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August 25, 2015

Kerry Brown, Dept. of Planning and Building
976 Osos Street, Room 300
San Luis Obispo, CA 93408

RE: Revisions to the LOCP

Dear Ms. Brown,

The current draft of the Los Osos Community Plan, Chapter 7.3 "Communitywide Standards" Parts A through D, will allow unsustainable development over the Los Osos Basin for the reasons we explain below. The standards do not comply with the Local Coastal Policy (LCP) and Coastal Zone Land Use Ordinance.

> **Policy 1: Preservation of Groundwater Basins**. The long-term integrity of groundwater basins within the coastal zone shall be protected. The safe yield of the groundwater basin, including return and retained water, shall not be exceeded except as part of a conjunctive use or resource management program which assures that the biological productivity of aquatic habitats are not significantly adversely impacted. [THIS POLICY SHALL BE IMPLEMENTED AS A STANDARD.]
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> **CZLUO Section 23.04.430: Availability of Water Supply and Sewage Disposal Services.** A land use permit for new development that requires water or disposal of sewage shall not be approved unless the applicable approval body determines that there is adequate water and sewage disposal capacity available to serve the proposed development, as provided by this section. Subsections a. and b. of this section give priority to infilling development within the urban service line over development proposed between the USL and URL. In communities with limited water and sewage disposal service capacities as defined by Resource Management System alert levels II or III:
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> a. A land use permit for development to be located between an urban services line and urban reserve line shall not be approved unless the approval body first finds that the capacities of available water supply and sewage disposal services are sufficient to accommodate both existing development, and allowed development on presently-vacant parcels within the urban services line.
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> Development outside the urban services line shall be approved only if it can be served by adequate on-site water and sewage disposal systems, except that development of a single-family dwelling on an existing parcel may connect to a community water system if such service

exists adjacent to the subject parcel and lateral connection can be accomplished without trunk line extension.

(The emphases above are added.)

Chapter 7.3 of the LOCP also doesn't conform to Special Condition 6 of the LOWWP Coastal Development Permit:

> **6. Wastewater Service to Undeveloped Properties.** Wastewater service to undeveloped properties within the service area shall be prohibited unless and until the Estero Area Plan is amended to identify appropriate and sustainable buildout limits, and any appropriate mechanisms to stay within such limits, based on conclusive evidence indicating that adequate water is available to support development of such properties without adverse impacts to ground and surface waters, including wetlands and all related habitats.
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> *(Emphasis added.)*

The primary reason the current draft of the LOCP does not conform to these policies and requirements is that it will allow further development over the Los Osos Basin without first establishing that the Basin can support that development. The Los Osos Basin has a severe seawater intrusion problem that has rendered much of the Basin unusable for drinking water over the last 40 years. A 2014 seawater update revealed that intrusion accelerated since 2005 despite large cutbacks in pumping, and there is no physical evidence at this point to show seawater intrusion can be stopped or the Basin become a sustainable water source for the current population. This is particularly true with the severe drought and increasing signs of climate change (e.g., reduced rainfall, higher temperatures and sea level rise).

The LOCP, as written, would allow County officials to approve building based on modeling, predictions of yield increases and program benefits rather than actual physical evidence (i.e., well tests over time). *Los Osos Groundwater Basin Plan* (Basin Plan). All development ultimately increases water demand by hardening demand above existing conservation levels. Reversing the seawater intrusion to preserve the Basin requires that all existing residents and businesses must conserve as much as possible.

Modeling has overestimated safe yields by 40% and underestimated the rate of seawater intrusion by more than 400% since its first use in the 1980's. Current Basin Plan modeling continues to have substantial potential for error. Based on rainfall reduction from the present drought, the USEPA Climate Change Evaluation of the Basin in 2013 and a review of modeling uncertainties done by one of the model's authors in 2010, modeling uncertainties can result in overestimates of safe yields and program benefits by 50% or more. Thus, reliance on the current model could result in further harm and possible loss of the Basin. The Basin Plan points out that the harmful effects of overestimating yield may not be seen until it is too late to do anything about it (see Page 137).

We've included relevant sections of the LOCP, with underlined text showing wording that should be deleted. If there are any sections with similar wording/provisions, they should also be changed/deleted as needed to support the standard we recommend based on physical evidence the Basin has sufficient water to sustainably support that development. We note that the introduction to Chapter 7 indicates that the standards will trump the Coastal Zone Land Use Ordinance (CZLUO) if a conflict exists.

7.3 Communitywide Standards

The following standards apply throughout the Los Osos urban area in all land use categories.

B. Resource Capacity and Service Availability.

2. Water and Wastewater Service Capacity, Land Divisions. New land divisions, other than condominium conversions, shall not be approved unless the Review Authority makes the following findings:

b. The development can be accommodated by the sustainable yield of the Los Osos Groundwater Basin without causing seawater intrusion, as identified in the Basin Plan for the Los Osos Groundwater Basin.

(Note: This wording is vague and allows unsustainable development since the wording could be interpreted to mean the proposed development does not cause "new" or "further" seawater intrusion into the Basin, e.g., "water neutral" development. The wording also allows unsustainable development by referring to "sustainable yield…as identified in the Basin Plan." In the Basin Plan the "sustainable yield" for the Basin (and for different program combinations) is estimated by Basin modeling. However, modeling overstates sustainable yield due to a flawed definition and a failure to account for impacts and uncertainties in modeling that can reduce yields. "Sustainable yield" as defined in the Basin Plan allows seawater intrusion to advance further, and the Basin Plan recommends subtracting 20% from estimates to reverse seawater intrusion. The Basin Plan also claims the same 20% reduction in estimates will account for uncertainties. However, that same 20% cannot do both—define a true sustainable yield and account for uncertainties. At least another 20% would have to be subtracted to account for uncertainties (assuming the Basin Plan's arbitrary estimate of 20% is accurate). In fact, a review of the model in 2010 indicated modeling can *overstate sustainable yields by 50% or more. The failure of the Basin Plan "sustainable yield" to identify a condition that does not result in undesirable effects (the definition of "sustainable yield") is clearly shown by present conditions. Total Basin production now is at about the current estimated "sustainable yield" of 2570 AFY (with Infrastructure Program A in place); however, seawater intrusion is continuing to move rapidly inland with no signs of slowing (See Page 285 of Basin Plan).*

D. Los Osos Groundwater Basin.

1. Basin Plan compliance. Development of land uses that use water from the Los Osos Groundwater Basin shall be prohibited until the Board of Supervisors determines that successful completion and implementation of specific programs identified in the Los Osos Basin Plan ("Basin Plan") have occurred. The following programs from the Basin Plan must be successfully completed and implemented to address existing resource constraints prior to development of new dwelling units or commercial uses:

c. Program "M" – Groundwater Monitoring

d. Program "E" – Urban Efficiency

e. Program "U" – Urban Water Reinvestment

f. Program "A" – Infrastructure Program A

g. Program "P" – Wellhead Protection

h. At least one of the following additional programs:

- Program "B" – Infrastructure Program B
- Program "C" – Infrastructure Program C
- Program "S" – Supplemental Water Program

(Note: The benefits of these programs (e.g., a reduction in water use with the Urban Efficiency program) does not assure new development will have a sustainable water supply since the sustainable yield of the Basin will not be known until seawater intrusion is stopped and reversed. Program B (moving more pumping to the Upper Aquifer) and Program C (moving more pumping inland) are predicted to increase yields, but the prediction is based on modeling, with predicted increases easily offset by uncertainties. Regarding Program S, Supplemental Water, the Basin Plan defines it as rainwater/stormwater capture and reuse or desalination (see Page 247). The Basin Plan rejects the first option, so Program S would most likely be desalination. Allowing new development upon completion of a desalination facility does not avoid unsustainable growth because the sustainable yield of the Basin and its ability to support the current population is still not established. In fact, the present population may require 250 AFY of additional water for a sustainable Basin—especially with the drought and potential for future droughts (climate change). If Basin sustainability is not established before new development is allowed—and seawater intrusion continues to advance—the Basin could be lost. Replacing the Basin with desalinated water may not be feasible economically or otherwise. The Basin Plan estimates that a facility to replace just one aquifer (Zone D) would cost over $100 million.)

2. Amendments to Title 26. Development of new dwelling units that require water from the Los Osos Groundwater basin (sic) shall be prohibited until 1) a growth limitation for the Los Osos Groundwater Basin is established in Section 26.01.070.k of the Growth Management Ordinance to reflect current basin conditions and the successful completion of the programs identified in the Basin Plan and 2) the Board of Supervisors determines that the specific programs identified in the Basin Plan and required by these standards as a prerequisite for additional development have been successfully completed and implemented and are effective, as follows.

i. The Basin Plan program(s) shall be completed to the satisfaction of the Director of Public Works, in consultation with the Los Osos Groundwater Basin Watermaster.

j. As part of the review for Basin Plan effectiveness, the County shall consider data collected as part of the Groundwater Monitoring program (Program "M"). If the data indicate that completed programs have not been effective in reducing groundwater demand, increasing the perennial safe yield or facilitating seawater retreat as predicted in the Basin Plan, then the development of new residential units shall be limited accordingly.

(Note: This language does not require the County to make decisions solely on the basis of data (e.g., well tests). It requires simply that the County "consider" data "As part of the review." It also does not require the County to deny approval of development if data show no benefits from programs--the County only has to limit "new residential units." Thus, the language allows the County to approve development with any signs of program success (e.g., evidence that some reduced water use has resulted from conservation). Moreover, it allows County supervisors to approve significant development even without signs of program success--if they believe programs have the potential to reduce seawater intrusion ("have been effective in…facilitating seawater intrusion retreat"). This language sets a very low bar for approving development. Basically, it allows County Supervisors to approve significant development as soon as the Public Works Director believes program implementation is complete, a decision that could be based on a number of

criteria, including available funding. Because the language does not require conclusive evidence (well tests over time), it allows unsustainable development, and it defeats the two "Immediate Goals" of the Basin Plan:"1. Halt, or to the extent possible, reverse seawater intrusion into the Basin. 2. Provide sustainable water supplies for existing residential, commercial, and community and agricultural development overlying the Basin" (Emphasis added) (Page 21). With the present language, any benefit from programs could be immediately offset by added development resulting in no improvement in Basin conditions.

k. As part of the review for Basin Plan effectiveness, the Board of Supervisors shall consider trends in commercial development and commercial water demand to ensure that such demand is not growing beyond a proportional relationship with the community's population. (See Page 7-2 & 7-3.)

(Note: This language allows the Board of Supervisors to approve commercial development at any time based on whatever standards they devise—also see note above. Commercial development places greater demand on the water supply and Basin, and should not be exempt from a standard that requires hard evidence the Basin can support the added development.)

3. Growth limitation standards. Development of new residential units that use water from the Los Osos Groundwater Basin shall be prohibited until successful implementation of all programs identified in Subsection D.1. Once this has been achieved, Section 26.01.070.k of the Growth Management Ordinance may be modified to allow development of new residential units as follows:

a. **Implementation of one additional program.**

(i) **Implementation of Program "B".** Upon successful implementation of Program "B," an additional 1,230 residential units may be constructed within the Los Osos Groundwater Basin.

(ii) **Implementation of Program "C".** Upon successful implementation of Program "C," an additional 680 residential units may be constructed within the Los Osos Groundwater Basin.

(iii) **Implementation of Program "S".** Upon successful implementation of Program "S," assuming groundwater desalination producing 250 acre- feet per year, 550 residential units may be constructed within the Los Osos Groundwater Basin.

(Note: The above section shows the substantial development that could occur solely on the basis of the Public Works Director deciding programs are complete, without conclusive physical evidence the Basin can support that development.)

Conclusion and Recommended Standard

Prior to approval of any new development, conclusive evidence (well tests over time) must show that seawater intrusion has reversed and ample freshwater exists in the Basin to support the current population plus additional population. The Basin Plan provides a Water Level Metric and Chloride Metric to measure the effects of programs on seawater intrusion and assess Basin sustainability. These metrics provide measurable evidence, but not conclusive evidence of Basin sustainability. As a result, we are recommending that the standard for new development be based on these metrics, but include additional criteria. (The "Basin Yield Metric" is based on modeling, so should not be used as a basis for approving development for the reasons we have explained.)

Recommended Standard

All new development over the Basin shall be prohibited until the Basin Plan Water Level and Chloride Metrics have been exceeded, showing the Basin has ample reserves to sustainably support additional development while maintaining ample storage capacity to weather droughts and climate change. As an additional minimum requirement, no wells, including private wells and test/observation wells, shall have a chloride level above 100 mg/l or water levels below 9.5 feet above mean sea level (amsl) in the Lower Aquifer, 13.5 feet amsl in the deep aquifer, and 6 feet amsl in the Upper Aquifer. The amount of new development allowed will depend on the extent to which these minimum requirements are exceeded, indicating excess Basin capacity, and conservative estimates, based on water use and other data, of the amount of development the added capacity will support. (Note: More test wells must be installed in several locations, e.g., along the bay, to ensure seawater intrusion is stopped and reversed throughout the Basin.)

Conclusion

Given the severe threat seawater intrusion poses to future of the Basin and community due to 40 years of overdraft—and due to the lack of feasible alternatives for the sole water source and vital freshwater source for Morro Bay National Estuary habitat -- the standard for new development must be conclusive physical evidence that the Basin will support development without further harm to the Basin or harm to habitat. This requires extensive data from well tests over time showing seawater intrusion is reversed, the Basin is sustainable with the current population, and ample additional water exists in the Basin to support new development with a margin of safety (e.g., ample water storage to avoid harm to the Basin during droughts). The Basin Plan metrics (other than the Yield Metric) provide a good basis for this, when augmented with further physical evidence confirming seawater intrusion is reversed throughout the Basin and freshwater levels are high enough above the levels needed to reverse seawater intrusion, support additional development, and maintain the resilience needed to provide a reliable water source in the face of climate change and other eventualities.

The Sierra Club does not support application in the LOCP of Title 19 and County-wide Conservation ordinances, which support development that attempts to "offsets" water use with off-site conservation measures. In the long run--and oftentimes in the short run—conservation programs that allow further development increase extractions by hardening demand above conservation water use levels. As a result, they are not effective in establishing basin sustainability, especially for Basins experiencing seriously declining water tables or severe seawater intrusion. In these basins, existing residents must reduce water use as much as possible through strong conservation programs that do not involve development.

Thank you for your attention to these issues,

Andrew Christie
Chapter Director