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# W10b

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## STAFF REPORT: REGULAR CALENDAR

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| **Application No.:** | **6-26-0102** |
| **Applicant:** | **SeaWorld San Diego** |
| **Agent:** | Allison Rolfe |
| **Location:** | 500 SeaWorld Drive, Mission Bay Park, San Diego, San Diego County (APN: 760-037-01-01) |
| **Project Description:** | Conduct up to 110 approx. 15-minute aerial drone shows with up to 1,000 illuminated drones above the waters of Mission Bay for a pilot period of one year from the date of CDP issuance. |
| **Staff Recommendation:** | Approval with conditions. |

## SUMMARY OF STAFF RECOMMENDATION

SeaWorld San Diego has traditionally ended many of its park days with a nighttime fireworks show. However, in response to growing concerns related to the impact of fireworks on coastal resources, as well as improvements in drone entertainment technology, SeaWorld is proposing a pilot period of one year for aerial drone shows. The drone shows would involve up to 1,000 illuminated aerial drones that would be programmed to autonomously take off, perform an up to 15-minute show up to 660 feet above Mission Bay, and then return to land. The shows would involve the drones following pre-programmed routes that depict various shapes formed by their onboard colored lights, accompanied by music played at ground level for patrons within SeaWorld.

The use of drones for such a visible purpose and at this scale has not been proposed before to the Commission, and its novelty and location, within a major municipal marine

park that also contains sensitive habitat in the form of California least tern nesting sites, raises the potential of adverse impacts to sensitive habitat resources, water quality, and visual resources.

The Commission's staff ecologist has reviewed the project in consultation with the US Fish and Wildlife Service, and concluded that given the proposed monitoring and potential for lessened impacts to coastal resources when compared to fireworks, substantial adverse impacts to migratory birds or other species are unlikely. However, to allow the Commission to better anticipate potential impacts should SeaWorld propose greater show frequency or duration in the future, the project has been conditioned to revise the proposed monitoring plan to ensure that noise, light, and bird strike impacts generated by performances are properly monitored. If the parameters included in the conditions regarding noise, light, and bird strike are exceeded, the performances must stop until modifications are implemented to the satisfaction of the Executive Director.

**Special Condition No. 1** establishes the parameters of the aerial drone show to restrict the location, height, and duration of each performance to limit its potential impact to coastal resources to the greatest extent feasible. **Special Condition No. 2** requires the applicant to submit a final monitoring plan to ensure a minimum of 20% of drone shows are monitored for each calendar month when drone shows occur. The permittee is also required to monitor a minimum of one fireworks show during the pilot year to be used in comparison to the data collected from the drone shows. Special Condition No. 2 also sets thresholds for noise, light, and bird strike impacts so that if the threshold is exceeded, shows must be suspended to determine what modifications are necessary to avoid future impacts and shows may not resume until those modifications are implemented. **Special Condition No. 3** prohibits fireworks performances during any night an aerial drone show is held so as to not compound their impacts and also limits the number of fireworks shows allowed during the pilot year based on the number of conducted drone shows. The applicant proposes to conduct approximately 78 drone shows with an upper limit of 110 drone shows in total.

Commission staff recommends **approval** of coastal development permit application 6-26-0102 as conditioned. The motion is on page 4. The standard of review is Chapter 3 of the Coastal Act.

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# I. MOTION AND RESOLUTION

**Motion:**

I move that the Commission approve Coastal Development Permit 6-26-0102 pursuant to the staff recommendation.

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of Commissioners present.

**Resolution:**

The Commission hereby approves the Coastal Development Permit for the proposed project and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit 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 development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

# II. STANDARD CONDITIONS

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

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

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

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

5. **Terms and Conditions Run with the Land**. These terms and conditions shall be perpetual, and it is the intention of the Commission and the applicant to bind

all future owners and possessors of the subject property to the terms and conditions.

# III. SPECIAL CONDITIONS

1. **Revised Final Plans.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for review and written approval of the Executive Director, revised final plans in substantial conformance with the submitted plans dated February 11, 2026, except that they shall be modified to incorporate the following:

    a. The boundaries of the aerial drone show shall be as shown in Exhibit 3.
    b. All aerial drones involved in the approved performance shall be programmed to return to the performance area or deactivate if they drift outside of the approved performance area.
    c. If a drone deactivates before, during, or after the show and lands outside of the SeaWorld leasehold the drone shall be retrieved as soon as possible and re-programmed prior to the drone's next use.
    d. The aerial drone show shall not exceed fifteen (15) minutes in duration and occur only once per night during the approved pilot period.
    e. The aerial drone show shall not ascend more than six hundred sixty (660) feet above mean sea level (MSL) nor descend below one hundred and sixty-five (165) feet above mean sea level (MSL) except during launching and landing.
    f. The aerial drone show may utilize up to one thousand (1000) illuminated drones for each approved performance.
    g. Any music accompanying the aerial drone performances shall be emitted through the existing SeaWorld acoustic system within the leasehold. No speakers, temporary or permanent, related to the performance may be erected outside of the main theme park area.

    The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director provides a written determination that no amendment is legally required for any proposed minor deviations.

2. **Revised Final Monitoring Plan.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for review and written approval of the Executive Director, a final monitoring plan for the aerial drone shows that shall monitor the noise, light, and bird strike impacts generated by the performances. The monitoring plan shall be designed by a qualified ecologist and lighting specialist and substantially conform to the monitoring plan submitted to the Commission titled "SeaWorld Drone Testing Monitoring Plan" by Merkel and Associates, Inc. dated February 11, 2026, except that the monitoring plan shall be revised to incorporate the following:

a. A minimum of 20% of drone shows shall be monitored for each calendar month when drone shows occur.
b. Drone shows shall be conducted and monitored throughout the pilot period to document potential impact to birds during different seasons.
c. If monitored noise levels at the California least tern nesting site at Stony Point on Fiesta Island or at the heron rookery west of Perez Cove exceed 65 dB(A) (or exceed the ambient noise levels as measured by noise at the respective sites during nights without any Sea World drone or fireworks shows, whichever is higher) during the aerial drone show, then future performances shall be suspended to determine what modifications are required to lower the noise emissions, and performances shall not resume until modifications are implemented and the permittee receives written concurrence of the Executive Director. Noise monitoring shall be conducted through placement of stationary noise monitoring devices at the receptor sites. The receptor sites shall include, at a minimum, the Stony Point least tern nesting site, the Perez Cove heron rookery, and the drone launch site.
d. If monitored light levels at the California least tern nesting site at Stony Point or the heron colony (Exhibit 2) increase by more than 0.1 footcandle (fc) during the aerial drone show, then future performances shall be suspended to determine what modifications are required to lower the light emissions performances and shall not resume until the modifications are implemented and the permittee receives written concurrence of the Executive Director. Light monitoring shall be conducted through stationary placement of light monitoring devices at the receptor sites. The receptor sites shall include Stony Point least tern nesting site, Perez Cove heron rookery, and the drone launch site.
e. Human or camera monitors shall observe for collisions between birds and drones during aerial drone performances, and subsequent to each performance, human observers shall search the immediate area below and near the performance area for deceased or injured birds or pieces of the aerial drones that have broken off. If collisions occur or deceased or injured birds are subsequently located, then future performances shall be suspended to determine what modifications are required to reduce the incidence of collisions and performances shall not resume until the modifications are implemented and the permittee receives written concurrence of the Executive Director. Best available drone anti-crash technology shall be used during and after each show to determine if a collision occurred.
f. Behavioral monitoring shall be conducted at the Federal Aviation Administration Island (also known as FAA Island) by a third-party qualified biologist with experience documenting seabird and shorebird disturbance behaviors. Behavioral monitoring shall occur only during the bird breeding season while nests and fledglings are still active, as determined by the qualified biologist.

g. If any fireworks shows, as authorized in Special Condition No. 3, are conducted during the pilot period, the permittee shall monitor a minimum of one firework show. Monitoring shall include noise, light, bird strike, and behavioral monitoring as described in the Final Monitoring Report. A monitoring report shall be submitted no later than two weeks after the firework show is conducted.

h. Reporting:
    (i) A minimum of four (4) monitoring reports shall be submitted throughout the pilot year after the associated season and drone shows scheduled for that season are completed.
        (A) A report for summer shows shall be submitted no later than September 14, 2026.
        (B) A report for fall shows shall be submitted no later than November 30, 2026.
        (C) A report for winter shows shall be submitted no later than January 29, 2027.
        (D) A report for spring shows shall be submitted no later than April 15, 2027.
        (E) The final monitoring report detailing all reported noise, light, bird strike, behavioral, and other impacts associated with the drone shows shall be submitted no later than the last day of the pilot period as indicated in Special Condition No. 3.
    (ii) All data collected, including variability in the show type (length, date, time, noise, light levels, bird strikes) shall be reported in each monitoring report.

The permittee shall undertake the monitoring and other activities listed in the Monitoring Plan in conformance with the approved final plan. The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director provides a written determination that no amendment is legally required for any proposed minor deviations.

3. **Term of Permit.**

a. This permit authorizes up to 110 15-minute nighttime aerial drone shows during a one-year pilot period commencing the date the CDP is issued to one year after CDP issuance, and subject to the following parameters:
    (i) No firework performances shall occur on any night an aerial drone show is being held.
    (ii) Each performance of the aerial drone show shall count as an equivalent performance of a firework show for purposes of tracking SeaWorld San Diego’s annual firework quota, thus reducing the allowable fireworks shows during the pilot period from 150 by the amount of drone shows conducted.

b. The permittee shall undertake development in conformance with the approved parameters unless the Commission amends this permit or the Executive Director provides a written determination that no amendment is legally required for any proposed minor deviations.

# IV. FINDINGS AND DECLARATIONS

## A. Project Description and Background

SeaWorld San Diego proposes to introduce a new nighttime aerial display as a potential alternative to their existing fireworks performances. The proposal involves the operation of an up to approximately 15-minute nighttime show utilizing up to 1,000 illuminated aerial drones to perform pre-preprogrammed routines accompanied by music played through SeaWorld's existing park speaker system. The drones would move according to programmed paths over Mission Bay, composing various shapes over the course of the performance. Upon completion of the show, the drones would automatically return to their launch area. The proposed project is a pilot project that would take place for one year starting from the date of issuance of the CDP to allow SeaWorld to monitor and evaluate the shows and any impacts to coastal resources, in particular, birds.

SeaWorld is located within Mission Bay Park in the City of San Diego. It is situated adjacent to Mission Bay on the north and SeaWorld Drive to the south, and is surrounded largely by City parklands consisting of grassy, open areas. Mission Bay Park is an area of deferred certification, where the Commission retains jurisdiction and Chapter 3 policies of the Coastal Act are the standard of review, with the certified master plans for SeaWorld and Mission Bay Park LUP segments used as guidance.

**Permit History**

SeaWorld began construction in 1961 and opened to the public in 1964. Since then, the park has been operated under a number of different master plans. The SeaWorld Master Plan is a separate, stand-alone segment of the certified Mission Bay Park Master Plan LUP. The most current plan, the SeaWorld Master Plan Update, was certified by the Commission on February 7, 2002, and addressed future development within the SeaWorld leasehold (LCPA No. 2-2001C). The SeaWorld Master Plan Update sets forth the long-range conceptual development program, development parameters, and project review procedures for the future renovation of the SeaWorld Adventure Park, with stated goals related to renovating the park in response to consumer demand.

With regard to nighttime aerial displays, as explained in the SeaWorld Master Plan, firework displays have been a significant part of SeaWorld's "end of the evening experience" since 1968, before passage of the Coastal Act. Under the current Master Plan, SeaWorld operates up to 150 fireworks shows a year, divided between 6-minute shows (up to 129 per year), 12-minute shows (up to 15 per year) and 20-minute shows

(up to 6 per year). For the past few decades, fireworks have been used nightly during the summer season from Memorial Day to Labor Day, with additional fireworks performances during significant non-summer holidays (such as New Year's Eve) and special private events. Typically, performances start late in the evening, near the closing of the park, and use approximately 250 shells for the shortest shows and up to 1,750 shells for the longest shows.

In recent years, stakeholder groups have raised concerns regarding the impacts fireworks may have on birds and water quality in the surrounding area. Therefore, SeaWorld has begun to research and implement alternative entertainment displays for its "end of evening experience." In CDP No. 6-16-0989, SeaWorld introduced a summer nighttime acrobatic laser show in its Waterfront Stadium, which has not been conducted since September 2019. Those performances were conditioned by the Coastal Commission such that, during any summer the nighttime acrobatic laser show was performed, SeaWorld would be limited to only fourteen nights of firework displays between Memorial Day and Labor Day.

In CDP 6-19-0925, SeaWorld proposed to conduct 15 drone shows over the course of 15 nights in February 2020. While the project was approved by the Commission with conditions, SeaWorld did not conduct the trial drone shows. Nevertheless, the conditions on this permit required that SeaWorld reduce the yearly quota of 150 fireworks by the amount of drone shows they were proposing to conduct. In this case, SeaWorld was proposing to conduct 15 drone shows, therefore, the conditions required that SeaWorld only conduct 135 fireworks shows during that year. Monitoring and final plans conditions, similar to those included in this report, were also imposed on this approval.

The site is within an area of original jurisdiction where the Chapter 3 policies of the Coastal Act are the standard of review with the City's certified LCP used as guidance.

## B. Biological Resources

Section 30230 of the Coastal Act states:

> Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological significance. Uses of the marine environment shall be carried out in a manner that will sustain 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.

Section 30240 of the Coastal Act 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.

SeaWorld San Diego is within the footprint of the Pacific Flyway and potentially within the flyway of more than 60 species of waterfowl, raptors, shorebirds, and songbirds known to regularly migrate through San Diego County. These birds may travel at night and stop at inland and coastal creeks, wetlands, meadows, woodlands, and neighborhoods on their northward spring and southward fall migrations. Spring migration occurs during the months of February through May and fall migration occurs during September, October, and the first part of November. Birds migrating along this route are heading to the Canadian Arctic, Canadian plains, and Canadian boreal forest in the spring, and Mexico, South America, and the Pacific Islands in the fall. It is important to note that "Pacific Flyway" is a descriptor for a phenomenon that encompasses the entire state of California and beyond, but some areas of the state are more important than others for bird migration. Depending on the types of migrating birds, certain pathways (e.g. bordering the ocean, along valleys, etc.) will be more frequented, and certain habitats (woodlands, riparian areas, wetlands) will be more important stopovers. Mission Bay Park and surroundings may be used by migratory birds as a stopover site because the habitat is attractive to migrating birds that need to rest.

With regards to sensitive species in the vicinity of SeaWorld, the City of San Diego maintains multiple nesting sites for the California least tern, a state and federally endangered species, throughout Mission Bay Park. The nearest nesting site to the aerial drone show is approximately 1,500 feet to the northwest, directly across the Pacific Passage – the water channel separating SeaWorld from Fiesta Island to the north – on the southwest corner of Fiesta Island, known as Stony Point (Exhibit 2). California least terns use this nesting site during their breeding season, which runs from March 15 to September 15. California least terns also nest on the Federal Aviation Administration Island (also known as FAA Island) approximately one mile from the SeaWorld leasehold (Exhibit 1). Additionally, the waters of Mission Bay have been known to host sea lions and dolphins.

SeaWorld is proposing to fly the drones over the waters of the Pacific Passage adjacent to the least tern nesting area at Stony Point. **Special Condition No. 1** requires SeaWorld to utilize the show box and launch location as shown in Exhibit 3. Alternative show box locations further from the nesting site were explored, but no feasible alternatives were identified given several factors. Most notably, the Federal Aviation Administration (FAA) enforces restricted zones surrounding flight areas that must be clear of all people (other than drone operators) during flight. Exhibit 4 displays the exclusion zones for the proposed launch and show box location. An alternative show box further to the east would have resulted in the temporary closure of park areas outside SeaWorld's leasehold.

Moving the show box to the east would cause the exclusion zone to overlap more with the SeaWorld leasehold resulting in the closure of accessways needed for emergency vehicles. If the show box was moved further from Stony Point, the exclusion zone would also extend over the bird rescue and captive animal enclosures within SeaWorld (including the beluga whales, otters, walruses, penguins, wild birds, and other animals that may be in the rescue housing). While the primary coastal resource concern of the show box location is the least tern nesting site, it is also important to ensure that captive animals are not within the exclusion area as they could be disrupted by the drone show or injured if a drone deactivates during flight.

Additionally, SeaWorld's original proposal in 2019 included a launch location in the SeaWorld parking lot and show box over the park (CDP 6-19-0925). This option is no longer feasible given FAA requirements that restrict flying drones over people and vehicles. Also, the parking lot location SeaWorld previously proposed to launch and fly the drones is no longer available due to construction of attractions that has occurred in the six years since the previous CDP was approved. Overall, SeaWorld is required to monitor a minimum of 20% of shows for each calendar month when drone shows occur so that any impacts to coastal resources can be analyzed during the pilot period. If monitoring reports demonstrate impacts to avian species given the proximity of the drone shows to the least tern nesting colony, changes will be made in future permits to ensure the drone show is sited in an appropriate location to minimize impacts to nearby coastal resources.

**Light Impact**

Adverse impacts from artificial night light can take several forms, including light trespass or spill, sky glow, and glare. Light trespass occurs when unwanted artificial light spills onto an adjacent property lighting an area that would otherwise be dark. Sky glow is the bright halo that appears over urban areas at night, a product of light being scattered by water droplets or particles in the air and from reflectance of lights on objects on the ground. Sky glow is intensified when there is a low cloud ceiling or foggy conditions because light refracts off water particles in the air. Sky glow may be perceived as the presence of brightness within a field of view and can include directly viewing a light source. Glare is created by light that shines horizontally.

Introducing artificial night lights to an area will change the ambient setting and may adversely impact animals. Likely effects of artificial night lighting on mammals include avoidance, disorientation, and disruption of foraging patterns, increased predation risk, disruption of biological clocks, increased mortality on roads, and disruption of dispersal movements through artificially lighted landscapes. Areas that are avoided by medium to large sized predators can increase the number of smaller predators, which can have a negative effect on avian species nesting success and individual survival. Similarly, many amphibians as well as insects become attracted to artificial light because it simulates a full moon. This can cause them to be preyed upon more easily. Day length, light intensity, and light wavelength also play a significant role in regulating patterns of

seasonal life-cycle activity, such as flowering in plants and migration, dispersal, hibernation, and reproduction in animals. Artificial night lights may also interfere with the accurate discernment of seasonal periods of weather conditions, food availability and/or predator activity, all of which are crucial for survival of many species.

A primary concern with artificial night lighting from illuminated aerial drone performances is their location over Mission Bay, causing the potential for night-migrating birds to become confused and attracted to the lights. Migratory movement often occurs early in the evening so most impacts occur during the first two to three hours after sunset. Birds may use several potential mechanisms to navigate at night, including natural light sources such as the moon and stars. However, artificial light at night can attract migrating birds and disorient them. Once drawn to an artificial light source a number of negative outcomes, including mortality, can occur; birds may circle the light source and become exhausted, become confused and drawn off course, and potentially collide with structures resulting in harm or death.

At this time, very little is known about potential impacts to wildlife associated with drone shows. While aerial-illuminated drone shows have been conducted around the world as the technology matures, those have been short duration shows conducted for special occasions such as national holidays or limited engagements at other theme parks. In particular, the City of Imperial Beach conducted monitoring of their 2022 Independence Day drone show. The City's 12-minute drone show occurred off the Imperial Beach Pier and consisted of 180 drones that were launched off the mid-section of the pier. The City stated that there were no observable noise from the drones, the LED lights from the drones had negligible impacts on wildlife, and no collisions with wildlife or other objects occurred during the show. The U.S. Fish and Wildlife Service also monitored the event and reported no impacts related to the drone show.

Additionally, the applicant provided information on light levels from the Nova Sky Stories Star Drone (Nova) (Exhibit 5) proposed to be used during the pilot period. In particular, light levels at 984 feet from the drone show, which approximately corresponds with the closest distance between the drone show box and the nearest sensitive receptor site (Stony Point) are below the threshold of 0.1 footcandle as required by **Special Condition No. 2**. Further, the Nova light information states that 1,000 drones produce approximately 0.021 footcandles at 328 feet from the show and decreasing to approximately 0.009 footcandles at 656 feet. These values indicate that light from drone operations is expected to remain within the threshold identified in the special condition.

**Noise Impact**

SeaWorld conducted a noise survey of the surrounding areas as part of its Environmental Impact Report in 2001. The survey included installation of approximately 22 acoustic receptors in Mission Bay, Point Loma, and Ocean Beach. The noise survey determined that during the day, Mission Bay Park receives a substantial amount of ambient noise due to its location adjacent to Interstate-5 and Interstate-8, as well as being approximately two miles from San Diego International Airport. Additionally, the

noise survey found that the highest sound levels emanating from SeaWorld occur during the Shamu orca show, as it is held in the largest venue at the park and involves large speakers playing music, cheering crowds, and splashing. However, due to the ambient noise and large size of Mission Bay Park, only the receptor at Fiesta Island picked up any noise originating from SeaWorld during daytime operations. During show times, the average noise level recorded at the edge of the SeaWorld leasehold was 45 decibels, equivalent to the noise heard standing by an operating refrigerator or computer.

The acoustic situation is different during the nights when SeaWorld conducts firework shows. Currently, SeaWorld conducts nighttime fireworks shows at various times throughout the year (though most frequently during the summer, when attendance is highest and shows occur nightly). In 2025, SeaWorld conducted approximately 89 fireworks shows. These firework shows range from 6 – 20 minutes in length and occur shortly before 10:00 PM or 11:00 PM, depending on how late SeaWorld is staying open. In general, fireworks shows can reach up to 150 to 175 decibels at launch and remain at approximately 100 decibels even at distances of 1,000 feet. The noise impacts of these fireworks shows not only impact all of Mission Bay Park, but can be heard in parts of San Diego miles from the coastal zone. **Special Condition No. 2** requires the permittee to monitor a minimum of one firework show conducted during the pilot year so that more up to date information on noise, light, and bird strike impacts of fireworks can be assessed in comparison to the monitoring data collected from the drone shows.

In regard to the drone shows, each individual drone is expected to create less noise than an individual firework canister. However, having up to 1,000 drones flying in unison in close formation has the potential to cumulatively generate substantial noise, especially in conjunction with the accompanying music that will be played through SeaWorld's speakers. Noise data provided by Nova indicates that 1,000 drones have sound levels of approximately 67 decibels at 328 feet above the ground and approximately 63 decibels at 656 feet.

This cumulative noise generation may cause sound waves to spill over into the surrounding park area, including the least tern nesting sites at Stony Point and FAA Island. Thus, **Special Condition No. 2** places a threshold of 65 decibels (or ambient conditions, which ever is higher) at the Stony Point nesting site and the heron rookery west of Perez Cove, requiring that if the drone show causes sound levels to exceed that threshold, future shows will be suspended until necessary modifications are made. In addition, **Special Condition No. 3** prohibits any fireworks show on the same night that an aerial drone show is held. With this limitation, the overall noise impacts from SeaWorld's nighttime operations are expected to diminish.

**Bird Strike Impact**

Drones can potentially pose a collision risk to birds, particularly in areas with high avian activity such as migratory corridors, breeding colonies, and foraging habitats. Birds may strike drones when startled, disoriented, or engaged in territorial defense, which could

lead to injury or mortality for the bird and damage to the drone. Fast-moving or maneuvering drones, especially when operated at low altitudes or in groups, may increase the likelihood of encounters. Bright lighting, unusual flight patterns, and noise from drone propellers can potentially attract or agitate birds, sometimes provoking aggressive interactions. Migratory species flying at night may be especially vulnerable, as artificial lighting can cause disorientation and draw them into proximity with drones.

Therefore, **Special Condition No. 2** requires the permittee to monitor the drone shows for bird strikes. In particular, human or camera monitors are required to observe for collisions between birds and drones during aerial drone performances, and subsequent to each performance, human observers will search the immediate area below and near the performance area for deceased or injured birds or pieces of the aerial drones that have broken off. If collisions occur or deceased or injured birds are subsequently located, then future performances will be suspended to determine what modifications are required to reduce the incidence of collisions. Additionally, the Nova drones are equipped with anti-crash technology that will be used at all times to minimize strikes with birds and other drones.

Finally, while the proposed aerial drone show is expected to represent an improvement over fireworks with regard to adverse impacts to sensitive species, it is nevertheless important to ensure first that the proposed aerial drone shows are the least impactful design feasible, and second, if the show does result in some level of bird disturbance that could not have been predicted, that these are identified through the required monitoring and changes to the show design are implemented so that those impacts are avoided in the future. Overall, **Special Condition No. 2** requires SeaWorld to submit for review and approval a final monitoring plan that will measure the light and noise emissions from the aerial drone show and observe for bird strikes that may occur due to birds being attracted to or unable to avoid the drones. The data collected through the monitoring plan will inform a future long-term permit for drone shows at SeaWorld.

In conclusion, the location and monitoring requirements minimize the potential adverse impacts on biological resources, particularly at nearby nesting sites, and thus the proposed development, as conditioned, can be found in conformance with the habitat protection policies of Chapter 3 of the Coastal Act.

## C. Water Quality

Section 30230 of the Coastal Act states:

> Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological significance. Uses of the marine environment shall be carried out in a manner that will sustain 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.

Section 30231 of the Coastal Act states:

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

The federal Clean Water Act (CWA) (33 USC § 1251 et seq.) requires states to identify and make a list of surface water bodies that are polluted. These water bodies, referred to in law as “water quality limited segments,” do not meet water quality standards even after discharges of wastes from point sources have been treated by the minimum required levels of pollution control technology. States are required to compile these water bodies into a list, referred to as the “Clean Water Act Section 303(d) list of Water Quality Limited Segments.” States must also prioritize the water bodies on the list and develop Total Maximum Daily Loads (TMDLs) to improve water quality. Portions of Mission Bay are on this list due to specific pollutants.

The combined storm water and wastewater discharge from SeaWorld San Diego’s treatment plants are overseen by the San Diego Regional Water Quality Control Board (RWQCB) under Order No. R9-2018-0004 and NPDES No. CA0107336. The NPDES permit includes specified discharge limits along with a required monitoring and reporting program. As part of the monitoring program, SeaWorld collects treatment plant discharge samples on a daily, weekly, quarterly, and annual basis for a variety of constituents, toxicity, and in-situ observations that may impact water quality. Sampling locations for monitoring are the intake and effluent outfalls of both the east and west treatment facilities, enabling the determination of the quality of Mission Bay water prior to any filtering, as well as the final quality of any discharge prior to entering Mission Bay. Additionally, the status of the receiving water is analyzed with samples taken 3,000 feet from the discharge points.

Currently, SeaWorld’s primary end-of-night performance consists of fireworks shows utilizing 1,000 to 1,750 canisters, each containing combustible compounds that, if not fully combusted, scatter and fall into the Mission Bay Park area along with non-incinerated portions of the canister. The replacement of fireworks shows with reusable aerial drones will remove the water quality impacts associated with the fireworks shows and their chemicals. Nevertheless, the “Nova Sky Stories Star Drone (Nova)” drones proposed to be utilized for the nighttime aerial drone show are lightweight, four propeller drones, weighing approximately 0.75 pounds including battery, and built for entertainment applications only. Because of the relative fragility of the drones and the chance for technical failures or collisions, there is the possibility that a drone or drones may fail during an aerial performance and plummet to the ground or into the water. Should such a failure cause the drone or pieces of one to land in the waters of Mission

Bay, it would adversely impact water quality through the introduction of plastics and chemicals from the battery.

The drones are programed to launch and return to individual boxes after the performance making it easier for the drone operators to know if a drone is missing or damaged. Nevertheless, **Special Condition No. 1** requires the applicant to inspect below the performance area after each performance to locate any aerial drones or drone pieces that may have broken off and reprogram any discovered drones prior to the drone's next use. Additionally, each drone is equipped with an onboard, in-air collision detection system that, as well as propeller guards, helps prevent midair collisions during tightly synchronized flight formations. **Special Condition No. 2** requires the anti-crash technology to be used at all times to determine if any collisions occurred during the show.

In conclusion, the existing water treatment systems along with conditions to ensure drones do not enter the waters of Mission Bay or are promptly removed means the proposed development will not adversely impact the water quality of coastal waters or increase geologic hazards, and is found in conformance with Chapter 3 of the Coastal Act.

## D. Visual Resources

Section 30251 of the Coastal Act states, in part:

> 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.

Mission Bay Park is recognized nationally as a public resource providing a wide variety of passive and active recreational opportunities in a unique setting. The park is generally horizontal in character, consisting primarily of rolling grassy areas, sandy beach, and open water. There are a number of commercial leaseholds scattered throughout the park, which have been developed to various intensities. For the most part, the structural improvements in Mission Bay Park are low in scale and do not detract from the wide-open feeling of the park. Limited exceptions exist in four hotel towers (Hyatt Islandia, Bahia, Catamaran, and Hilton) and five attractions at SeaWorld (the 320-ft. observation tower, the 100-ft. gondola ride, the 95-ft. Journey to Atlantis splashdown ride, the 150-ft. Electric Eel roller coaster, and the 160-ft. Mako rollercoaster). All but the splashdown ride and two rollercoasters predate the Coastal Act and the City's 30-ft. height limit in the coastal overlay zone, passed by City voters in the 1970's.

In 1998, SeaWorld sponsored, and City voters approved, an initiative exempting its leasehold from the City's 30-foot coastal height limit overlay zone. This initiative allowed future development within the leasehold to go as high as 160 feet – half the height of the existing observation tower. However, the majority of the facilities at SeaWorld are completely or largely screened from the surrounding park and bay. The currently developed portions of SeaWorld are heavily landscaped with a variety of mature trees, shrubs, and groundcovers. Many existing trees are 60-80 feet tall and effectively screen the interior of the park from views outside SeaWorld. In addition, the existing landforms and existing development in this area obscure any view of Mission Bay across the historic leasehold itself.

The proposed aerial drone show is located over the waters of Mission Bay and given the illuminated nature of the aerial drones, their operation as high as 660 feet off the ground, and their use during the night means that much like SeaWorld's firework shows, the aerial drone performances will be visible by the public outside the leasehold.

SeaWorld is a developed amusement park with lighting throughout, but most of the structures and lighting are limited in height. Because the majority of Mission Bay Park is open water and the surrounding park open spaces are minimally illuminated, the potential for bright illumination from 1,000 aerial drones could adversely affect the visual quality enjoyed by park goers at night. To ensure that the proposed development will not impact visual quality, **Special Condition Nos. 1** and **3** require SeaWorld to adhere to limits on the location, height, and duration of the aerial drone shows so that their impact to the visual aesthetic and quality of Mission Bay Park will be minimized, including by reducing the number of allowed fireworks shows by the amount of drone shows conducted during the pilot period.

Thus, the proposed development is visually compatible with the surrounding existing development and minimal adverse impacts are expected in conformance with Chapter 3 of the Coastal Act.

## E. Public Access and Recreation

Section 30210 of the Coastal Act states:

> In carrying out the requirements of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211 of the Coastal Act states:

> Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first terrestrial vegetation.

Section 30212 of the Coastal Act states, in part:

Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or, (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway. [...]

Section 30213 of the Coastal Act states, in part:

> Lower cost visitor serving and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

Section 30604 of the Coastal Act states, in part:

> […]
>
> c) Every coastal development permit issued for any development between the nearest public road and the sea of the shoreline of any body of water located within the coastal zone shall include a specific finding that the development is in conformity with the public access and public recreation policies of Chapter 3 (commencing with Section 30200).

SeaWorld is a private commercial leasehold within Mission Bay Park, a public park owned by the City of San Diego. The site is located between the first coastal roadway and the bay. Although public lateral access is available along most of the Mission Bay shoreline, there is no access through the SeaWorld leasehold, which extends to or beyond the waterline in places. Pedestrian and bicycle traffic can cross through the parking areas and rejoin the bayside pathway on either side of the leasehold. Vertical access is available at those same two locations on either side of the leasehold and informally elsewhere along the shore, depending upon parking and transit availability. The drone launch area will be located entirely within the northern area of the private leasehold and will not encroach into any existing public accessways.

Sea World Drive and Ingraham Street serve as major coastal access routes for all areas of Mission Bay Park and the beaches at Pacific Beach, Mission Beach, and Ocean Beach, as well as serving as a popular commuter route. These are the only roadways serving SeaWorld. The lease between SeaWorld and the City of San Diego, as well as the SeaWorld Master Plan Update, calls for phased traffic improvements based on the expected increase in attendance at the park. In the past, SeaWorld has submitted annual attendance figures to the Commission so that staff were aware when critical levels of attendance occurred that triggered traffic mitigation measures. Numerous

Commission-approved traffic and parking mitigation projects have been completed by SeaWorld since the certification of the SeaWorld Master Plan Update, including the addition of a public pedestrian promenade (CDP No. 6-06-022), road improvements along Sea World Drive and the southbound Interstate 5 interchange (CDP No. 6-08-016), and resurfacing, restriping, and landscaping to extend and widen bicycle and pedestrian paths across the southern and western edges of SeaWorld's main parking lot (CDP No. 6-05-075). Those improvements as well as the previously established traffic, roadway, and parking systems have been designed and constructed to support up to four million visitors annually. To date, all of the traffic improvements called for under the current Master Plan have been installed.

Additionally, SeaWorld submits annual traffic monitoring reports to the Commission for review of the impact of park operations on the surrounding transportation infrastructure. Thus, in analyzing the current proposal, Commission staff reviewed the most recently available traffic report, for the year 2024. Regarding Average Daily Traffic (ADT) generated by SeaWorld, the studies focus mainly on AM peak periods and PM peak periods, as that is when SeaWorld traffic combines with local rush hour traffic to create the greatest impact. The traffic analysis determined that compared to the baseline volume of 15,000 Average Daily Trips (ADT) for the year 2000, the ADT generated by SeaWorld for the year 2024 was 12,841, which represents a decrease of 2,159 ADT from the base year 2000. The traffic study then analyzed the traffic increase that SeaWorld's ADT contributed during AM and PM peak hours compared to the baseline year 2000, finding that there was no net increase on AM traffic but a net increase on PM traffic.

The traffic study found a net increase in PM peak hour SeaWorld traffic compared to the baseline, therefore an analysis to identify the presence of any significant impacts on the five nearby major intersections was conducted. A significant impact is defined as project traffic increasing delay by two seconds or more at any intersection operating at Level of Service (LOS) E or F, or reducing the LOS from a D to an E. LOS is a qualitative measure used to relate the quality of traffic service. LOS is used to analyze roadways by categorizing traffic flow and assigning quality levels of traffic based on performances measures such as speed, density, etc. Grades are assigned ranging from "A" (free flow at speed limit) to "F" (flow breakdown; cars move lockstep). The traffic analysis found that all of the major intersections around SeaWorld operate at a LOS of C when not including SeaWorld traffic, and that with the addition of SeaWorld traffic the LOS remained at C. Thus, the significance thresholds were not exceeded.

SeaWorld currently provides approximately 8,664 parking spaces for visitors, staff, and employees. SeaWorld's employment base includes full-time, part-time, and seasonal employees, with employee numbers varying during the year from approximately 2,100 non-peak employees to approximately 3,700 peak time employees in 2024. Parking spaces have not been specifically allocated to individual uses, but most employee parking occurs in the lots nearest the administrative facilities and, during times of heaviest park use, in the parking lot in the northwest portion of SeaWorld's leasehold. In addition to serving SeaWorld, the existing parking facilities have also served the needs

of Hubbs Research Institute personnel. The Hubbs facilities, which include laboratories, aquaculture tanks, and associated research and administrative functions, are currently housed in the western area of SeaWorld, along with many of SeaWorld's administrative, storage, and employee facilities. Under CDP No. 6-93-086, Hubbs converted the former Atlantis Restaurant building to research facilities, with retention of 77 spaces in the former Atlantis lot designated for use by Hubbs' researchers and the remainder of that lot, and all other on-site parking facilities continuing to be used by SeaWorld patrons and employees.

SeaWorld's parking demand fluctuates in response to economic, social, and weather conditions. In 2010, total peak parking demand was 5,466 spaces. In 2011, peak parking demand was 6,382 spaces. In 2012 peak demand was 7,028 spaces. In 2013 peak demand was 7,103 spaces. In 2014, the peak demand was 6,357 spaces (July 19, 2014). In 2015, peak parking demand was 5,347 spaces (May 23, 2015). In 2016, peak parking demand was 4,059 spaces (May 29, 2016). In 2017, peak parking demand was 3,240 spaces (December 30, 2017). In 2024, peak parking demand was 4,498 spaces. Thus, SeaWorld's parking demand is not currently exceeding its on-site supply of 8,664 parking spaces. Parking will continue to be monitored, however, and it is important to note that the data currently suggests that should monitoring during the initial pilot period indicate that an alternative launch location should be used in the future to minimize impacts to coastal resources, the parking lot may have available space for drone launching.

The proposed nighttime aerial drone show represents a new type of aerial display in SeaWorld San Diego's history. However, the potential that it will lead to a substantial increase in annual visitor attendance to the park is low. While some visitors, such as season pass holders, may make annual or semi-annual visits to the existing theme park regardless, it can be reasonably assumed that some visitors will also make a special trip to view the new offerings, especially given SeaWorld proposes to replace the nightly summer fireworks with drone shows. This change could result in increased attendance throughout the summer months. However, the aerial drone show will only be fifteen minutes in duration and occur at the end of the night, therefore, it is unlikely that large numbers of visitors will drive to the park at night and pay the entrance fee just for the show. Furthermore, because the annual traffic monitoring to date demonstrates that the neighboring streets and intersections are operating at acceptable levels, and that SeaWorld currently has a substantial excess parking capacity compared to the peak parking demand reported in 2024, any increases in attendance due to the aerial drone show are not expected to cause significant impacts to traffic or parking in the immediate area.

Furthermore, **Special Condition No. 1** requires SeaWorld to adhere to approved show parameters so that the aerial drones are properly contained and launched within the leasehold and will not displace on-site parking to an extent that will cause patron parking to spill out into public areas.

In summary, the Commission finds that the proposed project will not adversely impact the existing accessways around the SeaWorld leasehold, or result in significant increases in traffic or parking demand. Therefore, the Coastal Commission finds the proposal consistent with the public access and recreation policies of the Coastal Act.

## F. Local Coastal Program

Section 30604(a) also requires that a coastal development permit shall be issued only if the Commission finds that the permitted development will not prejudice the ability of the local government to prepare a Local Coastal Program (LCP) in conformity with the provisions of Chapter 3 of the Coastal Act. In this case, such a finding can be made.

Mission Bay Park is in general not zoned. As a whole, Mission Bay Park is a dedicated public park, and SeaWorld is designated as “Lease Area” in the certified Mission Bay Park Master Plan. The subject site is located within the City of San Diego in an area of deferred certification, where the Commission retains permit authority and Chapter 3 of the Coastal Act remains the legal standard of review. As conditioned, the proposed development is consistent with Chapter 3 of the Coastal Act, and thus, approval of the development, as conditioned, will not prejudice the ability of the City of San Diego to implement its certified LCP for the Mission Bay Park segment.

## G. California Environmental Quality Act

Section 13096 of the Commission's Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment. The City found that the project is consistent with the previously certified EIR 99-0618 (SCH1984030708). See CEQA Guideline, section 15162 (Cal. Code of Regs., tit. 14) [subsequent activity under an EIR]).

The proposed project has been conditioned in order to be found consistent with the Chapter 3 policies of the Coastal Act. Mitigation measures, including conditions addressing location and monitoring will minimize all adverse environmental impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project is the least environmentally-damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

# APPENDIX A – SUBSTANTIVE FILE DOCUMENTS

- CDP 6-19-0925
- SeaWorld 2024 Mitigation Monitoring Report Program (MMRP)
- SeaWorld Drone Testing Monitoring Plan (Submit 12-19-25)
- SeaWorld Drone Testing Monitoring Plan (Submit 12-19-25_Rv 02-11-26)
- SeaWorld Drone Testing Monitoring Plan (Submit 3-20-26)