

APPENDIX C
BIOLOGICAL RESOURCE REPORTS



May 5, 2016

Will Burns
David J. Powers & Associates
1111 Broadway, Suite 1510
Oakland, CA 94607

Subject: Great America Theme Park - Burrowing Owl Survey and Habitat Assessment Report (HTH #3786-01)

Dear Mr. Burns:

Per your request, H. T. Harvey & Associates has conducted a survey for burrowing owls (*Athene cunicularia*) at the Great America Theme Park project site located at 4701 Great America Parkway in Santa Clara, California. The project site includes two parcels, APNs 104-42-014 and -019, with a combined area of approximately 112 acres. An additional 55 acres of parking lots serving the Great America Theme Park are located north of the park entrance. The 112-acre park is surrounded by a chain-link fence. This area is heavily developed and includes extensive areas of pavement, structures (e.g., roller coasters, concessions stands, retail shops, etc.), and ornamental landscaping with a small area of ruderal grassland occurring in the northeast corner of the site adjacent to two ponds. The project site is bordered by commercial development, including extensive parking lots, to the west and south; Tasman Drive and the Santa Clara Convention Center to the north; and San Tomas Aquino Creek to the east. The purpose of the survey was to determine whether burrowing owls are currently present on the site and to assess the potential for burrowing owls to be present on the site in the future.

On April 26, 2016, H. T. Harvey & Associates ecologists Bridget Sousa, Ph.D., and Gabe Reyes, M.S., conducted an initial site visit and habitat assessment as recommended in the California Department of Fish and Wildlife's (CDFW's) 2012 *Staff Report on Burrowing Owl Mitigation*¹. During the survey, they walked all areas of the site looking for owls, suitable habitat for owls (i.e., burrows of California ground squirrels [*Spermophilus beecheyi*]), and evidence of recent owl occupation at burrows (i.e., whitewash, pellets, feathers, and/or prey remains). No burrowing owls, or evidence of owl presence were observed during the survey and no ground squirrels were observed on the site. Five burrows of California ground squirrels were detected within the project site. However, all five burrows were obviously old and showed no signs of recent use, with cobwebs and leaf litter blocking the burrow entrances. Thus, burrows occupied by burrowing owls were present within the project site.

However, because the South Bay population of burrowing owls is at least partially migratory and there was a small chance that owls could still move onto the site and occupy the old burrows during the 2016 breeding season (February 1 through August 31 as defined by the CDFW, with the peak occurring between April 15 and July 15),

¹ California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. March 7, 2012.

we conducted a second site visit this morning. During this visit, G. Reyes visited all the burrows previously documented on the site to look for signs of recent occupation by burrowing owls. No burrowing owls, or evidence of owl presence, was observed during the survey, and no evidence of recent use of the five old ground squirrel burrows on the site was observed. The burrows remained covered in cobwebs and leaf litter.

Based on the results of the survey, it is our determination that burrowing owls are currently absent from the site as breeders and there are no records of the species having previously occurred on the site². However, because burrowing owls have been recorded less than 0.1 mile to the northeast and west of the project site, there is some potential (albeit a low probability) that the species may occur in ruderal grasslands on the site as an occasional forager. The high levels of disturbance on and adjacent to the site suggests that the site does not provide high-quality foraging habitat for burrowing owls. Thus, although burrowing owls could forage on the site occasionally, they are not expected to do so frequently or in large numbers, if at all. Therefore, in our opinion, project impacts on this habitat would not result in a substantial impact on burrowing owl foraging habitat (i.e., habitat used regularly or by a sizeable proportion of the South San Francisco Bay population), and such impacts would be less than significant under the California Environmental Quality Act (CEQA).

Nevertheless, ground squirrels could potentially move into the ruderal grassland on the project site at any time, creating suitable roosting habitat for burrowing owls (i.e., ruderal grassland habitat that does not have ground squirrel burrows now could have burrows a few months from now). Should burrowing owls move into this habitat, project activities that result in ground disturbance could result in the loss of occupied burrows or injury or mortality of owls inside the burrows; owing to this species' rarity in the South Bay region, such impacts would be significant under CEQA. Therefore, we recommend the following measures be implemented to reduce potential impacts on burrowing owls to a less-than-significant level.

- **Measure 1. Pre-construction/Pre-disturbance Surveys.** Prior to any ground disturbing construction activity within the ruderal grassland habitat in the northeastern corner of the project site, a pre-construction survey for burrowing owls will be conducted by a qualified ornithologist to ensure that no occupied burrows will be disturbed during construction. Pre-construction surveys will be completed in conformance with the CDFW's 2012 guidelines. An initial habitat assessment will be conducted by a qualified biologist to determine if suitable burrowing owl habitat is present. During the initial site visit, a qualified biologist will survey the entire activity area and (to the extent that access allows) the area within 250 feet of the site for suitable burrows that could be used by burrowing owls for nesting or roosting. If no suitable burrowing owl habitat (i.e., ruderal grasslands with burrows of California ground squirrels) is present, no additional surveys will be required. If suitable burrows are determined to be present within 250 ft of work areas, a qualified biologist will conduct three additional surveys to investigate each burrow within the survey area for signs of owl use and to determine whether owls are present in areas where they could be affected by proposed activities. The final survey will be conducted within the 24-hour period prior to the initiation of project activities in any given area.

² California Natural Diversity Database. 2016. Rarefind 5.0. California Department of Fish and Wildlife. Accessed May 2016 from <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>

- **Measure 2. Implement Buffer Zones for Burrowing Owls.** If burrowing owls are present during the nonbreeding season (generally September 1 to January 31), a 150-foot buffer zone will be maintained around the occupied burrow(s), if feasible. If maintaining such a buffer is not feasible, then the buffer must be great enough to avoid injury or mortality of individual owls, or else the owls should be passively relocated as described in Measure 3 below. During the breeding season (generally February 1 to August 31), a 250-foot buffer, within which no new project-related activities will be permissible, will be maintained between project activities and occupied burrows. Owls present between February 1 and August 31 will be assumed to be nesting, and the 250-foot protected area will remain in effect until August 31. If monitoring evidence indicates that the owls are no longer nesting or the young owls are foraging independently, the buffer may be reduced or the owls may be relocated prior to August 31, in consultation with the CDFW.
- **Measure 3. Passively Relocate Burrowing Owls.** If construction will directly impact occupied burrows, a qualified biologist will passively evict owls from burrows during the nonbreeding season (September 1 to January 31). No burrowing owls will be evicted during the nesting season (February 1 through August 31) except with the CDFW's concurrence that evidence demonstrates that nesting is not actively occurring (e.g., because the owls have not yet begun nesting early in the season, or because young have already fledged late in the season). Eviction will occur using one-way doors inserted into the occupied burrow and all burrows in impact areas that are within 250 feet of the occupied burrow (to prevent occupation of other burrows that will be impacted). One-way doors will be installed by a qualified biologist and left in place for at least 48 hours before they are removed. The burrows will then be back-filled to prevent re-occupation.

Please feel free to contact me at gbolen@harveyecology.com or (408) 458-3246 if you have any questions about the survey results or our recommendations. Thank you for contacting H. T. Harvey & Associates about this project.

Sincerely,



Ginger M. Bolen, Ph.D.

Associate Wildlife Ecologist



Memorandum

September 12, 2016

To: Will Burns, AICP
Project Manager
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200
San Jose, CA 95126

From: Scott B. Terrill, Ph.D.
Vice President, Senior Ornithologist
H. T. Harvey & Associates
983 University Ave., Bldg. D
Los Gatos CA. 95033

Subject: Avian Technical Memo for the proposed Great America Theme Park Master Plan

The function of this memo is to address potential avian issues associated with the proposed Great America Theme Park Master Plan. The proposed project is located at 4701 Great America Parkway in Santa Clara, Santa Clara County, California. The theme park project site comprises approximately 112 acres with an additional 55 acres of associated parking lots. The Great America Theme Park Master Plan evaluates the Cedar Fair proposed Master Plan Development Zoning covering the 112-acre site that continues to allow existing attractions and operations and provides flexibility for proposed new attractions and operations over a 20-year horizon. This plan includes adding up to 8 new rides of 50-100 feet; 11 new rides of 100-200 feet and 8 new rides over 200feet (with a maximum height of 250 feet if approved by the Federal Aviation Administration). In addition, the project also includes a commercial/entertainment district that would retain the existing Redwood Amphitheater continuing its use, and 40,000 square feet of current theater space would be repurposed. A total of 100,000 square feet of new commercial space is proposed within the district.

The site and the surrounding areas are already extensively developed with the Great America Theme Park in operation, and the opening of the nearby Levi Stadium in 2014. Due to the limited habitat quality for birds on and around the site (San Thomas Aquino Creek, bordering the east side of the project site, is highly channelized and degraded, and does not represent favorable bird habitat in general), the project site and the surrounding area is unlikely to support any special-status bird species with the exception of the burrowing owl (*Athene cunicularia*); however, a recent survey for that species on the project site (May 2016) was negative. Although burrowing owl

surveys were negative, California ground squirrels could potentially move onto the site and create suitable nesting habitat for owls and project activities that result in ground disturbance that could result in the loss of occupied burrows or injury or mortality of owls would represent a significant impact under CEQA (H. T. Harvey & Associates May 5, 2016 memo Great America Theme Park - Burrowing Owl Survey and Habitat Assessment Report to David J. Powers & Associates). Mitigation Measures are described in the cited May 5, 2016 memo.

It is well established that, especially during periods of low visibility due to fog or inclement weather, nocturnal migrant birds can be attracted to artificial lighting, becoming disoriented and exhausted, resulting in structure strikes - especially tall structures (Rich, C. and T. Longcore, editors. 2006. *Ecological Consequences of Artificial Night Lighting*. Island Press, Washington). Thus, lighting associated with the additional attractions should be considered a potential impact on nocturnal migrant birds. Under current conditions, there is already a great deal of anthropogenic light associated with the existing theme park and the nearby stadium, as well as the surrounding developed landscape. Thus, lighting associated with the additional features and structures proposed under the Master Plan is not expected to represent a significant impact relative to existing conditions.

In spite of the opinion of a less-than-significant impact relative to existing conditions, there are a few “bird-safe” recommendations that might be considered. Bird-safe design and lighting features are becoming standard guidelines for a number of local cities; e.g., Mt. View, Sunnyvale, and San Francisco.

It is favorable that, as stated in the Master Plan Environmental Impact Report, laser lights and spot lights will not be directed off the project site and lights will be directed and shielded to avoid impacting adjacent properties. However, restricting up-lighting emanating upwards from the site would help reduce effects on nocturnal migrant birds flying over the site. If the features could be down-lit from the top, that would be preferable from a bird-safe perspective. It is also recommended that spotlights not be oriented directly up into the air space above the park.

Static red and white light appears to create the most impact on nocturnal migrant birds, with flashing or strobe lighting reducing those impacts and green light creating very little impact (e.g., Gauthreaux, S.A. and C. G. Belser. 2006. *Effects of artificial lighting on migrating birds*, pp.67-93 in *Ecological Consequences of Artificial Night Lighting*, Rich and Longcore eds., and Gehring et al. 2009. *Communication towers, lights and birds: successful methods of reducing the frequency of avian collisions*. *Ecological Applications* 19:505-514, etc.). Thus, dynamic (flashing, intermittent, etc.) lighting should be used where possible, especially on relatively tall structures in the park, and static red light should be avoided on all tall structures (the FAA now has bird-safe guidelines that allow for the replacement of static red lights with flashing lights:


<http://www.faa.gov/news/updates/?newsId=85204&cid=TW413>).

In addition, guy wires or other thin wires should be avoided at the tops of tall structures. If birds are attracted to a lit structure, they are much more likely to collide with an associated wire than the structure itself.

Finally, reducing lighting at night during off hours to the greatest extent possible is recommended.

I hope this provides you with the information you need. If you have any questions, or require further information or details, please let me know.

Thank you.

A handwritten signature in black ink, appearing to read "S. B. Tennell". The signature is written in a cursive style with a large, looping initial "S" and a long, sweeping underline.