

**CALIFORNIA COASTAL COMMISSION**

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# W15a

July 26, 2018

**TO:** Commissioners and Interested Persons

**FROM:** Alison Dettmer, Deputy Director  
Kate Huckelbridge, Senior Environmental Scientist

**SUBJECT:** City of Long Beach Local Coastal Program (LCP) Amendment Request No. 1-18 (LCP-5-LOB-18-0026). For public hearing and Commission action at the Commission's August 8, 2018 meeting in Redondo Beach.

## **SUMMARY OF LCP AMENDMENT REQUEST NO. 1-18**

This LCP amendment request would amend certified Land Use Plan (LUP) and Implementation Plan (IP) policies in the Southeast Area Development and Improvement Plan (SEADIP) and the City's Oil Code, both components of the City of Long Beach's LCP. Amendment Request No. 1-18 would add Oil Production Uses as an allowable use on two sites located within the SEADIP area, the Pumpkin Patch site (part of Subarea 25) and the Los Cerritos Wetlands Authority (LCWA) site (Subarea 19). The LCP amendment would also revise the City's Oil Code to reflect the addition of these two areas as "Oil Operating Areas." The City Council submitted the LCP amendment request for Commission certification with City Council Resolution No. RES-18-0010 ([Exhibit 1](#)). The proposed changes to the LCP are set forth in City Ordinances No. ORD-18-0001 ([Exhibit 2](#)) and No. ORD-18-002 ([Exhibit 3](#)).

## **SUMMARY OF STAFF RECOMMENDATION**

Staff recommends that the Commission certify LCP Amendment Request No. 1-18 with suggested modifications that would allow oil and gas development on two sites within the SEADIP area. The motions and resolutions to carry out the staff recommendation are on **Pages 3-5**. The suggested modifications to the LCP amendment request are on **Pages 5-19**.

SEADIP, a Special Area Use plan for the southeast portion of the City, was completed and adopted by the City in early 1977 and subsequently incorporated, in part, into the City's LCP in 1980. Although it includes some policies related to public access and recreation, other coastal resource protection policies required under the Coastal Act are absent from both the LUP and IP portions of SEADIP. To find the City's proposed amendment consistent with the Chapter 3 policies in the Coastal Act and the LUP, extensive suggested modifications are necessary to ensure that any new oil and gas development within SEADIP is authorized in a manner that would protect potentially affected coastal resources. This necessitates adding new LUP and IP policies to ensure that any new oil and gas-related development is designed, constructed and operated in a manner

that consolidates existing oil and gas facilities, protects coastal resources including marine resources, wetlands, ESHA, and cultural resources, and avoids or minimizes risks associated with oil spills and hazards.

One of the key issues to consider in evaluating the proposed LCP amendment is the potential risk and magnitude of an oil spill from any future oil and gas development proposed on the two SEADIP sites. All oil and gas development carries a risk of an oil spill. However, the location of the proposed oil and gas production sites adjacent to wetlands and coastal waters and in close proximity to the Newport-Inglewood fault and important tribal cultural areas must be considered when evaluating whether these sites are appropriate for oil and gas development. To address these concerns, the suggested modifications include policies intended to reduce both the likelihood of a spill and any potential impacts resulting from a spill. These policies include siting new oil and gas production facilities to avoid or minimize impacts to sensitive coastal resources, and to minimize impacts from hazards such as seismic activity, floods and sea level rise. Also included is a requirement for any new oil and gas production facility to implement an Oil Spill Prevention and Response Plan that describes the worst case scenario oil spill, and demonstrates that the operator has adequate procedures, personnel, equipment and resources to prevent, contain, clean up and mitigate any adverse impacts associated with the worst case spill. These suggested modifications and others, as described later in this report, are critical to ensure that new oil and gas production facilities are developed in a manner that minimizes the likelihood and magnitude of a potential oil spill and is consistent with coastal resource protection policies included in Chapter 3 of the Coastal Act and the LCP.

The proposed LCP amendment, if modified as suggested, will protect marine resources, wetlands, ESHA, and cultural resources, minimize risks associated with hazards and oil spills and consolidate existing oil and gas development consistent with requirements included in Chapter 3 of the Coastal Act and the City's LCP.

Therefore, staff recommends that the Commission, after public hearing:

- 1. Deny the LUP and IP amendment request as submitted; and,**
- 2. Certify, only if modified, the LUP and IP amendment request.**

## **STANDARDS OF REVIEW**

The standard of review for the proposed amendment to the Land Use Plan (LUP), pursuant to Sections 30512 and 30514 of the Coastal Act, is that the proposed LUP amendment meets the requirements of, and is in conformance with, the Chapter 3 policies of the Coastal Act.

The standard of review for the proposed amendment to the LCP Implementing Ordinances (IP), pursuant to Sections 30513 and 30514 of the Coastal Act, is that the proposed IP amendment conforms with, and is adequate to carry out, the provisions of the certified LUP (taking into account the proposed LUP amendment).

## **LOCAL REVIEW AND DEADLINE FOR COMMISSION ACTION**

The City of Long Beach Planning Commission held a public hearing for the LCP amendment on November 30, 2017. The City Council held a public hearing on January 16, 2018. On February 28,

2018, the City submitted the LCP amendment request for Coastal Commission certification with City Council Resolution No. RES-18-0010 ([Exhibit 1](#)). On May 1, 2018, the submission was deemed complete by Commission staff. On June 7, 2018, the Commission granted a one year extension for this LCP amendment. As such, the deadline for Commission action on this item, one year and ninety days after the submittal was deemed complete, is July 30, 2019.

## FOR ADDITIONAL INFORMATION

The file is available for review at the Commission's San Francisco Office, located at 45 Fremont St, Ste. 2000, San Francisco, CA 94105. The staff report can be viewed on the Commission's website: <http://www.coastal.ca.gov/mtgcurr.html>. If you wish to submit a public comment on this item, please send an email to [loscerritoswetlands@coastal.ca.gov](mailto:loscerritoswetlands@coastal.ca.gov).

## EXHIBITS

1. City Council Resolution No. RES-18-0010
2. City of Long Beach Ordinance No. ORD-18-0001
3. City of Long Beach Ordinance No. ORD-18-0002
4. City of Long Beach proposed changes to SEADIP
5. City of Long Beach proposed changes to the City's Oil Map
6. SEADIP Subarea Map
7. Map of proposed BOMP project locations
8. Map of the Newport-Inglewood fault zone
9. New Proposed Subareas 25a and 25b in SEADIP

## I. MOTIONS AND RESOLUTIONS

### **Motion I:**

*I move that the Commission certify Land Use Plan Amendment No. 1-18 to the City of Long Beach Land Use Plan as submitted by the City of Long Beach.*

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

### **Resolution I:**

*The Commission hereby denies certification of Land Use Plan Amendment No. 1-18 as submitted by the City of Long Beach and adopts the findings set forth below on the grounds that the amendment does not conform with the policies of Chapter 3 of the Coastal Act. Certification of the Land Use Plan amendment would not comply with the California Environmental Quality Act because there are feasible alternatives or mitigation measures which could substantially lessen any significant adverse impact which the Land Use Plan Amendment may have on the environment.*

**Motion II:**

*I move that the Commission certify Land Use Plan Amendment No. 1-18 for the City of Long Beach if it is modified as suggested in this staff report.*

Staff recommends a **YES** vote. Passage of this motion will result in the certification of the LUP Amendment with suggested modifications and adoption of the following resolution and findings. The motion to certify with suggested modifications passes only upon an affirmative vote of the majority of the appointed Commissioners.

**Resolution II:**

*The Commission hereby certifies the Land Use Plan Amendment 1-18 for the City of Long Beach if modified as suggested and adopts the findings set forth below on the grounds that the Land Use Plan Amendment with suggested modifications will meet the requirements of and be in conformity with the policies of Chapter 3 of the Coastal Act. Certification of the Land Use Plan Amendment if modified as suggested complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the plan on the environment, or 2) there are no further feasible alternatives or mitigation measures that would substantially lessen any significant adverse impacts which the Land Use Plan Amendment may have on the environment.*

**Motion III:**

*I move that the Commission reject the Amendment to the Implementation Program for the City of Long Beach certified LCP as submitted.*

Staff recommends a **YES** vote. Passage of this motion will result in rejection of Implementation Program Amendment and the adoption of the following resolution and findings. The motion passes only by an affirmative vote of a majority of the Commissioners present.

**Resolution III:**

*The Commission hereby denies certification of the Amendment to the Implementation Program submitted for the City of Long Beach certified LCP and adopts the findings set forth below on grounds that the Amendment to the Implementation Program as submitted does not conform with, and is inadequate to carry out, the provisions of the certified City of Long Beach Land Use Plan, as amended. Certification of the Amendment to the Implementation Program would not meet the requirements of the California Environmental Quality Act as there are feasible alternatives and mitigation measures that would substantially lessen the significant adverse impacts on the environment that will result from certification of the Amendment to the Implementation Program as submitted.*

**Motion IV:**

*I move that the Commission certify the Amendment to the Implementation Program for the City of Long Beach certified LCP if it is modified as suggested in this staff report.*

Staff recommends a **YES** vote. Passage of this motion will result in certification of the Amendment to the Implementation Program with suggested modifications and the adoption of the following resolution and findings. The motion passes only by an affirmative vote of a majority of the Commissioners present.

**Resolution IV:**

*The Commission hereby certifies the Amendment to the Implementation Program for the City of Long Beach certified LCP if modified as suggested and adopts the findings set forth below on grounds that the Amendment to the Implementation Program with the suggested modifications will conform with, and is adequate to carry out, the provisions of the certified City of Long Beach Land Use Plan as amended. Certification of the Amendment to the Implementation Program if modified as suggested complies with the California Environmental Quality Act, because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the Implementation Program on the environment, or 2) there are no further feasible alternatives and mitigation measures that would substantially lessen any significant adverse impacts on the environment.*

**II. SUGGESTED MODIFICATIONS**

Certification of the LUP and IP amendments are subject to the following modifications to the certified LUP and IP policies. Text proposed by the City to be added to the LUP is underlined. Text proposed to be removed by the City is ~~struck through~~ (see [Exhibit 4](#) for a redline strikeout version of the City’s proposed amendments to SEADIP). Text added by the suggested modification is ***bold, italicized and underlined***. The City’s proposed text that is deleted by the suggested modification is ~~***struck through, bold, italicized, and underlined***~~. Only those subsections of the LUP and IP for which modifications are being suggested are shown below.

**A. Suggested Modification to the LUP: SEADIP**

**Suggested Modification #1: Renumber existing Section A as Section B and revise as requested by the City, and add second introduction paragraph and new Section A as follows:**

***Portions of this SEADIP (i.e., the non-wetland portions) are part of the City’s Local Coastal Program (LCP). The LCP guides development in the City’s coastal zone in accordance with the California Coastal Act. The following Coastal Act policies are hereby incorporated into SEADIP.***

**A. LAND USE POLICIES**

- 1. All development shall ensure that marine resources are maintained, enhanced and where feasible, restored.***
- 2. All development shall maintain, and, where feasible, restore 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 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, and minimizing alteration of natural streams.

3. All development shall provide protection against the spillage of crude oil, gas, petroleum products, or hazardous substances. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.
4. Development involving the diking, filling, or dredging of open coastal waters, wetlands (as defined in Coastal Act Section 30121), and estuaries shall be permitted in accordance with other applicable provisions of this LCP where there are no feasible less environmentally damaging alternatives, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following types of development:

a. New or expanded energy facilities.

b. Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

c. In open coastal waters, other than wetlands, including streams, and estuaries new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

d. Incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

e. Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

f. Restoration purposes.

g. Nature study, aquaculture, or similar resource-dependent activities.

Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.

In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary.

Erosion control and flood control facilities constructed on watercourses can impede the movement of sediment and nutrients that would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with

other applicable provisions of this LCP, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for these purposes are the method of placement, time of year of placement, and sensitivity of the placement area.

5. Environmentally sensitive habitat areas, as defined in Coastal Act Section 30107.5, shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
6. Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.
7. All development that would adversely impact archaeological or paleontological resources shall include reasonable mitigation measures.
8. The scenic and visual qualities of coastal areas shall be considered and protected. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of the surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.
9. All development shall minimize risks to life and property in areas of high geologic, flood, and fire hazard.
10. All development shall assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.
11. All development shall minimize energy consumption and vehicle miles traveled.
12. Where coastal-dependent industrial facilities or new or expanded oil development cannot feasibly be accommodated consistent with other policies of SEADIP, it may nonetheless be permitted if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.
13. Oil and gas development shall be permitted in accordance with Section 12, if the following conditions are met:
  - a. The development is performed safely and consistent with the geologic conditions of the well site.
  - b. New or expanded facilities related to that development are consolidated, to the maximum extent feasible and legally permissible, unless consolidation will have adverse environmental consequences and will not significantly reduce the number of producing wells, support facilities, or sites required to produce the reservoir economically and with minimal environmental impacts.

*c. The development will not cause or contribute to subsidence hazards unless it is determined that adequate measures will be undertaken to prevent damage from such subsidence.*

*d. With respect to new facilities, all oilfield brines are reinjected into oil-producing zones unless the Division of Oil and Gas of the Department of Conservation determines to do so would adversely affect production of the reservoirs and unless injection into other subsurface zones will reduce environmental 42 risks. Exceptions to reinjections will be granted consistent with the Ocean Waters Discharge Plan of the State Water Resources Control Board and where adequate provision is made for the elimination of petroleum odors and water quality problems.*

*14. Where appropriate, developers shall be required to initiate monitoring programs to record land surface and near-shore ocean floor movements in locations of new large-scale fluid extraction on land before operations begin and shall continue until surface conditions have stabilized. Costs of monitoring and mitigation programs shall be borne by liquid and gas extraction operators.*

*15. Nothing in this LCP shall affect the activities of any state agency that is responsible for regulating the extraction, production, or transport of oil and gas.*

**AB.** PROVISIONS APPLYING TO ALL AREAS

4. A minimum of thirty percent of the site shall be developed and maintained as usable open space (building footprint, streets, parking areas and sidewalks adjacent to streets shall not be considered usable open space) except in oil production areas where public safety and operational concerns require limiting access. Bicycle and pedestrian trails not included within the public right-of-way may be considered usable open space). All buildings shall be set back a minimum of twenty feet from all public streets and a wider setback may be required by individual subarea. Within this minimum twenty-foot setback area, a strip having a minimum width of ten feet and abutting the street shall be attractively landscaped.
8. All developments shall be open and inviting to the public except in industrial and oil production areas where public safety concerns require limiting access. Specifically, the public shall not be excluded from use of private streets and bicycle and pedestrian trails, although the public may be excluded from private yard areas, from private recreation areas designed for the use of residents of the development, and from private drives serving parking lots and garage structures reserved for residents and their guests.
13. Adequate landscaping and required irrigation shall be provided to create a park-like setting for the entire area. A landscaped parkway area shall be provided along all developments fronting on Pacific Coast Highway, ~~Westminster Avenue~~ 2nd Street, Studebaker Road, Seventh Street and Loynes Drive.

14. No additional curb cuts shall be permitted on Pacific Coast Highway, ~~Westminster Avenue~~ 2nd Street, Studebaker Road, or Seventh Street, unless it can be shown that inadequate access exists from local streets, or unless specifically permitted by Subarea regulations provided herein. This restriction shall not preclude the provision of emergency access from these streets as may be required by the City.

**B. Suggested Modification to the IP: SEADIP and City Oil Code**

**Suggested Modification #2: Renumber existing Section B as Section C, renumber existing Section C as Section E and Add New Section D, as follows:**

**D. PROVISIONS APPLYING TO OIL PRODUCTION AREAS**

**1. Definitions**

**In addition to definition Section 12.04.040 of the Long Beach Municipal Code, the following definitions apply to oil production areas in SEADIP.**

- a. **Oil and gas production facility. Any public or private processing, producing, storing, transmitting, or recovering facility for natural gas or petroleum.**
  - b. **Consolidation. To significantly reduce the number of producing oil wells, support facilities, or sites required to produce the reservoir with minimal environmental impact.**
  - c. **Consolidation Site. A site where consolidation is occurring.**
  - d. **Site Restoration. To return a site to its condition prior to oil development, to the maximum extent practicable. At a minimum and unless otherwise specified, this shall include removing all equipment, trash, above-ground concrete and other waste materials, grading and re-contouring a site to match the surrounding land surface or appropriate reference site or historical period, where applicable, and planting with the appropriate, non-invasive California native species for the respective habitat types.**
  - e. **Ecological Restoration. To promote, through direct management action, the recovery of an ecosystem that has been degraded, damaged or destroyed.**
2. **New or expanded oil and gas production facilities shall be sited within a designated oil and gas Consolidation Site. Within the SEADIP area, the only sites so designated are:**
    - a. **Subarea 25b (portion thereof) The Pumpkin Patch site**

**legally described as follows:**

**Parcels 4, 5 and 6, as shown on Parcel Map No. 19212, as per map filed in book 260, pages 93 and 94 of parcel maps, in the office of the recorder of said County; except therefrom all oil, gas, petroleum and other hydrocarbon substances conveyed by various instruments both recorded and unrecorded all confirmed and clarified by deed from Fred H. Bixby Ranch Company, a California Corporation, recorded September 16, 1971 as instrument no. 3355, in Book D 5193 Page 959 of official records, which deed recites that the grantees, their heirs, successors and assigns shall have no right to enter upon the surface of the property or use the property or any portion thereof above a plane parallel to and 500 feet below the**

present surface thereof without the express approval in writing of the grantor. Subject to covenants, conditions, restrictions, reservations, easements and rights-of-way of record if any.

b. Subarea 19 (portion thereof)The LCWA site

Legally described as follows: A portion of Parcel 3 of City of Long Beach Lot Line Adjustment no. 9704-08, recorded December 12, 1997 as instrument no. 97-1958951, official records of Los Angeles County, California, being a portion of the east one-half of section 2, township 5 south, range 12 west, in the Rancho Los Alamitos, as shown on partition map recorded in book 700, page 141 of deeds, in the office of the Los Angeles County Recorder, described as follows: Beginning at the southwest corner of said parcel 5, being the southwest corner of said east one-half of section 2, and being the centerline intersection of Westminster Avenue (100 feet wide) and Studebaker Road (100 feet wide); thence north 00° 10' 03" east, along the westerly line of said parcel 3, being the westerly line of said east one-half of section 2, and also being said centerline of Studebaker Road, a distance of 400.00 feet, thence south 89° 50' 17" east, a distance of 493.10 feet; thence south 64° 14' 06" east, a distance of 75.63 feet; thence south 00° 52' 38" west, a distance of 367.39 feet, to the southerly line of said parcel 3, being the southerly line of said east one-half of section 2, and also being said centerline of Westminster Avenue. Thence north 89° 60' 17" west along said southerly line and said centerline, a distance of 556.57 feet, to the point of beginning

3. New or expanded oil and gas production facilities may be permitted if in compliance with all of the following:

a. General policies:

- i. Alternative locations are infeasible or more environmentally damaging.
- ii. Denying a permit for the new facility would adversely affect the public welfare.
- iii. Adverse environmental effects are mitigated to the maximum extent feasible.
- iv. The development is designed, constructed and operated safely and consistently with geologic conditions of the well site.
- v. New or expanded facilities serve to consolidate existing oil and gas production facilities to the maximum extent feasible and legally permissible. Consolidation of an existing oil and gas facility shall ultimately result in a minimum 75% decrease in land area.
- vi. Any new wells within a new or expanded facility shall be sited on the smallest feasible footprint and sited below grade.
- vii. The new or expanded facility shall implement adequate measures to prevent causing or contributing to subsidence hazards.
- viii. With respect to new facilities, all oilfield brines are reinjected into oil-producing zones unless the Division of Oil and Gas, Geothermal Resources of the Department of Conservation determines to do so would adversely affect production of the reservoirs and unless injection into other

subsurface zones will reduce environmental risks. Exceptions to reinjections will be granted consistent with the Ocean Waters Discharge Plan of the State Water Resources Control Board and where adequate provision is made for the elimination of petroleum odors and water quality problems.

- b. Oil and gas products produced at the site shall be transported from the facility by pipeline. Transportation by a mode other than pipeline may be permitted only if the City has determined use of a pipeline is not feasible by making one of the following findings:
- i. Temporary activities, including significant pipeline repairs are necessary and temporarily preclude the use of a pipeline;
  - ii. An emergency, which may include a national state of emergency, has precluded use of a pipeline;
  - iii. There is no existing pipeline for the material to be transported and construction of a new pipeline is infeasible; or
  - iv. There is no pipeline network with demonstrated capacity for certain material to be transported.
- c. Any application for new or expanded oil and gas production facilities shall include a Development Plan that includes, at a minimum, the following elements:
- i. A legal description of the oil and gas lease (mining rights) area and the surface operations area within which the applicant proposes to conduct petroleum operations;
  - ii. A plot plan showing the setback areas, surface location of the proposed well, existing and proposed tanks, wells, fences, and other facilities and appurtenant structures, and their relation to any existing hospital, sanitarium, religious assembly use, rest home, school or dwelling unit or guest room within the distances set forth in this title. A setback shall be provided which will allow all vehicles entering or leaving the drill site to stop or park without extending into the public street or right-of-way;
  - iii. A verified statement signed by the applicant certifying that he or she is duly authorized by the operator to make and file the application and that he or she has read the application and that it is true and correct to the best of his or her knowledge and belief;
  - iv. A detailed project description that includes a description of phasing and/or timing of development (i.e., drilling and operation of new wells, construction and operation of oil production facilities, etc.), decommissioning and abandonment activities, and site restoration activities.
  - v. An analysis of the proposed new or expanded oil and gas production facility's consistency with LCP policies.
  - vi. An analysis of impacts to paleontological, archeological, tribal and other cultural resources. This analysis shall include the results of an investigation to determine if paleontological, archeological, tribal and other

- cultural resources are present in the project area and, if applicable, a monitoring and mitigation plan that describes how the project will avoid or minimize significant impacts to paleontological, archeological, tribal and other cultural resources.
- vii. A sea level rise analysis that assesses the effect of sea level rise on the proposed facility.
  - viii. In accordance with Policies in the City of Long Beach Oil Code, and incorporated in the LCP, identify measures to be used to prevent or reduce nuisance effects, such as noise, dust, odor, smoke, fumes, vibration, glare, traffic congestion, and to prevent danger to life and property.
  - ix. Such other information as may be reasonably required to determine consistency with the LCP.
  - x. A Consolidation Plan that addresses how the proposed development is consistent with policies requiring consolidation of oil and gas production facilities (i.e., Policies B.2. and B.3.a.v. above). Where decommissioned oil wells are located within an area that has the potential to undergo ecological restoration (i.e., wetland, habitat, etc), an ecological restoration plan shall accompany the Consolidation Plan.
  - xi. A Decommissioning Plan that estimates the cost of planning, permitting and implementation of abandonment and removal of all facilities associated with the oil and gas production facility as well as site restoration. To ensure that abandonment is carried out, a performance bond or other acceptable financial security shall be posted by the operator prior to issuance of a Coastal Development Permit in an amount commensurate with the estimated costs of decommissioning as described above. The bond or other financial security shall be returned to the applicant upon successful abandonment and restoration of the site. This requirement is not intended to be duplicative of other state or federal requirements. If another government agency requires a bond or financial security for full decommissioning of all facilities, the applicant may provide evidence of obtaining said bond or financial security as a means to satisfy this requirement.
- d. Any application for new and expanded oil and gas production facilities shall provide an Oil Spill Prevention and Response Plan that includes:
- i. Identification of oil spill prevention measures to minimize the risk of an oil spill, including but not limited to, appropriate siting, design (e.g. automatic shutdown, leak detection, etc.), and operational procedures (e.g., schedules, methods, and procedures for testing, maintaining, and inspecting equipment, etc.) for all facilities;
  - ii. Oil spill risk and documented worst-case spill assessment, including identification of the coastal and marine resources at risk from oil spill impacts;

- iii. Response capability analysis of the equipment, personnel, and strategies (both on-site and under contract off-site) capable of responding to a worst-case spill;
  - iv. Spill notification procedures;
  - v. Spill preparedness training and emergency planning;
  - vi. Evidence of financial responsibility/capability to pay for total costs of cleanup and ecological restoration of a worst-case spill.
4. New pipelines serving oil and gas production facilities shall adhere to the following:
- a. A pipeline corridor shall be sited so as to avoid important coastal resources (e.g., recreation, habitat, archaeological areas) and minimize geologic hazards to the maximum extent feasible.
  - b. Above-ground pipelines shall only be approved in specific locations if it is demonstrated to be the safest and least environmentally damaging alternative. Otherwise, all pipelines shall be buried below the ground surface.
  - c. Equipment and activities shall be restricted to the pipeline corridor to the maximum extent feasible.
  - d. After completion of backfilling and compacting of the pipeline ditch, the site shall be returned to grade where practical and the excess soil shall be removed to an approved disposal site.
  - e. New pipeline construction and operation shall not alter existing surface drainage patterns in a manner that adversely affects receiving areas.
  - f. Where pipeline segments carrying oil and gas pass through important coastal resource areas (e.g., recreation, habitat, archaeological, or other areas of significant coastal resource value) automatic shutoff valves shall be used to minimize the amount of spilled liquids in the sensitive area. The potential for damage in those areas shall be minimized by considering spill volumes, duration, and trajectories in the selection of a pipeline corridor. In addition, appropriate measures for spill containment and cleanup (e.g., catch basins to contain a spill) shall be included as part of the required emergency response plan.
5. Where appropriate, monitoring programs to record vertical land surface and near-shore ocean floor movements shall be initiated in locations of new large-scale fluid extraction on land or near shore before operations begin and shall continue for the duration of extraction activities. Costs of monitoring and mitigation programs shall be borne by liquid and gas extraction operators.
6. Any operator seeking to perform a well stimulation treatment, defined in California Senate Bill 4, Section 3157 as “any treatment of a well designed to enhance oil and gas production or recovery by increasing the permeability of the formation,” shall obtain a coastal development permit for these activities.

7. Within 60 days of abandonment of facility operations, the operator shall submit an updated Abandonment Plan and Site Restoration Plan (see policy 3.c.ix above) to update reflected changes in proposed abandonment activities and costs associated with decommissioning.
8. General Oil and Gas Facility Operations requirements:
  - a. Lights. All lights shall be shielded or directed so as to confine direct rays to the drill site.
  - b. Vibration. Vibration from equipment shall be kept to a minimum level, and in cases where vibration levels exceed the vibration perception threshold as defined in Section 8.80.200(G) at the property boundary, vibration-dampening equipment of the best available technology shall be installed so as to reduce vibration to a minimum.
  - c. Painting of Installations. All surfaces of permanent installations within the site shall be painted a neutral color.
  - d. Flaring or Venting. Gas shall not be vented to the atmosphere, nor burned by open flame, unless prior approval therefor is obtained from the D.O.G.G.R. and the City.
  - e. Noise
    - i. No person, either as owner, agent, or operator, shall conduct any drilling, or redrilling operation at any well located within oil operating areas 5, 6, 7A, 7B, 8, 9, 12, 13, 16, 18, 19, 21, 22, 23, 24 and/or any Oil Consolidation site in any manner so as to create any noise which causes the exterior noise level when measured at the property line of any single- or multiple-family dwelling unit, guest room, commercial building, school, hospital, church, public library or public open space to exceed the noise level standards set forth in Table 1. The exterior noise level generated by the drilling or redrilling operation shall be continuously monitored to ensure conformance to the noise level standards. The costs of such monitoring shall be borne by the operator conducting such operation.

Table 1  
EXTERIOR NOISE LEVEL\*

<u>Cumulative Number of Minutes in any One-hour Time Period</u>	<u>Noise Level Daytime 7:30 a.m. to 9:30 p.m.</u>	<u>Standards, dBA Nighttime 9:30 p.m. to 7:30 a.m.</u>
<u>30</u>	<u>50</u>	<u>45</u>
<u>15</u>	<u>55</u>	<u>50</u>
<u>5</u>	<u>60</u>	<u>55</u>
<u>1</u>	<u>65</u>	<u>60</u>
<u>0</u>	<u>70</u>	<u>65</u>

- ii. If the existing ambient noise level, exclusive of existing drilling activity, at the nearest adjacent dwelling unit, guest room, commercial building, school,

hospital, church, public library or public open space property line to the requested oil drilling site does not exceed the permitted nighttime noise levels in Table 1 for any period, then the following regulations shall apply:

1. The only activity permitted between the hours of seven p.m. (7:00 p.m.) and seven a.m. (7:00 a.m.) will be "on bottom" drilling, with single joint connections. During the same time frame, none of the following will be allowed:
  - a. Hammering on pipe;
  - b. Racking of pipe;
  - c. Acceleration and deceleration of engines or motors;
  - d. Use of drilling assembly rotational speeds that cause more noise than necessary and could reasonably be reduced by use of a slower rotational speed;
  - e. Picking up or laying down drill pipe, casing, tubing or rods into or out of the drill hole.
2. If the measured ambient level exceeds that permissible within any of the first four (4) noise limit categories in Table 1 above, the allowable noise exposure standard shall be increased in five (5) decibel increments in each affected category as appropriate to encompass or reflect the ambient noise level. In the event the ambient noise level exceeds the fifth (5th) noise limit category, the maximum allowable noise level under said category shall be increased to equal the maximum ambient noise level.
3. If the difference between the noise levels with noise source operating and not operating is four (4) decibels or greater, then the noise measurement of the alleged source can be considered valid with a correction applied to account for the contribution of the ambient noise. The correction is to be applied in accordance with data shown in Table 2.

Table 2  
**BACKGROUND NOISE CORRECTION**

<u>Difference Between Total Noise and Background Noise Alone (Decibels)</u>	<u>Amount to be Subtracted from Total Noise Measurement (Decibels)</u>
<u>4.0 - 4.5</u>	<u>2.0</u>
<u>4.5 - 6.0</u>	<u>1.5</u>
<u>6.0 - 8.0</u>	<u>1.0</u>
<u>8.0 - 10.0</u>	<u>.5</u>

iii. Acoustical Blankets

1. No person, either as owner, agent or operator, shall conduct any drilling or redrilling operations on any well located within the oil operating areas 5, 6, 7A, 7B, 8, 9, 12, 13, 16, 18, 19, 21, 22, 23 and 24 and/or any oil consolidation site unless all derricks and all

- drilling machines which produce noise and which are used in connection with said drilling or re-drilling operations are enclosed with soundproofing material as provided in Subsection 2 of this Section.*
2. *When soundproofing is required by the provisions of Subsection 1 of this Section, such soundproofing shall comply with accepted A.P.I. standards and shall be subject to Fire Department regulations. All doors and similar openings shall be kept closed during drilling operations, except for ingress and egress and necessary logging and well completion operations. Alternate materials or methods of soundproofing may be used, provided that such alternative has been approved by the City Director of Development Services and the Fire Chief. The Director and the Fire Chief may approve any such alternative if they find that the proposed material and method is equal to soundproofing ability and fire-resistive qualities to the aforesaid specifications. Either may require the submission of evidence to substantiate any claims that may be made regarding the use of such alternative.*
- iv. *For the purpose of noise abatement, the Director shall have the authority to monitor the operation of oil field equipment used for drilling, re-drilling, well servicing, remedial or maintenance work.*

**Suggested Modification #3: Rename heading: SUBAREAS 25 and 26 to SUBAREAS 25a and 26.**

**Suggested Modification #4: Add new Section SUBAREA 25b(Pumpkin Patch) to new Section D, but retain existing policies included in existing SUBAREAS 25 and 26 that apply to the Pumpkin Patch site, as proposed to be amended by the City and as modified below:**

**SUBAREA 25b (Pumpkin Patch)**

- a. Use: Business Park (Office Commercial and light Industrial); oil production and accessory uses. Commercial / Self-storage (defined by 21.15.570) is a prohibited land use.
- b. New oil and gas production facilities may only be approved in this subarea in accordance with an approved Development Plan.**
- c. ~~The City Planning Commission shall approve development of specific~~ These Subareas are intended for office commercial, and light industrial, and oil production uses, which will provide mitigation to address project-related noise, odor, or air emissions through compliance with the California Environmental Quality Act and the LCP pollutants beyond the boundaries of their parcels.
- d. The Planning Commission may adopt specific performance standards or a specific list of permitted uses to guide developers and the Planning Commission.
- e. No outdoor storage of materials and equipment shall be permitted without being screened from public view. Loading and service areas shall not be permitted within required yard setback areas and all such loading and service areas shall be enclosed or screened so as not to be visible from the street.
- f. No more than 40,000 square feet of floor area for medical/dental offices, and no more than 16,000-20,000 square feet of floor area shall be restaurant use.

- g. ~~The B~~business park uses shall be predominantly office commercial uses, and no less than 75 percent of the area proposed for business park uses shall be devoted to office commercial use. ~~No light industrial uses shall front on Pacific Coast Highway or Westminster Avenue.~~
- hg ~~For new commercial uses, N~~ot more than 35 percent of the area of each office commercial lot shall be occupied by a building or buildings, and not more than 50 percent of the area of each light industrial use shall be occupied by a building or buildings.
- ih. ~~For new commercial development, A~~ll improved building sites shall have a minimum landscaped coverage of 15 percent of the area of each lot and shall be provided with an irrigation system. Boundary landscaping shall be provided on all internal property lines. Parking areas shall be landscaped with a minimum of one tree per each five parking stalls. The proposed retention basin in Area 25, if constructed, shall be developed in a park-like manner.
- i. Required yard areas: Thirty feet front; ten feet side (except 30 feet side when a side yard abuts Pacific Coast Highway or Westminster a street and except that the internal side yard may be 0 feet provided the main building on the same lot line on the abutting lot is set back 0 feet and both lots are developed at the same time).
- j A 30 foot-wide landscaped setback shall also be required along the San Gabriel River Channel property line to create a park-like setting for the bicycle trail along the river bank. (This substitutes for the park in the former Area 30).
- ~~lk.~~ The developer(s) of Area 25b shall contribute on a fair share basis to the construct a widening of Pacific Coast Highway in accordance with a plan approved by the Director of Public Works, an extension of Studebaker Road in accordance with a plan approved by the City, and dedicate the same to the City.
- ~~ml.~~ The developer(s) of Area 25b shall construct, in accordance with plans approved by the Director of Public Works, a bicycle trail along the south side of Westminster Avenue 2nd Street and along the north side of Pacific Coast Highway, south of Studebaker Road. The developer shall dedicate the same to the City.
- ~~nm.~~ The developer(s) of Areas 25b shall contribute on a fair share basis provide for the construction of any improvements necessary to cross the San Gabriel River Regional Bikeway from the east levee to the west levee of the river at Westminster Avenue 2nd Street. These should be limited to on-street pavement markings.
- ~~on.~~ The developers shall contribute on a fair share basis to participate in the cost of constructing the connection between Studebaker Road extension between Westminster Avenue and Pacific Coast Highway if approved by the City and Shopkeeper Road in accordance with a plan approved by the City. The amount of that participation to be calculated to be the length in feet of property fronting on each side of said roadway multiplied by the average cost per linear foot of constructing one lane of said roadway, to the satisfaction of the City Engineer.
- ~~po.~~ The developers of Areas 25 and 26b shall contribute on a pro rata basis to improve that portion of the San Gabriel River bank adjacent to their property with a pedestrian walk, bicycle trail and related landscaping, such development to continue one half of the distance under the Pacific Coast Highway bridge to join with similar facilities in Area 29.
- p. **Herbicide and pesticide use shall be prohibited.**

**Suggested Modification #5: Revise SUBAREA 19 as follows:**

SUBAREA 19

- a. Use: Industrial, Oil Production Uses
- b. This area is fully developed in accordance of with the provisions of the IG zone.

- c. Commercial storage/self-storage (21.15.570) shall be allowed by Conditional Use Permit (21.52.219.5)
- d. **New oil and gas production facilities may only be approved in this subarea in accordance with an approved Development Plan.**
- e. **All industrial and oil production uses shall provide mitigation to address project-related noise, odor, or air emissions through compliance with the California Environmental Quality Act and the LCP.**
- f. **The Planning Commission may adopt specific performance standards or a specific list of permitted uses to guide developers and the Planning Commission.**
- g. **No outdoor storage of materials and equipment shall be permitted without being screened from public view. Loading and service areas shall not be permitted within required yard setback areas and all such loading and service areas shall be enclosed or screened so as not to be visible from the street.**
- h. **Herbicide and pesticide use shall be prohibited.**

**Suggested Modification #6: Revise Title 12 – Long Beach Oil Code as follows:**

CHAPTER 12.08 - OIL OPERATING AREAS  
12.08.100 - Area 8—Alamitos Heights and Flats.

Area 8 is that portion of the City described as follows:

Beginning at the intersection of the centerline of Santiago Avenue, 60 feet wide, and the southerly line of Colorado Street, 60 feet wide; thence east along the southerly line of Colorado Street to the boundary line of the City of Long Beach as established by Increment 11 of annexation to the City of Long Beach, filed with the Secretary of the State of California, December 17, 1923; ... thence east along said south line of Colorado Street to the point of beginning.

Along with:

In the City of Long Beach, County of Los Angeles, State of California, and is described as follows:

Parcels 4, 5 and 6, as shown on Parcel Map No. 19212, as per map filed in book 260, pages 93 and 94 of parcel maps, in the office of the recorder of said County; except therefrom all oil, gas, petroleum and other hydrocarbon substances conveyed by various instruments both recorded and unrecorded all confirmed and clarified by deed from Fred H. Bixby Ranch Company, a California Corporation, recorded September 16, 1971 as instrument no. 3355, in Book D 5193 Page 959 of official records, which deed recites that the grantees, their heirs, successors and assigns shall have no right to enter upon the surface of the property or use the property or any portion thereof above a plane parallel to and 500 feet below the present surface thereof without the express approval in writing of the grantor. Subject to covenants, conditions, restrictions, reservations, easements and rights-of-way of record if any.

...

12.08.25 - Area 25— 2nd St and Studebaker Road drill site.

Area 25 is that portion of the City described as follows:

A portion of Parcel 3 of City of Long Beach Lot Line Adjustment no. 9704-08, recorded December 12, 1997 as instrument no. 97-1958951, official records of Los Angeles County, California, being a portion of the east one-half of section 2, township 5 south, range 12 west, in the Rancho Los Alamitos, as shown on partition map recorded in book 700, page 141 of deeds, in the office of the Los Angeles County Recorder, described as follows:

Beginning at the southwest corner of said parcel 5, being the southwest corner of said east one-half of section 2, and being the centerline intersection of Westminster Avenue (100 feet wide) and Studebaker Road (100 feet wide); thence north 00° 10' 03" east, along the westerly line of said parcel 3, being the westerly line of said east one-half of section 2, and also being said centerline of Studebaker Road, a distance of 400.00 feet, thence south 89° 50' 17" east, a distance of 493.10 feet; thence south 64° 14' 06" east, a distance of 75.63 feet; thence south 00° 52' 38" west, a distance of 367.39 feet, to the southerly line of said parcel 3, being the southerly line of said east one-half of section 2, and also being said centerline of Westminster Avenue. Thence north 89° 60' 17" west along said southerly line and said centerline, a distance of 556.57 feet, to the point of beginning.

**Suggested Modification #7: Revise Oil Code Map as shown in [Exhibit 5](#)**

### **III. FINDINGS**

The Commission hereby finds and declares:

#### **A. DESCRIPTION OF THE LCP AMENDMENT REQUEST**

The City's proposed LCP amendment includes changes to the LUP and IP portions of the LCP contained in the special area plan for PD-1 (Planned Development District One), also known as SEADIP ([Exhibit 4](#)). The proposed amendment also includes changes to the City's Oil Code (Title 12), which is part of the certified LCP to the extent that it is applicable in the certified portion of the City's coastal zone ([Exhibits 3 and 5](#)). The main purpose of the LCP amendment is to allow oil and gas production uses in SEADIP Subareas 19 and 25 ([Exhibit 6](#)), the location of an expanded and consolidated oil and gas production project proposed by Beach Oil Mineral Partners (BOMP) ([Exhibit 7](#)).

The SEADIP Specific Plan has a long history. It was originally adopted by the City of Long Beach in 1977, prior to certification of the City's LCP. In 1980, the Commission incorporated part of the SEADIP document into the original LCP as both the implementing ordinances (IP) and Land Use Plan (LUP) for the southeast portion of the City. However, large geographic areas covered by SEADIP – the wetland areas -- were excluded from certification of the City of Long Beach LCP in 1980. The geographic areas not incorporated into the certified LCP include the formerly unincorporated portions of Los Angeles County (Los Cerritos Wetlands) and Parcel 11b ([Exhibit 6](#)). The Commission therefore retains original jurisdiction over these wetland areas. Other City areas covered by SEADIP are located outside of the coastal zone and therefore are also not part of the certified LCP. Therefore, the City's SEADIP document includes both

certified and uncertified standards and geographic areas. This LCP amendment request would affect only the portion of SEADIP that has been certified by the Commission and only the geographic SEADIP area that is currently covered by the certified City of Long Beach LCP. The Los Cerritos Wetlands area, which was annexed from Los Angeles County into the City of Long Beach in November 1997, is not within the area covered by any certified LCP. This LCP amendment would not alter the boundaries of the currently certified City of Long Beach LCP.

As described above, SEADIP includes both LUP policies and implementing ordinances, although it was not written in a format that easily distinguishes between the two ([Exhibit 4](#)). In general, the portion of SEADIP that includes the more over-arching policies and is therefore treated as the LUP is Subsection A: Provisions Applying to All Areas. The certified portion of SEADIP that includes more specific implementing standards for particular parcels, and is therefore treated as the IP is Subsection C: Specific Development and Use Standards. However, Subsection A does include some specific development standards that are generally considered part of the IP. In addition, only the portions of Subsection C that apply to Subareas in the Coastal Zone that are not considered part of the “Wetlands” are part of the LCP.

The City’s proposed LCP amendment includes proposed changes to the LUP and IP portions of SEADIP. Specifically, the City’s proposed LUP changes would result in relatively minor changes to policy language in Section A of SEADIP. These revisions would clarify how some of the existing policies (i.e., policies related to open space and public access requirements) would apply to new proposed oil production areas. The proposed revisions also correct the name of Westminster Avenue, which was changed to 2<sup>nd</sup> St. within the SEADIP area. See section II above for specific changes proposed by the City.

The City also proposes changes to the IP portion of SEADIP. The City’s proposed IP changes would add oil production uses to two new sites within the SEADIP area. These sites are called the Pumpkin Patch site, part of SEADIP Subarea 25, and the Los Cerritos Wetlands Authority (LCWA) site, part of SEADIP Subarea 19 ([Exhibits 6 and 7](#)). The City proposes to add “Oil Production Uses” as an allowable land use for Subarea 19. Proposed changes to subarea 25 are slightly more complicated because part of this subarea is considered wetlands and is therefore excluded from the LCP. The Pumpkin Patch site, where oil production uses are proposed, is the only portion of Subarea 25 that is part of the LCP. The City proposes amending language within the SEADIP section that describes specific development and use standards for Subareas 25 and 26 by adding “oil production and accessory uses” as an allowable use in Subarea 25. The City also proposes revisions that clarify or update existing policies to reflect current conditions within SEADIP. For example, Subarea 25 was originally intended for development as a Business Park with restaurants and hotels being additional allowable uses. Thus, most of the policies, including policies related to zoning requirements for buildings and open space and outdoor storage of materials, are geared towards commercial-type uses. Thus, the City’s proposed changes clarify that some of the existing policies relate only to commercial development. In addition, the City proposes to revise the current policies to reflect that Subareas 25 and 26 were not developed by the same developer, and that Westminster Ave. became 2<sup>nd</sup> St. in the vicinity of Subarea 25 and 26 (see Section II for specific language changes).

Finally, the City proposes changes to the Oil Code. The Oil Code includes policies intended to regulate drilling for the production of oil within the City. It was certified as part of the LCP in 1980. The City proposes to revise Section 12.08 of the Oil Code that includes descriptions of all

Oil Operating Areas within the City. Specifically, the description included in Section 12.08.100 for Area 8 – Alamitos Heights and Flats would be amended to include the Pumpkin Patch site. In addition, a new oil operating area called the 2<sup>nd</sup> St. and Studebaker Road drill site (i.e., the LCWA site) would be added as section 12.08.257. These changes would also be reflected on the Oil Map that is part of the City’s Oil Code ([Exhibit 5](#)).

The City Council submitted the LCP amendment request for Commission certification with City Council Resolution No. RES-18-0010 ([Exhibit 1](#)). The proposed changes to SEADIP are set forth in City Ordinances No. ORD-18-0001 ([Exhibit 2](#)) and No. ORD-18-0002 ([Exhibit 3](#)).

**B. DENY THE LUP AMENDMENT REQUEST AS SUBMITTED**

Amendment Request No. 1-18 would amend the certified LUP portion of SEADIP to revise language in Subsection A to reflect how existing policies apply to oil production facilities. The standard of review for the amendment to the Land Use Plan is whether the LUP meets the requirements of and is in conformity with the Chapter 3 of the Coastal Act.

Coastal Act Section 30230 states:

*Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

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 water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Coastal Act Section 30232 states:

*Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

Coastal Act Section 30233 states, in part:

*(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of*

*this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*

- (1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
- (2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
- (3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.*
- (4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.*
- (5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
- (6) Restoration purposes.*
- (7) Nature study, aquaculture, or similar resource dependent activities.*

*(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation.*

*Dredge spoils suitable for beach replenishment should be transported for these purposes to appropriate beaches or into suitable longshore current systems.*

*(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary...*

*(d) Erosion control and flood control facilities constructed on watercourses can impede the movement of sediment and nutrients that would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a coastal development permit for these purposes are the method of placement, time of year of placement, and sensitivity of the placement area.*

Coastal Act Section 30240 states:

*(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.*

*(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Coastal Act Section 30244 states:

*Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

Coastal Act Section 30251 states:

*The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

Coastal Act Section 30253 states:

*New development shall:*

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*
- (3) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.*
- (4) Minimize energy consumption and vehicle miles traveled.*

...

Coastal Act Section 30260 states:

*Coastal-dependent industrial facilities shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with this division. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.*

Coastal Act Section 30262 states:

- (a) Oil and gas development shall be permitted in accordance with Section 30260, if the following conditions are met:*

- (1) The development is performed safely and consistent with the geologic conditions of the well site.*
  - (2) New or expanded facilities related to that development are consolidated, to the maximum extent feasible and legally permissible, unless consolidation will have adverse environmental consequences and will not significantly reduce the number of producing wells, support facilities, or sites required to produce the reservoir economically and with minimal environmental impacts.*
  - (3) Environmentally safe and feasible subsea completions are used when drilling platforms or islands would substantially degrade coastal visual qualities unless use of those structures will result in substantially less environmental risks.*
  - (4) Platforms or islands will not be sited where a substantial hazard to vessel traffic might result from the facility or related operations, determined in consultation with the United States Coast Guard and the Army Corps of Engineers.*
  - (5) The development will not cause or contribute to subsidence hazards unless it is determined that adequate measures will be undertaken to prevent damage from such subsidence.*
  - (6) With respect to new facilities, all oilfield brines are reinjected into oil-producing zones unless the Division of Oil and Gas of the Department of Conservation determines to do so would adversely affect production of the reservoirs and unless injection into other subsurface zones will reduce environmental 42 risks. Exceptions to reinjections will be granted consistent with the Ocean Waters Discharge Plan of the State Water Resources Control Board and where adequate provision is made for the elimination of petroleum odors and water quality problems.*
- ...
- (b) Where appropriate, monitoring programs to record land surface and near-shore ocean floor movements shall be initiated in locations of new large-scale fluid extraction on land or near shore before operations begin and shall continue until surface conditions have stabilized. Costs of monitoring and mitigation programs shall be borne by liquid and gas extraction operators.*
  - (c) Nothing in this section shall affect the activities of any state agency that is responsible for regulating the extraction, production, or transport of oil and gas.*

The proposed LCP Amendment, as submitted, is not adequate to carry out the marine resources, protection against oil spills, wetlands, Environmentally Sensitive Habitat Areas (ESHA), cultural resource protection, protection of scenic and visual qualities, minimization of hazards, and oil and gas policies of Chapter 3 of the Coastal Act. The LCP amendment would allow new oil drilling on two sites within SEADIP but does not include most of the protections required under the Coastal Act to ensure that any new development, including oil and gas production facilities, are implemented in a manner that protects coastal resources. The following discussion explains in further detail how the proposed LCP Amendment is not adequate to carry out the Chapter 3 policies of the Coastal Act.

## Background

The City of Long Beach LCP was one of the first LCPs developed after the passage of the Coastal Act and was certified by the Commission on July 22, 1980. As stated in the LCP, “Long Beach has one of the most complex and highly urbanized shorelines in California.” The LCP focuses on Coastal Act policies related to public access to the shoreline, recreation and visitor-serving facilities, and balancing human use with ecological concerns within existing ecologically valuable areas such as Alamitos Bay, Colorado Lagoon and the Los Cerritos Wetlands. As described above in Section III.A., SEADIP, a Special Area Use plan for the southeast portion of the City was completed and adopted by the City in early 1977 and then subsequently incorporated into the LCP. When the LCP was certified, the Commission had concerns related to the City’s plan for wetland areas within SEADIP. These issues were not resolved by the Commission hearing, and thus, the Commission excluded from its certification of the LCP the wetland areas within SEADIP. The Commission therefore retains original jurisdiction over these wetland areas.

The City embarked on a process to comprehensively update SEADIP in 2014. The Southeast Area Specific Plan (SEASP) was approved by the Long Beach City Council on September 19, 2017. This plan is currently in litigation, but, depending on the outcome of the litigation, may be submitted to the Commission as an LCP amendment, including policies related to the wetland areas, to the City’s LCP. However, until that occurs, SEADIP remains in force as the governing policy document for development within SEADIP, including the portions of SEADIP certified under the LCP.

### *Los Cerritos Wetlands Oil Consolidation and Restoration Project*

This proposed LCP amendment is largely driven by a project proposed by Beach Oil Minerals Partners (BOMP). The project, called the Los Cerritos Wetlands Oil Consolidation and Restoration Project (“project”), would relocate, consolidate and expand oil and gas extraction and processing operations from two existing oil fields within the SEADIP area to two nearby sites. The existing oil fields are called the Synergy site and the City site. The sites proposed for new oil and gas development, as described above, are the Pumpkin Patch site (SEADIP Subarea 25) and the LCWA site (SEADIP Subarea 19) ([Exhibit 7](#)). In addition, BOMP proposes to decommission the existing oil and gas operation and implement a comprehensive wetlands restoration project at the existing Synergy oil field through the creation of a wetland mitigation bank. Finally, the proposed project would result in the long-term abandonment of oil wells on the City site.

The entire project site is located within the Coastal Zone. The Pumpkin Patch Site and the LCWA site are located within the portion of SEADIP that is part of the City of Long Beach’s certified Local Coastal Program (LCP). The Synergy site and the City site are also located within the boundary of the SEADIP, but within a portion of the Plan that was not certified by the Commission and is under the direct jurisdiction of the Commission. Because this project covers land within both the City’s and the Commission’s jurisdiction, the applicant intends to apply to the Commission for a consolidated coastal development permit to authorize the project.

The City approved a final EIR, Zoning Code Amendment, Site Plan Review, Oil Map Amendment and Certificate of Compliance authorizing the project on January 16, 2018. At the same time, the City passed a City resolution and ordinance approving the land use changes

within SEADIP and authorizing submittal of these changes in the form of an LCP amendment to the Commission. However, because of the jurisdictional patchwork that exists within SEADIP, the LCP amendment only covers two of the four sites included in the project, specifically, the sites proposed for oil development. The wetland component of the proposed project is within the Commission's jurisdiction, so none of the proposed amendments to SEADIP would affect these areas.

### **Coastal Act Policies**

The LUP portion of SEADIP includes policies addressing public access, recreation and open space, public views, and landscaping and setback requirements. These types of policies are also the focus of the LCP as a whole. Other Coastal Act policies, including policies protecting wetlands, marine resources, cultural resources and others, are not explicitly incorporated in SEADIP or the LCP. The purpose of the proposed amendment is to allow new oil and gas facilities on two sites where oil and gas is currently not allowed. However, without inclusion of Coastal Act protections of coastal resources including biological resources, cultural resources, minimization of hazards, and policies specific to oil and gas facilities, new development could be approved under the LCP that results in potentially significant adverse impacts.

#### *Biological Resources*

The SEADIP area is located within and adjacent to wetlands and environmentally sensitive habitat areas. The certified portion of SEADIP does not include adequate policies protecting marine resources, wetlands or Environmentally Sensitive Habitat Areas (ESHA), consistent with Coastal Act Sections 30230, 30231, 30232, 30233 and 30240. The two sites contemplated for future oil and gas development, although currently industrial or commercial in nature, are located adjacent to existing wetlands and in close proximity or immediately adjacent to the San Gabriel River which connects to Alamitos Bay, the rest of the Los Cerritos wetlands and the Pacific Ocean. The Pumpkin Patch site includes an existing wetland on the northeast end of the parcel. However, with exception of one policy requiring a habitat corridor between 2<sup>nd</sup> St and the San Gabriel River, SEADIP does not include any policies or ordinances requiring the protection of marine resources, wetlands or ESHA. Thus, if the amendment were approved as submitted, a developer could propose new development that eliminated or adversely affected wetlands or ESHA or the San Gabriel River that would be approvable under the LCP. The proposed amendment, by allowing new oil and gas development without including policies ensuring that such development adequately protects biological resources is inconsistent with Sections 30230, 30231, 30232, 30233 and 30240 of the Coastal Act.

#### *Cultural Resources*

SEADIP, as amended by the City, does not include any policies requiring the minimization of impacts to cultural resources, as required by Coastal Act Section 30244. Yet, the SEADIP area is rich in tribal and cultural resources. Approximately 2 miles from the two proposed oil development sites, on land now part of Cal State Long Beach, is the village site of the Tongva people, who would also become known as the Gabrieliño people after the Spanish colonization of California. The village site was called Puvugna and is significant to many native peoples as the place where Chungichnish, a lawgiver and deity, provided instruction to the Tongva. There is extensive evidence that the entire SEADIP area is sensitive for paleontological, archeological and tribal resources, potentially including Sacred Lands, Tribal Cultural Landscapes and Traditional Cultural Property, designated as Native American resources by the Native American Heritage

Council (NAHC). The City's final EIR for SEASP identified sixty-six resources within the SEASP area through a records search, including a human skull that was discovered in the 1960s in close proximity to the proposed oil and gas production areas (City of Long Beach 2017, pers. comm Robles 7/19/18). However, despite the known history of the general areas, and the potential for discovery of unknown resources, the City's proposed amendment does not include any policies protecting cultural, archeological or tribal resources. Without these protections, new oil development proposed under the LCP, if amended as proposed by the City, could lead to the destruction or harm of tribal, archeological and other cultural resources, which is inconsistent with Section 30244 of the Coastal Act.

### *Hazards*

The proposed amendment also lacks policies requiring the minimization of hazards from floods, fire, erosion and geologic or seismic activity. This is despite SEADIP's location near multiple waterways, including the San Gabriel River, the Los Cerritos Channel, Marine Stadium and Alamitos Bay, and the Newport-Inglewood fault, which bisects the SEADIP area. According to the EIR for the project giving rise to the LCP amendment, the two anticipated oil and gas production sites are not located in the 100-year flood zone, but they are within a tsunami inundation zone. Furthermore, as sea level rises, flooding is likely to become more prevalent in the SEADIP area.

SEADIP areas are also located in close proximity to an active fault. According to the EIR for the project giving rise to the LCP amendment, the Pumpkin Patch site is located approximately 1000 feet southwest of the fault zone, and the LCWA site is located 200 feet northeast of the fault zone ([Exhibit 8](#)). The EIR states that the fault has a 0.71 to 0.95 percent probability of generating an earthquake with a magnitude equal to or greater than 6.7 over the next 30 years. According to one recent study, the Newport-Inglewood fault and the Rose Canyon fault are actually one continuous fault zone that could produce a magnitude 7.4 earthquake (Sahakian et. al, 2017). Another study presented evidence that historical earthquakes on the Newport-Inglewood fault caused very strong shaking, resulting in a rapid drop in the land surface in a section of Seal Beach of 1.5 to three feet in a matter of seconds (Leeper et. al, 2017). Siting an oil and gas facility in close proximity to this fault system requires careful consideration of the risks associated with seismic activity. However, the LUP, as amended by the City, does not include any policies that require minimization of hazards comparable to those described above, rendering it inconsistent with Section 30253 of the Coastal Act.

### *Oil and Gas Facilities*

Although the LCP does include policies related to oil and gas development, most notably policies contained in the City's oil code, these policies were not designed to be in conformity with the Coastal Act policies related to oil and gas development. Instead, the stated purpose of the City's Oil Code, which is generally viewed as part of the IP, was to regulate oil and gas facilities in conformance with the California Fire Code, Division of Oil, Gas and Geothermal Resources regulations, and other State Statutes. These policies address many important topics, including permitting, noise, vibration, lighting, fencing, landscaping, and abandonment of wells. However, the LCP, in general, and the LUP portions of SEADIP, specifically, do not contain overarching policies related to oil and gas development that are meant to carry out Coastal Act requirements associated with oil and gas development. Furthermore, it is unclear from the City's proposed amendment if all of the existing Oil Code policies, and specifically those pertaining to noise, lights, vibration, pipelines, landscaping and other topics found in Sections 12.12.060 –

12.12.080, would apply to both areas for new oil and gas development contemplated under the LCP.

The Coastal Act both acknowledges existing oil and gas facilities within the Coastal Zone and allows for new and expanded facilities under a number of conditions. For example, Section 30262 of the Coastal Act requires, among other things, that: (1) Development be performed safely and consistent with geologic conditions, (2) New or expanded oil and gas facilities must be consolidated to the maximum extent feasible and legally permissible, (3) Oil and gas development will not cause or contribute to subsidence hazards unless measures are implemented to prevent damage, and (4) Oil field brines are re-injected into oil-producing zones consistent with DOGGR requirements. Furthermore, through its reference to Coastal Act Section 30260, Section 30262 allows new oil and gas development if (1) alternative locations are infeasible or more environmentally damaging, (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

The City's proposed changes to SEADIP would allow for new oil and gas development. Based on the acreage available at these sites, and the smaller well footprints available through directional drilling, the scale of any future development could be significant. Yet, the LCP is silent on the need to address any of the potential environmental impacts and risks associated with new oil and gas development at these sites. The LUP's lack of policies related to oil and gas development could lead to new development that is inconsistent with the policies of the Coastal Act.

### *Conclusion*

The City's proposed LCP amendment would allow for oil and gas development on Subareas 19 and 25 without any of the checks and protections required by the Coastal Act. Thus, for the reasons described above, the amendment, as submitted, is inconsistent with the Coastal Act.

It is important to note that it was clearly not the intent of the City to create a situation where oil and gas development is not required to address impacts to coastal resources. The City's final EIR for the project includes many of the protections outlined above, although these protections were derived from California Environmental Quality Act and other City requirements, not LCP requirements. Instead, the LCP's lack of relevant LUP policies is directly related to the fact that SEADIP is outdated and was developed before the LCP was certified. The Commission anticipates that many of the shortcomings apparent in SEADIP as it relates to coastal resource protection will be addressed in SEASP. In the meantime, City staff has worked cooperatively with Commission staff over the last few months to develop suggested modifications that address the concerns raised above. These modifications are contained in Section II above and analyzed further in the following section.

## **C. CERTIFY THE LUP AMENDMENT WITH SUGGESTED MODIFICATIONS**

Staff's Suggested Modification #1 adds a new Section A<sup>1</sup> to the LUP Coastal Act that includes policies related to marine resources, maintenance and restoration of the biological productivity of

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<sup>1</sup> The existing Section A (Provisions Applying to All Areas) would be renumbered "Section B," the existing Section B (Responsibility for Construction and Maintenance of Wetlands and Buffers) would be renumbered "Section C," and the existing Section C (Specific Development and Use Standards) would be renumbered "Section E."

coastal waters and wetlands, protection against oil spills, wetlands, ESHA, cultural resources, minimization of hazards, and oil and gas development (see Section III.A. for specific policy language). As proposed, the LUP Amendment allows new oil development without also including policies that would protect wetlands, ESHA, marine resources, and archeological resources, or ensure that new development is sited, designed, and conditioned to address potential coastal hazards. The Coastal Act policies incorporated into the LUP through staff's Suggested Modification #1 remedy the flaws in the proposed LUP amendment by requiring that new oil development allowed after certification of this amendment conform with the Coastal Act policies that protect the coastal resources that could be adversely affected by such development. Although other policies, such as policies protecting public access, recreation and fishing, are critical to the Commission's mission, they are not applicable to the specific sites and land use changes proposed in the City's current LUP amendment. With the adoption of Suggested Modification #1, the LUP Amendment will meet the requirements of and conform to the Chapter 3 policies of the Coastal Act.

#### **D. DENY THE IP AMENDMENT REQUEST AS SUBMITTED**

Amendment Request No. 1-18 would amend the certified Implementation Plan portions of SEADIP to (1) add oil production uses as an allowable land use to Subareas 19 and 25; (2) make clarifications about the applicability of existing IP policies to new oil and gas facilities, (3) make needed location corrections, and (4) revise the City's Oil Code and Oil Map to add the Pumpkin Patch and LCWA sites as new Oil Operating Areas. The standard of review for the amendment to the Implementation Plan is the Land Use Plan. The proposed IP amendment must conform with, and be adequate to carry out, the provisions of the certified LUP (taking into account the proposed LUP amendment as modified by the suggested modifications approved by the Commission).

#### **Land Use Plan Policies**

With the addition of Suggested Modification #1, the LUP includes policies providing protection for marine resources, wetlands, ESHA, and cultural resources, as well as policies that protect against oil spills, minimize hazards, and that specifically regulate oil and gas facilities (see Section II). The City's IP amendment request adds oil production uses as an allowable use within Subareas 19 and 25 and makes a few other minor changes, but it includes very few policies that would regulate the new oil development that would be allowed by this amendment. With a few exceptions related to setbacks, landscaping and requirements that the developers financially contribute to widening Pacific Coast Highway and construction of a bicycle trail, the IP portion of the LCP does not include any policies that describe how the LUP policies will be implemented for any new development, including oil production facilities.

For example, although the LUP, as amended, requires development to protect against oil spills, the proposed IP amendment does not require that proposals for new oil facilities include an oil spill prevention and response plan or any other policy that would require adequate safeguards to prevent and minimize the impacts of a potential spill. The proposed IP amendment also does not adequately describe the circumstances in which new oil development could be allowed, despite LUP policies that require a number of specific findings to be made before such development can be authorized.

The LCP Amendment must conform with and be adequate to carry out the policies of the certified LUP. As proposed, the IP lacks any specific policies related to the protection of marine resources and wetlands, ESHA, cultural resources, minimization of hazards, and policies specific to oil and gas facilities. Therefore, the IP Amendment does not carry out the policies set forth in the LUP and must be denied as submitted.

## **E. CERTIFY THE IP AMENDMENT WITH SUGGESTED MODIFICATIONS**

As described above, the IP portion of SEADIP, as amended by the City, is not sufficient to carry out the policies related to marine resources, protection against oil spills, wetlands, ESHA, cultural resources, minimization of hazards, and policies specific to oil and gas facilities included in the LUP. Modifications to SEADIP are necessary to ensure that coastal resources are protected. With adoption of Suggested Modifications #2-5, the City's IP would be amended to include numerous new policies designed to ensure that any new oil development that would be allowed by this LCP amendment, would be authorized in a manner that would ensure protection of potentially affected coastal resources. As such, staff recommends the Commission adopt Suggested Modifications #2-5, discussed in detail below:

### **Proposed IP Policies Related to Oil and Gas Development**

Suggested Modification #2 to the IP portion of SEADIP would add a new section, Section D, titled "Provisions Applying to Oil Production Areas." The overall purpose of this section is to provide specific policies that ensure that new and expanded oil and gas development within SEADIP will be implemented in a manner that is consistent with LUP policies (1) through (15) in Section A. This is accomplished, in part, through the designation of oil and gas consolidation areas. Suggested Modification #2 adds policies that require that all new or expanded oil and gas production facilities be sited within a consolidation area, and SEADIP Policy D.2 identifies Subareas 19 and 25b as consolidation areas. As described above, the Pumpkin Patch site is located within Subarea 25. However, Subarea 25 also includes the City site ([Exhibits 6 and 7](#)), a wetland with an existing oil operation that is not included in the City's LCP. Given the variety of existing and planned land uses for Subarea 25, it is critical to specify that new or expanded oil production uses would be allowable only on the Pumpkin Patch site and not in other portions of Subarea 25 and to define these areas. Thus, Suggested Modification #4 creates a new Subarea, Subarea 25b, to correspond to the Pumpkin Patch site ([Exhibit 9](#)), and Suggested Modification #2 (SEADIP Section D.2) defines this and the LCWA site as oil and gas consolidation areas. If future developers and/or the City intend to propose new oil and gas development within SEADIP but outside one of these areas, the City will be required to propose an LCP amendment.

Suggested Modification #2 also includes several policies (SEADIP Sections D.2 and D.3) with which any new or expanded oil and gas production facility must comply. In general, these policies implement LUP policies A.12 and A.13 that require appropriate siting of oil and gas facilities, consolidation of new or expanded oil and gas facilities and other requirements related to hazards, siting and reinjection of oilfield brines. More specifically, SEADIP Sections D.2 and D.3 allow for approval of new or expanded oil and gas facilities within the designated oil consolidation areas only when a number of conditions are met. To be approved, a new or expanded oil and gas operation must demonstrate that alternative locations are infeasible or more environmentally damaging, denying a permit for the new facility would adversely affect the public welfare, and adverse environmental effects are mitigated to the maximum extent feasible.

In addition, Suggested Modification #2 (SEADIP Section D.3) requires that a new or expanded oil and gas production facility must demonstrate that the project results in the consolidation of existing oil and gas facilities to the maximum extent feasible and legally permissible. At a minimum, consolidation of an existing facility must ultimately result in a decrease in land area used for oil and gas facilities of 75%. This requirement was developed in consultation with the City and is meant to be a reduction floor that is achieved for each new proposed project. For example, if a new oil and gas facility is proposed on one of the designated consolidation sites with the intent of consolidating an existing 100 acre site, the total area available to the new facility plus any remaining facilities on the existing site, is a maximum of 25 acres. New drilling methods and technology, including slant drilling, allows for siting of multiple wells with varying trajectories and bottom elevations within a small surface footprint. Thus, new oil and gas facilities should be able to achieve the 75% land area reduction while maintaining or increasing oil production capacity. In fact, it should be noted that the policy requires that new facilities be consolidated to the maximum extent feasible and not less than a 75% reduction in area. There may be situations where consolidation resulting in a greater than 75% reduction in land area is feasible and therefore required.

Furthermore, Suggested Modification #2 also includes requirements (Policies D.3 and D.5) for new oil and gas production facilities related to siting and safety of the development. Any new facilities must be designed, constructed and operated safely and consistently with the geologic conditions of the site. The development must also reinject oilfield brines into oil-production zones and implement any other measures necessary to adequately address subsidence hazards. These policies also require operators to monitor vertical land surface and near-shore ocean floor movements. Additionally, in parallel with the requirements to consolidate, any new wells must be sited on the smallest feasible footprint and sited below grade. SEADIP Section D.6 requires any operator seeking to perform a well stimulation treatment (as defined in SB 4) to obtain explicit approval from the City for these activities in the form of a CDP or CDP amendment.

Suggested Modification #2 (SEADIP Section D.3.b) also includes a requirement that oil and gas products be transported by pipeline. The policy does include exceptions in cases where repair and maintenance is necessary, an emergency precludes use of a pipeline, or there is no existing pipeline network available and construction of a new pipeline is infeasible. For example, there is no existing pipeline network for natural gas liquids (NGLs), a common by-product of oil and gas processing. Instead, NGLs are commonly transported by truck. Under the new section, truck transport of NGLs would be permitted as long as it meets the exception described in the proposed SEADIP Section D.3.b.iii.

In addition to policies describing how new oil and gas facilities should be sited, designed and operated, Suggested Modification #2 includes application requirements for new or expanded oil and gas production facilities. SEADIP Policy D.3 requires that applicants submit a Development Plan and an Oil Spill Prevention and Response Plan. The Development Plan must include, at a minimum, a legal description of the oil and gas lease area and surface operations areas, a plot plan, detailed project description, an analysis of the proposed facility's consistency with LCP policies, an analysis of impacts to cultural and tribal resources, a sea level rise analysis, a plan to reduce nuisance effects and other information necessary to evaluate the project's consistency with the LCP. Another important component of the Development Plan is a Consolidation Plan that describes how the proposed development is consistent with the LCP policies requiring

consolidation and requires a project proponent to submit an ecological restoration plan, when the proposed project includes decommissioned wells in an area that has restoration potential. Finally, the Development Plan also must include a Decommissioning Plan that includes a cost estimate to implement full decommissioning and requires the operator to post a performance bond or other financial security for the full estimated cost of decommissioning to ensure the full cost of decommissioning is covered by the project.

The Oil Spill Prevention and Response Plan required by SEADIP Section D.3 must identify the worst case spill scenario and demonstrate that the applicant has appropriate prevention, operational and response procedures, personnel and equipment in place to effectively contain and cleanup the worst case spill. The applicant must also provide evidence of financial capability to pay for the total cost of cleanup and restoration of a worst-case spill.

Suggested Modification #2 also includes SEADIP Section D.4, which is required to conform with LUP Policies A.3 and A.9. This policy requires new pipelines to be sited to avoid coastal resources and minimize hazards. New pipelines are also required to be sited below ground unless there is an environmentally preferable alternative. Furthermore, project applicants are required to minimize the pipeline construction footprint, restore the site appropriately post-construction, and avoid altering existing drainage patterns in a manner that adversely impacts receiving areas. In areas of significant coastal resource value, all new pipelines must also include automatic shutoff valves.

Suggested Modification #2 also incorporates several policies from the City's Oil Code directly into SEADIP. This ensures that these policies apply to all oil and gas facilities within SEADIP. These policies require outdoor lighting to be shielded and directed to confine light rays to the site, vibration to be kept to a minimum and vibration-dampening equipment installed as necessary, painting of facility surfaces in a neutral color, and limiting noise levels at the exterior property boundary to specific thresholds (see SEADIP Policy D.8.e for threshold values).

In addition to the new proposed section D: Provisions Applying to Oil Production Areas, Suggested Modifications #4 creates a new subheading for Subarea 25b, and Suggested Modification #3 amends the existing subheading to correspond to this change. Suggested Modifications #4 also amends existing policies to ensure development in this subarea is consistent with LUP policy A.13. Suggested Modifications #4 and #5 add a new policy to these subareas requiring new oil and gas production facilities be approved in accordance with an approved Development Plan. Also, in recognition of the proximity of these two sites to existing and future planned wetlands, the Suggested Modification #4 and #5 include a new policy prohibiting the use of herbicides or pesticides.

### **Consistency with LUP Policies**

Staff's proposed policies ensure that any new or expanded oil and gas production facilities are consolidated and are sited, designed and operated in accordance with SEADIP's LUP policies. The following discussion describes in detail how Suggested Modifications #2-5 would bring the IP into conformance with the LUP policies related to biological resources, cultural resources, minimization of hazards and oil and gas facilities.

*Biological Resources*

Suggested Modifications #2, #4, and #5 include policies that ensure any oil and gas development approved within SEADIP would be implemented in a manner that protects existing biological resources and encourages the restoration of existing oil and gas sites. For example, SEADIP Sections D.3 and D.4 require siting of new facilities, including pipelines, to consider less environmentally damaging alternative sites. These policies also require that any environmental impacts, including impacts to marine resources and wetlands, be mitigated to the maximum extent feasible. These policies are particularly important given the presence of existing wetlands and planned restoration areas located in relatively close proximity to the areas in which the LCP amendment would allow new oil development. In addition, proposed IP policies encourage the consolidation of existing facilities, all of which are in wetlands. This, in turn, benefits sensitive habitat by enabling ecological restoration, thus potentially expanding important biological resource areas in this highly urbanized environment.

Suggested Modification #2 (SEADIP Section D.8) also include requirements related to lighting, noise and vibration that will limit adverse impacts on wildlife in nearby wetlands and open water habitat. As described above, these requirements in SEADIP Section D.8 were derived from the City's Oil Code and were originally implemented to protect residential areas. However, by incorporating these requirements into SEADIP, they will now be applied to all oil and gas facilities within SEADIP, not just those located near residential areas. Thus, wildlife and habitat in the vicinity of any new oil and gas sites will also receive the benefits from limiting lighting, and noise and vibration levels, which is required by LUP Policies A.4, A.5 and A.6. It should be noted that any new oil and gas facility will be required to comply with all LUP policies, including policies protecting ESHA, areas adjacent to ESHA, and wetlands. If a project-specific analysis finds that the noise and vibration thresholds included in the IP are insufficient to protect these coastal resources, a project proponent may be required to implement more stringent limits on lighting, noise or vibration to mitigate this impact. Suggested Modifications #4 and #5 also include a prohibition on the use of herbicides and pesticides at sites on which oil development is allowed (i.e., the Pumpkin Patch and LCWA sites). This policy is designed to protect the wetlands and open water areas near or immediately adjacent to the consolidation sites, consistent with LUP Policies A.2 and A.4.

Finally, Suggested Modification #2 (SEADIP Section D.3 and D.4) include policies designed to minimize the likelihood of an oil spill and to ensure that the oil spill risk associated with a new oil production facility is adequately described and addressed. These policies are critical for all oil and gas facilities, but particularly critical for those located in close proximity to wetlands and coastal waters. For example, SEADIP Section D.3.b requires all oil and gas products to be transported by pipeline, except in a limited number of cases including emergencies and temporary events, thus reducing environmental impacts associated with air emissions and the potential for oil spills associated with trucking.

In order to carry out LUP Policy A.3, Suggested Modification #2 (SEADIP Section D.3.d) also requires that any application for a new oil and gas production facility include an Oil Spill Prevention and Response Plan. This Plan requires a project proponent to quantify the reasonable worst case spill scenario and demonstrate that the operator has the capability to address the spill quickly. This will help reduce impacts to surrounding wetlands and sensitive coastal resources in the event of an oil spill. Finally, Suggested Modification #2 (SEADIP Section D.4) includes a requirement that any pipeline constructed in the vicinity of important coastal resources, including

wetlands, ESHA and marine resources, install automatic shutoff valves. The intent of these policies is to minimize the likelihood of a spill, but also to limit the size of any spill that does occur and ensure that the operator is capable of cleaning up the spill and repairing any damage. These policies are necessary to ensure that the IP conforms with and is adequate to carry out LUP Policies A.1 through A.6.

### *Cultural Resources*

Suggested Modification #2 includes policies (SEADIP Section D.3 and D.4) to ensure that new oil and gas development within SEADIP is sited, designed and operated in a manner protects existing cultural resources as required by LUP Policy A.7. SEADIP Section D.3.c.vi requires that any application for a new or expanded oil and gas production facility include an analysis of the project's potential impacts to tribal and cultural resources. The policy specifies that the analysis include the results of an investigation to determine if paleontological, archeological, tribal and other cultural resources are present in the project area. If applicable, the analysis must also include a monitoring and mitigation plan that describes how the project will avoid or minimize significant impacts to paleontological, archeological, tribal and other cultural resources. In addition, SEADIP Section D.4, related to new pipelines, requires that siting of these facilities avoid cultural resource areas to the maximum extent feasible. Furthermore, if pipelines are constructed near a cultural resource site, then automatic shutoff valves will be required to minimize the impact of an oil spill. With these policies in place, new or expanded oil and gas production facilities will be sited and designed in a manner that is consistent with cultural resource protection policies in the LUP.

During the development of the suggested modifications, staff reached out to several tribal members for the purpose of consultation and coordination on the proposed LCP amendment. Staff contacted 22 individuals, sixteen of whom were on the Tribal Consultation List provided by the NAHC in a letter dated July 16, 2018. Several tribal members responded that the project was outside their ancestral territory and they did not wish to consult further. Other tribal members described the entire SEADIP area as a significant tribal cultural landscape and raised concerns that proposed oil and gas production activities would adversely impact sacred sites and ancestral remains. One tribal representative expressed that the project being proposed by BOMP should be conditioned to require adequate investigations of tribal resources in the project area as well as mitigation and monitoring requirements. Some tribal members also stated that the process felt "rushed," and they requested additional time to review the LCP amendment and project. In addition to tribal individuals and representatives on the NAHC list, staff also spoke to several tribal members who were not on the NAHC list but expressed a cultural connection to the SEADIP area.

SEADIP Sections D.3 addresses the concerns related to the cultural sensitivity of the Pumpkin Patch and LCWA sites by ensuring that prior to development of any oil and gas production facilities on these sites, the applicant must conduct an analysis of such project's impact on tribes. Suggested Modification #2 (SEADIP Section D.3.c.vi) requires that this analysis must include an investigation to determine if cultural resources are present and a monitoring and mitigation plan describing how impacts to cultural resources will be avoided or minimized. The EIR for BOMP's proposed project included a section describing the City's tribal cultural resource analysis. Part of the tribal cultural resource analysis included a Sacred Lands File request to the NAHC and consultation with 11 tribal individuals or organizations that were either identified by the NAHC on the Tribal Consultation List or requested that the City consult them regarding

projects in the area. During the City's tribal consultation, many of the same concerns described above were raised to the City, which it addressed by including a requirement for Native American Monitoring during any earth-moving construction activities. With respect to concerns that the process was rushed, the City began their tribal consultation process over two years ago in May of 2016. The City's process also included several public hearings, additional update letters sent to tribal members, and meetings with the Gabrieleno Band of Mission Indians – Kizh Nation (the one tribal organization contacted by the City that requested further consultation) on the proposed project and LCP amendment. Furthermore, if the Commission approves the LCP amendment, tribal members will have additional opportunities to provide further comments on any potential future oil and gas development during the CDP review and hearing process.

### *Hazards*

Suggested Modification #2 (SEADIP Sections D.3, D.4 and D.5) also include policies, in order to conform with LUP policies A.9, A.10 and A.13, that would require any new development within SEADIP to minimize adverse impacts from geologic, hydrologic and other hazards. This includes risks associated with floods, fire, seismic activity, erosion and sea level rise. SEADIP Section D.3 requires any oil and gas development to be designed, constructed and operated safely and consistently with geologic conditions of the well site. In addition, SEADIP Section D.4 specifically requires that pipelines be sited to minimize geologic hazards and include automatic shutoff valves in significant coastal resource areas. SEADIP Section D.3 addresses subsidence concerns, including a general policy requiring new facilities to implement measures to avoid or eliminate impacts associated with subsidence. Suggested Modification #2 also includes a policy requiring oil and gas facility operators to fund a subsidence monitoring program in areas where fluid extraction is occurring (see SEADIP Section D.5). Furthermore, any application for a new oil and gas production facility would need to include an analysis of the project's consistency with LUP policies (including LUP policies A.9, A.10 and A.13 which relate to minimization of hazards), as well as a sea level rise analysis. Given the location of the proposed oil and gas consolidation sites adjacent to coastal waters and the Newport-Inglewood fault zone, these types of analyses will be critical in determining both short and long term impacts associated with any new proposed oil and gas development. These policies (SEADIP Sections D.3, D.4 and D.5) are required to ensure that the IP conforms with and is adequate to carry out LUP policies A.9, A.10 and A.13 and will ensure that any new oil and gas production facility is required to adequately minimize risks associated with hazards.

### *Oil and Gas Development*

As described in detail earlier in this section, Suggested Modification #2 incorporates several policies designed to implement the LUP policies specifically related to oil and gas development (LUP policies A.12 and A.13). SEADIP Sections D.2 and D.3 specifically address the requirement in LUP policy A.12 that all new or expanded oil and gas facilities are consolidated, by identifying oil and gas consolidation areas within SEADIP and require that all new oil and gas facilities be sited within a consolidation area. SEADIP Section D.3 also provides a definition for consolidation and requires that new oil and gas facilities consolidate existing facilities, resulting in a minimum 75% decrease in facility areas. Furthermore, in conformance with LUP policy A.12, SEADIP Section D.3 would require a new oil and gas facility to demonstrate that: (1) alternative locations are infeasible or more environmentally damaging, (2) denying a permit for the new facility would adversely affect the public welfare, and (3) adverse environmental effects are mitigated to the maximum extent feasible. These policies ensure that any new oil and gas development proposed in the SEADIP area would need to demonstrate that siting the

development on an environmentally preferable site (including outside of SEADIP) is infeasible, and that any adverse environmental impacts resulting from the project would have to be fully mitigated. Furthermore, SEADIP Section D.3 requires that any new or expanded oil and gas production facility is designed, constructed and operated safely and consistently with the geologic conditions of the site, and implements measures to address subsidence and reinjects oilfield brines (consistent with DOGGR regulations). Thus, as modified, the IP portion of SEADIP provides specific requirements necessary to implement LUP policies A.12 and A.13 related to oil and gas development.

Suggested Modification #2 also includes policies intended to both decrease the likelihood of an oil spill and minimize impacts from an oil spill, as required by LUP policy A.3. Suggested Modification #2 (SEADIP Section D.3) requires that all oil and gas be transported by pipeline except during necessary repair and maintenance, emergency situations or for particular byproducts, such as NGLs, where a pipeline network is not available. Transport by pipeline eliminates the potential for oil spills related to tanker truck operations and collisions. Although pipeline transport of oil and gas products is generally preferred, pipelines are also vulnerable to leaks and spills. Furthermore, other facilities and equipment, including wells, tanks and processing equipment are also susceptible to leaks and spills of oil or oil products. To address this concern, SEADIP Section D.3 requires new oil and gas facilities to submit an Oil Spill Prevention and Response Plan that identifies the worst case spill scenario, and demonstrates that the applicant has appropriate procedures, personnel and equipment in place to prevent a spill and to effectively contain and cleanup a spill should it occur. Further SEADIP Section D.4 requires that pipelines be sited to avoid sensitive coastal resources and minimize geologic hazards to the maximum extent feasible. In cases where sensitive coastal resources can't be avoided, SEADIP Section D.4 requires that the pipeline include automatic shutoff valves to minimize the potential size of a spill and that the potential damage to these areas be minimized by considering spill volumes, duration and trajectories in selecting a pipeline corridor. These policies ensure that the IP is consistent with and adequate to carry out LUP policy A.3 requiring that new development protect against the spillage of oil, as well as LUP policies A.1, A.2, A.4, A.5, A.6, A.9 and A.10 protecting biological resources, cultural resources and requiring that new or expanded oil and gas development minimize hazards.

Even with these protections in place, the risk and consequences of an oil spill remain a concern for new oil and gas production facilities. Oil spills are rare, but when they occur, the effects on coastal resources can be devastating. As described above, Suggested Modification #2 (SEADIP Sections D.3 and D.4) adds several Coastal Act protections to SEADIP to reduce the likelihood that a spill would occur on the two sites designated for new oil and gas development, and to reduce potential impacts should a spill occur. In addition, should this LCP amendment be approved, in order to comply with the LCP as amended, the City would be required to condition a CDP for any new oil and gas production facilities to provide adequate prevention and spill containment measures. However, despite the significant protections included in the suggested modifications to SEADIP, or other protections added on a project-specific level, it is impossible to completely eliminate the risk of an oil spill.

Several factors should be considered when assessing the potential for an oil spill at the proposed oil and gas production facility sites. Some of these factors may increase the risk that an oil spill will occur at these sites, while others could affect the potential severity of impacts associated with an oil spill. The first factor is the proximity of the proposed oil production sites to the

Newport-Inglewood fault. Section III.B. describes concerns related to the potential severity of a rupture on the Newport-Inglewood and Rose Canyon fault system. The second factor is the potential scale of development the LCP would allow on these two sites. The LCP does not include any limit on oil and gas production at either of the two proposed sites. Slant drilling technology has made it possible to achieve high production levels from a relatively small drill site, especially when compared to older oil extraction equipment and techniques used in the existing oil operations within SEADIP. For example, the current oil operations on the Synergy and City sites produce about 300 barrels per day from 34 wells (with a total capacity of 2,500 barrels per day). With new drilling technology, BOMP is proposing to produce 24,000 barrels per day from approximately 60 wells<sup>2</sup>, an increase in production of almost 8000%. Higher throughputs require larger tanks and larger pipelines, which increase the possible size of a potential spill. The third factor is the proximity of the two sites to existing wetlands and areas planned for future wetland restoration, and the San Gabriel channel with a direct connection to the Pacific Ocean. If a major spill were to occur at one or both of these locations that breached the boundaries of the drill site, direct impacts to wetlands and coastal waters would be likely. Finally, the two sites are located in a general area of cultural significance for several tribes, thus increasing the potential that an oil spill could result in direct or indirect impacts to tribal resources.

The City's proposed LCP amendment can only be approved if the oil and gas development that could be authorized after certification would be sited, designed, and conditioned to be consistent with the requirements of Chapter 3 of the Coastal Act. The potential risks associated with new oil and gas development, including the potential for oil spills, must be considered. This decision is further complicated by the fact that only part of the project prompting this amendment is included in the City's LCP jurisdiction. The LCP amendment therefore only directly addresses the new oil and gas development that could be proposed within the areas subject to the City's jurisdiction, while development such as decommissioning of the existing oil fields and restoration of the wetlands is within the Commission's jurisdiction. As part of this amendment, suggested modifications are proposed to add the necessary requirements and protections to ensure that any applicant that seeks to propose new oil and gas production within the City's jurisdiction would be required to conduct a rigorous analysis of all potential impacts to coastal resources, and to site and design a project such that the environmental and cultural impacts of that development are minimized and that any impacts are fully mitigated.

It is also important to note that not allowing oil and gas consolidation on the Pumpkin Patch and LCWA sites means that existing oil operations at the Synergy and City sites (both located within degraded wetlands within the Commission's retained jurisdiction) could continue, with an ability to repair and maintain existing facilities. How long oil and gas production at the existing sites would continue is unknown and dependent on many factors such as the price of oil. The comparative risk of and consequences of a spill from existing operations as compared to a new consolidated oil and gas development project at the Pumpkin Patch and LCWA sites has not been assessed. However, much of the equipment, including wells, drilling equipment, pipelines and tanks at the existing operations, are old and thus potentially more susceptible to damage during a seismic event or under other hazardous conditions. In addition, pipelines and other equipment within these sites do not incorporate more modern safety-related technology including

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<sup>2</sup> This assumes that half of the 120 wells proposed for both sites will be active, oil producing wells.

automatic shutoff valves and internal pipeline monitoring equipment, further increasing the risk of a spill occurring.

BOMP's proposed consolidation project includes new state-of-the art equipment that could result in less risk of an oil spill occurring as compared to existing operations. However, the BOMP project also includes greater oil and gas production volumes over time as compared to its existing operations, which, according to the EIR for the proposed project, results in a significantly increased worst case spill volume. If that project is approved, the LCP, if amended with the suggested modifications, would require any CDP for new oil and gas development to be conditioned to require the applicant to implement all the oil spill prevention and response protections described above, including state-of-the art prevention and leak detection measures and systems, to decrease the likelihood and consequences of an oil spill. In addition, as required by the LCP, the applicant would be required to demonstrate a capability to effectively contain and clean up a spill as well as mitigate any adverse environmental impacts, including potential impacts associated with an oil spill, to the maximum extent feasible. Thus, although the risk of an oil spill cannot be eliminated, the LCP, as amended by Suggested Modification #2, would minimize the likelihood of an oil spill from any new oil and gas development and ensure that if a spill does occur, a facility operator has adequate procedures, personnel and equipment in place to contain, cleanup and mitigate the adverse effects of a spill.

#### *Conclusion*

For the reasons stated above, the IP portion of SEADIP, if modified as recommended by staff, would be adequate to carry out LUP policies A.1 through A.15

#### **F. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

The California Environmental Quality Act (CEQA) exempts local governments from the requirement of preparing CEQA documentation in connection with development of its local coastal program. (Pub. Res. Code § 21080.9; 14 CCR § 15265(a)(1).) The Commission notes that the City made CEQA findings and certified an Environmental Impact Report and Mitigation Monitoring and Reporting Program for the project proposed by BOMP in association with their January 16, 2018 Resolution approving the Update to the Coastal Land Use Plan.

However, CEQA does apply to the certification of an LCP by the Coastal Commission. (14 CCR § 15265(b).) The Commission's LCP review and approval program has been found by the Resources Agency to be functionally equivalent to the CEQA process. (14 CCR § 15251(f).) Thus, under CEQA Section 21080.5, the Commission is relieved of the responsibility to prepare CEQA documentation for certification of an LCP. Nevertheless, the Commission is required in an LCP submittal or, as in this case, an LCP amendment submittal, to find that the LCP, or LCP, as amended, does conform with relevant CEQA provisions, including the requirement in Section 21080.5(d)(2)(A) that the amended LCP will not be approved or adopted as proposed if there are feasible alternative or feasible mitigation measures available that would substantially lessen any significant adverse impact which the activity may have on the environment. See also, CEQA Guidelines Sections 13542(a), 13540(f), and 13555(b).

As submitted, the proposed City of Long Beach LCP Amendment is not consistent with the marine resources, wetlands, ESHA, cultural resource, hazard, or oil and gas facility land use development policies of the Coastal Act. Suggested modifications have been added as described

in this staff report. If modified as suggested, no significant adverse impacts to coastal resources will result from the LCP Amendment. The Commission has reviewed and evaluated the proposed amendment, and finds that potential coastal resource impacts have been mitigated, and that the amendment does not have the potential to result in significant individual or cumulative impacts to coastal resources protected by the Coastal Act. There are no further feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the amendment may have on the environment. The Commission therefore finds the proposed LCP amendment is consistent with the California Environmental Quality Act.

In addition, any specific impacts associated with individual development projects would be assessed through the environmental review process required by the Coastal Act at that time. Therefore, an individual project's compliance with CEQA is assured at the project-level through Commission review of application for coastal development permits consistent with the Chapter 3 policies of the Coastal Act.

**APPENDIX A: SUBSTANTIVE FILE DOCUMENTS**

City of Long Beach, Response to Notice of Incompleteness, submitted April 17, 2018.

City of Long Beach, Application for Local Coastal Program Amendment LCP-5-LOB-18-0026-1, dated February 26, 2018.

City of Long Beach, *Final EIR for the Los Cerritos Wetlands Oil Consolidation and Restoration Project*, November 2017.

City of Long Beach, *Final EIR for the Southeast Area Specific Plan*, August 2017.

City of Long Beach, *Draft EIR for the Los Cerritos Wetlands Oil Consolidation and Restoration Project*, July 2017.

Leeper, R., Rhodes, B., Kirby, M., Scharer, K., Carlin, J., Hemphill-Haley, E., Avnaim-Katav, S., MacDonald, G., Starrat, S., Aranda, A. *Evidence for coseismic subsidence events in a southern California coastal saltmarsh*. Nature: Scientific Reports, March 2017.

Personal Communication from Carrie Tai, City of Long Beach, to Kate Huckelbridge, California Coastal Commission, dated 5/9/2018, 5/10/18, 6/22/18, 7/10/18, 7/11/18, 7/17/18, 7/19/18, and 7/23/18.

Personal Communication from Rebecca Robles to Kate Huckelbridge, California Coastal Commission, dated 7/19/18.

Sahakian, V., Bormann, J., Driscoll, N., Harinding, A., Kent, G. and Wesnousky, S. *Seismic Constraints on the Architecture of the Newport-Inglewood/Rose Canyon fault: Implications for the length and magnitude of future earthquake ruptures*. Journal of Geophysical Research: Solid Earth, March 2017.