells belong to

the Sykes Mutual Water Company, the Lingate Lane Mutual Water Company, and the Miramar Addition & Improvement Water Company. The latter three water companies have a combined groundwater extraction of approximately 68 AFY (from letter by Mrs. George P. Kerns to the South Central Coast Regional Commission, dated April 21, 1977).

The approximate locations of the Montecito Water District's (MWD, henceforth) four active municipal wells, namely, the Amapola, Ennisbrook 2, Ennisbrook 5, and Paden 2 wells are depicted in Figure 2, also. These wells had a combined groundwater extraction of approximately 495 AFY in water year 2014-2015 (that is from September 1, 2014, through August 31, 2015). The combined extractions of wells A, B, C, D, those belonging to the Sykes, Lingate Lane, and Miramar Addition and Improvement water companies, and those owned by the MWD are estimated by this Contractor to be about 879 AFY. To this amount one must add the extractions of many other wells within the coastal sub-basin (storage unit 3) of the MGWB. Preliminary research by Commission staff suggests that there are at least a dozen wells within a half mile from the Schlesinger, Makarechian, and Hair wells, and at least 250 wells lie within storage unit 3. This Contractor estimates that during current drought conditions the groundwater extraction in the coastal sub-basin of the MGWB may exceed 1,000 AFY. The implications of this level of groundwater extraction for the coastal sub-basin in particular, and the MGWB in general, are elaborated further in section 8 of this report.

Proximity to the coastline, to surface water resources (creeks), and interference between neighboring wells extracting groundwater from the same water-bearing geologic formations are key topics addressed in this report. It can be seen in Figure 2 that there are three streams flowing toward the Pacific Ocean that are comprised between the Makarechian and Hair well's proposed locations and that of the Schlesinger well. Those are Montecito, Oak, and San Ysidro creeks. Figure 3 shows a Google Earth image of the approximate locations of the proposed Makarechian and Hair wells, and the existing Chase, Haber, and private wells A and B. Figure 4 is a Google Earth image of the approximate location of the Schlesinger well. Notice the proximity to the coastline of the appealed groundwater wells.

Figure 5 depicts the approximate locations of wells permitted within storage unit 3 and the associated coastal zone (the latter under CCC jurisdiction). It is striking in Figure 5 the agglomeration of wells in the vicinity of the coastline and near creeks, two environments particularly vulnerable to groundwater extraction. It is also remarkable in Figure 5 the clustering of many wells within the coastal zone, a practice conducive to well interference and loss of well yield. This Contractor reviewed County of Santa Barbara records of well permits issued since 1906 till present that revealed about 1,280 such permits. The status of many of these wells remains uncertain or unknown to the local water purveyor (the MWD) and the local well-permitting agency (the County of Santa Barbara). In a letter dated November 21, 2014, from the MWD to the County of Santa Barbara, the former acknowledged that it "had no mechanism for accurately determining the active number of active wells, or the private well water use and demand; nor does it have a viable mechanism for monitoring the extraction of groundwater from the aquifers within its service area". The same letter reported the failure of "approximately three dozen private wells" within the MWD service area and asked the County of Santa Barbara for a moratorium of well permits within the boundary of the MGWB. The MWD's Engineering Manager informed its Board of Directors in a May 19, 2015, memorandum that the private extraction of groundwater was believed to range between 700 and 1,000 acre feet / year (AFY) in the MGWB. This Contractor estimates the amount of private extraction from the MGWB exceeds the 700 to 1,000 AFY estimate by the MWD, and may be larger than 1,500 AFY. In fact, it was stated above that this Contractor estimates that the current groundwater extraction in storage unit 3 alone possibly exceeds 1,000 AFY.

The applications to construct the Schlesinger, Makarechian, and Hair wells were submitted during the ongoing severe drought that started in water year 2011-2012 (that is, September 1, 2011 through August 31, 2012). The number of well applications has surged in Montecito and the rest of the State of California during the current drought, concomitant with the reduction of surface-water sources. At the same time, many wells have gone dry as an increasing number of wells extract groundwater from the same groundwater bearing formations, whose natural recharge has been greatly or totally reduced during the current drought. The decline of hydraulic head in coastal groundwater sub-basins caused by intensified

groundwater extraction is the direct cause of seawater intrusion that contaminates otherwise freshwater-water coastal aquifers (Loáiciga, et al. 2012). Baseflow from aquifers to support streamflow in streams is reduced or terminated by falling groundwater levels as the aquifer-stream hydraulic connection is broken (Kram and Loáiciga, 2014). Hydraulic interference among neighboring wells increases the drawdown in the wells, which may lead to reduction of wells' yields and well failure (Loáiciga, 2004) as recently reported by the MWD's letter dated November 21, 2014 to the County of Santa Barbara asking for a moratorium on permitting of new wells in the MGWB.

The May 19, 2015, memorandum from the MWD's Engineering Manager to the Board of Directors presented groundwater-level data for Spring 2015 showing that the four active MWD wells that are sources of potable-water production had the levels listed in Table 1.

Table 1. Groundwater levels in the four MWD municipal wells, Spring 2015. The four featured wells lie within storage unit 3, the coastal sub-basin.

Well name	Groundwater level	Units
Amapola	-20	Feet below mean sea level
Ennisbrook 2	-26	Feet below mean sea level
Ennisbrook 5	-47	Feet below mean sea level
Paden 2	-58	Feet below mean sea level

The implications of the data shown in Table 1 for the purpose of protecting the water quality in storage unit 3 of the MGWB are further elaborated in section 5 (dealing with seawater intrusion in storage unit 3) of this report. The County of Santa Barbara's 2014 Groundwater Basins Status Report states that the groundwater level in the MGWB has been declining since the 1960s and are at historic low (see page 12 of the 2014 report). The water levels listed in Table 1 support that statement.

Figure 6 portrays measured rainfall in Montecito since water year 1925-1926. The last four water years (2011-2012 through 2014-2015) are marked in red in Figure 6. Rainfall during the current drought averaged 9.17 inches per year which is the lowest four-year average since 1925 in Montecito, where average annual rainfall

equals 19.91 inches. Droughts, defined by the Contractor as three or more consecutive years with below (long-term) average annual rainfall (see Loáiciga, 2005), are recurrent phenomena in Santa Barbara County, and in the Montecito area, in particular.

Figure 7 depicts drought recurrence in the City of Santa Barbara since 1867. The patterns of rainfall in the City of Santa Barbara and Montecito are almost identical, except for the fact that the Santa Barbara average annual rainfall is 18.01 inches, about 1.90 inches less than that in Montecito. It is seen in Figure 7 that there have been 12 droughts during the instrumental period. The average drought duration was 4.6 years and the longest drought lasted 9 years (in the second half of the 19th century).

The highly variable and drought-prone climate of Santa Barbara County must be taken into account in the management of Montecito's water resources. The rainfall data herein presented demonstrate that the current drought is average insofar as its duration is concerned.

Groundwater extraction in the MGWB by the four wells that are sources of potable water to the MWD rose rapidly, more than fivefold, as rainfall dwindled during the drought. Figure 8 depicts the combined annual groundwater extraction by the MWD's Amapola, Ennisbrook 2, Ennisbrook 5, and Paden 2. It is seen in Figure 8 that the MWD's four municipal wells extracted nearly 500 AFY in water years 2013-2014 and 2014-2015 from storage unit 3. The MWD extraction data shown in Figure 8 are at odds with Table 1 of the Santa Barbara County's 2014 Groundwater Basins Status Report which lists the MGWB as having an annual "draw" equal to 500 acre feet of groundwater, and zero surplus or overdraft. The County's 500 AFY represents a gross underestimation of the groundwater extraction in the MGWB. It was estimated above by this Contractor that groundwater extraction in storage unit 3 alone is close to about twice the County's basin-wide estimate of 500 AFY. The 2014 Groundwater Basins Status Report stated the following (in its page 12) concerning long-term measured groundwater levels in the MGWB: "The hydrograph from the Montecito Basin shows a consistent decline over the period of record (since the early 1960s) and, with the exception of a couple of data points which may not reflect accurate measurements, shows a historic low water elevation". This condition of long-term declining groundwater level (with

concomitant adverse impacts, as shown by this Contractor in this report) is called overdraft. Further confusion is created by the County of Santa Barbara's 2015 Environmental Thresholds and Guidelines Manual (ETGM) that lists in its Table 1, page 73, an overdraft MGWB equal to 426 AFY in the MGWB, in clear contradiction of the 2014 Status Report's contention that the MGWB has zero surplus or overdraft. Section 8 of this report demonstrates that the MGWB is in state of overdraft.

It is common for water purveyors and private well owners to increase groundwater extraction during droughts as they seek to compensate for reduced surface water sources and meet rising water use. Their strategy is to resort to groundwater storage to mitigate temporary shortfalls of surface water, with the expectation that rainfall will return to replenish aquifer storage and restore normalcy. This strategy is jeopardized when a drought lasts longer than usual, say, longer than three years in our area, because groundwater storage may be severely depleted, leading to well failures, heightened seawater intrusion, and other adverse impacts on groundwater resources. The strategy of increasing groundwater extraction during drought poses special risks in coastal groundwater sub-basins, such as storage unit 3 of the MGWB. Table 1 listed recent groundwater levels in the four MWD potable-production wells in storage unit 3 that are substantially below sea level. Seawater migrates in the direction of decreasing hydraulic head, that is, landward, as groundwater elevation is lowered below sea level by wells in a coastal sub-basin, storage unit 3 being a case in point. Pervasive seawater intrusion may render coastal aquifers useless as water sources for human, industrial, and irrigation uses unless desalination technology is deployed to remove salts from contaminated groundwater. In spite of the existence of technological fixes, their deployment raises a number of issues such as brine disposal, elevated energy and operational costs, the contamination of natural freshwater sources, and the violation of environmental safeguards (Loáiciga et al., 2012).

Section 5 of this report presents an analysis of seawater intrusion in storage unit 3 of the MGWB and deconstructs the fallacious notion that there is an offshore barrier to seawater intrusion along its southern perimeter. Section 5 provides evidence from studies that have established that natural seaward discharge of groundwater in the MGWB is needed to protect the coastal freshwater aquifer. Seaward discharge is not wasted freshwater as insinuated by consulting geologist

A. Simmons in an October 15, 2014, presentation to the Montecito Planning Commission and in an undated presentation to Commission staff. Instead, seaward discharge of groundwater reflects a natural condition necessary to preserve groundwater quality in storage unit 3.

This report focuses on the possible impacts that the three proposed and appealed wells (Schlesinger, Makarechian, Hair) could have in storage unit 3 of the MGWB. These wells share, for all practical purposes, nearly identical profiles in regards to their potential to (i) exacerbate groundwater-level decline near the coastline and contribute to seawater intrusion, and (ii) induce further well-interference that could impact existing wells. Potential adverse impacts on San Ysidro Creek's stream flow must be taken into account in the case of the Schlesinger well.

5. Seawater intrusion in storage unit 3 of the MGWB.

There have been several hydrogeologic studies of the South Coast groundwater basins of Santa Barbara County. A few of them specifically targeted the MGWB. Others assessed neighboring groundwater basins (the Carpinteria Groundwater Basin (CGWB), the Santa Barbara Groundwater Basin (SBGWB)) that share very similar conditions as those found in the MGWB insofar as the threat of sweater intrusion is concerned. The findings of a few of those hydrogeologic studies were pertinent to the Contractor's scope of work in the development of this report. It is not part of this report's scope to repeat a very large body of information already available elsewhere, but rather, to highlight critical previous knowledge relevant to its stated purpose, which has to do with determining possible hydrologic impacts of the proposed Schlesinger, Makarechian, and Hair wells. The following are excerpts from previous reports that touched on the issue of seawater intrusion in the MGWB or nearby basins:

(i). Upson, J. E. (1951). "Geology and ground-water resources of the south-coast basins of Santa Barbara County, California, with a section on surface-water resources, by H. G. Thomasson, Jr." U.S. Geological Survey (USGS) Water-Supply Paper 1108. This was the earliest USGS hydrogeologic investigation of groundwater basins of the south coast of Santa Barbara County. On page 3, Upson stated that the possibility of sea-water encroachment (herein called seawater intrusion) "exists along the shore west of Carpinteria and such encroachment will

doubtless occur if excessive pumping is continued, although there was no evidence of such contamination as of 1946".

(ii). Muir, K.S. (1968). "Groundwater reconnaissance of the Santa Barbara-Montecito Area, Santa Barbara County, California". US Geological Survey Water Supply Paper 1859A. This was the first USGS hydrogeologic report focused on the MGWB (it also surveyed the SBGWB). Muir stated on pages 1and 2 that: "Most groundwater in the Santa Barbara-Montecito area is suitable for general use. However, groundwater in some of the consolidated rocks and in the shallow unconsolidated deposits adjacent to the coast is too saline for most uses**.** Seawater intrusion has occurred in the Santa Barbara area and the western part of the Montecito area**".** On pages 23-24, Muir wrote that "the groundwater outflow to the ocean required to prevent seawater intrusion seems to be about 100-300 acre feet per year". Muir's Figure 2 (herein numbered as Figure 9) and Figure 3 (herein Figure 10) show early hydrogeologic interpretations of basin delineation and aquifer stratigraphy, respectively. These Figures are reproduced in this report because they contain useful conceptual understanding of potential seawater intrusion in the MGWB.

Figure 9 portrays an early delineation and interpretation of the MGWB, the SBGWB, and the RCF fault trending east-west about 1,000 feet offshore from the coastline in storage unit 3 of the MGWB. Geologic section E′-E is depicted in Figure 10. There is no physical separation between the MGWB and the SBGWB, as was stated in section 4 (see also the CDWR's (2003) Bulletin 118). Notice that storage unit 3 (which contains different, stratified, groundwater-bearing formations) extends under the sea floor until encountering the upthrown (U) side of the Rincon Creek fault. Seawater is in contact with the surficial, permeable, layers of the storage unit 3 in the area comprised between the coastline and the fault, and most likely with deeper deposits through submarine canyons eroded over geologic time by streams flowing through the RCF. In addition, fractures in consolidated rocks on and near the RCF allow the motion of submarine fluids (those below the sea floor) through the fault. The direction of flow depends on the hydraulic heads in the storage-unit 3 strata (aquifers). The flow is seaward as long as the hydraulic gradient drives groundwater flow towards the sea.

Muir's storage unit 4 shown in Figure 10 comprises part of what is now called storage unit 3 (the southern or coastal sub-basin) and all of storage unit 2 (the central sub-basin). Muir's storage unit 5 is currently known as storage unit 1 (the northern sub-basin). Groundwater flow is seaward as long as hydraulic head in the aquifer is sufficiently higher than the sea level on the coast. Otherwise the seawater wedge (red, dotted, line in Figure 10) advances landward, a phenomenon called seawater intrusion.

Figure 11 (Muir's 1968 Figure 4) depicts hydrogeologic conditions prevailing in storage unit 3 of the MGWB in 1964, when the water level (hydraulic head) near the coast had fallen below sea level. This, in Muir's opinion, caused seawater to move laterally and vertically in a landward direction, as depicted by the red arrows added by this Contractor.

(iii) Geotechnical Consultants, Inc. (1974). "Hydrogeologic Investigation of Montecito groundwater basins, Santa Barbara, County, California, for Montecito County Water District". This Contractor's review of pertinent literature revealed that the myth of a seawater barrier on the southern perimeter of the MGWB can be traced to the Geotechnical Consultants' (1974) report. The following excerpt was taken from the Geotechnical Consultants' (1974) report, page 21: "The other major fault, the east-west trending Rincon Creek Thrust, is known from oil field logs to be located approximately 1,000 ± feet offshore near Montecito (see geologic section A-A′, Plate A4.1). The southern side of the fault has been upthrown over the northern side with the fault dipping southwardly at angles ranging from 50 to 70 degrees; displacement is as much as 3,000 to 5,000 feet. Evidence from Carpinteria Basin reveals that the fault thrusts consolidated Tertiary rocks over late Pleistocene deposits, indicating relatively recent movement. <u>This condition also probably exists near Montecito and would tend to create a barrier to the seaward movement of groundwater or the landward movement of seawater [</u>emphasis added by this Contractor]. Hence, the trace of the fault is utilized as the southern boundary of Montecito Basin".

Geotechnical Consultants' (1974) interpretation of the Rincon Creek Fault (RCF) as a barrier to seawater intrusion influenced others. In a 1977 report entitled "Adequacy of the groundwater basins of Santa Barbara County" by the Santa Barbara County Water Agency (see page 7 of the report) the topic of seawater

intrusion into coastal basins was addressed. The 1977 report described the MGWB as having a "faulted barrier" to seawater intrusion.

What other authors call "connate" (brackish) groundwater in the MGWB (see Geotechnical Consultants, 1974) this Contractor interprets as the presence of a seawater-freshwater mixing zone on the north (downthrown) side of the RCF.

Furthermore, on page 39 of Geotechnical Consultants' (1974) report it is stated that: "All previous investigations, including that of the USGS, have indicated that the offshore Rincon Creek Thrust Fault is an effective barrier to seawater intrusion into the deeper water-bearing zones [emphasis added by this Contractor]. In spite of this statement, the GTC (1974) states on page 39 that: "Previous historical occurrences of seawater intrusion and degradation of water in wells located in the Carpinteria Basin-Toro Canyon Subunit do not appear to be as severe as wells located in Montecito Basin." On its page 39 the GTC (1974) report attributed the salinization of groundwater in the MGWB as follows: "the saline wedge apparently leaked into shallow deposits through the fault"

Figure 12 depicts a geologic section through the MGWB presented in Geotechnical Consultants' (1974) report that represents a revision of the earlier interpretation of storage units proposed by Muir (1968).

(iv). Hutchinson, C.W. (1979). "Groundwater Monitoring at Santa Barbara, California, Phase 1". US Geological Survey Open-file Report 79-923. This study was devoted to the portion of the SGWB that is contiguous to the western portion of the MGWB. On page 23 of this report it is written that: "Saltwater intrusion is a potentially serious problem in the Santa Barbara groundwater basin. It is important that the initial stages of seawater stages be recognized so that steps be taken to contain or reverse the situation. Chloride is the major anion of seawater and it is not readily absorbed to aquifer materials; therefore, it moves through the aquifer at about the same rate as groundwater. Increases in chloride concentration are probably the first indication of seawater intrusion in the aquifer. The chloride concentrations in samples collected from various zones tapped by the coastal monitoring wells (350 to 2,800 mg/L), significantly higher than in the municipal supply wells (25-130 mg/L), indicate possible saltwater intrusion". Figure 13 portrays a generic geologic section presented in Figure 2 of Hutchinson (1979)

where the seawater wedge is positioned on the northern side of the Rincon Creek Fault.

(v). Martin, P. (1984). "Groundwater monitoring at Santa Barbara, California, Phase 2". US Geological Survey Water Supply Report 2197. This was a continuation of the seawater-intrusion studies in the SBGWB started by the USGS in 1979. Page 1 of Martin's (1984) report states that:

"From July 1978 to January 1980, water levels in the southern part of the Santa Barbara ground-water basin declined more than 100 feet. These water-level declines resulted from increases in municipal pumping since July 1978. The increase in municipal pumping was part of a basin-testing program designed to determine the usable quantity of ground water in storage. The pumping, centered in the city less than 1 mile from the coast, has caused water-level declines to altitudes below sea level in the main water-bearing zones. As a result, the ground-water basin would be subject to saltwater intrusion if the study period pumpage were maintained or increased. Data indicate that saltwater intrusion has degraded the quality of the water yielded from six coastal wells. During the study period, the six coastal wells all yielded water with chloride concentrations in excess of 250 milligrams per liter, and four of the wells yielded water with chloride concentrations in excess of 1,000 milligrams per liter. Previous investigators believed that saltwater intrusion was limited to the shallow part of the aquifer, directly adjacent to the coast. The possibility of saltwater intrusion into the deeper water-bearing deposits in the aquifer was thought to be remote because an offshore fault truncates these deeper deposits so that they lie against consolidated rocks on the seaward side of the fault. Results of this study indicate, however, that ocean water has intruded the deeper water-bearing deposits, and to a much greater extent than in the shallow part of the aquifer. Apparently the offshore fault is not an effective barrier to saltwater intrusion. No physical barriers are known to exist between the coast and the municipal well field. Therefore, if the pumping rate maintained during the basin-testing program were continued, the degraded water along the coast could move inland and contaminate the municipal supply wells [emphasis added by this Contractor]. The time required for the degraded water to move from the coast to the nearest supply well is estimated, using Darcy's equation, to be about 20 years". Figure 14 shows a map of the Santa Barbara groundwater basin depicting the western side of the MGWB, which has similar

hydrogeologic conditions to those of the Santa Barbara groundwater basin. The separation between the Santa Barbara groundwater basin and the MGWB is purely an administrative boundary: there is no physical separation of the two basins.

The importance of Martin's (1984) study is that it was a controlled experiment of groundwater extraction that established that the offshore fault is neither a barrier to shallow seawater intrusion nor to deep seawater intrusion into the adjacent coastal basin.

(vi). Hoover, M. (1980). "Safe yield evaluation of the Montecito Basins and Toro Canyon Area". This was a study commissioned by the MWD to consulting geologist M. Hoover. Figure 15 presents a copy of Hoover's (1980) plate 14 depicting two wedges of salinized groundwater in the MGWB, one shallow wedge and one deep wedge. Figure 15 also shows wells previously cited in this Contractor's report as being active in storage unit 3, namely the Chase well and one of the Biltmore Hotel's wells. This Contractor posits that the brackish groundwater in the shallow and deeper wedges are not separated by freshwater, but, rather, are vertically connected as shown by the added dotted red line, whose exact location remains to be determined. The location of the seawater wedge could be most economically prospected with geophysical surveys.

It is relevant at this juncture to cite a written professional opinion dated May 13, 2008, by consulting geologist M. Hoover to Mr. Dave Ward of the Planning and Development Department of Santa Barbara County concerning a proposed well intended to supply landscape-irrigation water and laundry water to the Miramar Beach Resort and Bungalows project. The well would have been located in storage unit 3 of the MGWB. Geologist Hoover wrote in his opinion that: "There is a significant likelihood for seawater intrusion at the Miramar Hotel site. Over pumping at nearby sites such as Santa Barbara Cemetery, Hill Road, Biltmore Hotel, and Toro Canyon have resulted in elevated chloride levels, a clear indication of seawater intrusion". The Miramar site is located about 1,500 feet west of the appealed Schlesinger well.

(vii). Slade, R.M. (1987). "Hydrogeologic assessment proposed water augmentation measures item No. 8 seaward migration of groundwater: for Montecito Water District". Slade's (1987) study assessed the feasibility of

developing additional groundwater supplies for the MWD by installing wells along the southern margin of storage unit 3 of the MGWB. Seawater intrusion was a key consideration of Slades's (1987) study. Slade's (1987) report addressed the role of the Rincon Fault Creek as a possible barrier to subsurface flow. It stated on pages 4 and 5 that: "Because bedrock is thrust upward on the southern side of the fault, it may create at least a partial barrier to seawater intrusion in the deeper aquifers of this storage unit; the shallow aquifer zone do remain, however, open to potential invasion by seawater". Furthermore, Slade (1987) stated: "There are unfortunately, no data whatsoever on the effectiveness and/or integrity of the Rincon Creek Thrust Fault as a continuous barrier to landward migration of seawater in the deeper, Santa Barbara Formation-type deposits". It is evident that hydrogeologist Slade was unaware of the Martin's (1984) USGS report that had established through experimental evidence that seawater intrusion had occurred deep through the Rincon Creek Fault in the neighboring SBGWB.

The Slade (1987) study recommended quantitative criteria ((a) and (b) below) to be observed to prevent seawater intrusion in storage unit 3 of the MGWB:

(a). A seaward hydraulic gradient not less than 1/100 in coastal aquifers;

(b). Groundwater levels in new wells must not be allowed to drop below about elevation + 5 feet (above mean sea level) to maintain a positive seaward gradient of fresh water.

The groundwater levels measured in the Spring 2015 at MWD's production wells, which are listed in Table 1, show that the wells' levels were at least 25 feet below the recommended safe elevation recommended by Slade (1987).

Slade (1987) calculated the groundwater discharge to the sea floor in storage unit 3 as being equal to 74 acre feet /year through the use of Darcy's law. He used a discharge thickness equal to 6 ft., a length of discharge zone equal to 11,000 feet (along the coastline), a hydraulic gradient of 1/100, and a hydraulic conductivity equal to 100 gpd/ft^2 (= 13.36 ft/day) in the calculation of the seaward groundwater discharge. It is noteworthy that the Slade's (1987) recommended groundwater discharge to the coastal zone in storage unit 3 is less than the 100 to 300 AFY recommended in Muir's (1968) study needed to prevent seawater intrusion into the

MGWB. Figure 16 shows the MGWB and its storage units delineated by Slade (1987).

The seaward groundwater discharge calculated by Slade (1987) is not water that would be wasted to the ocean, as implied by geologist Adam Simmons in an October 15, 2014, presentation to the Montecito Planning Commission and in an undated 2014 presentation to Commission staff while arguing in favor of permitting the proposed Schlesinger, Makarechian, and Hill wells. Rather, this groundwater discharge is maintained by seaward hydraulic gradient that prevents seawater intrusion into storage unit 3, a fact recognized decades ago by USGS hydrogeologist Muir (see Muir, 1968) and consulting hydrogeologist Slade (1987), who studied the MGWB, by USGS hydrogeologists Hutchinson (1979) and Martin (1984), who worked in the neighboring Santa Barbara groundwater basin, and, more recently, by this Contractor (see Loáiciga, 2014), who worked in the neighboring Carpinteria groundwater basin (CGWB).

(viii). Loáiciga, H.A. (2014). Review of the "Carpinteria Groundwater Basin Hydrogeologic Update and Groundwater Model Project: Final Report by Pueblo Water Resources Inc. June 2012". This was a review commissioned by the Carpinteria Valley Association, a non-profit citizens' group, to this Contractor to evaluate a report written by Pueblo Resources Inc. (PWR) in 2012 for the Carpinteria Water District (CWD) about various aspects of the Carpinteria Groundwater Basin (CGWB), which borders the MWGB along its western perimeter. This contractor also evaluated recent (that is, prior to 2014) hydrogeologic reports by Fugro Inc. to the CVWD. Figure 17 depicts a map of the CGWB, including the Rincon Creek Fault, its two groundwater storage units, and a few features added by this Contractor showing the direct contact of the aquifer in storage unit 1 of the CGWB with the ocean. Figure 18 presents hydrogeologic section B-B′ delineated in Figure 17. The Fugro Inc.'s 2012 and 2013 annual reports showed wells with high TDS (total dissolved solids) and chloride concentrations. For example, well number 4N/25W-19M1 was reported to have TDS equal to 2500 mg/L and chloride equal to 400 mg/L in the 2013 Fugro Inc. hydrogeologic report, as seen Figure 19.

(ix). This Contractor reviewed a dataset of chloride measurements made in wells of the MGWB by the USGS and the State of California. The measurements show that

wells in the MGWB have reached high chloride concentrations at various times from 1949 through 2012. The high chloride concentrations ranged between 312 mg/L to 1,220 mg/L, which are typical of groundwater contaminated with seawater. Two of the MWD's wells, Ennisbrook 2 and Ennisbrook 5, shown in Figure 2, exhibited high chloride concentrations in recent surveys. The former well had a chloride concentration equal to 540 mg/L in February 2014, and the latter well had a chloride concentration equal to 490 mg/L in May 2015. These chloride levels constitute evidence of seawater intrusion that is factual and pertinent to this report's evaluation of adverse impacts by new wells. Yet, it is stressed that water quality and water-level monitoring in the MGWB is inadequate. It seems appropriate to make measurements of various indicator chemicals in well water, including chloride among them. This should be done at least once a year, preferably in early Autumn following elevated groundwater extraction during Summer. Those measurements should be made principally, but not uniquely, in wells near the coastline in storage unit 3 that are actively extracting groundwater. Ideal wells for such measurements are those owned by the Montecito Sea Meadows Mutual Water Company, the Biltmore Hotel, and the MWD. The County of Santa Barbara's 2014 Groundwater Basins Status report stated that the County maintains a well-monitoring cooperative program with the USGS. The program provides for annual monitoring of about 300 wells in Santa Barbara County. This Contractor recommends that wells in the MGWB be added to that cooperative monitoring program and actively sampled for groundwater level and water quality assessment.

The evidence reviewed in this section establishes that there is not such a thing as an impervious seawater barrier on the southern perimeter of the MGWB. This report's findings refute statements made by geologist Adam Simmons to the Montecito Planning Commission on October 15, 2014, and to the Commission staff in an undated presentation asserting that the Rincon Creek Fault "blocks seawater". This section's evaluation strongly suggests that applications for new well construction in storage unit 3 of the MGWB –including those for the three appealed wells- must demonstrate that they would not aggravate seawater intrusion in that part of the basin. The three appealed wells are very close (less than 400 feet) from the high-tide sea level in storage unit 3. Section 9 deals with the well interference and drawdown that would be caused by the appealed wells and

highlights the threats posed by these wells to exacerbating seawater intrusion in storage unit 3 of the MGWB.

6. The safe yield of the MGWB.

The CDWR's (2003) Bulletin 118 defined safe yield (= perennial yield = basin yield) as "the maximum quantity of water that can be continuously withdrawn from a groundwater basin without adverse effect".

The safe yield was defined in the ETGM of the County of Santa Barbara (revised July 2015) as follows:

"Safe yield (the same as Perennial Yield): the maximum amount of water which can be withdrawn from a groundwater basin (or aquifer) on an average annual basis without inducing a long-term progressive drop in water level".

The CDWR definition of safe yield is more comprehensive than that of the ETGM in the sense that it is not restricted to declining groundwater level, but, rather focuses on the avoidance of "adverse effect" as a defining condition for the safe yield. This Contractor considers declining groundwater level during long droughts as an adverse effect because this is the condition most likely to cause significant adverse impacts on coastal groundwater resources within the MGWB.

Another definition pertinent to this section is that of **representative climatic base period** used for safe yield determination. Pueblo Resources Inc. (2012) defined representative climatic based period as follows: "One which should represent long-term average hydrologic conditions, must include at least one period each of overall wet conditions and overall dry conditions relative to average annual conditions, and have an average precipitation that is close to the average precipitation for the entire period of record that subsumes the base period. In addition, the beginning of the base period should be an interval of relatively dry conditions to eliminate the potential for any transitory recharge water".

The safe yield of the MGWB has been estimated by previous authors. Muir (1968) estimated the safe yield to be about 2,500 AFY using a water-balance approach. Geotechnical Consultants (1974) revised downward Muir's 1968 estimate to 1,200 AFY, arguing that Muir's (1968) estimate of percolation to the MGWB was too high, being based on data from Blaney (1933) for Ventura County.

Hoover (1980) reported two estimates of the MGWB's safe yield. These estimates deserve scrutiny because one of them, the larger of the two, was accepted in the MWD's 1998 Groundwater Management Plan as its basin's safe yield. The first estimate of the safe yield was calculated using the base period 1950-1979, which, according to Hoover (1980) meets criteria set forth above for representative climatic base period. This first estimate was equal to 1,122 AFY. The approach followed to arrive at the 1,122 AFY safe yield estimate is based on a hydrologic budgeting method (see Pueblo Resources Inc., 2002), whereby a representative climatic based period is chosen and the safe yield is calculated as the average annual groundwater extraction plus (or minus) the average gain (or average reduction) of groundwater storage during the base period. In Hoover's (1980) calculations the average groundwater extraction and average gain of storage during the 1950-1979 were equal to 909 and 123 AFY, respectively, thus, the safe yield equals 1,122 AFY.

Hoover's (1980) second estimate of safe yield was equal to 1,650 AFY. The safe yield was arbitrarily made equal to the estimated amount of groundwater extraction in the MGWB in 1929, which equaled 1,658 AFY, and was rounded off to 1650 AFY (see Table 8 of Hoover, 1980). This Contractor believes that setting the safe yield equal to 1,650 AFY was a gross overestimation because it set the safe yield equal to the groundwater extraction during a dry year (1929) during which pumpage was unusually high and incompatible with a representative climatic base period. In fact, year 1929 fell during one of the driest periods in Santa Barbara County.

To prove this point, Table 2 presents data obtained from the MWD's 1998 Groundwater Management Plan, which remains current to this date (see Table 5 of the 2014 Groundwater Basins Status Report by the County of Santa Barbara). Table 2 lists the estimated groundwater extractions in the MGWB in various years. It is seen in Table 2 that year 1929 was the highest-pumpage year known prior to 1990.

Table 2. Groundwater extraction in selected years (source: MWD's Groundwater Management Plan, 1998, Table 3.7.1).

Year	Estimate groundwater extraction (AFY)
1929	1658
1954	1322
1962	872
1979	458
1980-1990	940

There are other reasons for rejecting Hoover's 1,650 AFY safe yield. They have to do with the climatic conditions in the 1920s, unsuitable for determining the safe yield. Figure 20 shows the cumulative difference of average rainfall from the long-term average annual rainfall in the MGWB during the instrumental period 1925-2015. The cumulative-difference graph is commonly used in the analysis of climatic conditions over time in a basin. It is seen in Figure 20 that year 1929 fell in a downward sloping part of the cumulative-difference graph. The period 1950-1979, on the other hand, exhibits a relatively dry beginning and encompasses periods of increasing and decreasing rainfall with an overall relatively steady pattern. Hoover (1980) rejected his estimate of the safe yield equal to 1,122 AFY derived for the representative climatic period 1950-1979 on the grounds that it encompassed wet periods during which there would be "rejected recharge", and, thus underestimated the safe yield. In fact, the accepted definition of a representative climatic period (written above) presumes the occurrence of both dry and wet periods, although it precludes the representative climatic period from beginning with a full groundwater basin. The fact that the cumulative-difference graph for the MGWB exhibits a declining trend prior to 1950 establishes that it was not likely to be full at the beginning of the 1950-1979 period.

Figure 21 reaffirms the arguments made about the proper choice of 1950-1979 as a representative climatic period and the inappropriate use of pumpage in year 1929 as the safe yield. Figure 21depicts the cumulative difference of annual rainfall from the long-term average annual rainfall in the City of Santa Barbara using the instrumental period. The City of Santa Barbara exhibits an almost identical temporal pattern to that of rainfall in Montecito. It is seen in Figure 21 that year

1929 fell in a long-term dry period that started in 1917 and ended in 1933. It is also evident from Figure 21 that the 1950-1979 period was preceded by dry years and later experienced increases and decreases of rainfall to end with a cumulative difference in 1979 approximately equal to the starting one in 1950.

The corollary of this analysis of the safe yield is as follows. Muir's (1968) overestimated percolation of rainfall in the MGWB and grossly inflated its safe yield. Geotechnical Consultants' 1974 revised downward Muir's (1968) safe-yield by about one half to 1,200 AFY. Hoover (1980) arrived at two estimates of the safe yield, 1,122 AFY and 1,650 AFY. The former estimate –this Contractor has proven above- was the correct one with the data available in 1980. The latter –herein proven to be an unjustified gross overestimation- was the one recommended by Hoover (1980) and adopted by the MWD. It is noteworthy that Hoover's (1980) Table 16 provided safe-yield estimates equal to 550, 100, 700, and 300 AFY for the storage units 1, 2, 3, and Toro Canyon, respectively, adding up to a basin-wide safe yield equal to 1,650 AFY in the MGWB. This Contractor did not find a quantitative description in Hoover (1980) about how the storage-unit safe yields were arrived at. The 2009 Groundwater Resources Section of the County of Santa Barbara's Conservation Element (page 10) assigned a safe yield equal to 1,215 AFY to the MGWB without explanation. The 2015 revision of the County of Santa Barbara's ETGM lists in its Table 1, under gross pumpage, a safe yield of the MGWB equal to 1,350 AFY, without explanation about its calculation. This Contractor uses Hoover's (1980) estimate of the safe yield equal to 1,122 AFY obtained from data for the representative climatic base period 1950-1979 in the remainder of this report because it is the best estimate of the safe yield of the MGWB so far reported.

The concept of safe yield is a valuable baseline number if it is accurately estimated and wisely applied as a management tool. It tells whether or not a groundwater basin is being used in a sustainable manner: one that assures long-term beneficial use without adverse impacts and economic hardship. On the other, hand, this Contractor and other professionals (see Lohman, 1979; Sophocleous 1997) have argued that sound management of groundwater basins requires adjustment as conditions change from wet or average climatic conditions to protracted drought conditions, because the safe yield, as demonstrated in this report, might not be safe when aquifer recharge is severely reduced during long droughts. Section 7 shows

how to adjust the safe yield in the MGWB during long droughts. This adjustment has direct bearing on the evaluation of the three appealed wells in storage unit 3.

Lohman (1979) wrote that: "The term "safe yield" has about as many definitions as the number of people who have defined it. There are questions as to the validity of the term, but if it is valid there remains the question as to who should determine it –groundwater hydrologists or groundwater managers?" Furthermore, Lohman wrote: "I have a definition which I taught at US Geological Survey Groundwater Short Courses beginning in 1952, namely: the amount of groundwater one can withdraw without getting into trouble. "Withdraw" may mean from flowing or pumped wells, and it may mean continuously, as for many industrial or municipal suppliers, or seasonal, as for irrigation. "Trouble" may mean anything under the sun, such as (1) running out of water, (2) drawing in salt water, or other undesirable water, (3) getting shot, or shot at, by an irate nearby well owner or landowner, (4) getting sued by a less irate neighbor, or (5) getting sued for depleting the flow of a nearby stream for which the water rights have been appropriated."

7. Revised safe yields of the MGWB's storage units.

This section presents revised safe yields of the MGWB's storage units. There has been a recognition within the hydrogeologic community in recent decades that sustainable groundwater use must be adaptive and respond to changing conditions that threaten groundwater basins, such as those that arise during long drought (see, for example Sophocleous, 1997; Loáiciga, 2006; Loáiciga, 2008). This section applies adaptive groundwater management to derive revised yields in the MGWB. The revised safe yields are used in developing accurate estimates of the remaining lives and the groundwater thresholds of significance in the storage units of the MGWB, with emphasis on storage unit 3, the coastal sub-basin of the MGWB where the three appealed wells are located. The approach followed to arrive at the revised safe yield relies on the concept of usable storage. Hydrogeologist R. Slade defined usable storage in his October 1991 report titled "Original Report and Addendum, Hydrogeologic Assessment: Determination of Groundwater in Storage Within the Montecito Water District" (prepared for the MWD) as follows: the volume of groundwater "having a satisfactory quality for prevailing beneficial uses and occurring in sufficient quantity in the underground reservoir to be available

without uneconomic yield or excessive drawdown". Slade (1991) reviewed previous hydrogeologic investigations in the MGWB (including those by Geotechnical Consultants (1974) and Hoover (1980)) and proposed usable storage estimates that depended on the status of a basin, that is, estimates of the usable storage were given for full-basin conditions (this is Slade's maximum usable groundwater in storage, prevailing in the Spring 1983) and for long-drought conditions (this is Slade's current usable groundwater in storage, prevailing in February/March 1991). Table 3 lists Slade's 1991 usable storages in storage units 1, 2, and 3, Toro Canyon, and in the MGWB (see Slade's (1991) Table 4).

Table 3. Slade's (1991) estimates of usable storage (columns (2) and (3)) in the MGWB.

Sub basin or storage unit (1)	Maximum Usable storage (full basin) (2)	Usable storage (long drought) (3)	Average usable storage (this report) (4)
	Acre feet	Acre feet	Acre feet
1	8,770	2,830	5,800
2	730	70	400
3	4,990	3,710	4,350
Toro Canyon	1,620	1,150	1,385
MGWB	16,110	7,760	11,935

Notice in Table 3 the very limited usable storage equal to 70 AFY during drought conditions in storage unit 2.

The revised safe yields are calculated based on (i) what this Contractor's has proven in section 6 to be the best estimate available of the MGWB's safe yield, that is 1,122 AFY, and (ii) scaling ratios that are applied to the basin-wide safe yield. The scaling ratios equal the average usable storage in each storage unit divided by the basin-wide average usable storage (11,935 AFY, see Table 3). The revised safe yield in each storage unit is then calculated by multiplying the storage unit's scaling ratio by the basin-wide safe yield. Table 4 lists the calculations.

Table 4. Calculation of the safe yield of the MGWB's storage units.

Sub basin (1)	Average usable storage (from Table 3) (2)	Weighting ratios (3)	Safe yield (4) = (3) x 1,122
	Acre feet		AFY
1	5,800	5,800/11,935 = 0.486	545
2	400	400/11,935 = 0.034	38
3	4,350	4,350/11,935 = 0.364	409
Toro Canyon	1,385	1,385/11,935 = 0.116	130
MGWB	11,935		1,122

The safe yields listed in Table 4 differ from those recommended in Hoover (1980) that were adopted by the MWD. Table 5 lists the two sets of safe yields for comparison purposes.

Table 5. Comparison of safe yields in the MGWB.

Sub basin	Safe yield (this report) (AFY)	Safe yield (recommended by Hoover, 1980, Table 16) (AFY)
1	545	550
2	38	110
3	409	700
Toro Canyon	130	300
MGWB	1,122	1,650

The revised safe yield in storage unit 3, equal to 409 AFY, is currently less than the amount extracted by the four MWD's municipal wells currently active, which, as shown in Figure 8, extracted about 500 AFY in the last two water years. To the MWD's pumpage one must add the private groundwater extraction, which was estimated in section 4 to be about 500 AFY, perhaps more than that. Therefore, it is very likely that the net overdraft in storage unit 3 is at least 1,000 - 409 = 591 AFY. The implications of this level of overdraft for the estimation of the

groundwater threshold of significance for new wells in storage unit 3 are explained in section 8.

8. Groundwater thresholds in the MGWB: implications for new wells in storage unit 3.

Several definitions are necessary for the development of this section. These definitions are from the County of Santa Barbara's Environmental Thresholds and Guidelines Manual (ETGM, revised July 2015). The ETGM contains a procedure for calculating the groundwater threshold of significance in alluvial basins of the County of Santa Barbara, which includes the storage units of the MGWB. The groundwater threshold of significance for new wells is the maximum amount that a new well is allowed to extract in an overdrafted basin. The ETGM lists the MGWB as an overdrafted basin. The groundwater threshold of significance provides, in the view of this Contractor, a baseline for limiting new groundwater extraction in an overdrafted basin. However, it must not be the only baseline. Instead, the site-specific impacts of any new proposed well must be evaluated prior to permitting it. These issues are elaborated upon below in the context of storage unit 3 and the three appealed wells.

"Available Storage (ETGM): the volume of water in a particular basin which can be withdrawn without substantial environmental effects. This storage reflects the amount of water in the basin on a long-term basis (a point on a long-term trend line) not the current storage level in the basin. The number is periodically updated by the Planning and Development Department and the County Water Agency as new information becomes available".

It is important to recognize the difference between the ETGM's available storage and Slade's (1991) definition of usable storage. The former has a long-term connotation, whereas the latter takes consideration of prevailing conditions in a groundwater basin that might limit the amount of groundwater that can be used beneficially, for example, by preventing seawater intrusion or losses of well yield. The ETGM's available storage is used by the County of Santa Barbara as a planning parameter in its method to determine groundwater thresholds on a long-term basis. Slade's (1991) usable storage is pertinent in the determination of groundwater thresholds that would protect groundwater basins' beneficial use

under all conditions, especially those that prevail during protracted drought. The adaptive nature of sound groundwater management was applied in section 7 to derive revised yields in the MGWB.

“Net Annual Overdraft (ETGM): is the amount by which average long-term demand on a basin exceeds the safe yield of the basin after allowances have been made for return flows. The "demand" figure will generally include commitments of supply such as approved projects not yet constructed with the estimated current level of pumpage”.

This Contractor’s definition of net annual overdraft is broader than that of the ETGM because it includes the amount by which groundwater extraction exceeds the safe yield during long droughts, and not simply during the loosely defined “long-term” periods. This broader definition is consistent with the adaptive approach to groundwater management that accounts for protracted significant departures from average climatic conditions.

“Groundwater Threshold of Significance (ETGM): is the point at which a project's estimated contribution to the overuse of groundwater in an alluvial basin or other aquifer is considered significantly adverse. The Groundwater Threshold Manual documents the methods used to establish the threshold values for groundwater extractions from the various alluvial basins and consolidated rock aquifers in Santa Barbara County. The California Supreme Court has ruled that an EIR must be prepared whenever it can be fairly argued on the basis of substantial evidence that a project may have a significant environmental impact. Implementation of the California Environmental Quality Act (CEQA) requires that a lead agency (such as the county) determine what constitutes a potentially significant effect. In the past, thresholds for the alluvial basins have been determined based on a fixed number of acre feet per year (AFY), a percentage of existing overdraft, or a percentage of safe yield. In the 2015 version of the Manual a new methodology developed by the County of Santa Barbara’s Planning and Development Department is used to calculate the groundwater threshold in an alluvial basin. A threshold was chosen for an idealized "Standard Reference Basin" based on a percentage loss of the remaining life of the available storage. Thresholds for the other basins are proportional to this value based on relative size and remaining life. This method was developed to simplify the calculations and

more clearly link the various threshold levels to the environmental circumstances specific to each basin. The idealized Standard Reference Basin has overdraft and storage characteristics similar to those of the Santa Ynez Uplands groundwater basin (SYUGWB). The Threshold of Significance for consolidated rock ("bedrock") aquifers is considered the amount of new pumpage by a proposed project which would place the aquifer in a state of overdraft. These criteria have remained the same since adoption of the first thresholds manual in 1983. The groundwater Thresholds of Significance apply to all projects subject to discretionary review by the County of Santa Barbara".

Figure 22 presents a map of the groundwater basins of Santa Barbara County, which includes the SYUGWB and the MGWB.

Table 3 in section 7 introduced Slade's (1991) estimates of the usable storage in the MGWB for full-basin conditions (this is Slade's maximum usable groundwater in storage, prevailing in the Spring 1983) and for long-drought conditions (this is Slade's current usable groundwater in storage, prevailing in February/March 1991). Table 2 (page 74) of the ETGM calculated the groundwater threshold in the MGWB (basin-wide estimate) to be equal to 4 AFY. The calculation was based on an arbitrary formula developed by County of Santa Barbara's geologist B. Baca in 1992 that includes weighting ratios and the consideration of an idealized standard reference groundwater basin (SRGWB) with characteristics similar to those of the Santa Ynez Uplands groundwater basin (SYUGWB, see map in Figure 22). Basically, the ETGM proposed that the SRGWB has a net groundwater overdraft and available storage equal to 2,000 AFY and 900,000 acre feet, respectively, so that the remaining life of the SRGWB equals 900,000/450 = 2,000 years. Next, the ETGM proposed that the threshold of significance in the SRGWB is such that it would reduce its remaining life by 3%. The formula to determine the threshold of significance (R) in the SRGWB is then:

$$\frac{900{,}000}{2{,}000+R} = 450 \cdot 0.97 \qquad (1)$$

From which the groundwater threshold of significance in the SRGWB is solved for:

$$R = \frac{900{,}000}{450 \cdot 0.97} - 2{,}000 = 61.856\ AFY \qquad (2)$$

The determination of groundwater thresholds of significance in alluvial basins in Santa Barbara County uses a formula that assigns weights equal to 0.75 and 0.25 to the ratio of the remaining life of an overdrafted basin to that of the SRGWB and to the ratio of the available storage in an overdrafted basin to that of the SRGWB, respectively. The last step in the calculation of the groundwater threshold of an alluvial basin is to multiply the result of the weighted formula by the threshold of significance of the SRGWB (R = 61.856 AFY), as follows:

$$threshold = \left(0.75\frac{remaining\ life}{450} + 0.25\frac{available\ storage}{900{,}000}\right) \cdot 61.856 \quad (3)$$

The ETGM assigned a net overdraft and available storage equal to 426 AFY and 16,000 acre feet to the MGWB. Therefore, the remaining life of the MGWB equals 16,000/426 = 37.559 years. The groundwater threshold for the MGWB is then:

$$threshold = \left(0.75\frac{37.559}{450} + 0.25\frac{16{,}000}{900{,}000}\right) \cdot 61.856 = 4.147\ AFY \quad (4)$$

which was rounded off to 4 AFY in the ETGM. Notice that formula (3) for the groundwater threshold in alluvial basins applies to overdrafted basins. Basins that are not overdraft have an indefinitely long remaining life, and, therefore, an undefined groundwater threshold.

The threshold given by formulas (3 and (5) is basin wide, even though there are substantial differences in the impacts that new wells might have depending on the storage unit in which they are installed. For example, new well applications in storage unit 1 of the MGWB would be treated in exactly the same manner as new applications in its storage unit 3, even though the former unit may experience well-yield losses but not seawater intrusion, whereas the latter unit may experience well-yield losses and seawater intrusion. New wells each with an extraction rate equal to 4 AFY could be approved because each well does not exceed the groundwater threshold of significance. Yet, the cumulative adverse impacts of well extraction in storage unit 3 could be irreversible. Another drawback of formula (3) for the groundwater threshold of significance is that it does not account for changes in climatic conditions affecting a basin. Thus, the groundwater threshold is calculated in exactly the same way when average climatic conditions prevail as when long drought prevails.

The following calculations show groundwater thresholds adjusted for drought conditions. Specifically, using the MWD's high estimate of private use equal to 1,000 AFY cited in section 4 of this report, plus the MWD potable groundwater production equal to about 500 AFY (see Figure 8) and non-potable groundwater production (estimated at 50 AFY by this Contractor), the overdraft in the MGWB would be 1550 AFY (total pumpage) - 1,122 AFY (the safe yield) = 428 AFY, which is very close to the ETGM's net overdraft equal to 426 AFY reported in its Table 1, page 73. In the absence of measurements need to quantify overdraft in each storage unit, this Contractor estimates them by applying ratios equal to the drought-impacted usable storages (column (3) in Table 3) over the MGWB's total drought-impacted usable storage (equal to 7,760 acre feet in Table 3) to the net, basin-wide, overdraft equal to 428 AFY. Table 6 shows the application of the ratios and the calculation of the net overdrafts in each storage unit during drought conditions.

Table 6. Calculation of net overdraft in each storage unit during drought periods. The basin-wide net groundwater overdraft = 428 AFY.

Sub basin or storage unit (1)	Usable storage (long drought) (2)	Weighting ratios (3)	Net overdraft in each storage unit (4) = (3) x 428
	Acre feet		AFY
1	2,830	2,830/7,760 = 0.365	156
2	70	70/7,760 = 0.009	4
3	3,710	3,710/7,760 = 0.478	205
Toro Canyon	1,150	1,150/7,760 = 0.148	63
MGWB	7,760		428

The values of drought-impacted usable storage (column (2) of Table 6) and the net overdraft in each storage unit (column (4) of Table 6) were applied to calculate the remaining life in each storage unit under drought conditions, which are listed in Table 7. The net overdraft in the storage units and MGWB used in Table 7 are those shown in column (4) of Table 6. The remaining life in each storage unit equals the usable storage divided by the next overdraft.

Table 7. Calculation of the remaining life in each storage unit during drought periods. The basin-wide net groundwater overdraft = 428 AFY.

Sub basin or storage unit (1)	Usable storage (long drought) (2)	Net overdraft in each storage unit (3)	Remaining life (4) = (2)/(3)
	Acre feet	AFY	Years
1	2,830	156	18.14
2	70	4	17.50
3	3,710	205	18.09
Toro Canyon	1,150	63	18.25
MGWB	7,760	428	18.13

The seemingly long remaining lives presented in Table 7 should be no solace to anyone because the actual total groundwater extraction in the MGWB is unknown, and, if, say, the total extraction during drought were 2,000 AFY instead of 1,550 AFY, the remaining lives shown in Table 7 would be shortened considerably.

The drought-impacted usable storages and the remaining lives listed in columns (2) and (4) of Table 7, respectively, were input into formula (3) to calculate the groundwater thresholds of significance under drought conditions. The results are listed in Table 8. Notice that the drought-impacted groundwater thresholds listed in Table 8 are about one half of the 4 AFY calculated for the MGWB in the ETGM. Yet, a 4 AFY withdrawal rate in a single well may be harmful given site-specific conditions in the storage units. A case in point in storage unit 3 is the intensely groundwater-mined area comprised between Fernald Point to the east, the Pacific Ocean to the south, Highway 101 to the north, and the Santa Barbara Cemetery to the west, where the cumulative impacts of new wells could cause irreversible damage to groundwater quality by seawater intrusion. In storage units 2 and 3 the main concerns are well-yield losses and stream depletion impacts. The former impact must be evaluated for each well application by conducting well-interference analyses of the type presented in section 9 of this report, the latter with streamflow-capture analyses.

Table 8. Groundwater thresholds of significance under drought conditions.

Sub-basin or storage unit	Usable storage	Net overdraft	Remaining life	Threshold
	acre feet	AFY	Years	AFY
1	2,830	156	18.14	1.9
2	70	4	17.50	1.8
3	3,710	205	18.09	1.9
Toro Canyon	1,150	63	18.25	1.9
MGWB	7,760	428	18.13	2.0

The groundwater threshold calculated for storage unit 3 in Table 8, which equals 1.9 AFY, is most likely an overestimate. This Contractor recalculates storage unit 3's groundwater threshold of significance under drought conditions. To achieve this we use a groundwater extraction in storage unit 3 equal to 1,000 AFY during drought, which was estimated in section 4. The safe yield of storage unit 3 equals 409 AFY (see calculations of revised safe yields in section 7). The net overdraft in storage unit 3 would then be 1,000 - 409 = 591 AFY. This would reduce the remaining life of storage unit 3 to 3,710/591 = 6.3 years. Recall that the drought-impacted usable storage in storage unit 3 equals 3,710 acre feet (see column 2 of Table 7). Using these values of remaining life and usable storage in equation (3) produces the following drought-impacted groundwater threshold of significance for storage unit 3:

$$threshold\ \ unit\ 3 = \left(0.75\frac{6.3}{450} + 0.25\frac{3{,}710}{900{,}000}\right) \cdot 61.856 \ = 0.71 \text{ AFY} \qquad (5)$$

The groundwater threshold equal to 0.71 AFY calculated in equation (5) would be the limiting extraction to be imposed on any of the three appealed wells. Furthermore, this Contractor recommends the evaluation of site-specific impacts of each well prior to approving their construction. Those site-specific impacts concern seawater intrusion, well interference, loss of well yield, and stream flow depletion. Site-specific impacts of groundwater extraction may reduce the groundwater threshold of significance to zero in storage unit 3, as shown in section 9.

The groundwater-threshold approach used by the County of Santa of Barbara in overdrafted alluvial basins for permitting new wells should not be applied in

isolation. Instead, it should be implemented in conjunction with the evaluation of site-specific impacts of each proposed well and the assessment of the current status of each storage unit. If significant adverse impacts would be caused by a new well then it should not be permitted, not even with a groundwater threshold equal to the calculated 0.71 AFY for storage unit 3 of the MGWB. The criteria proposed by Slade (1987) to protect against seawater intrusion are exemplary about effective ways to protect groundwater resources in storage unit 3 of the MGWB. Those criteria specified minimal seaward hydraulic gradient, minimal groundwater levels, and minimal seaward groundwater discharge to protect the coastal groundwater resource.

This section has shown that the MGWB and its components storage units are in a state of overdraft. The County of Santa Barbara's 2015 ETGM's groundwater thresholds section states that the MGWB is in overdraft. Perhaps the County of Santa Barbara has not issued an official declaration of overdraft for the MGWB – as geologist Adam Simmons declared in a presentation to the Montecito Planning Commission on October 15, 2014, and in an undated presentation to Commission staff- but the fact is that the key County document dealing with the assessment of basin overdraft, remaining life, and groundwater threshold of significance, that is, the 2015 ETGM, classifies the MGWB as being in a state of overdraft. This section has shown that the 2015 ETGM's estimate of overdraft in the MGWB is less than the actual extent of overdraft.

9. Drawdown and well interference in storage unit 3 of the MGWB.

This section presents calculations estimating the lowering of water levels (called drawdown) and well interference associated with the three appealed wells. Geologist Adam Simmons suggested pumping rates for the Hair and Makarechian wells of about 5 gpm in memorandum to Commission staff on May 11, 2015. A similar pumping rate was indicated by geologist Simmons for the Schlesinger well in another memorandum dated May 14, 2015, to Commission staff. This section evaluates the lowering of aquifer levels at the appealed-wells sites and in their vicinities, and takes into account the existence of active wells near the proposed new-wells sites. The effect on groundwater level by a new extraction well is to magnify the lowering of the groundwater level caused by existing wells. The existing wells, conversely, magnify the lowering of the groundwater level caused

by the new well. This mutual superposition of the influences on the groundwater level by neighboring wells is called well interference. Drawdown is the depth to which the hydraulic head or groundwater level is lowered in a well (or any other part of an aquifer) by groundwater extraction relative to the initial hydraulic head that would prevail if groundwater were not extracted from the aquifer (that is, relative to a baseline condition). Well interference is magnified when there are multiple wells extracting from the same aquifer because in that instance there is superposition of the drawdowns caused by all the wells.

This section presents calculations of drawdowns and well interference in the aquifer underlying the area encompassing the Makarechian and Hair wells (see Figure 3) and the Schlesinger well (see Figure 4), both in storage unit 3 of the MGWB. The aquifer tapped by the Chase well and several other nearby active wells is prototypical of an aquifer were well interference is taking place. The Chase well takes especial notoriety in this report because geologist Adam Simmons stated in a May 11, 2015, memorandum to Commission staff that "The proposed Hair Well (and nearby Makarechian Well) will likely be very similar in depth and design as the Chase Well". The similarity suggested by geologist Simmons is not surprising given that, by virtue of the closeness of the existing Chase well and the proposed Makarechian and Hair wells, they would be tapping the same groundwater-bearing formations. Figure 23 displays the design details of the Chase well, taken from a June 15, 1978, report from geologist Michael Hoover to Mr. and Mrs. Dan Chase. A drawdown and well interference analysis is also presented in this section for the Schlesinger well, which, according to geologist A. Simmons, would have characteristics similar to the Hair well (see memorandum from A. Simmons to Commission staff dated May 14, 2015).

Drawdown and well interference: the Hair and Makarechian wells. Geologist M. Hoover conducted pumping tests at the Chase well in 1978 and concluded that the transmissivity of the formations tapped by the well equaled 4800 gpd/ft (gallons per day per foot) = 642 ft^2/day. This was substantially larger than the transmissivity implied by hydrogeologist Slade's (1987) estimate of about 80 ft^2/day. Geologist Hoover's estimate of transmissivity was based on the Cooper-Jacob formula that approximates drawdown in confined aquifers with non-dimensional well variable $u = r^2 S/(4 T t) < 0.05$ (Fetter, 2001), where r = the radial distance from the center of the well to any point in the aquifer (r is measured on a

level plane), S = the storage coefficient of the aquifer, T = the transmissivity of the aquifer, and t = the elapsed time since pumping in the aquifer begins. We use an average value of transmissivity equal to (642+80)/2 = 361 ft^2/day to calculate drawdowns caused by the Hair and Makarechian wells.

The other aquifer property needed in calculating drawdown is the storage coefficient S. The storage coefficient was not estimated by geologist Hoover since he made measurements of drawdown in the installed Chase well instead of using a separate observation well. This Contractor's review of the pertinent literature revealed that the Pueblo Resources Inc.'s 2012 report to the CVWD estimated the storage coefficient in the CGWB to be on order of 6.6×10^{-4} in the confined area (storage unit 1 of the CGWB). One must keep in mind, however, that the groundwater bearing formations tapped by the Chase well are not completely confined, but, rather, they are semiconfined, because the formations above and between the screened and/or perforated intervals of the wells allow vertical flow of groundwater. This assertion is consistent with the CDWR's 2003 characterization of the aquifer in the southern part of storage unit 3 as a partially confined formation (see Bulletin 118).This Contractor interprets the hydraulic behavior of the Chase well aquifer as an intermediate between confined and unconfined conditions, and, therefore, assigns, a value S = 0.001in the analysis of drawdown reported below. Lowering the value of the storage coefficient would make the calculated drawdowns larger than those presented below. It is noteworthy that Slate's (1987) of transmissivity is closer to those reported by Pueblo Water Resources (2012) for the confined unit of the CGWB than to Hoover's (1978) calculated transmissivity. For these reasons, the calculated drawdown in the vicinity of the Chase well presented below must be interpreted as a lower bound to the actual drawdowns that might take place.

The Cooper-Jacob formula was employed in this report to approximate the drawdowns that would be caused by the appealed Schlesinger, Makarechian, and Hair wells, and by other existing wells in storage unit 3 of the MGWB. The Cooper-Jacob formula is given by the following expression:

$$drawdown \cong \frac{2.3\,Q}{4\pi\,T} log_{10}\left(\frac{2.25\,T\,t}{r^2 S}\right) \qquad (6)$$

in which Q denotes the well extraction rate, and all other variables were previously defined in this report. The choice of units in formula (6) must be consistent.

Figures 24 and 25 depict the calculated drawdown exerted by a well pumping at a rate of 5 and 10 gallons per minute (gpm), respectively, as a function of the elapsed time of pumping (t) and the radial distance from the pumping well (r). The calculations were made for distances r = 0.75, 100, 250, 500, and 1,000 feet from the well. The distance r = 0.75 feet corresponds to the zone of aquifer in contact with the exterior of the gravel pack surrounding the well screen. Continuous pumping for one year (365 days) at a rate of 5 gpm (10 gpm) is equivalent to extracting 8.1 (16.2) acre feet / year (AFY) from the aquifer. It is seen in Figures 24 and 25 that: (i) for a given time of elapsed groundwater extraction, the drawdown increases with decreasing distance from the pumping well, and (ii) for a given distance from the pumping well, the drawdown increases with increasing elapsed time of groundwater extraction

It can inferred From Figure 24 that if the Chase, Haber, Hair, and Makarechian wells were each pumping at 5 gpm continuously for 1 year (365 days) they would lower the groundwater level at a point on the coast and equidistant 500 ft from the wells by an amount equal to 4 x 1.50 = 6.0 feet. To this drawdown one must add that caused by the two Biltmore wells, which, according to Figure 25, extracting each 10 gpm continuously for 364 days would lower the groundwater level at a point on the coast equidistant 500 ft from the two wells by an amount equal to 2 x 3.0 = 6.0. Thus, the total decline of groundwater level on the coast caused by the six wells (Chase, Haber, Hair, Makarechian, and the two Biltmore wells) would be 6.0 + 6.0 = 12.0 ft. This magnitude of water-level decline would be sufficient to induce seawater intrusion as it would lower the aquifer's hydraulic head below sea level.

Another scenario of superposition is that where the drawdowns at the Hair and Makarechian wells are calculated from formula (6). Assuming that the Hair, Makarechian, Chase, and Haber wells are separated from each other by a distance equal to 250 feet (see Figure 3) one would obtain from Figure 24 that the superimposed drawdown at each well after one year of groundwater extraction would be 3 x 1.79 = 5.37 ft plus the drawdown at each well caused by its own extraction, in this case at a distance equal to the radius of the borehole ($r \cong 0.75$

feet). The latter drawdown from the Cooper-Jacob formula equals 4.26 ft. We must add, also, the drawdown caused at either the Hair or Makarechian wells by pumping at the two Biltmore wells, distant about 500 ft (see Figure 3). The drawdown caused by the two Biltmore wells is obtained from Figure 25 to be 2 x 3.0 = 6.0 ft. Therefore, the total drawdown at the Hair and Makarechian wells would be 5.37 + 4.26 + 6.0 = 15.63 ft. This magnitude of drawdown at the Hair and Makarechian wells would drive their water levels below sea level, and they most likely would be extracting saline water after some time of operation.

Drawdown: the Schlesinger well. The drawdown caused by the Schlesinger well is due to its own groundwater extraction and to the extraction at neighboring wells. In the absence of site-specific measurements of transmissivity we use Slade's (1987) recommended value of transmissivity equal to 80 ft^2/day. The storage coefficient remains at S = 0.001 used in the calculation of drawdowns at the Hair and Makarechian wells. Figure 26 displays the calculated drawdown caused by the Schlesinger well pumping at a rate equal to 5 gpm at distances r = 0.75, 100, 250, 500, and 1,000 ft and as a function of the elapsed time of groundwater extraction.

It was shown in Figure 4 that the Schlesinger well would be within the riparian corridor of San Ysidro Creek. It is estimated that the distance from the Schlesinger well to the nearest point on the San Ysidro Creek stream channel would be less than 100 ft. It is deduced from Figure 26 that the drawdown caused at San Ysidro Creek (r = 100 ft) by pumping continuously for 365 days at 5 gpm would be at least 8.41 ft. One must add to this drawdown the drawdown of aquifer levels by neighboring wells, whose rates are unknown. This level of drawdown is likely to reduce baseflow to San Ysidro Creek, a significant adverse impact to surface water resources in storage unit 3 that was not adequately addressed by consulting geologist A. Simmons in his May 14, 2015, memorandum to Commission staff. In the latter memorandum A. Simmons wrote that "The proposed well is situated at an elevation of approximately 23 feet above mean sea level with an estimated static water level of approximately 18 feet in depth. This swl is approximately 6 feet below the bottom of San Ysidro Creek and is therefore unlikely to cause any issues with any riparian corridor given the distance to the creek, depth of the concrete sanitary seal, and low yield of 5 gpm or less. Therefore the proposed well would have no or negligible impacts on any existing or proposed water wells and/or riparian corridors". Mr. Simmons's analysis of the Schlesinger's well impacts on

San Ysidro Creek was incorrect. Comparing the static water level at the Schlesinger well with the bottom of the San Ysidro Creek at an undetermined location is not meaningful. Figure 26 clearly shows that the drawdown that would be caused by the Schlesinger would propagate long distances from the well, capturing groundwater that could otherwise serve as baseflow to support stream flow in San Ysidro Creek when hydrologic conditions allow flow in the creek.

Other drawdowns of interest that would be caused by the Schlesinger well are those at his own location (r = 0.75 ft) and on the coastline (r = 250 ft). Figure 26 implies that these drawdowns would equal 17.76 and 6.65 ft, respectively. With these levels of drawdown the Schlesinger most likely would be pumping saline groundwater after some time of operation.

10. Conclusions.

This Contractor concludes that applications for new wells in storage unit 3 of the MGWB must demonstrate that proposed extraction of additional groundwater would not adversely impact the groundwater resources of this overdrafted basin. This report has shown that the groundwater threshold of significance in storage unit 3 equals 0.71 AFY according to the County of Santa Barbara's procedure and zero based on site-specific impacts. This report has proven that the Makarechian and Hair wells would pose significant adverse impacts in the areas of well interference and seawater intrusion. The Schlesinger would pose significant adverse impacts concerning seawater intrusion and stream depletion in San Ysidro Creek.

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12. Appendix: Figures

2. List of Figures. The Appendix contains the following Figures.

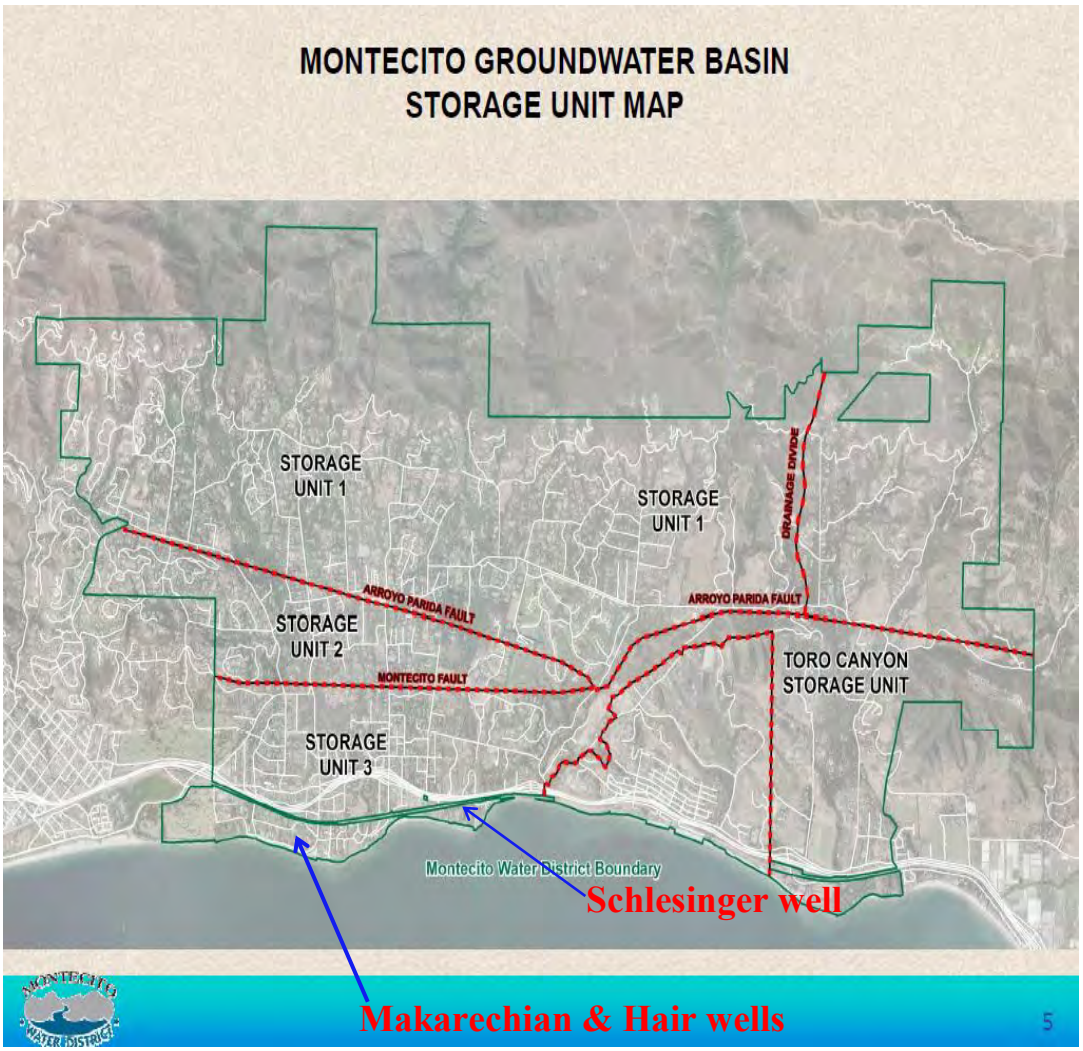

Figure 1. Map showing the boundaries of the MGWB and its components sub-basins or groundwater storage units. Source: presentation by officials from the MWD to the Montecito Planning Commission on November 19, 2014.

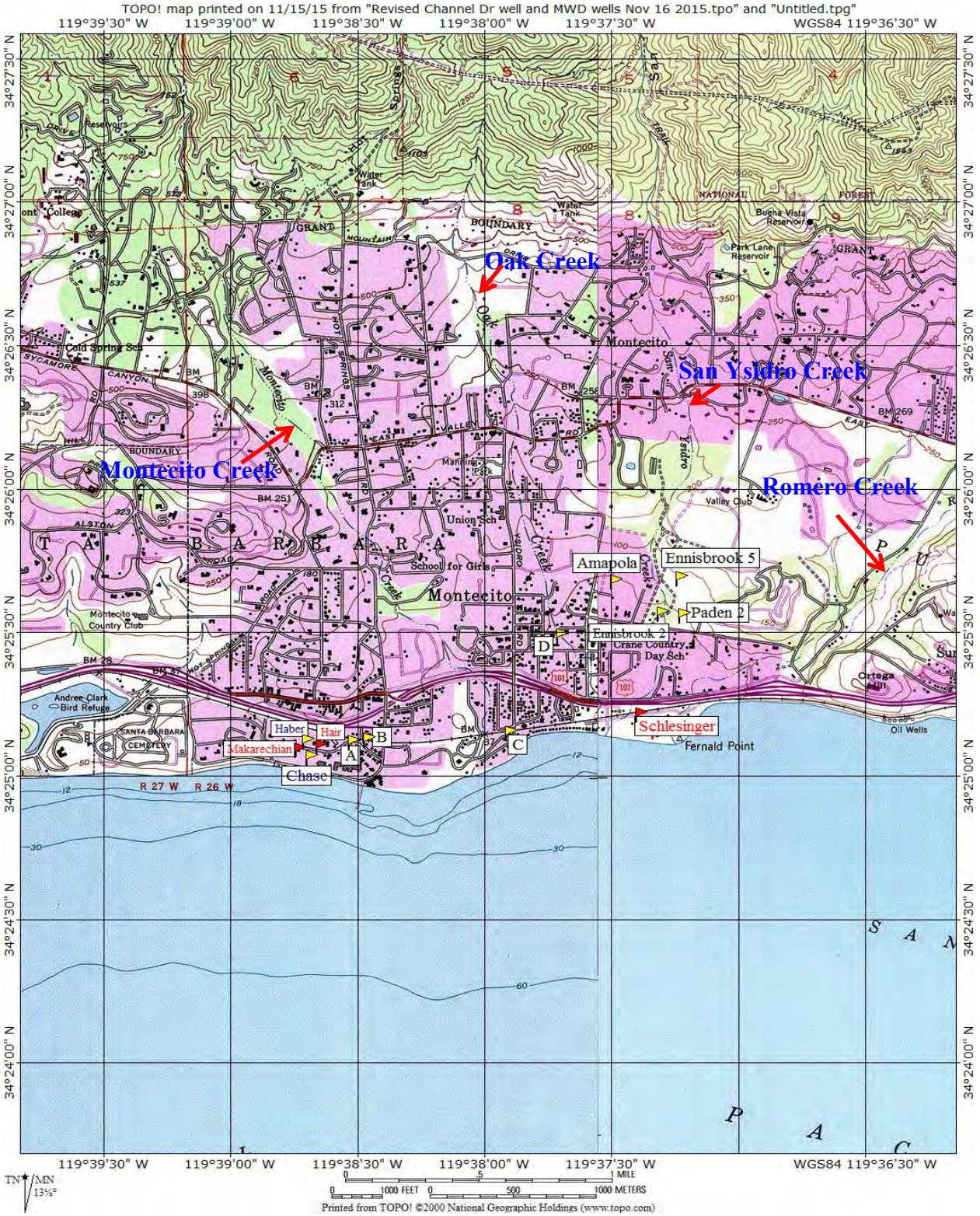

Figure 2. Map showing the approximate locations of the appealed Makarechian, Hair, and Schlesinger wells, and a few existing nearby wells.

Figure 3. Google image showing the approximate locations of the appealed Makarechian and Hair wells, the existing Chase, Haber wells, and two other private wells (A and B).

Figure 4. Google image showing the approximate location of the appealed Schlesinger well.

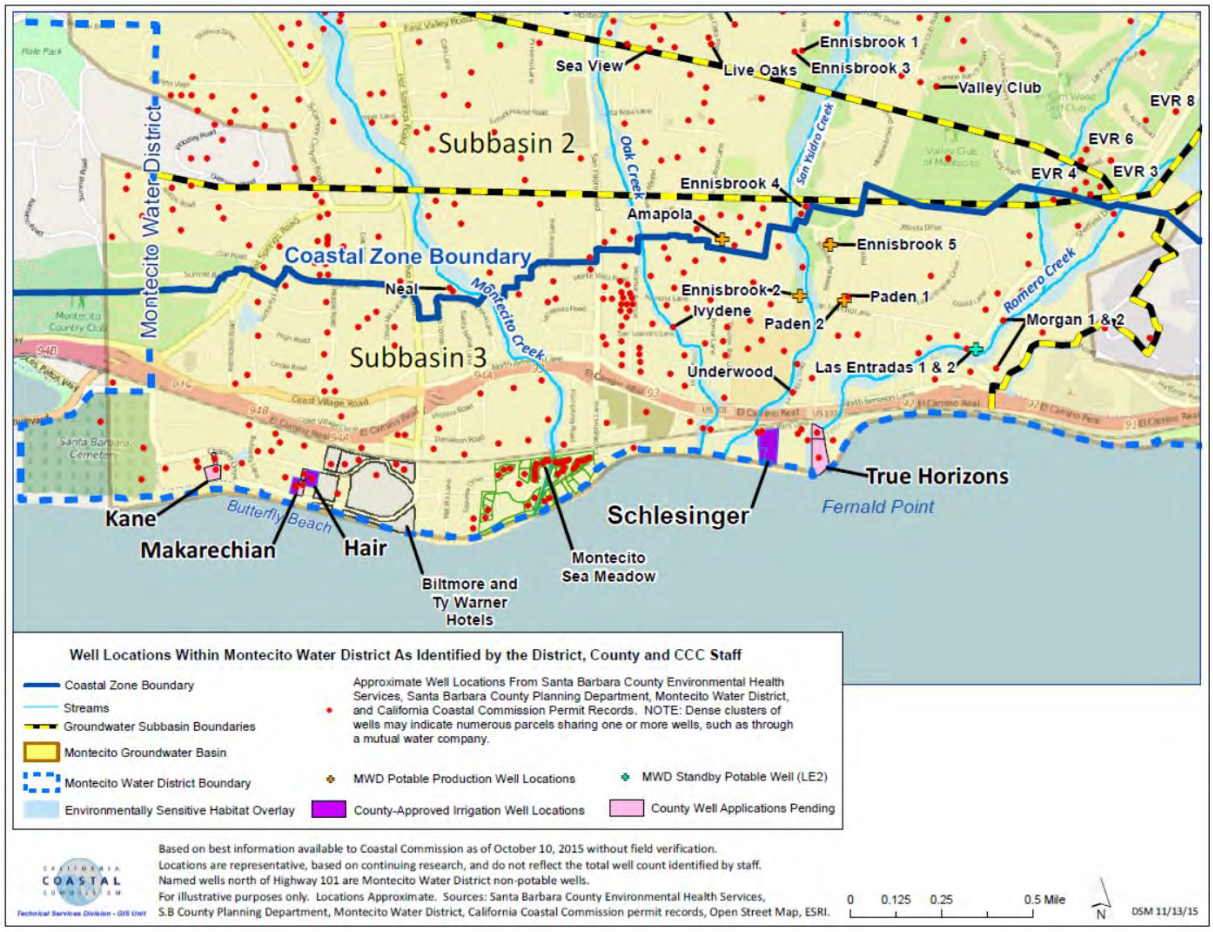

Figure 5. Approximate locations of wells permitted within storage unit 3 and the associated coastal zone (the latter under CCC jurisdiction). Source: California Coastal Commission.

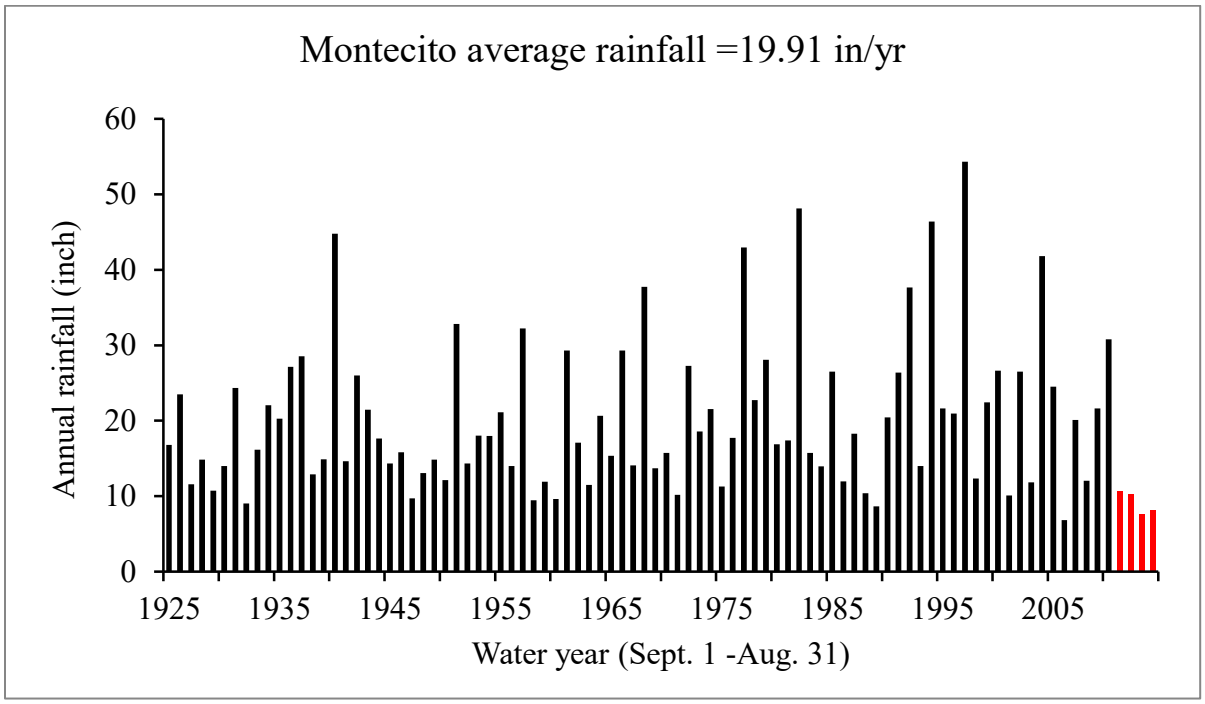

Figure 6. Annual rainfall in Montecito, California, since water year 1925-1926. The last four water-year rainfalls are shown in red.

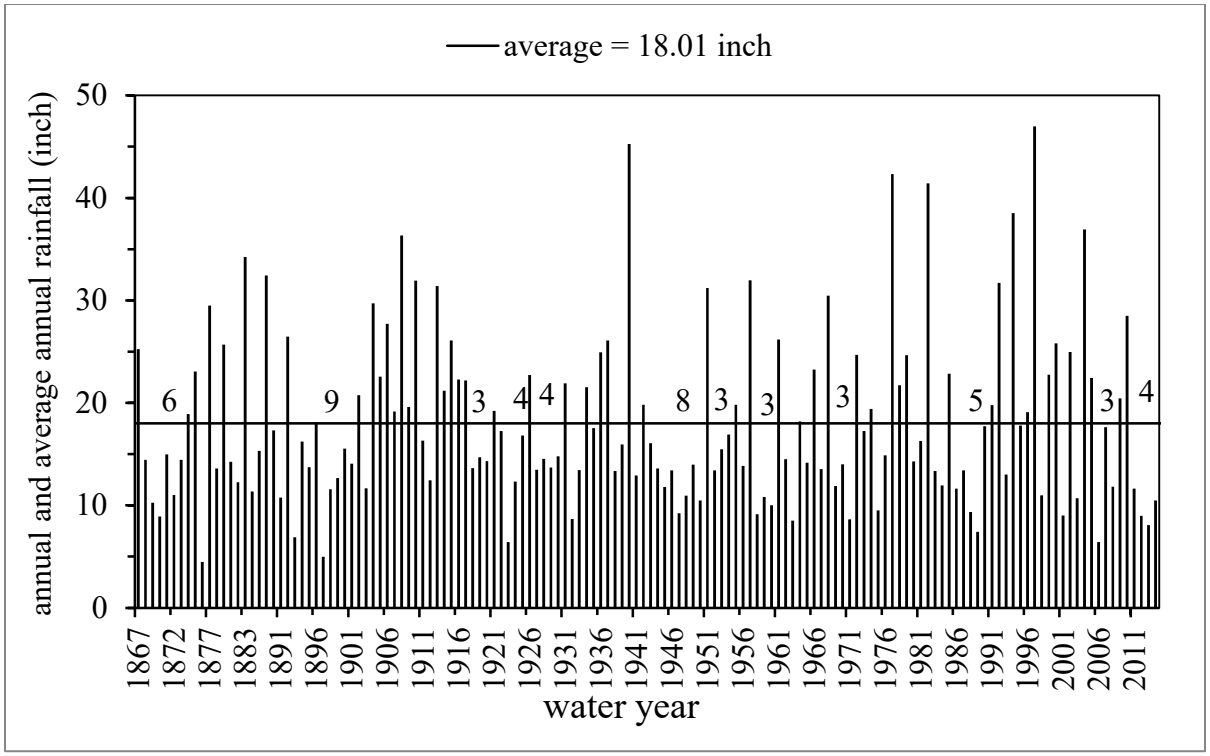

Figure 7. Annual rainfall in the City of Santa Barbara since 1867 showing the occurrence of 12 droughts whose durations are written above the average annual rainfall line (18.01 inch). The longest drought lasted 9 years.

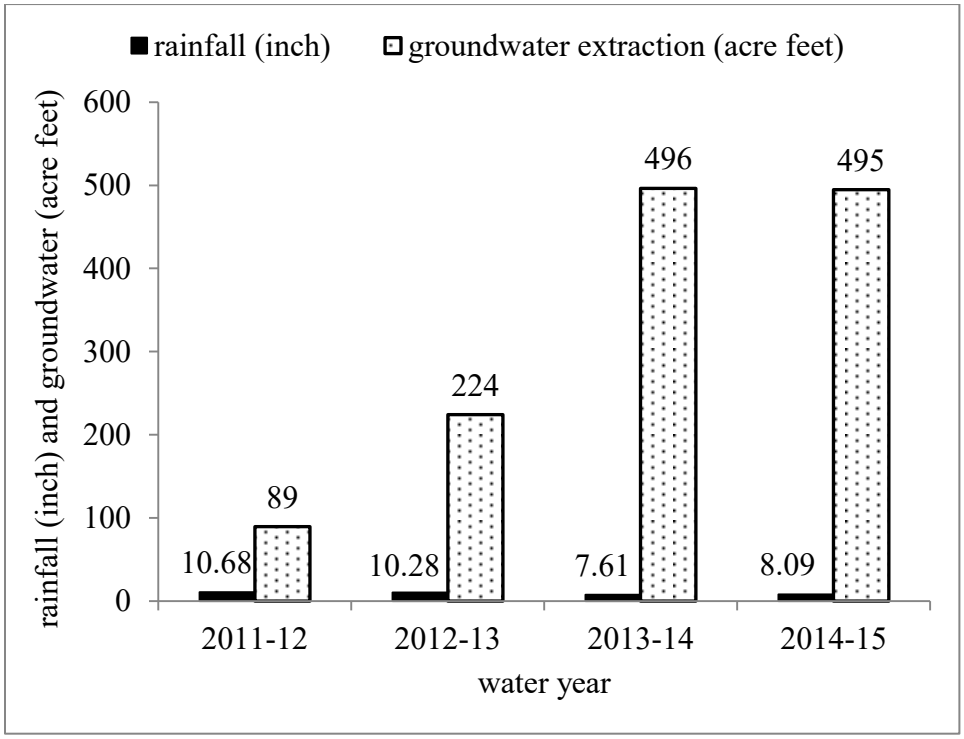

Figure 8. Combined groundwater extraction by the MWD's four wells that are sources to potable water after treatment (Amapola, Ennisbrook 2, Ennisbrook 5, and Paden 2) and annual rainfall in Montecito.

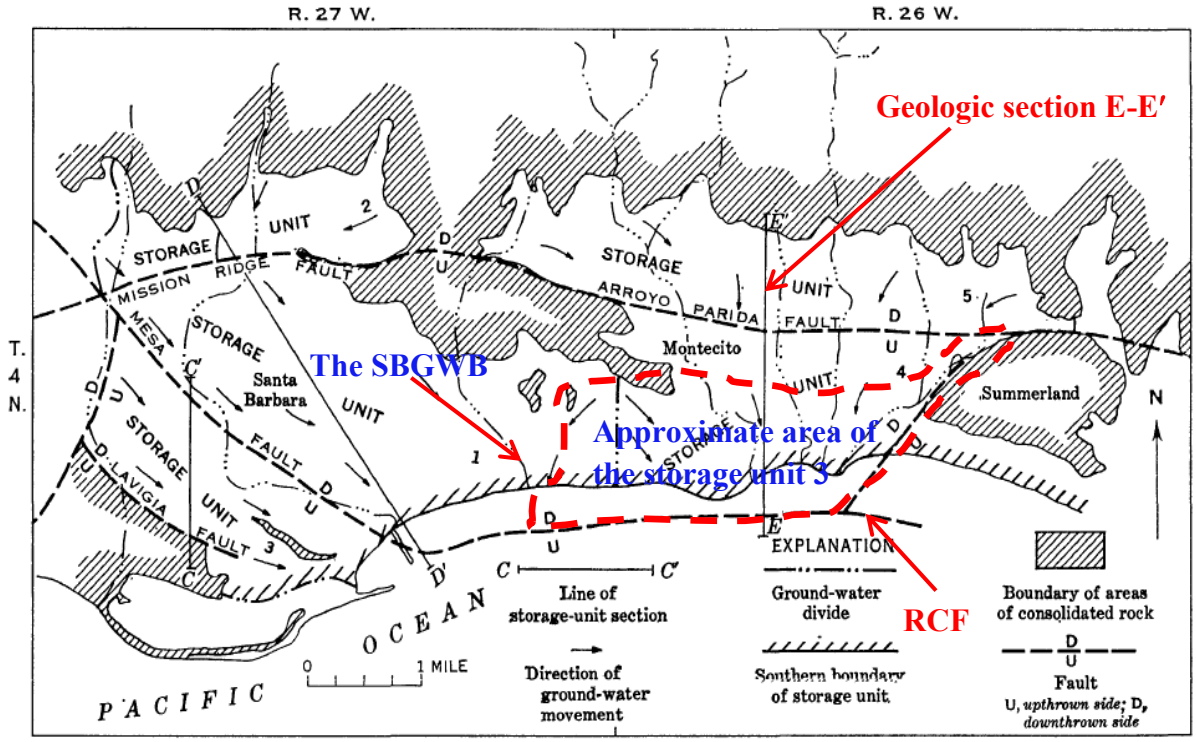

Figure 9. Copy of Muir's (1968) Figure 2, showing an early delineation and interpretation of the MGWB, the SBGWB, and the RCF fault trending east-west about 1,000 feet offshore from the coastline in storage unit 3 of the MGWB. Geologic section E′-E is depicted in Figure 10. Colored features were added by this Contractor.

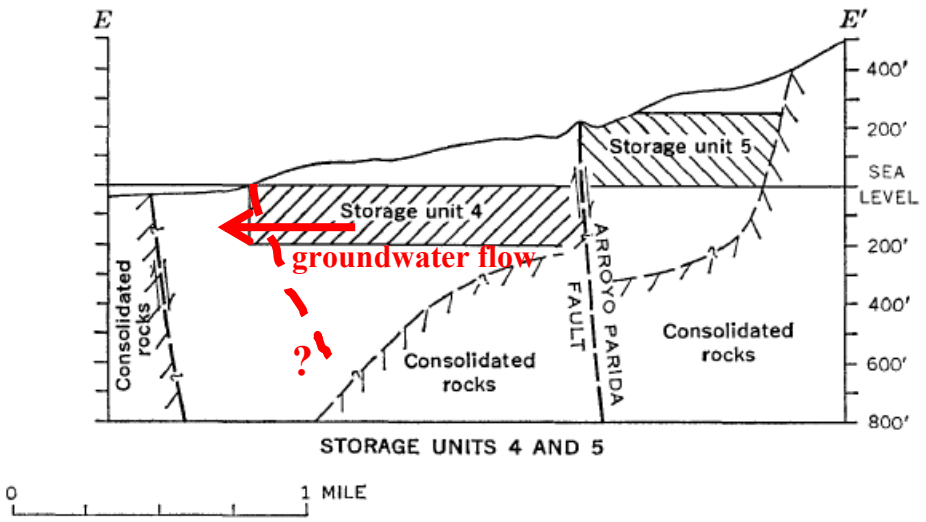

Figure 10. Copy of Muir's (1968) Figure 3 (section E-E′) with features in red added by this Contractor. The possible seawater front added on the southern perimeter of the MGWB is shown as a dashed red line.

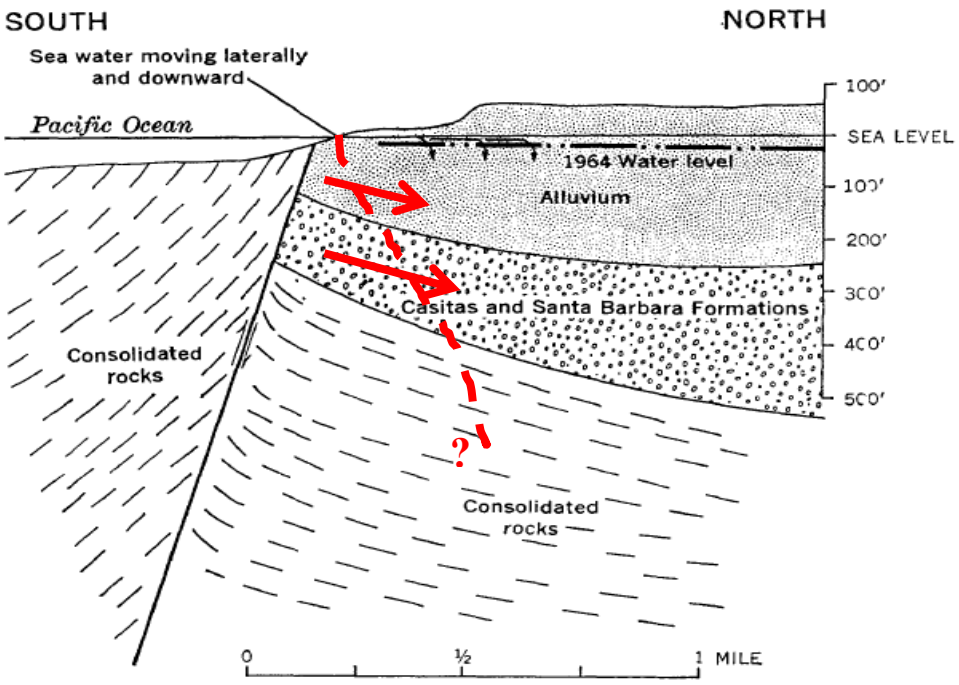

Figure 11. Copy of Muir's (1968) Figure 4 illustrating mechanism of seawater intrusion in storage unit 3 of the MGWB prevailing 1964. Features in red were added by this Contractor.

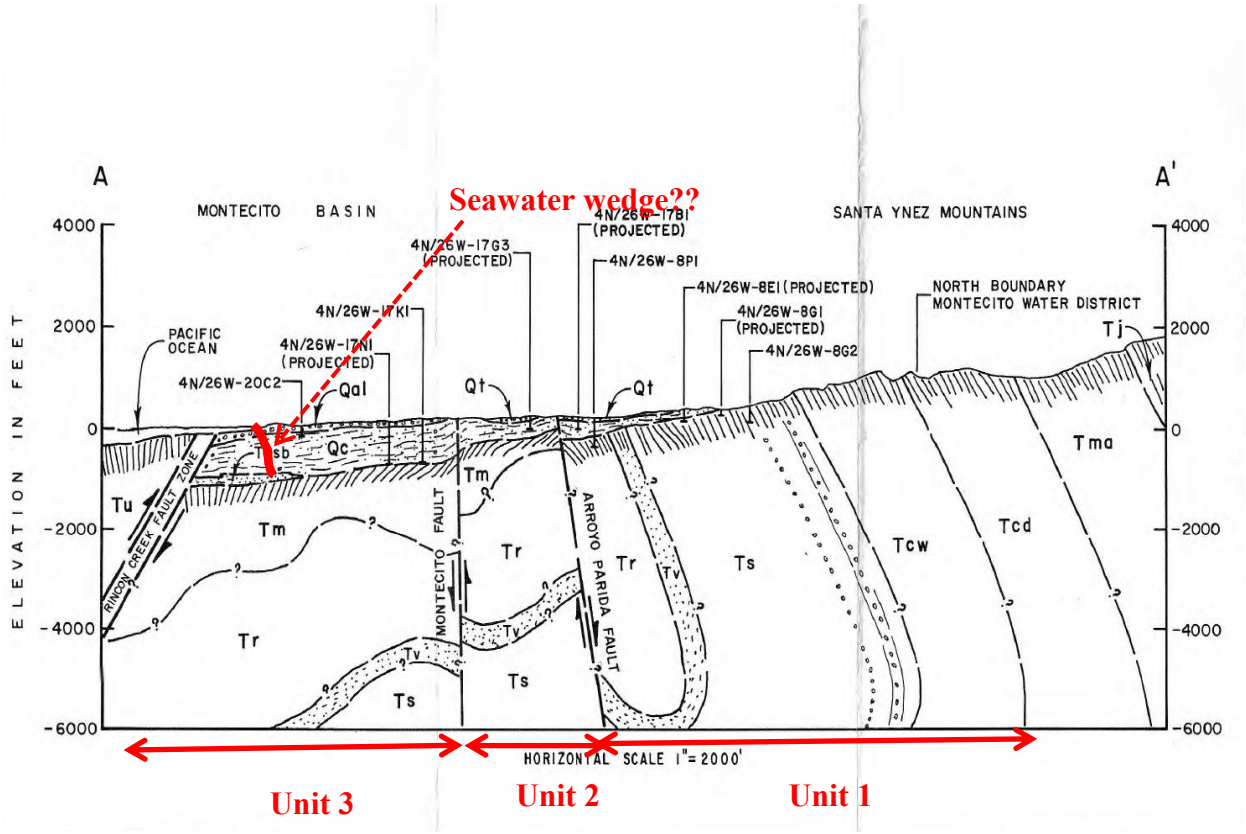

Figure 12. Copy of Geotechnical Consultant's (1974) plate 4.1. Geologic section of the MGWB. Red features were added by this Contractor. The red line depicts a plausible position of the seawater wedge. Notice the division of the MGWB into storage units 1, 2, and 3 defined by structural features (faults).

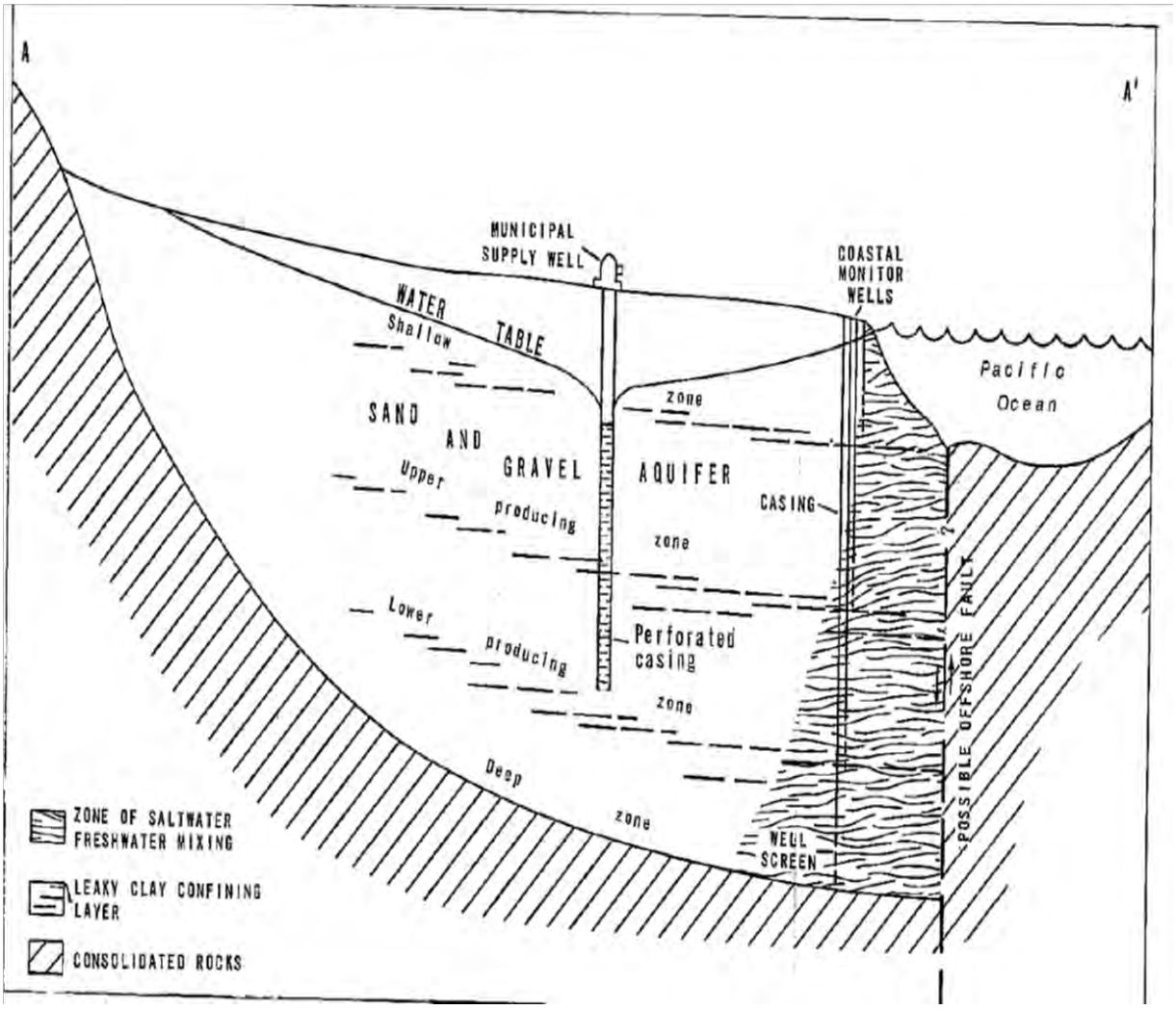

Figure 13. Copy of Hutchinson's (1979) Figure 2. Generic geologic section through the SBGWB. Notice the zone of seawater-freshwater mixing north of the western extension of the RCF.

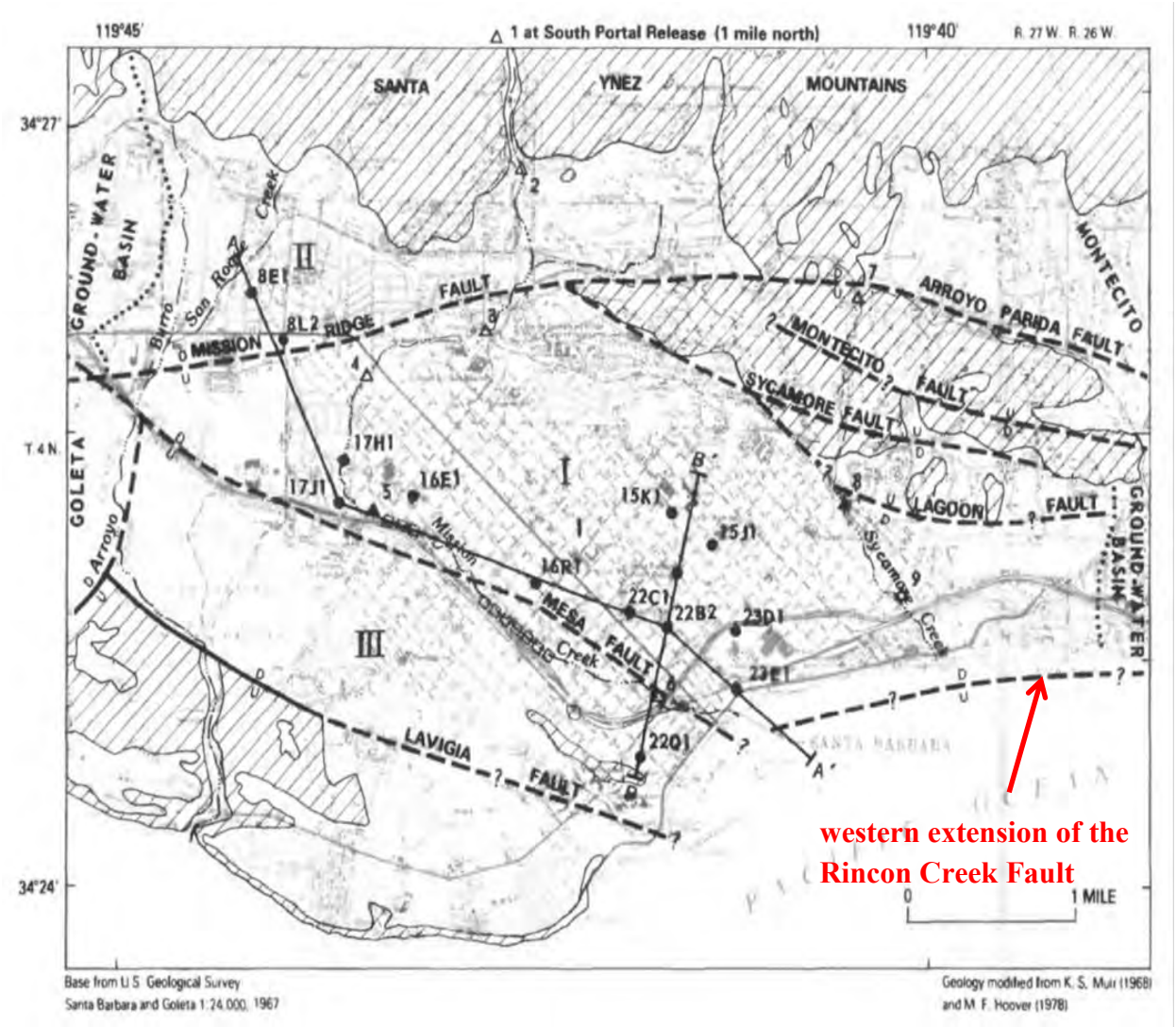

Figure 14. Copy of Martin's (1984) Figure 2. Map of the SBGWB depicting the western side of the MGWB and the western extension of the RCF. Features in red were added by this Contractor.

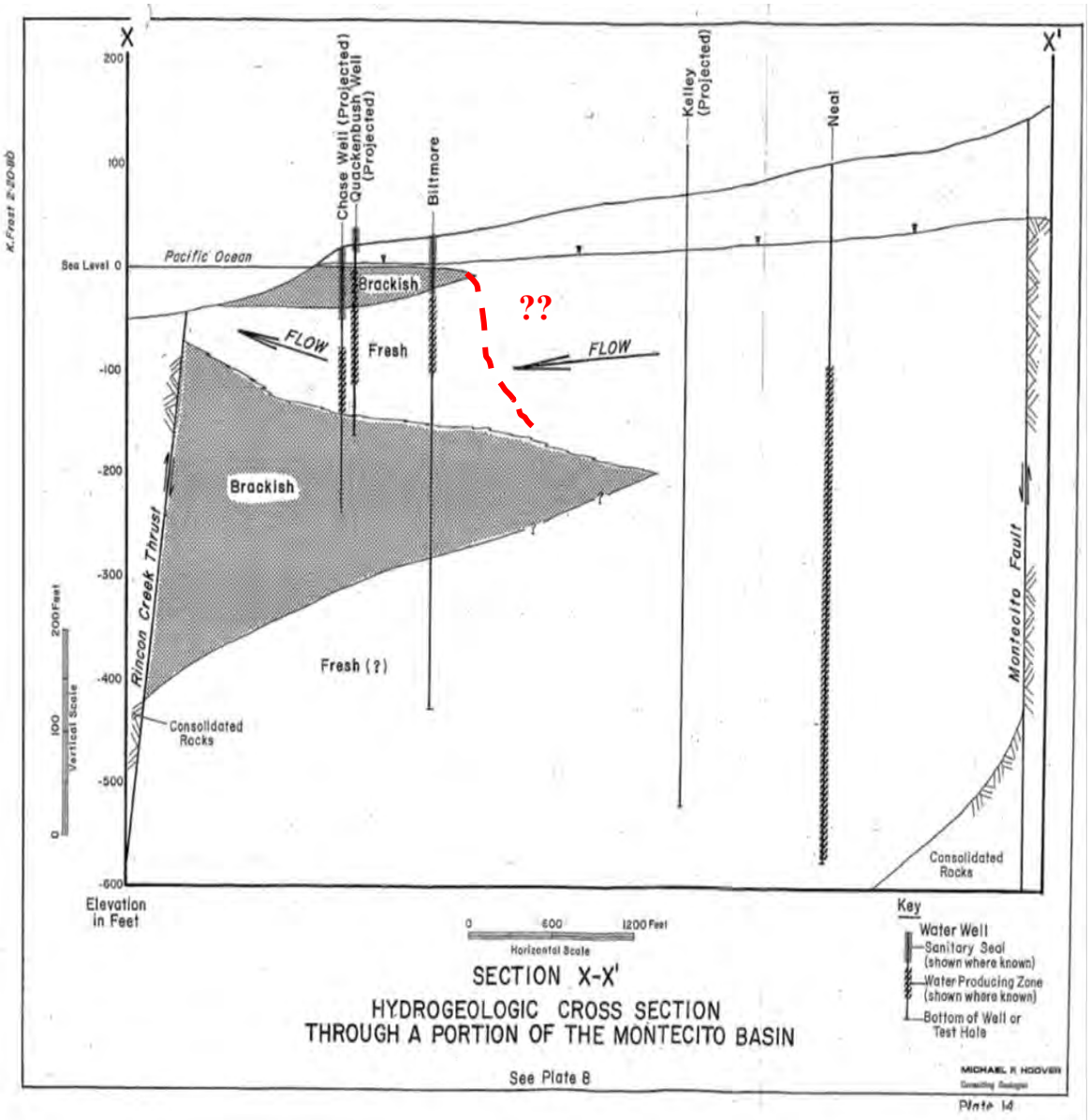

Figure 15. Copy of Hoover's (1980) hydrogeologic section Plate 14. Dotted red line depicts a plausible position of the seawater wedge, and was added by this Contractor.

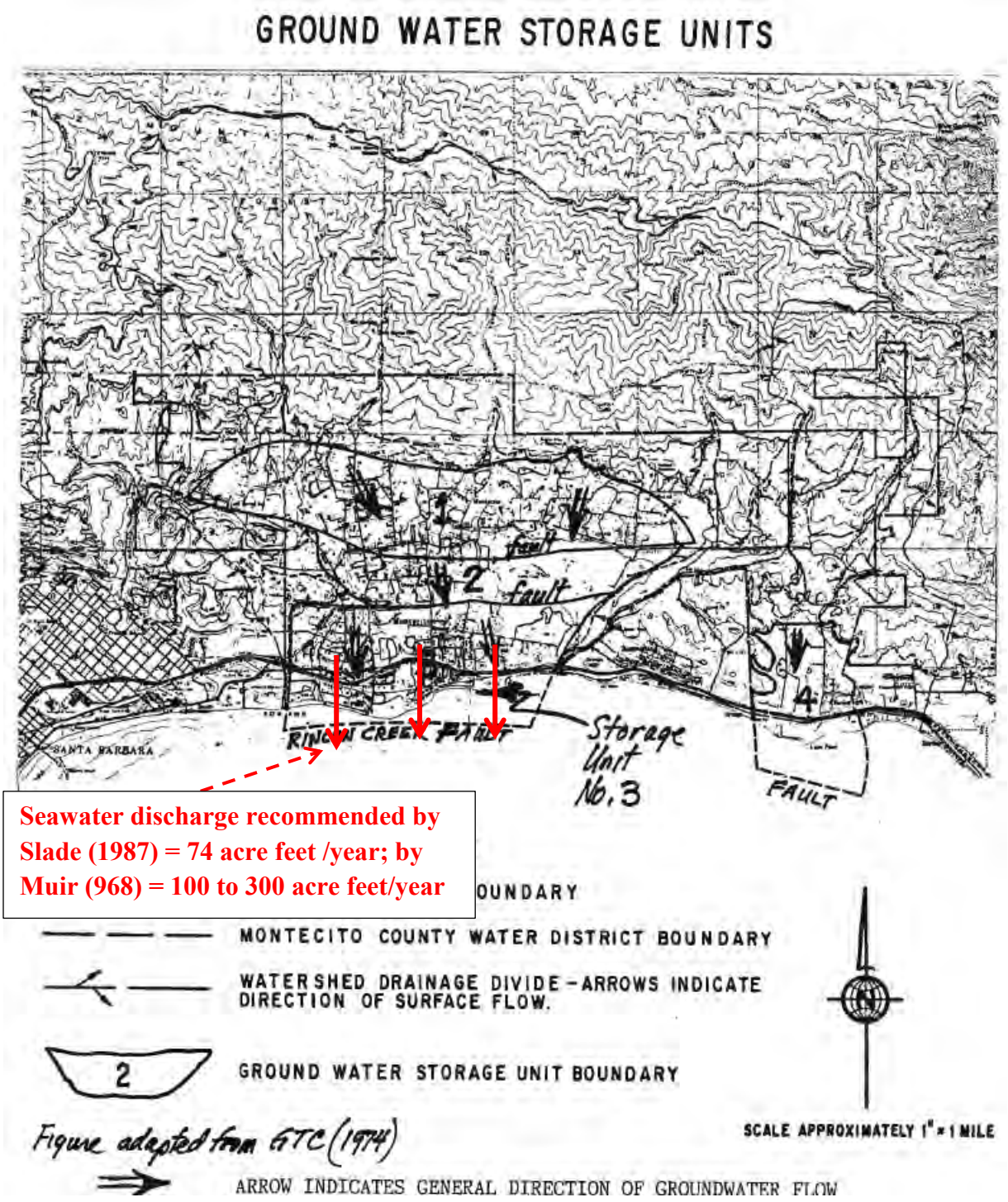

Figure 16. Copy of Slade's 1987 Figure 1 showing the MGWB and its storage units. Slade (1987) assessed potential seawater intrusion into storage unit 3 and recommended criteria to prevent it. The range of discharge recommended by Muir (1968) was 100 to 300 acre feet / year. Red features were added by this Contractor.

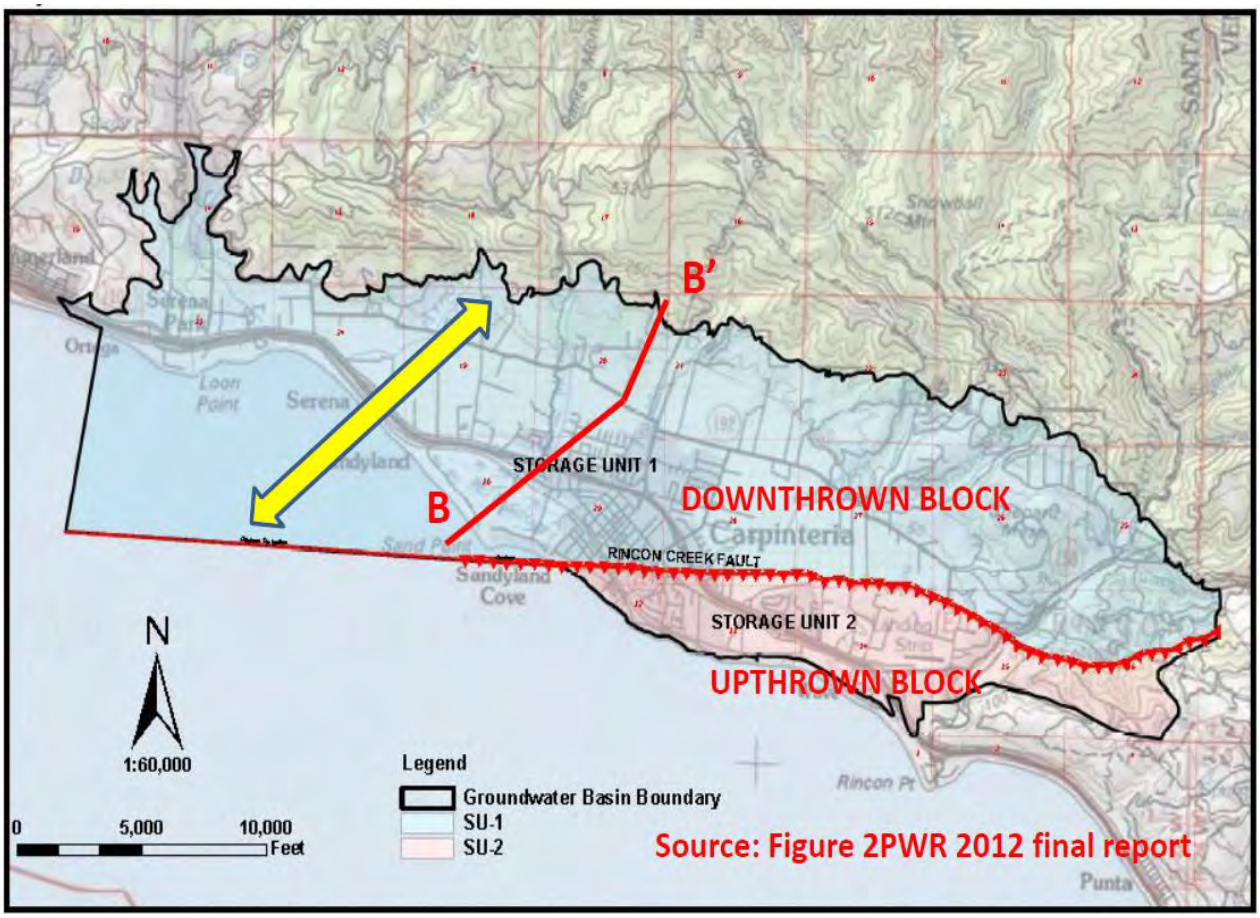

Figure 17. From Loáiciga (2014) showing the Carpinteria Groundwater Basin (CGWB) and zone of contact (highlighted by yellow, arrowed, line) between the CGWB's unit 1 and the ocean. The RCF continues westward and offshore towards the MGWB and the SBGWB. The hydrogeologic section B-B′ is depicted in Figure 18.

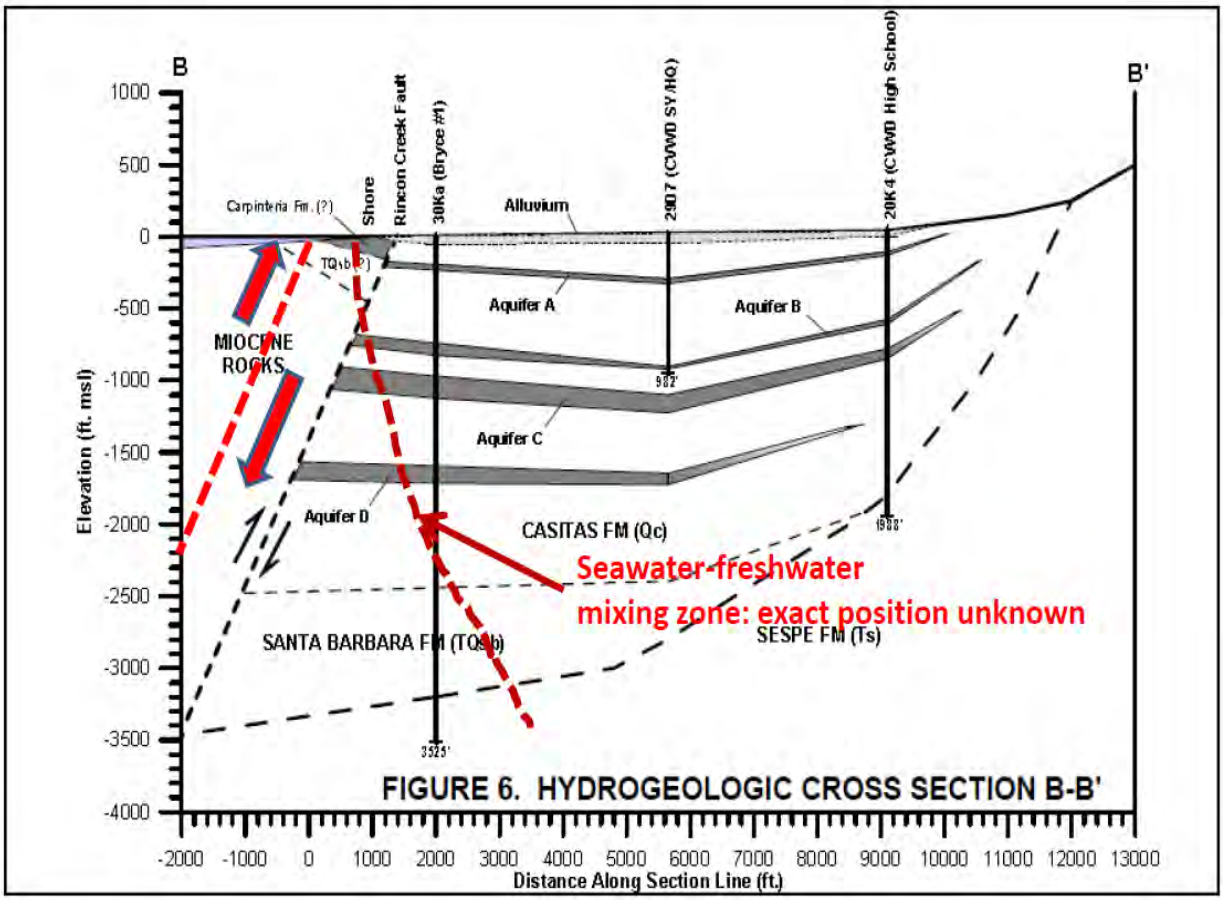

FIGURE 6. HYDROGEOLOGIC CROSS SECTION B-B'

Figure 18. From Loáiciga (2014). Hydrogeologic section B-B′ showing the four aquifers of the CGWB, including the Casitas formation that is prominent within the MGWB, and a few wells. The position of the RCF is the one shown as a dashed red line in the figure. Notice the similarity of the fault-aquifer-ocean interactions depicted in this figure and that shown in Figure 12 for the MGWB.

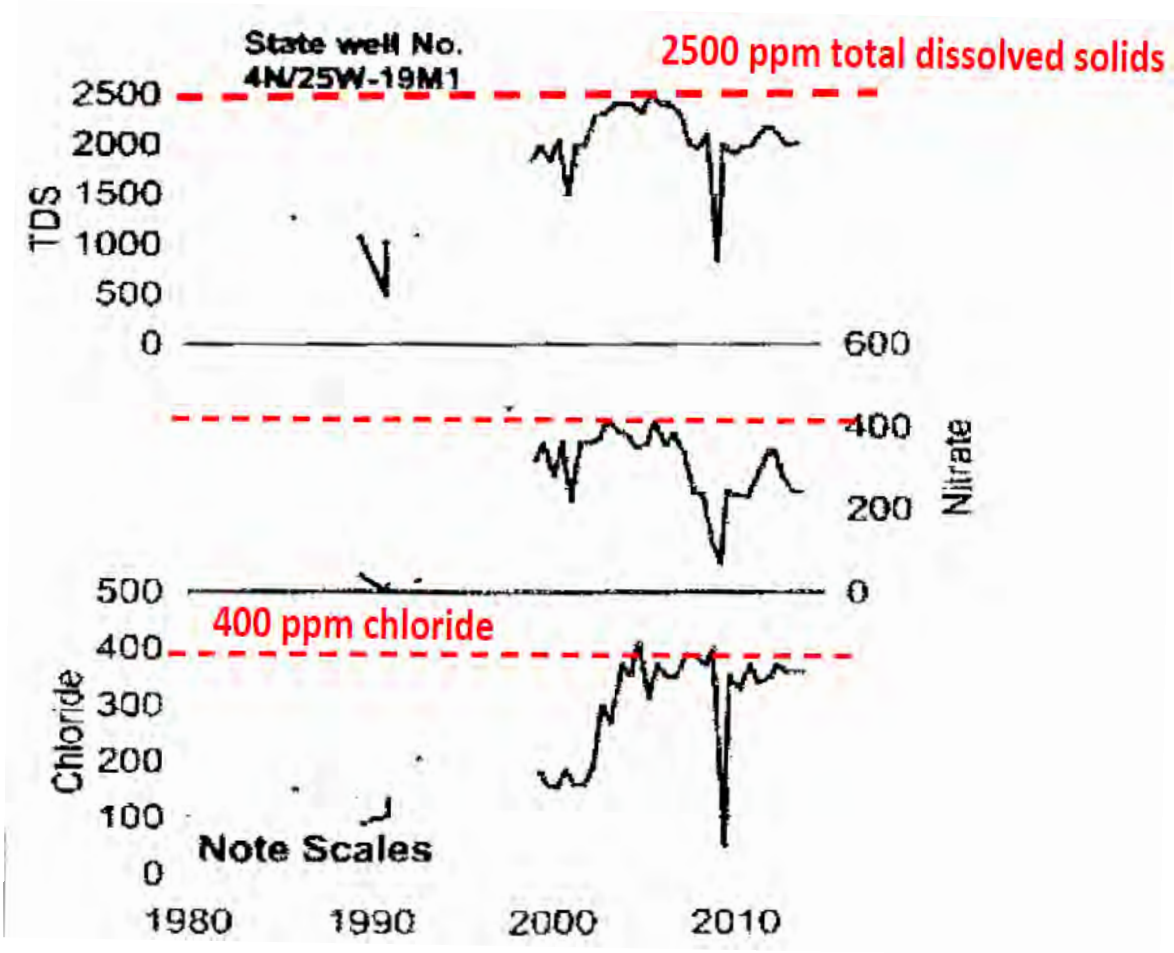

Figure 19. High concentration of TDS, chloride, and nitrate in well 4N/25W-19M1 located in storage unit 1 (the coastal sub-basin of the CGWB). Source: Fugro Inc.'s 2013 hydrogeologic report to the CWD.

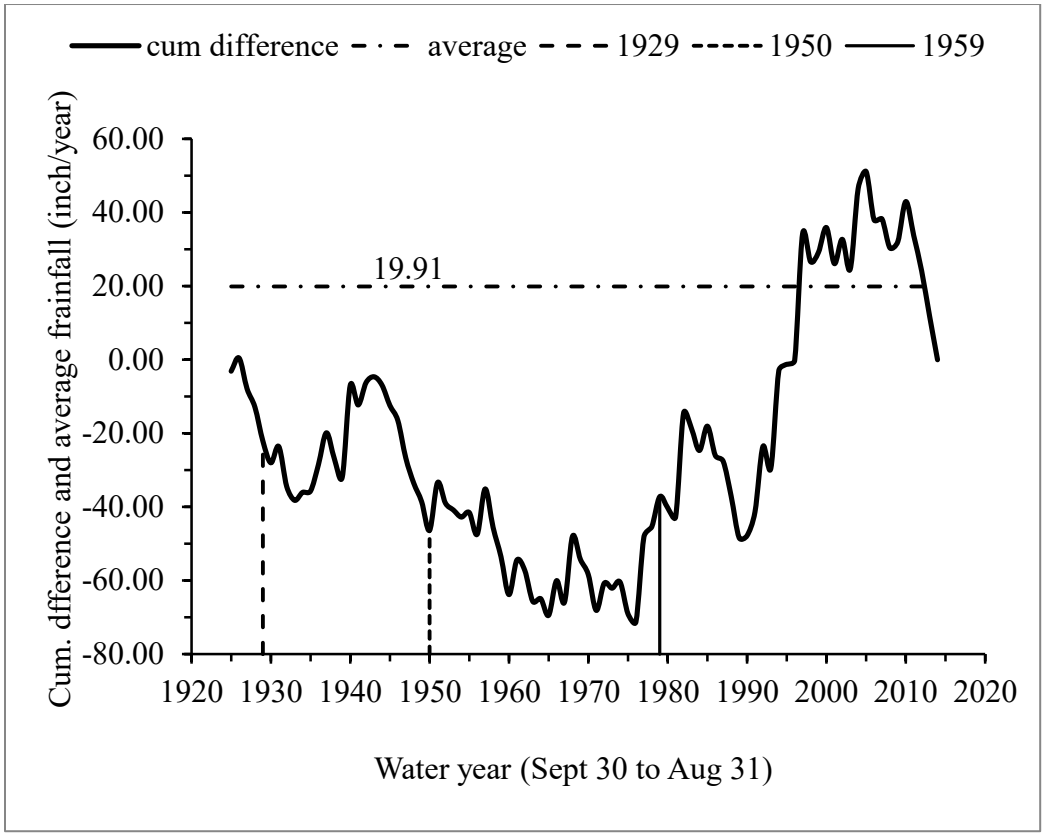

Figure 20. Cumulative difference of annual rainfall from long-term average annual rainfall in the MGWB.

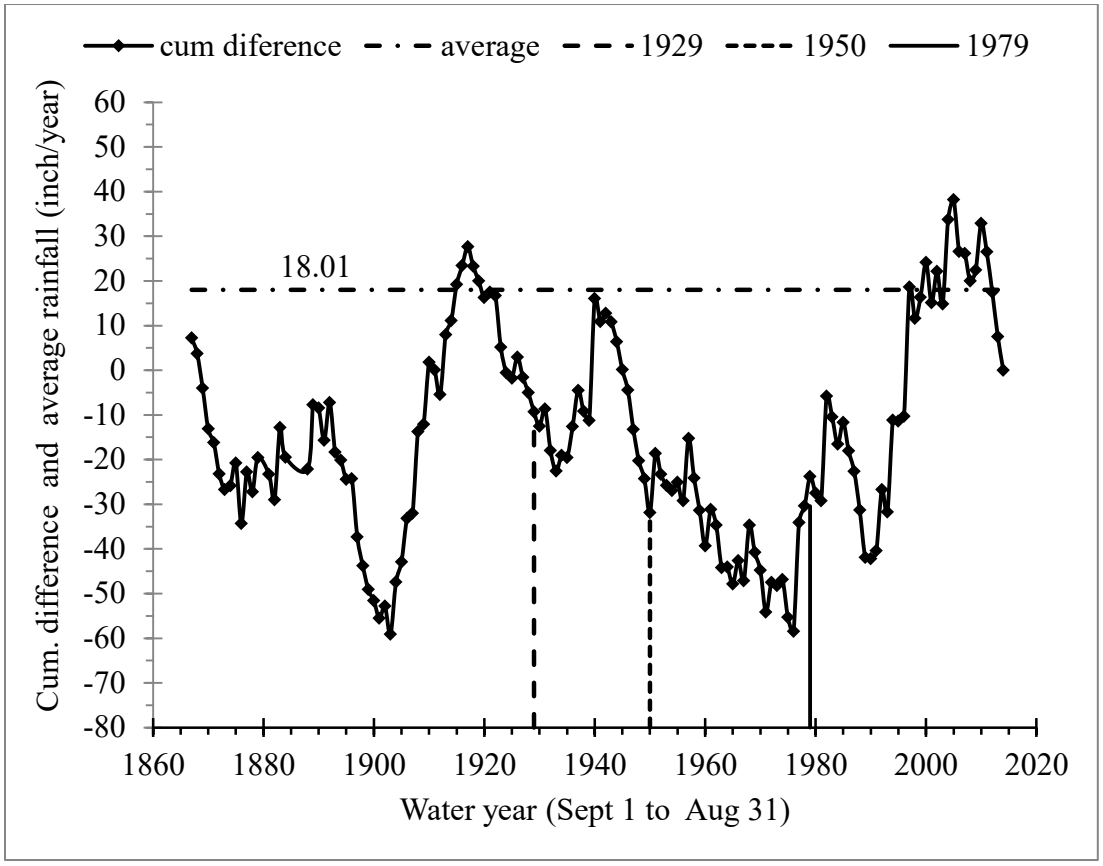

Figure 21. Cumulative difference of annual rainfall from long-term average annual rainfall in the City of Santa Barbara.

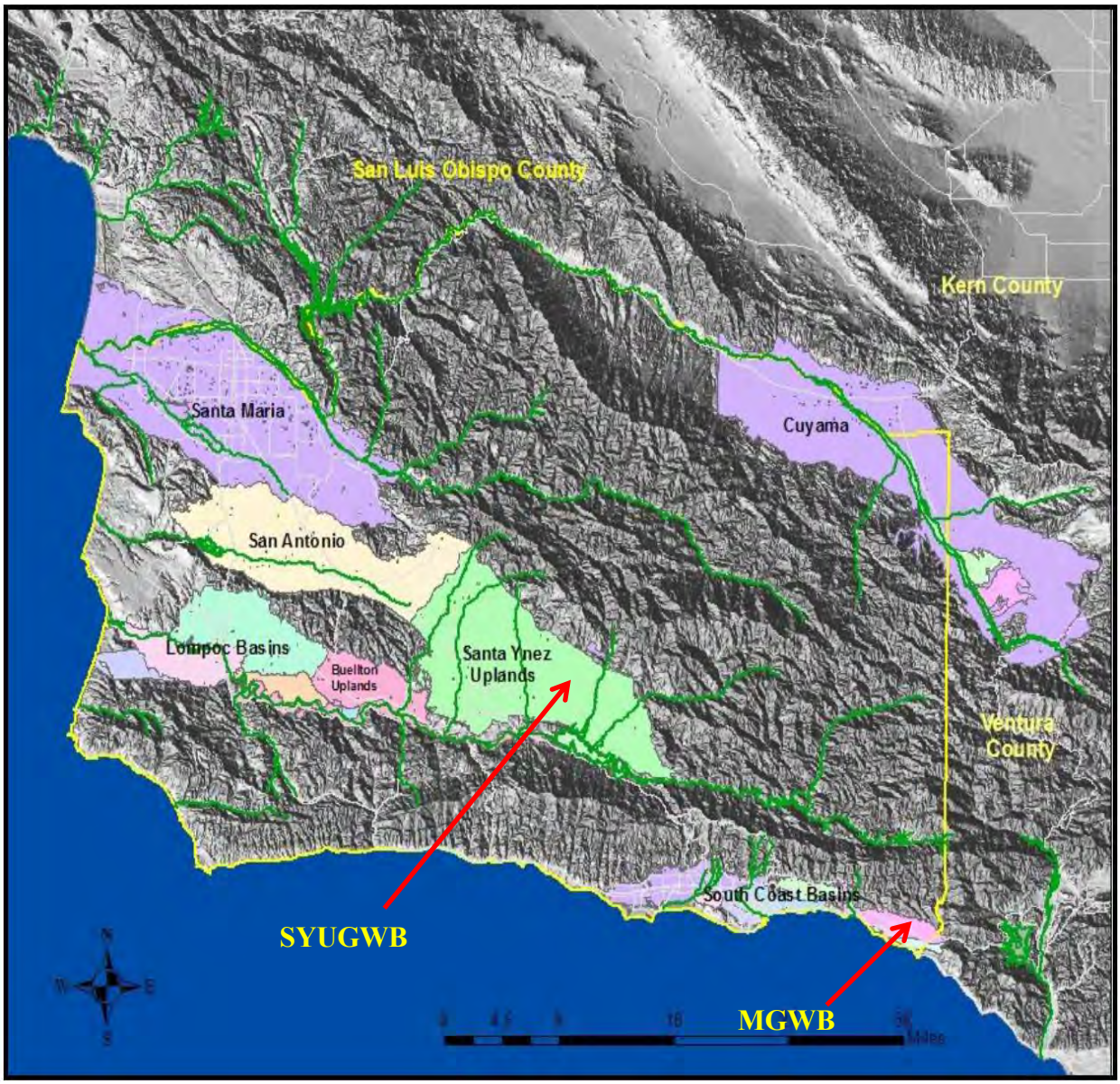

Figure 22. Map of groundwater basins of Santa Barbara County (Source: Groundwater Basins Status Report, County of Santa Barbara, 2011).

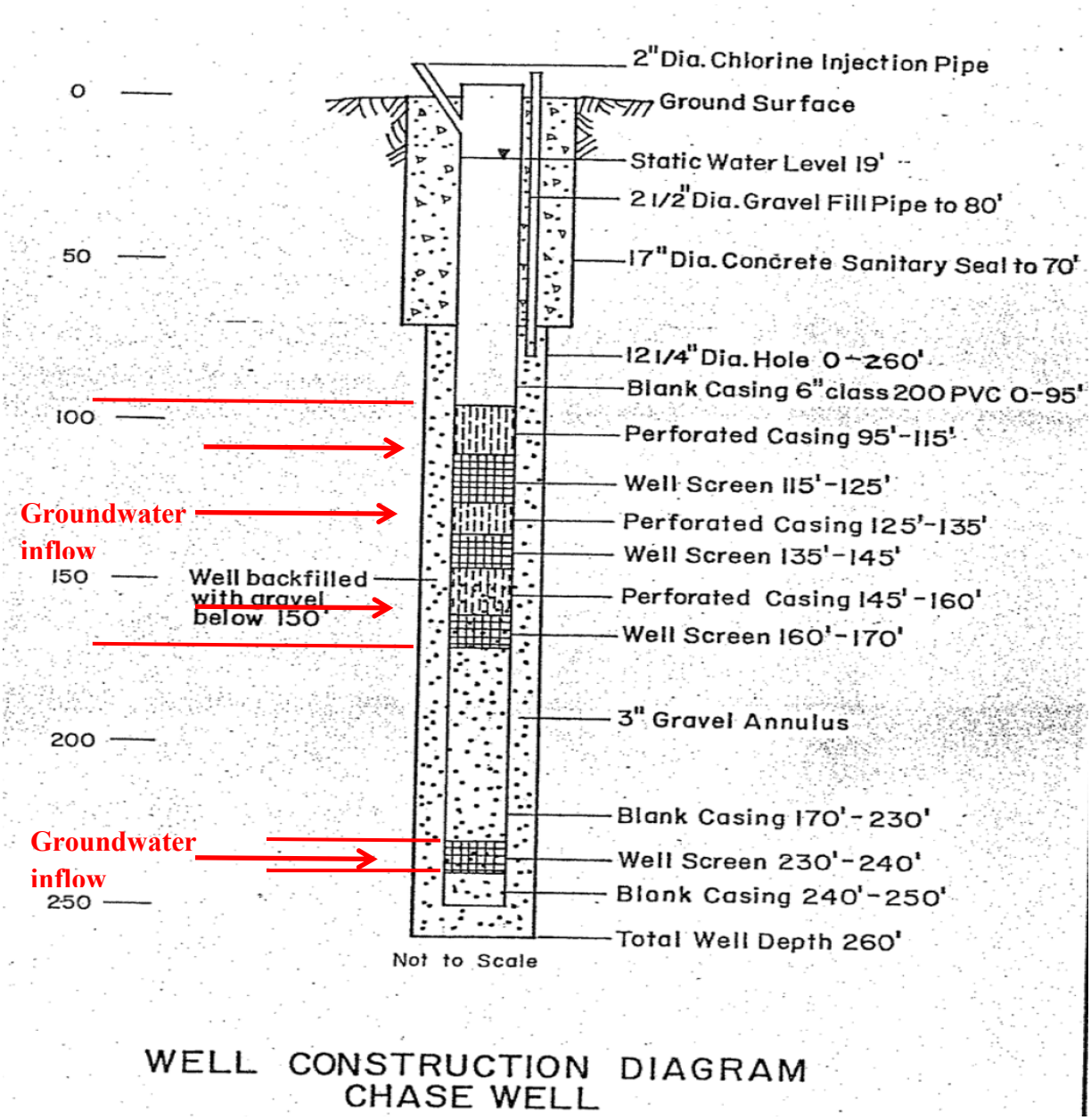

Figure 23. Well construction diagram of the Chase well, from a June 15, 1978, report by geologist M. Hoover to Mr. and Mrs. Dan Chase. Notice segments of the well where groundwater enters it, from depths 95 through 170 ft and from 230 through 240 ft.

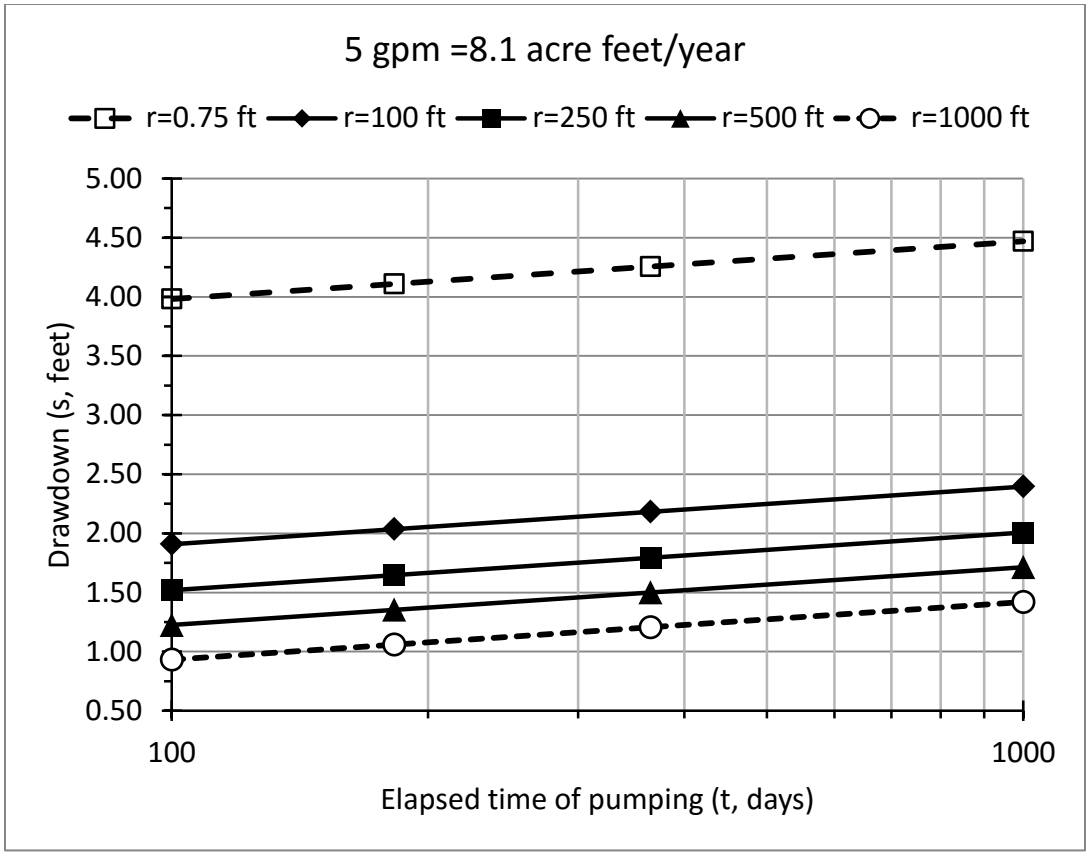

Figure 24. Calculated drawdowns for a pumping rate equal to 5 gpm as function of the elapsed time since pumping began and distance from the pumping well (the Chase, Makarechian, and Hair wells).

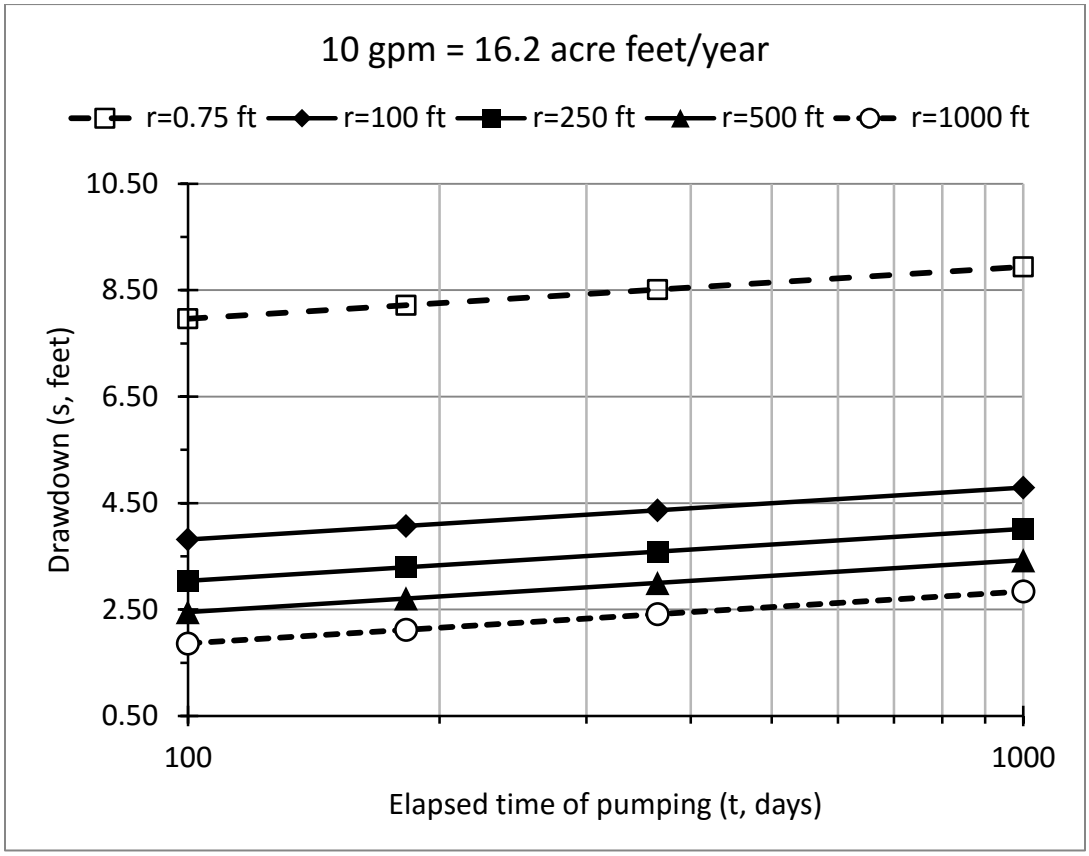

Figure 25. Calculated drawdowns for a pumping rate equal to 10 gpm as function of the elapsed time since pumping began and distance from the pumping well (the two Biltmore wells).

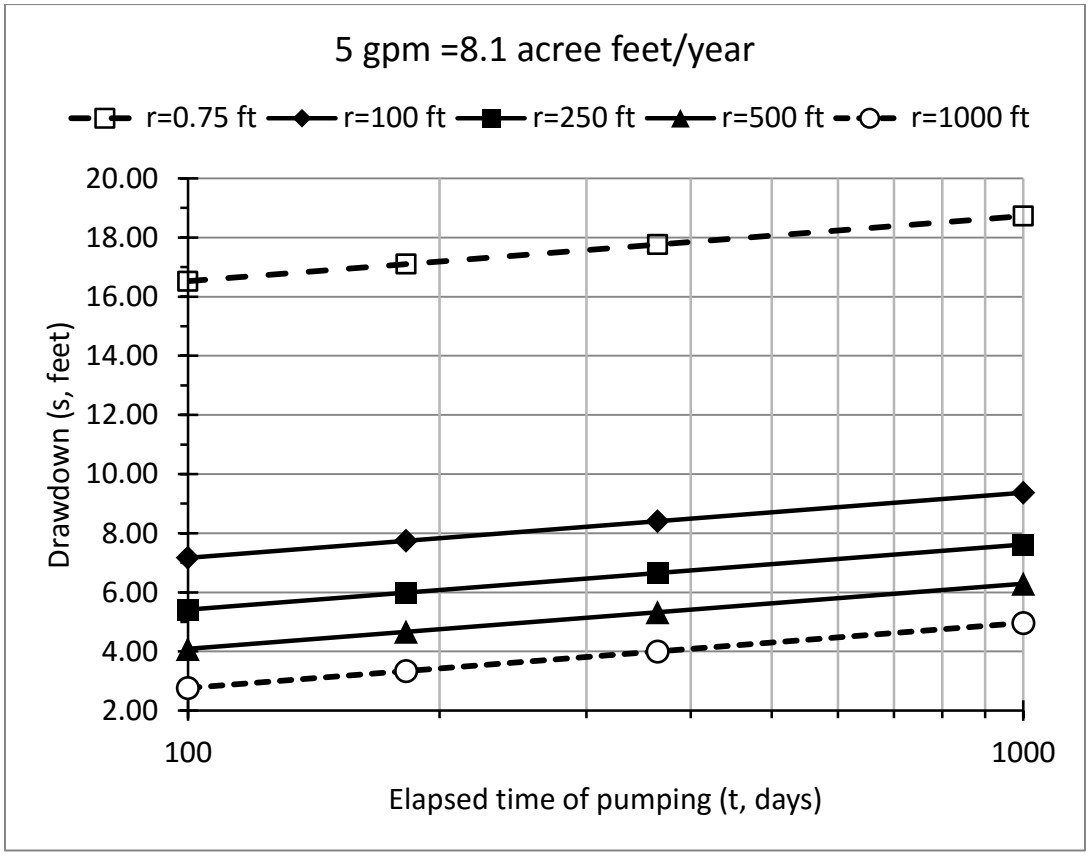

Figure 26. Calculated drawdowns for a pumping rate equal to 5 gpm as function of the elapsed time since pumping began and distance from the pumping well (Schlesinger well).

4-STB-16-0795

County of Santa Barbara
Planning and Development
Glenn S. Russell, Ph.D., Director
Dianne Black, Assistant Director

REVISED NOTICE OF FINAL ACTION

August 10, 2016

Appeal period begins on August 15, 2016

Received
AUG 12 2016
California Coastal Commision
South Central Coast District

California Coastal Commission
Steve Hudson, District Manager
89 South California Street, Suite 200
Ventura, California 93001

Dear Mr. Hudson,

On July 20, 2016, Santa Barbara County took final action on the development described below:

☑ Appealable Coastal Development Permit [15CDP-00000-00099]

Project Applicant:
Michael Hair
6501 Fruitvale Avenue
Bakersfield, CA 93308
(661) 393-4523

Property Owner:
Michael Hair
1169 Hill Road
Santa Barbara, CA 93108
(661) 393-4523

Project Description: The proposed project is for a Coastal Development Permit to allow construction of a new private water well to be used for on-site irrigation.

Location: The project involves AP No. 009-352-038, located at 1169 Hill Road, in the Montecito Community Plan area, First Supervisorial District, Santa Barbara County, California.

Coastal Commission Appeal Procedure: The receipt of this letter and the attached materials start the 10 working day Coastal Commission appeal period during which the County's final action on this Coastal Development Permit may be appealed to the Coastal Commission. Appeals must be in writing and must be submitted to the appropriate Coastal Commission district office on the appropriate form and with the required filing fee. See the following for further information: http://www.coastal.ca.gov/cdp/cdp-forms.html

Please contact J. Ritterbeck at (805) 568-3509 or jritterb@co.santa-barbara.ca.us if you have any questions regarding the County's action or this notice.

J. Ritterbeck, Project Planner

August 10. 2016
August 10, 2016

Attachments:
Action Letter dated August 4, 2016

cc: Case File: 15CDP-00000-00099, 16APL-00000-00001
Applicant: Michael Hair, 6501 Fruitvale Avenue, Bakersfield, CA 93308
Agent: Susan Petrovich, 1020 State Street, Santa Barbara, CA 93101
David Villalobos, Hearing Support Staff

Exhibit 10
Final Local Action Notice
A-4-STB-16-0078

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COUNTY OF SANTA BARBARA
CALIFORNIA

MONTECITO PLANNING COMMISSION

COUNTY ENGINEERING BUILDING
123 E. ANAPAMU STREET
SANTA BARBARA, CALIFORNIA 93101-2058
PHONE: (805) 568-2000
FAX: (805) 568-2030

Revised Action Letter

August 4, 2016

Susan Petrovich
1020 State Street
Santa Barbara, CA 93101

MONTECITO PLANNING COMMISSION
HEARING OF JULY 20, 2016

RE: Olive Mill Trust Private Water Well Appeal; 16APL-00000-00001

Hearing on the request of Susan Petrovich, attorney for the applicant, Michael Hair, to consider Case No. 16APL-00000-00001 [application filed on December 28, 2015] for an appeal of the Planning and Development Director's denial of a Coastal Development Permit, Case No. 15CDP-00000-00099 to allow construction of a new private water well, in compliance with Section 35-182 of the Article II Coastal Zoning Ordinance, on property zoned 1-E-1; and to determine the project is exempt from CEQA pursuant to Section 15303 of the State Guidelines for Implementation of the California Environmental Quality Act. The application involves AP No. 009-352-038, located at 1169 Hill Road, in the Montecito Community Plan area, First Supervisorial District. (Continued from 5/18/16)

Dear Ms. Petrovich:

At the Montecito Planning Commission hearing of July 20, 2016, Commissioner Overall moved, seconded by Commissioner Cole and carried by a vote of 3 to 2 (Keller and Brown no) to:

1. Approve the appeal, Case No. 16APL-00000-00001, thereby overturning the Director's denial of the project;

2. Make the required findings for approval of the project, including CEQA findings, included in Attachment 1 of the staff memorandum dated June 30, 2016;

3. Determine that the project is exempt from CEQA pursuant to Section 15303 of the State Guidelines for the implementation of the California Environmental Quality Act, as specified in Attachment 3 of the staff memorandum dated June 30, 2016; and

4. Approve the project *de novo*, case number 15CDP-00000-00099, subject to the Conditions of Approval included in Attachment 2 of the staff memorandum dated June 30, 2016, and as revised at the Montecito Planning Commission hearing of July 20, 2016.

The following revisions to the Conditions of Approval, included in Attachment 2 to the staff memo, dated June 30, 2016, were made at the Montecito Planning Commission hearing of July 20, 2016:

1) **Condition #1 (Project Description) was modified as follows:**

Proj Des-01 Project Description: This Coastal Development Permit is based upon and limited to compliance with the project description, the hearing exhibits, and all conditions of approval set forth below, including mitigation measures and specified plans and agreements included by reference, as well as all applicable County rules and regulations.

The project description is as follows:

The proposed project is for a Coastal Development Permit to allow construction of a new private water well to be used for on-site irrigation of existing landscaping (common-ownership APNs 009-352-038, 009-352-030, 009-352-029 and 009-353-013) and shall not be used for any other purpose (i.e., residential connection(s), export, or sale). The new water well will not include any lighting fixtures and shall be limited to an extraction rate of no more than five gallons per minute and shall operate no more than 12 hours per day. The existing dwelling on the parcel with the new well will continue to be served by the Montecito Water District, the Montecito Fire Protection District, the Santa Barbara County Sheriff's Department, and the Montecito Sanitary District. Access to the well site will continue to be provided off of Hill Road. The subject parcel is a 0.88-acre legal lot, zoned 1-E-1, shown as Assessor's Parcel Number 009-352-038, and is located at 1169 Hill Road in the Coastal Zone of the Montecito Community Plan area, First Supervisorial District.

Any deviations from the project description, exhibits or conditions must be reviewed and approved by the County for conformity with this approval. Deviations may require approved changes to the permit and/or further environmental review. Deviations without the above described approval will constitute a violation of permit approval.

2) **Condition #3 was deleted.**

~~**Aest-10 Lighting:** The Owner / Applicant shall ensure any exterior night lighting installed on the project site is of low intensity, low glare design, minimum height, and shall be hooded to direct light downward onto the subject lot and prevent spill-over onto adjacent lots. The Owner/Applicant shall install timers or otherwise ensure lights are dimmed after 10 p.m.~~

~~PLAN REQUIREMENTS: The Owner/Applicant shall incorporate these requirements and show locations and height of all exterior lighting fixtures on all building plans.~~

~~TIMING: Lighting shall be installed in compliance with this measure prior to Final Building Inspection Clearance.~~

~~MONITORING: P&D shall review the proposed lighting for compliance with this measure prior to issuance of the Coastal Development Permit. P&D staff shall inspect structures upon completion to ensure that exterior lighting fixtures have been installed consistent with these requirements.~~

The attached findings and conditions reflect the Montecito Planning Commission's actions of July 20, 2016.

The action of the Montecito Planning Commission on this project may be appealed to the Board of Supervisors by the applicant or any aggrieved person adversely affected by such decision. To qualify as an aggrieved persons the appellant, in person or through a representative, must have informed the

Montecito Planning Commission by appropriate means prior to the decision on this project of the nature of their concerns, or, for good cause, was unable to do so.

Appeal applications may be obtained at the Clerk of the Board's office. The appeal form must be filed along with any attachments to the Clerk of the Board. In addition to the appeal form a concise summary of fifty words or less, stating the reasons for the appeal, must be submitted with the appeal. The summary statement will be used for public noticing of your appeal before the Board of Supervisors. The appeal, which shall be in writing together with the accompanying applicable fee must be filed with the Clerk of the Board of Supervisors within the 10 calendar days following the date of the Montecito Planning Commission's decision. In the event that the last day for filing an appeal falls on a non-business of the County, the appeal may be timely filed on the next business day. This letter or a copy should be taken to the Clerk of the Board of Supervisors in order to determine that the appeal is filed within the allowed appeal period.

The local appeal period for this project ends on August 1, 2016 at 5:00 p.m.

Sincerely,

Dianne M. Black

Dianne M. Black
Secretary to the Montecito Planning Commission

cc: Case File: 16APL-00000-00001 (To Planner: J. Ritterbeck)
Montecito Planning Commission File
Montecito Association, P.O. Box 5278, Montecito, CA 93150
Owner: Michael F. Hair, 6501 Fruitvale Avenue, Bakersfield, CA 93308
County Chief Appraiser
Environmental Health Services
Supervisor Carbajal, First District
Commissioner Cole
Commissioner Keller
Commissioner Phillips
Commissioner Overall
Commissioner Brown
Johannah Hartley, Deputy County Counsel

Attachments: **Attachment 1 – Findings for Approval**
Attachment 2 – Coastal Development Permit with Conditions of Approval

DMB/dmv

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ATTACHMENT 1

FINDINGS FOR APPROVAL

1.0 CEQA FINDINGS

The Montecito Planning Commission finds that the project is categorically exempt from environmental review under the California Environmental Quality Act (CEQA), pursuant to Section 15303 [New Construction or Conversion of Small Structures] of the State CEQA Guidelines. See Attachment 3 for a more detailed discussion.

2.0 ADMINISTRATIVE FINDINGS

2.1 Findings required for all Coastal Development Permits.

In compliance with Section 35-60.5 of the Article II Coastal Zoning Ordinance, prior to issuance of a Coastal Development Permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and/or the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development.

Given the nature of the proposed development (i.e., a private water well) it would be a misapplication of zoning standards to require that the well itself be serviced by a public water district or sewer district; in this case, the Montecito Water District and the Montecito Sanitary District, respectively. Emergency Fire and Police services for the proposed development will continue to be provided by the Montecito Fire Protection District and the Santa Barbara County Sheriff's Department, respectively. Access to the project site will continue to be provided via the existing driveway off of Hill Road. Driveway dimensions and access will be in conformance with Montecito Fire Protection District specifications. The limited shallow-well extraction of groundwater from the Montecito Basin by the water well will have a *de minimis* effect on the safe yield of the groundwater basin, as evidenced by testimony from Adam Simmons at the May 18, 2016 Montecito Planning Commission hearing. Furthermore, extraction from the new water well would be limited to pumping at a rate of 5 gallons per minute for no more than 12 hours per day. Therefore, this finding can be made.

2.2 In compliance with Section 35-169.5.2 of the Article II, Coastal Zoning Ordinance, prior to the approval or conditional approval of an application for a Coastal Development Permit subject to Section 35-169.4.2, the decision-maker shall first make all of the following findings:

2.2.1 The proposed development conforms:

a. To the applicable provisions of the Comprehensive Plan, including the Coastal Land Use Plan;

The project will be in compliance with Coastal Act Policy 30251 and Local Coastal Plan Policy 4-4, which require that scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance and that new structures be compatible with the scale and character of the surrounding neighborhood. The proposed water well will be constructed in proportion (size, bulk, scale and height) to the surrounding development and consistent with the applicable Article II zoning requirements for the E-1 zone. The project will also be in compliance with Coastal Act Policy 30211, which requires that development not interfere with the public's right of access to the sea.

Additionally, the project will be in compliance with Local Coastal Plan Policy 2-4, which states:

"Within designated urban areas, new development other than that for agricultural purposes shall be serviced by the appropriate public sewer and water district or an existing mutual water company, if such service is available."

The private water well is proposed to service existing landscaping on the subject parcel, not new development. Also, given the nature of the proposed development (i.e., a private water well), it would be a misapplication of the policy to require that the well itself be serviced by a public water district; in this case, the Montecito Water District. For both of these reasons, the project can be found consistent with Policy 2-4.

b. With the applicable provisions of this Article or the project falls within the limited exceptions allowed under Section 35-161 (Nonconforming Use of Land, Buildings and Structures).

The subject property is located within a coastal, urban, developed neighborhood in the E-1 zone district. Pursuant to Article II, Section 35-71.1:

"The purpose of this district is to reserve appropriately located areas for family living at a reasonable range of population densities consistent with sound standards of public health, welfare, and safety. It is the intent of this district to protect the residential characteristics of an area and to promote a suitable environment for family life."

The development will be consistent with surrounding residential development and uses. The proposed private water well will be located in an interior area of the lot and constructed within an area of existing ornamental landscaping and in close proximity to other hardscape features. Additionally, the new water well meets all setback requirements and other applicable provisions of the Coastal Zoning Ordinance. Therefore, the proposed project will be consistent with the purpose and intent of the E-1 zone and this finding can be made.

2.2.2. The proposed development is located on a legally created lot.

The subject parcel is considered to be a legally created lot for planning purposes as it is currently developed with an existing single-family dwelling and has been validated by prior issuance of County Building Permits. Therefore, this finding can be made.

2.2.3. The subject property and development on the property is in compliance with all laws, rules and regulations pertaining to zoning uses, subdivisions, setbacks and any other applicable provisions of this Article, and any applicable zoning violation enforcement fees and processing fees have been paid. This subsection shall not be interpreted to impose new requirements on legal nonconforming uses and structures in compliance with Division 10 (Nonconforming Structures and Uses).

The property is in compliance with all laws, rules and regulations pertaining to the E-1 zone district as they pertain to zoning uses, subdivisions, setbacks, and all other applicable provisions of Article II, the Coastal Zoning Ordinance. Therefore, this finding can be made.

2.2.4. The proposed development will not significantly obstruct public views from any public road or from a public recreation area to, and along the coast.

The proposed water well will be constructed on a portion of the site that is already developed with other landscape features, including existing lawn, trees, and shrubs. All proposed components of the project are below the roof-line of the existing dwelling and will not add any new adverse effects to existing views from the beach to the mountains. Additionally, as proposed, the project will not obstruct any public views from any public

road or public recreation area to, and along the coast. Therefore, this finding can be made.

2.2.5. The proposed development is compatible with the established physical scale of the area.

The proposed project is for a new water well located approximately 80 feet south of the existing patio located on the south side of the existing dwelling on the site. The project is similar in size and scope to other projects that have been constructed in the surrounding residential area and will not exceed allowable ambient noise levels. Therefore, the proposed development will be compatible with the established physical scale of the area, and this finding can be made.

2.2.6. The proposed development will comply with the public access and recreation policies of this Article and the Comprehensive Plan including the Coastal Land Use Plan.

No public access to recreation areas will be affected by the proposed project. As such, the proposed project will be in compliance with all applicable public access and recreation policies of Article II and the Comprehensive Plan, including the Coastal Land Use Plan and the Montecito Community Plan. Therefore, this finding can be made.

2.3 Additional findings required for sites within the Montecito Community Plan area.

2.3.1 In compliance with Section 35-215 of the Article II Coastal Zoning Ordinance, prior to approval or conditional approval of an application for a Coastal Development Permit on sites with the Montecito Community Plan area, the decision-maker shall first find for all development projects, as development is defined in the Coastal Land Use Plan, that the project meets all the applicable development standards included in the Montecito Community Plan of the Coastal Land Use Plan.

The project will be in compliance with Montecito Community Plan policy VIS-M-1.1 through VIS-M-1.3, which require that development be subordinate to the natural open space characteristics of the mountains, and that development of property minimize impacts to open space views as seen from public roads and viewpoints. The proposed water well will be constructed in proportion (size, bulk, scale and height) to the surrounding development and would not impact any mountain views as the well structure would be located below the existing fence line of surrounding property. The project is consistent with all other applicable policies and development standards of the Montecito Community Plan. Therefore, this finding can be made.

2.3.2 In compliance with Section 35-215 of the Article II Coastal Zoning Ordinance, prior to the approval or conditional approval of an application for a Coastal Development Permit on sites within the Montecito Community Plan area the decision-maker shall first find for projects subject to discretionary review that the development will not adversely impact recreational facilities and uses.

The proposed water well will be constructed on a portion of the site that is already developed with other landscape features, including existing lawn, trees, and shrubs. All proposed components of the project are below the roof-line of the existing dwelling and will not add any new adverse effects to existing views from the beach to the mountains. Additionally, as proposed, the project will not adversely impact any recreational facilities or uses. Therefore, this finding can be made.

COUNTY OF SANTA BARBARA

Planning and Development

www.sbcountyplanning.org

COASTAL DEVELOPMENT PERMIT NO.: 15CDP-00000-00099

Project Name:	OLIVE MILL TRUST WELL
Project Address:	1169 HILL RD, SANTA BARBARA, CA 93108
A.P.N.:	009-352-038
Zone:	1-E-1

The Montecito Planning Commission hereby approves this Coastal Development Permit for the project described below based upon compliance with the required findings for approval and subject to the attached terms and conditions.

APPROVAL DATE:	7/20/2016
LOCAL APPEAL PERIOD BEGINS:	7/21/2016
LOCAL APPEAL PERIOD ENDS:	8/1/2016
DATE OF PERMIT ISSUANCE *(if no appeal is filed)*:	8/2/2016

APPEALS:

1. The approval of this Coastal Development Permit may be appealed to the Board of Supervisors by the applicant, owner, or any aggrieved person. An aggrieved person is defined as any person who, either in person or through a representative, appeared at a public hearing in connection with this decision or action being appealed, or who by other appropriate means prior to a hearing or decision, informed the decision-maker of the nature of their concerns, or who, for good cause, was unable to do either. The appeal must be filed in writing and submitted in person to the Planning and Development Department at either 123 East Anapamu Street, Santa Barbara, or 624 West Foster Road, Suite C, Santa Maria, prior to 5:00 p.m. on or before the date that the local appeal period ends as identified above (Article II Section 35-182).

2. Final action by the County on this permit may not be appealed to the California Coastal Commission; therefore payment of a fee is required to file an appeal of the approval of this Coastal Development Permit.

PROJECT DESCRIPTION SUMMARY: Construction of a water well for irrigation of existing landscaping onsite. To receive additional information regarding this project and/or to view the application and/or plans, please contact J. Ritterbeck at 123 East Anapamu Street, Santa Barbara, by email (jritterb@co.santa-barbara.ca.us), or by phone ((805) 568-3509).

PROJECT SPECIFIC CONDITIONS: See Attachment A.

ASSOCIATED CASE NUMBERS: 14CDH-00000-00005; 16APL-00000-00001

PERMIT ISSUANCE: This Coastal Development Permit will be issued following the close of the appeal period provided an appeal is not filed, or if appealed, the date of final action on the appeal which has the effect of upholding the approval of the permit. Issuance of this permit is subject to compliance with the following terms and conditions:

1. **Notice.** Notice of this project shall be posted on the project site by the applicant utilizing the language and form of the notice provided by the Planning and Development Department. The notice shall remain posted continuously until at least 10 calendar days following action on the permit, including an action on any appeal of this permit (Article II Section 35-181). The ***Proof of Posting of Notice on Project Site*** shall be signed and returned to the Planning and Development Department prior the issuance of the permit.

2. **Compliance with conditions.** All conditions that are required to be satisfied prior to issuance of the permit have been satisfied and the permit has been signed by the applicant or owner.

3. **Design Review.** If required, the project has been granted final approval by the appropriate Board of Architectural Review (BAR), and an appeal of that final approval has not been filed.

4. **Appeals.** An appeal of the approval of this permit, or an appeal of the final approval by the BAR, has not been filed with the County. If an appeal has been filed then the permit shall not be issued until final action on the appeal(s) has occurred which has the effect of upholding the approval of this permit, and, if applicable, the final approval by the BAR.

5. **Other approvals.** Any other necessary approvals required prior to issuance of this Coastal Development Permit have been granted.

PERMIT EXPIRATION AND EXTENSION: This permit shall remain valid only as long as compliance with all applicable requirements of the Article II Coastal Zoning Ordinance and the permit continues, including the conditions of approval specific to this permit. Additionally:

1. The approval of this permit shall expire either 12 months from the effective date of the permit or other period allowed in compliance with an approved Time Extension, and shall be considered void and of no further effect unless the permit is either issued within the applicable period in compliance with the terms indicated above or a valid application for a Time Extension is submitted prior to the expiration of this 12 month period and is subsequently approved (Article II Section 35-169).

2. This permit shall expire two years from the date of issuance and be considered void and of no further effect unless the use and/or structure for which the permit was issued has been lawfully established or commenced in compliance with the issued permit or an application for a Time Extension is submitted prior to the expiration of this two year period and is subsequently approved (Article II Section 35-169).

3. The effective date of this permit shall be (a) the day following the close of any applicable appeal period provided an appeal is not filed, or (b) if appealed, the date of final action on the appeal which has the effect of upholding the approval, or (c) some other date as indicated in this permit (Article II Section 35-57B).

WORK PROHIBITED PRIOR TO PERMIT ISSUANCE: No work, development, or use intended to be authorized pursuant to this permit approval shall commence prior to issuance of this permit and/or any other required permit (e.g., building permit).

OWNER/APPLICANT ACKNOWLEDGMENT: Undersigned permittee acknowledges receipt of this approval and agrees to abide by all conditions and terms thereof. Undersigned permittee also acknowledges that issuance of this permit for this project does not allow construction or use outside of the project description, not shall it be construed to be an approval of a violation of any provision of any County policy, ordinance or other governmental regulation.

_____ / _____

Print name **Signature** **Date**

Coastal Development Permit Approval By:

_____ /

Chair, Montecito Planning Commission **Date**

PERMIT ISSUANCE: The permit shall be issued and deemed effective on the date signed and indicated below.

Planning and Development Department Issuance By:

_____ /

Planner **Date**

ATTACHMENT A: CONDITIONS OF APPROVAL

Project Description

1. **Proj Des-01 Project Description:** This Coastal Development Permit is based upon and limited to compliance with the project description, the hearing exhibits, and all conditions of approval set forth below, including mitigation measures and specified plans and agreements included by reference, as well as all applicable County rules and regulations.

   The project description is as follows:

   The proposed project is for a Coastal Development Permit to allow construction of a new private water well to be used for on-site irrigation of existing landscaping (common-ownership APNs 009-352-038, 009-352-030, 009-352-029 and 009-353-013) and shall not be used for any other purpose (i.e., residential connection(s), export, or sale). The new water well will not include any lighting fixtures and shall be limited to an extraction rate of no more than five gallons per minute and shall operate no more than 12 hours per day. The existing dwelling on the parcel with the new well will continue to be served by the Montecito Water District, the Montecito Fire Protection District, the Santa Barbara County Sheriff's Department, and the Montecito Sanitary District. Access to the well site will continue to be provided off of Hill Road. The subject parcel is a 0.88-acre legal lot, zoned 1-E-1, shown as Assessor's Parcel Number 009-352-038, and is located at 1169 Hill Road in the Coastal Zone of the Montecito Community Plan area, First Supervisorial District.

   Any deviations from the project description, exhibits or conditions must be reviewed and approved by the County for conformity with this approval. Deviations may require approved changes to the permit and/or further environmental review. Deviations without the above described approval will constitute a violation of permit approval.

2. **Proj Des-02 Project Conformity:** The grading, development, use, and maintenance of the property, the size, shape, arrangement, and location of the structures, parking areas and landscape areas, and the protection and preservation of resources shall conform to the project description above and the hearing exhibits and conditions of approval below. The property and any portions thereof shall be sold, leased or financed in compliance with this project description and the approved hearing exhibits and conditions of approval thereto. All plans must be submitted for review and approval and shall be implemented as approved by the County.

Conditions By Issue Area

3. **CulRes-09 Stop Work at Encounter:** The Owner / Applicant and/or their agents, representatives or contractors shall stop or redirect work immediately in the event archaeological remains are encountered during drilling, construction, landscaping or other construction-related activity. The Owner / Applicant shall retain a P&D approved archaeologist and Native American representative to evaluate the significance of the find in compliance with the provisions of Phase 2 investigations of the County Archaeological Guidelines and funded by the Owner / Applicant.
   PLAN REQUIREMENTS: This condition shall be printed on all building and grading plans.
   MONITORING: P&D permit processing planner shall check plans prior to approval of Building Permits.

4. **Noise-02 Construction Hours:** The Owner / Applicant, including all contractors and subcontractors shall limit construction activity, including equipment maintenance and site preparation, to the hours between 7:00 a.m. and 4:30 p.m., Monday through Friday.
   No construction shall occur on weekends or State holidays. Non-noise generating interior construction activities such as plumbing, electrical, drywall and painting (which does not include the use of compressors, tile saws, or other noise-generating equipment) are not subject to these restrictions.
   Any subsequent amendment to the Comprehensive General Plan, applicable Community or Specific Plan, or Zoning Code noise standard upon which these construction hours are based shall supersede the hours stated herein.
   PLAN REQUIREMENTS: The Owner / Applicant shall provide and post a sign stating these restrictions at all construction site entries.
   TIMING: Signs shall be posted prior to commencement of construction and maintained throughout construction.
   MONITORING: The Owner / Applicant shall demonstrate that required signs are posted prior to grading/building permit issuance and pre-construction meeting. Building inspection staff shall spot check and respond to complaints.

5. **Noise-04 Equipment Shielding-Construction:** Stationary construction equipment that generates noise which exceeds 65 dBA at the project boundaries shall be shielded with appropriate acoustic shielding to P&D's satisfaction and shall be located as far as possible from adjacent occupied residences.
   PLAN REQUIREMENTS: The Owner / Applicant shall designate the equipment area with appropriate acoustic shielding on building and grading plans.
   TIMING: Equipment and shielding shall be installed prior to construction and remain in the designated location throughout construction activities.
   MONITORING: The Owner / Applicant shall demonstrate that the acoustic shielding is in place prior to commencement of construction activities. P&D staff shall perform site inspections throughout construction to ensure compliance.

6. **Parking-02 Onsite Construction Parking:** All construction-related vehicles, equipment staging and storage areas shall be located onsite and outside of the road and highway right of way. The Owner / Applicant shall provide all construction personnel with a written notice of this requirement and a description of approved parking, staging and storage areas. The notice shall also include the name and phone number of the Owner / Applicant's designee responsible for enforcement of this restriction.
   PLAN REQUIREMENTS: Designated construction personnel parking, equipment staging and storage areas shall be depicted on project plans submitted for building permits.
   TIMING: A copy of the written notice shall be submitted to P&D permit processing staff prior to approval of first building permit. This restriction shall be maintained throughout construction.
   MONITORING: Building and Safety shall confirm the availability of designated onsite areas during construction, and as required, shall require re-distribution of updated notices and/or refer complaints regarding offsite parking to appropriate agencies.

Permit Specific Conditions

7. **Wells-01 Meter Records:** A flow meter that meets Montecito Water District (MWD) requirements shall be installed on the well. MWD shall have access two times per year to monitor and obtain water

samples and other available information about the well, including static water levels. The Owner / Applicant shall transmit annual groundwater basin extraction records to the MWD and County Water Agency.

PLAN REQUIREMENTS: The Owner / Applicant shall record a Right of Entry for the benefit of the MWD to allow the District to perform required monitoring. The design for the metering device shall be reviewed and approved by MWD staff and P&D staff prior to approval of building permits.

TIMING: The Right of Entry shall be recorded with the County Recorder prior to issuance of the Coastal Development Permit. Extraction records shall be compiled and provide at the beginning of each new year accounting for the prior year's water extraction.

MONITORING: B&S inspection staff shall confirm proper installation in the field prior to Final Building Inspection Clearance.

County Rules and Regulations

8. **Rules-02 Effective Date-Appealable to CCC:** This Coastal Development Permit shall become effective upon the expiration of the applicable appeal period provided an appeal has not been filed. If an appeal has been filed, the planning permit shall not be deemed effective until final action by the review authority on the appeal, including action by the California Coastal Commission if the planning permit is appealed to the Coastal Commission.

9. **Rules-03 Additional Permits Required:** The use and/or construction of any structures or improvements authorized by this approval shall not commence until the all necessary planning and building permits are obtained. Before any Permit will be issued by Planning and Development, the Owner / Applicant must obtain written clearance from all departments having conditions; such clearance shall indicate that the Owner / Applicant has satisfied all pre-construction conditions. A form for such clearance is available from Planning and Development.

10. **Rules-05 Acceptance of Conditions:** The Owner / Applicant's acceptance of this permit and/or commencement of use, construction and/or operations under this permit shall be deemed acceptance of all conditions of this permit by the Owner / Applicant.

11. **Rules-10 CDP Expiration:** The approval or conditional approval of a Coastal Development Permit shall be valid for one year from the date of action by the Director. Prior to the expiration of the approval, the review authority who approved the Coastal Development Permit may extend the approval one time for one year if good cause is shown and the applicable findings for the approval required in compliance with Section 35-169.5 can still be made. A Coastal Development Permit shall expire two years from the date of issuance if the use, building or structure for which the permit was issued has not been established or commenced in conformance with the effective permit. Prior to the expiration of such two year period the Director may extend such period one time for one year for good cause shown, provided that the findings for approval required in compliance with Section 35-169.5, as applicable, can still be made.

12. **Rules-20 Revisions to Related Plans:** The Owner / Applicant shall request a revision for any proposed changes to approved plans. Substantial conformity shall be determined by the Director of P&D.

13. **Rules-23 Processing Fees Required:** Prior to issuance of first building permit, the Owner / Applicant shall pay all applicable P&D permit processing fees in full as required by County ordinances and resolutions.

14. **Rules-28 NTPO Condition:** A recorded Notice to Property Owner document is necessary to ensure that the approved private water well is used only within the scope of its permitted use. The Notice shall specify that in the event that the property is sold, the new owner shall ensure that the water well extraction is limited to pumping at a rate of five gallons per minute for no more than 12 hours per day, and only while extraction does not have a negative effect on safe yield of the basin.
TIMING: The property owner shall sign and record the document prior to issuance of this Coastal Development Permit.

15. **Rules-30 Plans Requirements:** The Owner / Applicant shall ensure all applicable final conditions of approval are printed in their entirety on applicable pages of grading/construction or building plans submitted to P&D or Building and Safety Division. These shall be graphically illustrated where feasible.

16. **Rules-32 Contractor and Subcontractor Notification:** The Owner / Applicant shall ensure that potential contractors are aware of County requirements. Owner / Applicant shall notify all contractors and subcontractors in writing of the site rules, restrictions, and Conditions of Approval and submit a copy of the notice to P&D compliance monitoring staff.

17. **Rules-33 Indemnity and Separation:** The Owner / Applicant shall defend, indemnify and hold harmless the County or its agents or officers and employees from any claim, action or proceeding against the County or its agents, officers or employees, to attack, set aside, void, or annul, in whole or in part, the County's approval of this project. In the event that the County fails promptly to notify the Owner / Applicant of any such claim, action or proceeding, or that the County fails to cooperate fully in the defense of said claim, this condition shall thereafter be of no further force or effect.

18. **Rules-35 Limits:** This approval does not confer legal status on any existing structures or uses on the property unless specifically authorized by this approval.

19. **Rules-37 Time Extensions-All Projects:** The Owner / Applicant may request a time extension prior to the expiration of the permit or entitlement for development. The review authority with jurisdiction over the project may, upon good cause shown, grant a time extension in compliance with County rules and regulations, which include reflecting changed circumstances and ensuring compliance with CEQA. If the Owner / Applicant requests a time extension for this permit, the permit may be revised to include updated language to standard conditions and/or mitigation measures and additional conditions and/or mitigation measures which reflect changed circumstances or additional identified project impacts.

Other

20. **Special-01 Backflow Device Required:** A backflow device shall be installed at the Montecito Water District meter in accordance with Water District requirements and shall be enrolled in the District's Cross Connection Protection program.
PLAN REQUIREMENT / TIMING: The design of the backflow device shall be reviewed and approved by Montecito Water District staff and P&D Planning staff prior to approval of building permits.
MONITORING: B&S inspection staff shall confirm proper installation of the backflow device in the field prior to Final Building Inspection Clearance.

Received

AUG 25 2016

California Coastal Commision
South Central Coast District

STATE OF CALIFORNIA – THE RESOURCES AGENCY

EDMUND G. BROWN JR., *Governor*

CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST DISTRICT OFFICE
89 SOUTH CALIFORNIA STRET, SUITE 200
VENTURA, CA 93001-4508
VOICE (805) 585-1801 FAX (805) 641-1732

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT

Please Review Attached Appeal Information Sheet Prior To Completing This Form.

SECTION I. Appellant(s)

Name:

Mailing Address: California Coastal Commission, 89 S. California Street, Suite 200

City: Ventura, California Zip Code: 93001 Phone: 805-585-1800

SECTION II. Decision Being Appealed

1. Name of local/port government:
   County of Santa Barbara

2. Brief description of development being appealed:
   Construction of a new private water well to be used for on-site irrigation.

3. Development's location (street address, assessor's parcel no., cross street, etc.):
   1169 Hill Road, Santa Barbara, California 93108

4. Description of decision being appealed (check one.):

☐ Approval; no special conditions

☒ Approval with special conditions:

☐ Denial

Note: For jurisdictions with a total LCP, denial decisions by a local government cannot be appealed unless the development is a major energy or public works project. Denial decisions by port governments are not appealable.

TO BE COMPLETED BY COMMISSION:

APPEAL NO: A-4-STB-16-0078

DATE FILED: 8/25/16

DISTRICT: So. Central Coast

Exhibit 11
Appeal No. A-4-STB-16-0078

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 2)

5. Decision being appealed was made by (check one):

- ☐ Planning Director/Zoning Administrator
- ☐ City Council/Board of Supervisors
- ☒ Planning Commission
- ☐ Other

6. Date of local government's decision: July 20, 2016

7. Local government's file number (if any): 15CDP-00000-00099

SECTION III. Identification of Other Interested Persons

Give the names and addresses of the following parties. (Use additional paper as necessary.)

a. Name and mailing address of permit applicant:

Michael Hair
6501 Fruitvale Avenue
Bakersfield, California 93308

b. Names and mailing addresses as available of those who testified (either verbally or in writing) at the city/county/port hearing(s). Include other parties which you know to be interested and should receive notice of this appeal.

(1) Michael Hair
1169 Hill Road
Santa Barbara, California 93108

(2) Brownstein Hyatt Farber Schreck
Attn: Susan Petrovich
1020 State Street
Santa Barbara, California 93101-2711

(3)

(4)

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 3)

SECTION IV. Reasons Supporting This Appeal

PLEASE NOTE:

- Appeals of local government coastal permit decisions are limited by a variety of factors and requirements of the Coastal Act. Please review the appeal information sheet for assistance in completing this section.
- State briefly **your reasons for this appeal**. Include a summary description of Local Coastal Program, Land Use Plan, or Port Master Plan policies and requirements in which you believe the project is inconsistent and the reasons the decision warrants a new hearing. (Use additional paper as necessary.)
- This need not be a complete or exhaustive statement of your reasons of appeal; however, there must be sufficient discussion for staff to determine that the appeal is allowed by law. The appellant, subsequent to filing the appeal, may submit additional information to the staff and/or Commission to support the appeal request.

See Attached

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 4)

SECTION V. Certification

The information and facts stated above are correct to the best of my/our knowledge.

S D Kinsey

Signature of Appellant(s) or Authorized Agent

Date: August 24, 2016

Note: If signed by agent, appellant(s) must also sign below.

Section VI. Agent Authorization

I/We hereby
authorize _____
to act as my/our representative and to bind me/us in all matters concerning this appeal.

_____
Signature of Appellant(s)

Date: _____

APPEAL FROM COASTAL PERMIT DECISION OF LOCAL GOVERNMENT (Page 4)

SECTION V. Certification

The information and facts stated above are correct to the best of my/our knowledge.

Daphne Bocher

Signature of Appellant(s) or Authorized Agent

Date: August 25, 2016

Note: If signed by agent, appellant(s) must also sign below.

Section VI. Agent Authorization

I/We hereby
authorize _____
to act as my/our representative and to bind me/us in all matters concerning this appeal.

_____
Signature of Appellant(s)

Date: _____

Hair – 1169 Hill Road (Montecito, Santa Barbara County)
Section IV. Reasons Supporting The Appeal

This appeal of the subject decision by Santa Barbara County granting a coastal development permit for the construction of a new private water well to be used for irrigation of existing onsite landscaping on a property that is developed with an existing single family residence located at 1169 Hill Road in Montecito, Santa Barbara County, is based on the grounds that the development is inconsistent with the County of Santa Barbara's Local Coastal Program (LCP) policies regarding water resources, cumulative impacts, protection of agriculture and other priority land uses where limited public services or public works capacity exists, and related policies and provisions, including provisions requiring that a coastal development permit application be supported by adequate information, as described below.

Land Use Plan Policy 1-1 states that all Chapter 3 policies of the Coastal Act have been incorporated in their entirety in the certified County Land Use Plan as guiding policies.

Section 30231 of the Coastal Act states:

> **The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, minimizing alteration of natural streams.**

Section 30241 of the Coastal Act states:

> **The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas' agricultural economy, and conflicts shall be minimized between agricultural and urban land uses through all of the following (in pertinent part):**
>
> **a. By establishing stable boundaries separating urban and rural areas, including, where necessary, clearly defined buffer areas to minimize conflicts between agricultural and urban uses.**
>
> **b. By limiting conversions of agricultural lands around the periphery of urban areas to the lands where the viability of existing agricultural use is already severely limited by conflicts with urban uses or where the conversion of the lands would complete a logical and viable neighborhood and contribute to the establishment of a stable limit to urban development.**
>
> **c. By permitting the conversion of agricultural land surrounded by urban uses where the conversion of the land would be consistent with Section 30250.**
>
> **d. By developing available lands not suited for agriculture prior to the conversion of agricultural lands.**
>
> **e. By assuring that public service and facility expansions and non-agricultural development do not impair agricultural viability, either through increased assessment costs or degraded air and water quality.**
>
> **f. By assuring that all divisions of prime agricultural lands, except those conversions approved pursuant to subdivision (b) of this section, and all development adjacent to prime agricultural lands shall not diminish the productivity of such prime agricultural lands.**

Section 30250(a) of the Coastal Act states:

> **(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing 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. In addition, land divisions, other than leases, for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.**

Section 30254 of the Coastal Act states:

> **New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this Division; provided, however, that it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road. Special districts shall not be formed or expanded except where assessment for, and provision of, the service would not induce new development inconsistent with this division. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal-dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.**

Land Use Plan Policy 1-4 states:

> **Prior to the issuance of a coastal development permit, the County shall make the finding that the development reasonably meets the standards set forth in all applicable land use plan policies.**

Land Use Plan Policy 2-2 and Article II Zoning Ordinance Section 35-60.1, which state:

> **The long term integrity of groundwater basins or sub-basins located wholly within the coastal zone shall be protected. To this end, the safe yield as determined by competent hydrologic evidence of such a groundwater basin or sub-basin shall not be exceeded except on a temporary basis as part of a conjunctive use or other program managed by the appropriate water district. If the safe yield of a groundwater basin or sub-basin is found to be exceeded for reasons other than a conjunctive use program, new development, including land division and other use dependent upon private wells, shall not be permitted if the net increase in water demand for the development causes basin safe yield to be exceeded, but in no case shall any existing lawful parcel be denied development of one single family residence. This policy shall not apply to appropriators or overlying property owners who wish to develop their property using water to which they are legally entitled pursuant to an adjudication of their water rights.**

Land Use Plan Policy 2-3 and Article II Zoning Ordinance Section 35-60.2, which state:

> **In the furtherance of better water management, the County may require applicants to install meters on private wells and to maintain records of well extractions for use by the appropriate water district.**

Land Use Plan Policy 2-4 and Article II Zoning Ordinance Section 35-60.3, which state:

> **Within designated urban areas, new development other than that for agricultural purposes shall be serviced by the appropriate public sewer and water district or an existing mutual water company, if such service is available.**

Land Use Plan Policy 2-5 and Article II Zoning Ordinance Section 35-60.4, which state:

> **Water-conserving devices shall be used in all new development.**

Land Use Plan Policy 2-6 and Article II Zoning Ordinance Section 35-60.5, which state, in part:

> **Prior to issuance of a development permit, the County shall make the finding, based on information provided by environmental documents, staff analysis, and the applicant, that adequate public or private services and resources (i.e., water, sewer, roads, etc.) are available to serve the proposed development. The applicant shall assume full responsibility for costs incurred in service extensions or improvements that are required as a result of the proposed project. Lack of available public or private services or resources shall be grounds for denial of the project or reduction in the density otherwise indicated in the land use plan or zoning maps.**

The State of California is currently facing one of the most severe droughts on record. In January 2014, the Governor declared a drought State of Emergency and asked that officials throughout the state take all necessary actions to prepare for water shortages. Accordingly, the Montecito Water District (MWD) adopted Ordinance No. 92 on February 11, 2014, which declared a water shortage emergency (Stage 3) and mandated water use restrictions, including a 30% immediate reduction in water usage for all customers and suspension of all applications for new water service or to increase in size an existing water meter. Since the use restrictions adopted under Ordinance No. 92 were determined by MWD to be inadequate to protect water supply, a Stage 4 water shortage emergency was declared by MWD on February 21, 2014 pursuant to MWD Ordinance No. 93, which imposed water supply allocation limits to each property. The Governor has also issued Executive Order Nos. B-29-15 (on April 1, 2015) and B-37-16 (on May 9, 2016) that mandate substantial, permanent water reductions and call for the replacement of lawns and ornamental turf with drought-tolerant landscaping and increased water efficiency standards. The MWD depends in large part on surface water supplies deriving primarily from Jameson Lake, Lake Cachuma, and, to a lesser extent, but increasingly, from groundwater supplies. The amount of water available to the MWD from these sources has been severely diminished by several years of very low rainfall.

The project site is located within the urban, coastal area of Montecito in Santa Barbara County and receives water services from the MWD. No agricultural uses exist on the lot and none are proposed. The MWD has limited its customers' water use, particularly that used for irrigation and water features. The approved project is a request for a new private water well that would be used specifically to augment MWD municipal water services for landscape irrigation purposes.

Policy 2-4 of the County's certified Land Use Plan and Section 35-60.3 of the County's certified Coastal Zoning Ordinance direct new development to use water district services if available. Although the proposed water well is intended to serve existing site development, and not new development, the LCP does not contain any policies that would allow the construction of water wells to provide supplemental irrigation where the site's residential development already receives water district services and where water use restrictions are in place due to a water shortage emergency.

The County's Coastal Land Use Plan incorporates Section 30250(a) and Section 30254 of the Coastal Act, which require that new development be concentrated with existing development and matched to the public services available, and that where public works facilities (such as Montecito Water District) can accommodate only a limited amount of new development, that priority Coastal Act land uses not be precluded by lower priority development. Residential development is not a Coastal Act priority land use, nor is the irrigation of landscaping associated with residential development. Further, Section 30231 of the Coastal Act (which is incorporated into the LCP as a policy), Land Use Plan Policy 2-2, and Coastal Zoning Ordinance Section 35-60.1 require preventing depletion of ground water supplies. Throughout the County's coastal zone, the major resource limitation is that of water. According to the LCP, all of the planning areas of the urbanized South Coast of Santa Barbara County are experiencing some constraints due to limited water resources (even without the current drought conditions). The LCP states that because buildout in these areas (i.e., the total number of housing units permitted under the land use plan) exceeds available water supplies, priorities for development are needed to assure that the priority land uses specified in Section 30254 of the Coastal Act are not precluded and that the depletion of groundwater supplies is prevented.

Since the MWD provides water services to the subject residential parcel, additional water service through a private well for irrigation purposes would be contrary to the State's, the County's, and the MWD's intent to ensure water conservation and the protection of groundwater resources. Construction of a water well, in this case, has the potential for individual and cumulative impacts to local groundwater supply and raises issue regarding consistency with the LCP policies cited above. The approved project is an unnecessary extraction from the groundwater basin because MWD water services remain available to the property and the well would only serve to obviate the need for the property owners to conserve water consistent with State and District intent. Further, the County's findings for the approved project did not address whether a hydrologic analysis was conducted to determine potential individual and cumulative impacts to the groundwater basin and local water supply and the potential for saltwater intrusion into the groundwater basin. In approving the subject well, the County imposed a monitoring condition allowing access by the MWD to collect well data only twice per year. Nothing in the County's action on the permit indicates that this level of monitoring would provide data sufficient to support a responsive action, such as a threshold that would require cessation of pumping or even capping and/or abandonment of the subject well. In addition, the baseline "safe" water elevation within the casing of the approved well has not been established by the County in approving the subject well, rendering the collection of monitoring data inadequate to trigger any effective action or enforceable restrictions on further pumping. Therefore, issue is raised regarding the approved development's consistency with the water resource protection policies and provisions of the County LCP.

As the County's LCP notes, one method of assuring the provision of stable boundaries between urban and rural land uses is by concentrating non-agricultural development (as is required by the applicable provisions of Coastal Act Section 30250 discussed above) within or near existing development with adequate public services. Thus as noted, the LCP requires that development eligible to be served by public services not be allowed to rely on wells. Section 30241 of the Coastal Act requires that public service and facility expansions and non-agricultural development not, for example, impair agricultural viability through increased assessment costs or

degraded air and water quality. The County approval of individual groundwater wells on lands located within the MWD service area could result in overdraft of the groundwater resource, especially when considered cumulatively. Notably, the County has reported a surge in private water well applications in the Montecito area (nine times the pre-drought average of annual private water well applications) since the drought began. While it may be possible that no single well would result in significant overdraft, a cumulative analysis was not conducted for the subject permit application regarding the groundwater overdraft that could result if the proposed well along with all private wells approved by the County within the subject groundwater basin were installed and pumped as much water as possible, in combination with existing wells. Given the declarations of the MWD regarding the extreme water supply jeopardy facing the District and its customers due to the current drought, the potential for cumulative, significant overdraft of groundwater exists and will intensify if the drought continues and reliance on groundwater increases to backfill missing surface water supplies. Under these conditions, agricultural wells could be adversely affected, or water rates increased. As such, the cumulative impacts of the approved groundwater extractions have the potential to adversely impact existing agriculture and visitor serving land uses in the Montecito and Carpinteria areas, which are higher priority land uses under the Coastal Act than residential use. Groundwater elevations could fall due to basin depletion, driving up the cost of water extraction either directly (through the increased cost of energy to pump water from deeper levels) or indirectly through increased water rate assessments if water is supplied via the Water District. As water well overdraft of coastal aquifers increases, the potential for saltwater intrusion increases, which could degrade the quality of produced water, further affecting agricultural productivity and the availability of public water supplied by the District. The risk of such impacts may increase significantly with future increases in sea levels. Therefore, issue is raised regarding the approved development's consistency with the policies and provisions of the County LCP regarding the protection of agriculture and other priority land uses where limited public services or public works capacity exists.

The County's decision in this case raises issues of local, regional, and statewide significance and could have significant precedential value.