

Memorandum

Date: November 13, 2019

To: Jay Roshan
Project Manager
Bel Aire Heights, LLC

From: Jackson Valler
Staff Biologist
Sequoia Ecological Consulting, Inc.

RE: **San Francisco Dusky-footed Woodrat Nest Relocation Plan; Ascension Heights
Subdivision Project**

Dear Mr. Roshan:

Sequoia Ecological Consulting, Inc. (Sequoia) understands that construction activities related to the Bel Aire Heights, LLC - Ascension Heights Subdivision project (Project), including vegetation clearing and grading, are expected to occur in locations that are known to contain San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*; SFDFW) nests. SFDFW is a California Species of Special Concern that is protected by the California Department of Fish and Wildlife (CDFW). In order to avoid harming this species, any SFDFW nests located in the Project Area must be relocated prior to major vegetation removal activities and ground disturbance. Sequoia has developed the following SFDFW Nest Relocation Plan to provide a framework for relocating SFDFW nests in an expedient fashion that will minimize potential impacts to the species.

PROJECT BACKGROUND

On October 30, 2019, Sequoia conducted a focused SFDFW survey within the Project Area and Project Footprint, where upcoming winterization work is proposed to occur (Figure 1). A small area in the southwestern portion of the Project Area with steep terrain and unsuitable habitat was not directly surveyed. During this survey, a total of 29 SFDFW nests were observed on the ground and in trees (Figure 2). Several of the 29 nests were in close proximity to one another and were mapped as nest complexes, resulting in a total of 21 nest sites mapped separately.

Any nests that would likely be impacted by future work will need to be relocated prior to major vegetation removal activities and ground disturbance. Due to the necessity of relocating numerous SFDFW nests, Sequoia has prepared the following SFDFW Nest Relocation Plan for Bel Aire Heights' and San Mateo County's approval. SFDFW nests will be relocated to an area in the southeast corner of the Project Area (Relocation Area) that will not be impacted by work under current, approved Project plans

(Figure 3). Two of the 21 nest sites that were identified are already within the Relocation Area and will not need to be relocated. The remaining 19 nest sites will be dismantled and moved to the Relocation Area, in accordance with guidelines set forth in this Relocation Plan. Potential relocation sites are depicted in Figure 3.

The habitat within the Relocation Area is primarily blue gum eucalyptus with a dense canopy cover and contains an understory of California bay, coast live oak, Monterey pine, and toyon. This habitat is considered suitable for SFDFW.¹

RELOCATION PLAN

A qualified biologist will monitor and instruct construction crews as they relocate all SFDFW nests within the Project Area, as needed. Qualified biologists will be professional wildlife biologists with knowledge of SFDFW ecology and habitat requirements, and with demonstrated experience in implementing SFDFW nest relocations on comparable projects. Qualified biologists and construction crews will adhere to the following guidelines when performing SFDFW nest relocations:

- SFDFW nests requiring relocation will be dismantled by construction crews by hand and under the direct supervision of a qualified biologist.
 - The qualified biologist will oversee the dismantling of all nests on-site and provide guidance during the relocation process.
- Each member of the construction crew will receive an environmental training regarding SFDFW ecology and the specifics of this Relocation Plan.
 - Environmental trainings will be held daily, prior to commencing daily activities.
 - The environmental training will include information about the life history, biology, and general behavior of SFDFW, how they may be encountered, and protection measures to follow if they are encountered.
 - Upon completion of the environmental training, all site personnel associated with the Project will sign a form stating they have attended the training and understand the information and are therefore authorized to conduct relocation activities. A copy of the sign-in form will be provided to the client and the County.
- All material removed during nest dismantling will be moved into the Relocation Area and constructed into piles potentially suitable for SFDFW habitation or use as refugia.

¹ Bravo BC. 2016. Habitat Characterization and House Usage of the Dusky-footed Woodrat at Jasper Ridge. Master's Thesis, Stanford University, May 2016. Retrieved from https://www.researchgate.net/publication/319325554_Habitat_Characterization_and_House_Usage_of_the_Dusky-Footed_Woodrat_at_Jasper_Ridge

- Potentially suitable locations for nesting material inside the Relocation Area are indicated in Figure 3.
- If an inactive nest (as determined by a qualified biologist) needs to be removed, it may be removed completely in one day. If woodrats are observed within or fleeing from the nest, the nest will be considered active and relocated using a phased approach.
 - Activity is indicated by the presence of woodrats or woodrat nest maintenance. These signs include evidence of structural maintenance (new sticks added), and nest entrances and travel paths that are free of debris, fresh vegetative cuttings, or recently deposited fecal pellets.²
 - Inactivity is defined by the absence of signs of woodrat nest maintenance. Signs of inactivity include cobwebs across entrances, otherwise unmaintained entrances, general nest deterioration, absence of fresh vegetative cuttings, and absence of fresh fecal pellets.
- If an active nest needs to be removed, a phased dismantling protocol will be followed:
 - Remove at least 50-100% of the existing canopy cover and begin dismantling.
 - After partially dismantling the nest, leave nest alone for two to four days to allow woodrats to disperse on their own. After two to four days, continue to disassemble nest by hand. Plan to completely dismantle in two to three sessions.
 - If young are present, the construction crew and qualified biologist will cease dismantling of the nest for 48 hours to allow the adult to move the young. If the young have been moved and the nest is vacant, resume nest removal.
 - If young have not been moved, leave nest for additional 48 hours and re-check.

SAFETY

Safety will always be prioritized. The biologist and construction crews will wear appropriate personal protective equipment (PPE) during dismantling (N95 face mask; leather, rubber, or latex gloves; and safety glasses, at a minimum). In areas of heavy poison oak, the biologist and construction crews will wear Tyvek suits. Checks for ticks will be performed after working in woodrat nests.

REPORTING

A summary email of work activities and relocation status will be submitted to Bel Aire Heights daily. In addition, a summary memorandum-style report will be submitted to Bel Aire Heights at the completion of SFDW nest relocation, documenting the following:

² Fargo R, Laudenslayer WF. 1999. Are House Counts Reliable Estimators of Dusky-footed Woodrat Population Size? 1999 Transactions of the Western Section of the Wildlife Society 35: 71-75.

- Dates, times, and weather conditions of all relocation work conducted.
- Summary of work conducted.
- Name(s) of biologist(s) who supervised the relocation work.
- Nest active? Yes/no/unknown/NA.
- Nest habitat, elevation (ground or tree nest).
- Any observed mortalities or injuries.
- Representative photos of the relocation work.
- GPS coordinates of relocated woodrat nest locations.
- Copy of environmental training materials.



Figure 1. Ascension Heights Subdivision Project Area, Project Footprint, and unsurveyed area.



Figure 2. Ascension Heights Subdivision San Francisco dusky-footed woodrat survey results from October 30, 2019.



Figure 3. Potential nest relocation sites within Relocation Area.

Sequoia recommends that proposed upcoming winterization work, including major vegetation removal, occur as soon as possible after SFDFW relocation so that SFDFW do not move back into the Project Area.

If you have any questions or concerns, please do not hesitate to contact me at the email or phone number listed below. Thank you for the opportunity to support you on this project.

Sincerely,

Jackson Valler

Staff Biologist

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