

Low-Effect Habitat Conservation Plan
for the Endangered Mount Hermon June Beetle
at the Lone Pine Lane 6-unit residential development site
(APNs 021-231-09 and 021-071-02) located at 495 Lockwood Lane
in Scotts Valley, Santa Cruz County, California

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EXECUTIVE SUMMARY

Jim Sisk of Dividend Financial, LLC (JS) has applied for a permit pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973 as amended (16 U.S.C. 153101544, 87 Stat. 884), from the U.S. Fish & Wildlife Service (USFWS) for the incidental take of the endangered Mount Hermon June beetle (MHJB) (*Polyphylla barbata*: Coleoptera: Scarabaeidae). The potential taking would occur incidental to the demolition of an existing single-family residence and driveway, plus the subsequent construction of six new single-family residences at a 1.235-acre project site that consists of two neighboring parcels (APN 021-231-09 measuring 0.83 acre and APN 021-071-02 measuring 0.41 acre). These two parcels are both located at 495 Lockwood Lane in the Whispering Pines neighborhood of Scotts Valley (Santa Cruz County), CA. This proposed residential development project is known as Lone Pine Lane.

Although the project site is situated in a portion of the Zayante Sandhills that historically supported endemic plant communities, extensive residential and commercial development during the past 50 years throughout this portion of the City of Scotts Valley has substantially degraded the original native habitat values. The project site is surrounded by single-family homes and the Valley Gardens Golf Course.

Prior land uses have substantially degraded habitat quality at the project site. Even though no native plant communities occur at the project site, one mature Ponderosa Pine (*Pinus ponderosa*) still grows along the southern border and a few Coast Live Oaks (*Quercus agrifolia*) grow along the northern and eastern borders of the project site. The understory vegetation is primarily characterized by ruderal grasses and forbs. Grading previously occurred at the project site, gravel has been spread on the undeveloped 0.83-acre parcel, and a single-family home, asphalt driveway and parking area is situated at the rear of the project site on the 0.41-acre parcel.

During a presence-absence survey conducted in 2001 for the previous property owner, Dr. Bruce Dunn, two adults of the MHJB were observed at the undeveloped 0.83-acre parcel of the project site. Therefore, JS has applied for a section 10(a)(1)(B) permit and proposes to implement the habitat conservation plan (HCP) described herein, which provides for measures for mitigating adverse effects on the MHJB for activities associated with the demolition of the existing single-family home on the smaller parcel, as well as the site grading and construction of the six new single-family residences. JS is requesting issuance of the section 10(a)(1)(B) permit for a period of five (5) years.

This HCP summarizes information about the project and identifies the responsibilities of the USFWS and JS for implementing the actions described herein to benefit the MHJB. The biological goal of the HCP is to replace the MHJB habitat impacted by the construction project at a secure site in perpetuity. For mitigation JS will purchase prior to permit issuance 0.95 conservation credit for the endangered MHJB from the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank, which is operated by PCO, LLC and is located in Ben Lomond, CA. This HCP also describes measures that ensure the elements of the HCP are implemented in a timely manner. Funding sources for implementation of the HCP, actions to be taken for unforeseen events, alternatives to the proposed permit action, and other measures

required by the USFWS are also discussed.

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1.0 INTRODUCTION

This Habitat Conservation Plan (HCP) is for the proposed demolition of an existing single-family residence and driveway and subsequent construction of six new, single-family residences at Lone Pine Lane, a 1.235-acre project site (APNs 021-231-09 measuring 0.83 acres and 021-071-02 measuring 0.41 acres) located at 495 Lockewood Lane in the Whispering Pines residential neighborhood of the city of Scotts Valley (Santa Cruz County), California. It has been prepared pursuant to the requirements of section 10(a) of the Federal Endangered Species Act (ESA). The HCP is intended to provide the basis for issuance of a section 10(a)(1)(B) permit to Jim Sisk of Dividend Financial, LLC (JS), the permit applicant, to authorize incidental take (see section 6.0) of the Mount Hermon June beetle (MHJB) (*Polyphylla barbata*: Coleoptera: Scarabaeidae), a federally-listed endangered species, that could potentially result from the demolition, grading, and construction activities at the 1.235-acre project site. The U.S. Fish & Wildlife Service (USFWS) has concluded that the project site provides potential habitat for this beetle. JS requests a permit for a period of five (5) years commencing on the date of permit issuance.

This HCP provides an assessment of the existing habitat at the Lone Pine Lane project site for the MHJB, evaluates the effects of the proposed project on this beetle, and presents a mitigation plan to offset habitat losses and/or direct harm to this beetle that could result from demolition, grading, and construction activities at the project site. The biological goal of this HCP is to replace the MHJB habitat impacted by the development of Lone Pine Lane at a secure site in perpetuity. Specifically, 0.95 conservation credits for the MHJB will be purchased prior to permit issuance from the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank. Because habitat quality at the Ben Lomond Sandhills Preserve is superior to that at the project site, and habitat at the conservation bank is protected in perpetuity via a conservation easement, this mitigation solution will provide greater long term conservation value to the MHJB and its habitat than would on-site mitigation.

1.1 PROJECT LOCATION

The Lone Pine Lane project site measures approximately 1.235 acres and is located at 495 Lockewood Lane in the Whispering Pines residential neighborhood in the city of Scotts Valley, California. The project site lies southeast of Lockewood Lane, just northeast of its intersection with Estrella Drive (Figure 1). The site is located within the boundaries of the Felton 7.5' U.S. Geological Survey (USGS) topographic quadrangle, specifically in Township 10S. and Range 2W. of the Mt. Diablo Meridian. No section numbers are identified in this portion of the topographic quadrangle. Because of the extensive development that has occurred in the city of Scotts Valley since the Felton quadrangle was printed in 1967 and photo-revised in 1980, Figure 2 is a street-level location map.

1.2 PROJECT SITE

The project site is located in a residential neighborhood known as Whispering Pines. Surrounding properties are generally developed as single-family homes, although the Valley Gardens Golf Course abuts the project site on its northeastern border.

A single family residence is situated on the 0.41-acre parcel at the rear (east end) of the

project site and an asphalt driveway runs along the southern border. Due to prior land uses, no native plant communities still occur at the property. Undeveloped portions of the project site have been graded at some prior time and covered with a thin layer of gravel. Most of the project site is characterized by an urban, ruderal plant community, with ornamental and landscaping in the immediate vicinity of the existing home. Telegraph weed (*Heterotheca grandiflora*) has colonized graded portions of the site. A solitary, mature Ponderosa Pine (*Pinus ponderosa*) tree grows along the southern border and a few Coast Live Oaks (*Quercus agrifolia*) grow along the eastern and northern borders.

1.3 HISTORY OF THE HCP PROCESS

Dr. Richard Arnold, President of Entomological Consulting Services, Ltd., performed a habitat assessment survey for the Mount Hermon June beetle on behalf of the previous owner, Dr. Bruce Dunn, in September 2000. Dr. Arnold found marginally suitable habitat for the endangered beetle. A presence-absence survey was performed for the beetle in May, 2001. Two beetles were observed on the larger parcel. A copy of the presence-absence survey report is attached as Appendix A.

On April 1, 2005 JS of Dividend Financial, LLC acquired the project site from Dr. Dunn and hired Dr. Arnold to prepare this HCP. Dr. Arnold spoke with Roger Root, biologist with the Ventura office of the USFWS about the proposed project and need for an HCP in June 2005. USFWS advised Dr. Arnold that an incidental take permit would be necessary for the proposed project to comply with the Endangered Species Act. A draft, low-effect HCP was prepared and submitted to the Ventura office of USFWS in November, 2005. Based on comments received from USFWS in June 2006, a revised draft HCP was resubmitted in September 2007, and another revised draft was resubmitted in April 2008. Although this document has been presented as a low-effect HCP, the USFWS still needs to complete a Low-Effect Habitat Conservation Plan Screening Form. After completing this form, the USFWS will determine whether the HCP for the proposed project qualifies for the low-effect category, thereby qualifying for a categorical exclusion under the National Environmental Policy Act.

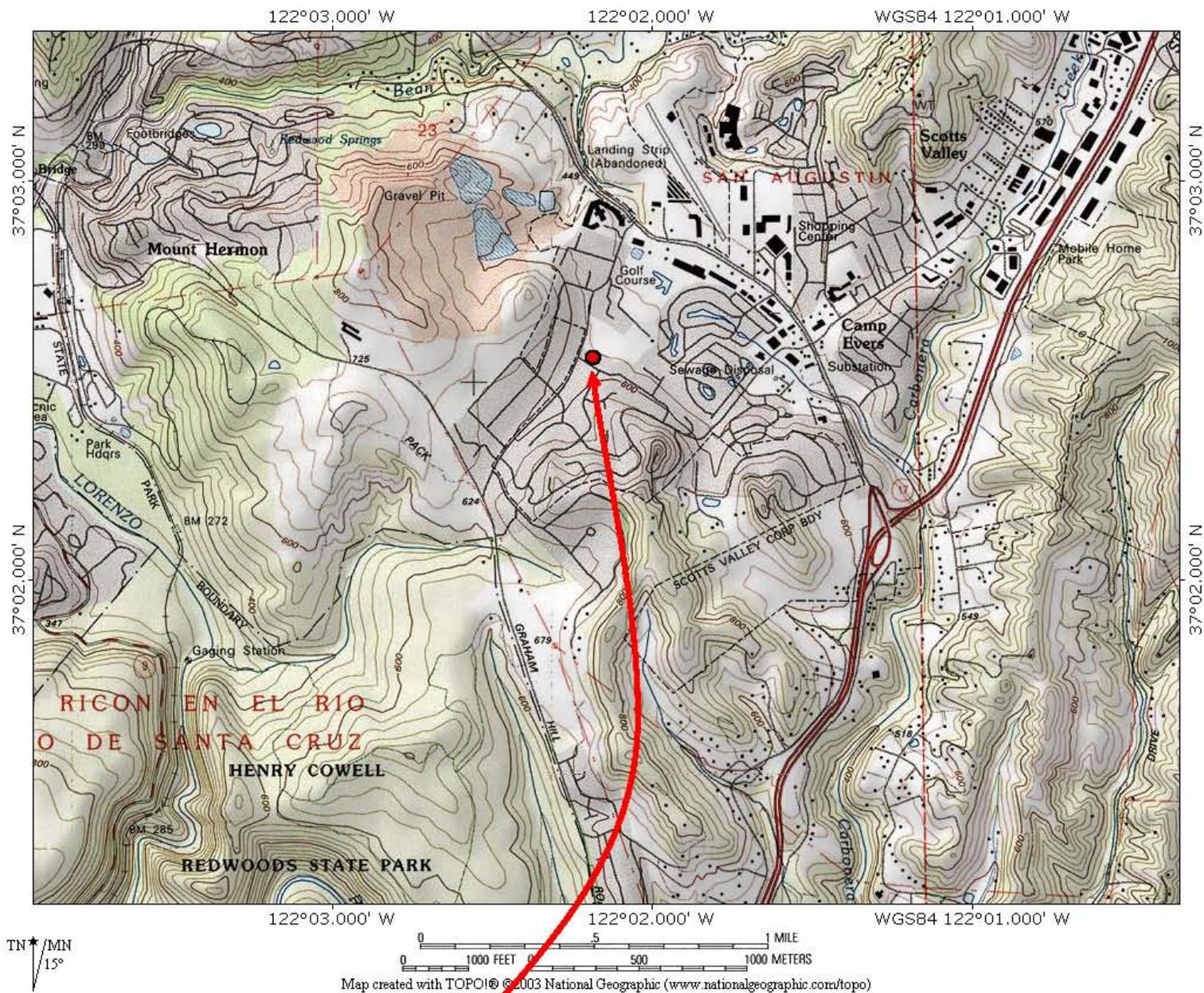


Fig. 1 Location of Lone Pine Lane project site at 495 Lockwood Lane in Scotts Valley, California on Felton 7.5' USGS topographic base map.

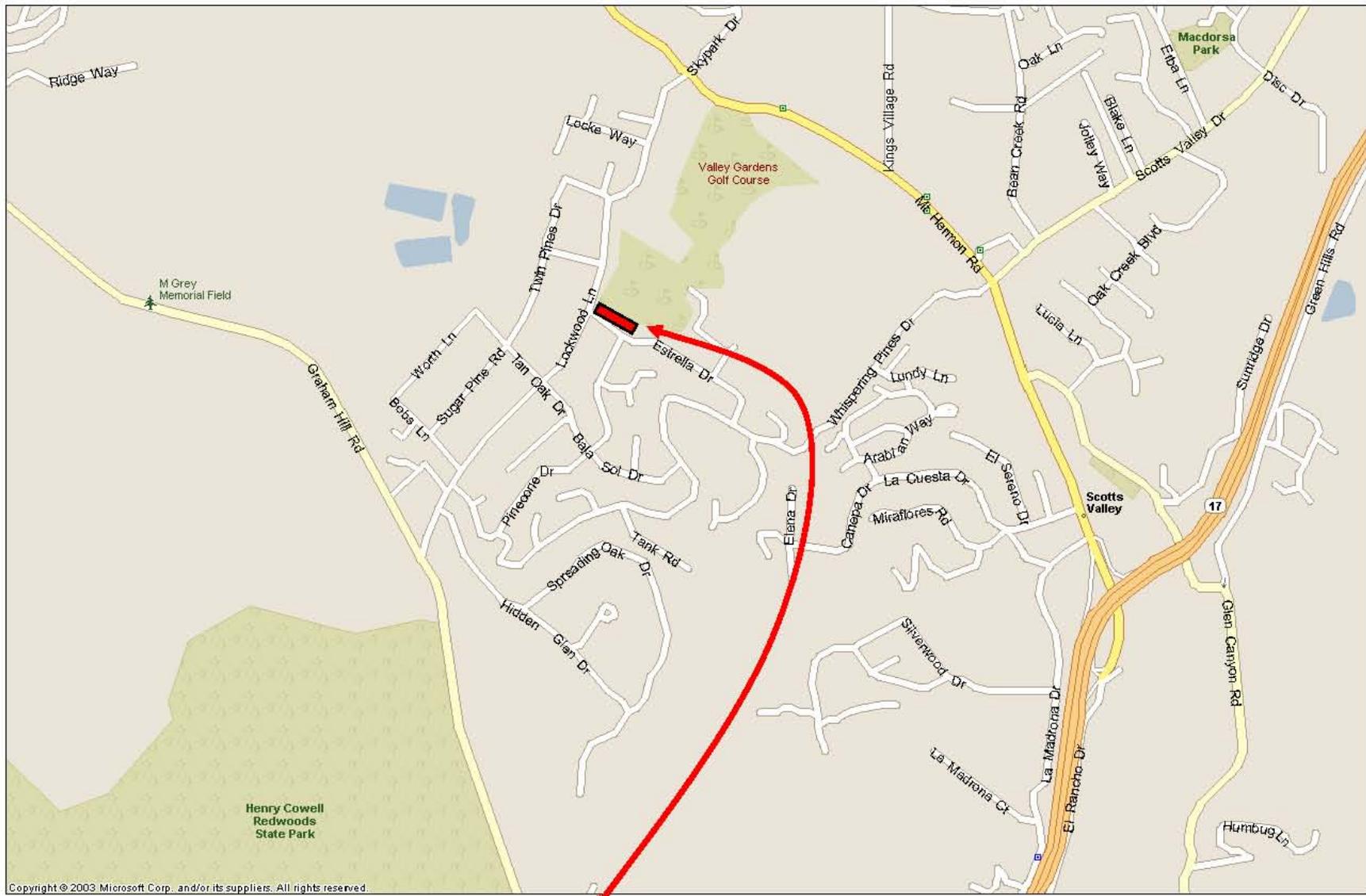


Fig. 2 Location of Lone Pine Lane project site at 495 Lockwood Lane in Scotts Valley, California on street-level base map.

2.0 PROJECT DESCRIPTION AND AREA

2.1 PROJECT SITE AND PROJECT DESCRIPTION

The project site consists of two neighboring parcels. At present, the 0.83-acre parcel is a vacant lot except for the asphalt driveway that crosses it to access the 0.41-acre parcel behind it that supports a single-family home. The project site is approximately rectangular in shape and together the two adjacent parcels measure 1.235 acres in size.

The project site is generally flat with a mild slope from Lockewood Lane to the rear. A few oak trees and one Ponderosa pine grow around the perimeter of the project site. It is anticipated that at least a few of those trees may be removed. The city of Scotts Valley requires the project applicant to submit a tree removal and preservation plan and to replace removed trees at a 2:1 ratio.

The existing single-family home on the smaller parcel will be demolished, but because the existing home and asphalt driveway cover nearly all of this parcel, it has no current habitat value for the MHJB. Six new single-family homes and a private street, ranging in width from 24 to 32 ft., will be built. Lot sizes will range from approximately 8,215 to 10,577 ft.² Locations of the six proposed, single-family homes and other associated site improvements are illustrated in Figure 3, the tentative subdivision map and Figure 4, the site plan. Permanent development activities will occur throughout the site, so the entire project site is referred to as the “impact area” and collectively measures 1.235 acres.

The new homes will be plumbed with domestic water and sanitary sewer. Since the sanitary sewer lines drain to public sewer line, there shall be no septic or cesspool systems required. Electrical power is fed from overhead power lines that run along Lockewood Lane. Likewise natural gas is also provided by the local utility provider via underground connection at property line. Utilities will be placed underneath the new street, Lone Pine Lane, and all trenching for the connection of underground utilities will occur within the impact area.

Altogether, the construction activities will disturb the entire project site, which is characterized by a ruderal grassland plant community, a single, mature Ponderosa Pine tree, a few other native trees and ornamental plantings. As a minimization measure, Coast Live Oaks growing along the northern border will be maintained to the extent practical at this project site. Additional minimization measures will be employed before, during, and after construction activities to minimize any adverse impacts to the MHJB and its habitat at the project site, including:

- 1) A construction monitor, knowledgeable about the MHJB and its habitat and approved by USFWS, will be present during initial grading and excavation activities, as well as during demolition of the existing residence and driveway;
- 2) The construction monitor will oversee the placement of temporary fencing and signs that will be erected before any grading or vegetation clearing activities occur to protect the maintained trees;
- 3) Appropriate dust control measures, such as periodically wetting down the graded

- areas, will be used as necessary during grading of the impact area or any other activities that generate dust; and
- 4) All workers at the project site will participate in an educational session to learn about the endangered beetle, its habitat, protective measures, and procedures to follow if any individuals of the MHJB are actually observed at the project site during the course of all construction-related activities.

2.2 PERMIT HOLDER/PERMIT BOUNDARY

JS will be the holder of the section 10(a)(1)(B) permit. Mr. James Sisk can be contacted via mail at 230 Villa Mar Vista, Santa Cruz, CA 95060, or via telephone at (831) 466-9894, or via cell phone at (831) 588-8739, or via email at JSisk10345@aol.com.

In the event of sale of the property prior to completion of the proposed development or during the life of the permit, the new owner(s) will submit to the USFWS the following: a new permit application, permit fee, and written documentation providing assurances pursuant to 50 CFR 13.25 (b)(2) that the new owner will provide sufficient funding for the HCP and will implement the relevant terms and conditions of the permit, including any outstanding minimization and mitigation. The new owner(s) will commit to all requirements regarding the take authorization and mitigation obligations of the HCP unless otherwise specified in writing and agreed to in advance by the USFWS.

The requested permit boundaries are the same as the boundaries of the 1.235-acre project site. Boundaries of the project site are illustrated in Figures 3 and 4.

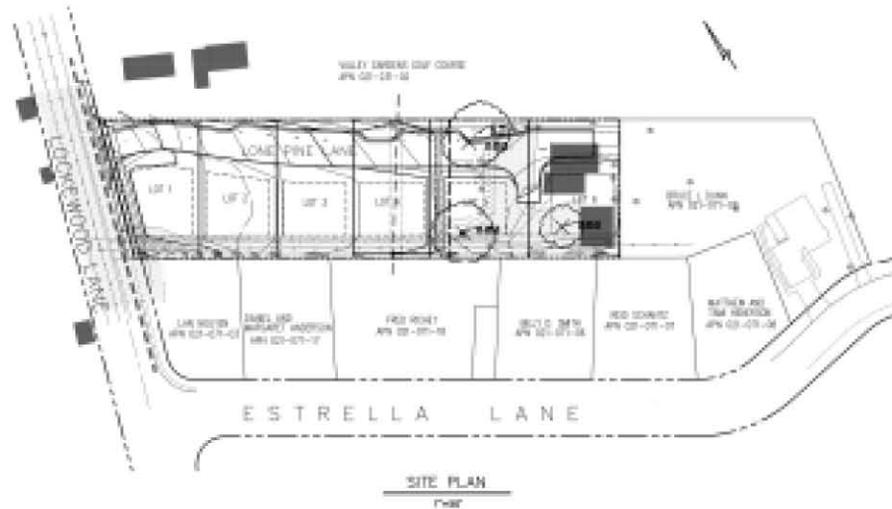
2.3 SURROUNDING LAND USES

The Lone Pine Lane project site is located in a residential neighborhood of the city of Scotts Valley known as Whispering Pines. Surrounding properties primarily support single-family homes; however, immediately north of the project site is the Valley Gardens Golf Course. Zoning for the project site is RH/ High Density Residential (9 to 15 dwelling units per acre). The residential neighborhoods to the east, west and south are zoned R-1-10, which means that one single-family residence is allowed on a minimum lot size of 10,000 ft.²

TENTATIVE MAP FOR TRACT NUMBER 1543
495 LOCKWOOD LANE
 SCOTT'S VALLEY, CALIFORNIA
 COUNTY OF SANTA CRUZ

PREPARED AT THE REQUEST OF:

DIVIDEND FINANCIAL, LLC



PROPERTY DESCRIPTION
 BEARS IN THE CITY OF SCOTT'S VALLEY, COUNTY OF SANTA CRUZ, STATE OF CALIFORNIA BEING PARTS, ONE AND TWO AND SEVERALS, IN TRACT 2009-00000 OF SANTA CRUZ, CALIF.

TOPOGRAPHIC SURVEY
 THE TOPOGRAPHIC SURVEY SHOWN HEREON WAS PREPARED BY GUYMAN & WILLIAMS, CIVIL ENGINEERS, 200 S. MAIN STREET, SCOTT'S VALLEY, CALIF. ON 02/12/2010.

BENCHMARK
 BENCHMARK IS A CONCRETE NAIL BUSHING AT SET 124 1/2' NORTHWEST OF THE WESTERN CORNER OF THIS TRACT. PROJECT ELEVATION = 1005.00. BENCH. ELEVATION = 1005.00.

BASIS OF BEARING
 THE BASIS OF BEARING FOR THIS SURVEY IS BASED ON BEARINGS TAKEN IN THE NEAREST BENCHMARK OF THIS TRACT. AS SHOWN ON THE MAP OF PARCELS MAPS LOT 1 AND LOT 2, 40-81-1. BEARING S 89°04' E, DISTANCE 42.24.

PARCEL AREA TABULATION

ACRES	SQ. FT.	PERCENTAGE
LOT 1	800	1.25%
LOT 2	800	1.25%
LOT 3	800	1.25%
LOT 4	800	1.25%
TOTAL	3200	5.00%

NET ACRES 6.34
 AREA OF PLUM REGULATION 6.34 AC
 TOTAL 12.34 AC



PROJECT INFORMATION

OWNER	DIVIDEND FINANCIAL LLC 200 S. MAIN ST. #200 SCOTT'S VALLEY, CA 95053 (831) 434-3844	APN	021-021-04 AND 021-021-05
CIVIL ENGINEER	JOEL T. RIGGS, S.E.E. 13888 GUYMAN & WILLIAMS 200 S. MAIN ST. #200 SCOTT'S VALLEY, CA 95053 (831) 434-3844	PROPERTY SIZE	1.24 ACRES
PROJECT PLANNER	JIM BICK 200 S. MAIN ST. #200 SCOTT'S VALLEY, CA 95053 (831) 434-3844	ZONING	R-9
		GENERAL PLAN CATEGORIZATION	HIGH DENSITY RESIDENTIAL
		CURRENT USE	SINGLE FAMILY
		PROPOSED USE	8 SINGLE FAMILY LOTS
		WATER SUPPLY	SAN JERONIMO VALLEY WATER DISTRICT
		SEWER SERVICE	CITY OF SCOTT'S VALLEY
		AREAS OF REGULATION	NONE
		AVERAGE SLOPE	8%

SHEET INDEX

1	TENTATIVE MAP - COVER SHEET
2	TENTATIVE MAP - PLAT PLAN
3	TENTATIVE MAP - PRELIMINARY IMPROVEMENT PLAN



GUYMAN & WILLIAMS CIVIL ENGINEERS 200 S. MAIN ST. SCOTT'S VALLEY, CA 95053 (831) 434-3844		TENTATIVE MAP TRACT 1543 COVER SHEET	
DATE OF PREPARED	DATE OF ISSUE	DATE OF REVISION	SHEET
02/12/2010	02/12/2010	02/12/2010	1
DESIGN NO.	PROJECT NO.	FILE NO.	OF 3

DISCLAIMER
 THIS TENTATIVE MAP IS THE RESULT OF AN INTERPRETATION OF CERTAIN AVAILABLE RECORDS AND FIELD SURVEY DATA. THE ENGINEER'S LIABILITY IS LIMITED TO THE DESIGN AND PREPARATION OF THIS TENTATIVE MAP.

Fig. 3
 Tentative Subdivision Map for
 the Lone Pine Lane Project Site

3.0 REGULATORY FRAMEWORK

3.1 FEDERAL ENDANGERED SPECIES ACT OF 1973

Section 9 of the ESA and Federal regulation pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. “Take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the USFWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the USFWS as intentional or negligent actions that create the likelihood of injury to listed species by annoying them to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

Pursuant to section 11(a) and (b) of the ESA, any person who knowingly violates this section 9 of the ESA or any permit, certificate, or regulation related to section 9, may be subject to civil penalties of up to \$25,000 for each violation or criminal penalties up to \$50,000 and/or imprisonment of up to one year.

Individuals and State and local agencies proposing an action that is expected to result in the take of federally listed species are encouraged to apply for an incidental take permit under section 10(a)(1)(B) of the ESA to be in compliance with the law. Such permits are issued by the Service when take is not the intention of and is incidental to otherwise legal activities. An application for an incidental take permit must be accompanied by a habitat conservation plan, commonly referred to as an HCP. The regulatory standard under section 10(a)(1)(B) of the ESA is that the effects of authorized incidental take must be minimized and mitigated to the maximum extent practicable. Under section 10(a)(1)(B) of the ESA, a proposed project also must not appreciably reduce the likelihood of the survival and recovery of the species in the wild, and adequate funding for a plan to minimize and mitigate impacts must be ensured.

Section 7 of the ESA requires Federal agencies to ensure that their actions, including issuing permits, do not jeopardize the continued existence of listed species or destroy or adversely modify listed species’ critical habitat. “Jeopardize the continued existence of...” pursuant to 50 CFR 402.2, means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. Issuance of an incidental take permit under section 10(a)(1)(B) of the ESA by the USFWS is a Federal action subject to section 7 of the ESA. As a Federal agency issuing a discretionary permit, the USFWS is required to consult with itself (i.e., conduct an internal consultation). Delivery of the HCP and a section 10(a)(1)(B) permit application initiates the section 7 consultation process within the USFWS.

The requirements of section 7 and section 10 substantially overlap. Elements unique to section 7 include analyses of impacts on designated critical habitat, analyses of impacts on listed plant species, if any, and analyses of indirect and cumulative impacts on listed species.

Cumulative effects are effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area, pursuant to section 7(a)(2) of the ESA. The action area is defined by the influence of direct and indirect impacts of covered activities. The action area may or may not be solely contained within the HCP boundary. These additional analyses are included in this HCP to meet the requirements of section 7 and to assist the Service with its internal consultation.

3.1.1. Section 10 Permit Process and HCP Requirements.

The section 10(A)(1)(B) process for obtaining an incidental take permit has three primary phases:

- 1) the HCP development phase;
- 2) the formal permit processing phase; and
- 3) the post-permit issuance phase.

During the HCP development phase, the project applicant prepares a plan that integrates the proposed project or activity with the protection of listed species. An HCP submitted in support of an incidental take permit application must include the following information:

- impacts likely to result from the proposed taking of the species for which permit coverage is requested;
- measures that will be implemented to monitor, mitigate for, and minimize impacts;
- funding that will be made available to undertake such measures;
- procedures to deal with unforeseen circumstances;
- alternative actions considered that would not result in take; and
- additional measures the USFWS may require as necessary or appropriate for purposes of the plan.

The USFWS has established a special category of HCP, called a low-effect HCP, for projects with relatively minor or negligible impacts. Based on criteria for determining whether a HCP is “low-effect,” as described below and in the USFWS’ (1996) Habitat Conservation Planning Handbook, the applicant for the proposed Lone Pine Lane project believes this is a low-effect HCP.

A low-effect HCP is defined as having:

- minor or negligible effects on federally listed, proposed, or candidate species and their habitats that are covered under the HCP; and
- minor or negligible effects on other environmental resources.

The impacts are assessed on both a project and cumulative basis. Implementation of low-effect HCPs and their associated incidental take permits, despite authorization of some small level of incidental take, individually and cumulatively have a minor or negligible effect on the species covered in the HCP. The determination of whether an HCP qualifies for the low-effect category is based on the anticipated impacts of the project prior to implementation of the minimization and mitigation plan. The purpose of the low-effect HCP is to expedite handling of HCPs for activities with inherently low impacts; it is not intended for projects with significant potential impacts that are subsequently reduced through mitigation programs. Environmental compliance under the National Environmental Protection Act (NEPA) for low-effect HCPs is achieved via a categorical exclusion because the incidental take permit issued involves no individual or cumulative significant effects on the environment.

The HCP development phase concludes and the permit-processing phase begins when a complete application package is submitted to the appropriate permit-issuing office of USFWS. The complete application package for a low-effect HCP consists of:

- 1) an HCP;
- 2) a completed permit application; and
- 3) a \$100 permit fee from the applicant.

The USFWS must publish a Notice of Receipt of a Permit Application in the Federal Register; prepare a section 7 Biological Opinion; prepare a Set of Findings that evaluates the section 10(a)(1)(B) permit application in the context of permit issuance criteria (see below); and prepare an Environmental Action Statement, a brief document that serves as the USFWS' record of compliance with NEPA for categorically excluded actions (see below). An implementing agreement is not required for a low-effect HCP. A section 10(a)(1)(B) incidental take permit is granted upon determination by USFWS that all requirements for permit issuance have been met. Statutory and regulatory criteria for issuance of an incidental take the permit (16 U.S.C. 1539(a)(2)(B) and 50 CFR 17.22(b)(2)) are as follows:

- the taking will be incidental;
- the impacts of incidental take will be minimized and mitigated to the maximum extent practicable;
- adequate funding for the HCP and procedures to handle unforeseen circumstances will be provided;
- the taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild;
- the applicant will provide additional measures that USFWS requires as being necessary or appropriate; and
- the USFWS has received assurances, as may be required, that the HCP will be

implemented.

After receipt of a complete application, a low-effect HCP and permit application is typically processed within approximately 12 months. This schedule includes the Federal Register notification and a 30-day public comment period. HCPs that do not qualify as low-effect have a 45-day public comment period.

During the post-issuance phase, the permittee and other responsible entities implement the HCP and the USFWS monitors the permittee's compliance with the HCP and the long-term progress and success of the HCP. The public is notified of permit issuance through publication in the Federal Register.

3.2 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

The National Environmental Policy Act of 1969, as amended (NEPA), requires that Federal agencies analyze and disclose the environmental impacts of their proposed actions (e.g., issuance of an incidental take permit) and include public participation in the planning and implementation of their actions. Issuance of an incidental take permit by the USFWS is a Federal action subject to NEPA compliance. Although section 10 and NEPA requirements overlap considerably, the scope of NEPA also considers the impacts of the action on non-biological resources such as water quality, air quality, and cultural resources. Depending on the scope and impact of the HCP, NEPA requirements can be satisfied by one of the following documents or actions:

- 1) preparation of an environmental impact statement (generally prepared for HCPs with known significant impacts to the human environment);
- 2) preparation of an Environmental Assessment (generally prepared for HCPs with moderate, but not significant, effects, or when the significance of the impacts is unknown); or
- 3) a categorical exclusion (allowed for low-effect HCPs).

The NEPA process helps Federal agencies make informed decisions with respect to the environmental consequences of their actions and ensures that measures to protect, restore, and enhance the environment are included, as necessary, as a component of their actions. Low-effect HCPs, as defined in the USFWS' (1996) Habitat Conservation Planning Handbook, are categorically excluded under NEPA, as defined by the Department of Interior Manual 516DM2, Appendix 1, and Manual 516DM6, Appendix 1.

3.3 NATIONAL HISTORIC PRESERVATION ACT

All Federal agencies are required to examine the cultural impacts of their actions (e.g., issuance of a permit). This may require consultation with the State Historic Preservation Office (SHPO) and appropriate American Indian tribes. All incidental take permit applicants are requested to submit a Request for Cultural Resources Compliance form to the USFWS. To complete compliance in certain cases, the applicants may need to complete cultural resource surveys and possibly mitigation.

3.4 CALIFORNIA ENVIRONMENTAL QUALITY ACT

In many ways the California Environmental Quality Act, commonly known as CEQA (Public Resources Code Section 21000 *et seq.*), is analogous at the State level as NEPA is to the Federal level. CEQA applies to projects that require approval by State and local public agencies. It requires that such agencies disclose a project's significant environmental effects and provide mitigation whenever feasible. This environmental law covers a broad range of resources. With regard to wildlife and plants, those that are already listed by any State or Federal governmental agency are presumed to be endangered for the purposes of CEQA and impacts to such species and their habitats may be considered significant.

The project presented in this HCP is known as Lone Pine Lane and is subject to CEQA review. The city of Scotts Valley is the lead agency.

3.5 CALIFORNIA PUBLIC RESOURCES CODE

Public Resources Code 4291 requires homeowners living in or adjacent to forest or brush-covered lands to maintain a firebreak of not less than 30 feet on all sides around all structures, or to the property line, whichever is nearer. The Scotts Valley Fire District enforces this code in the Scotts Valley area.

3.6 SCOTTS VALLEY TREE PROTECTION REGULATION

Section 17.44.080 of the City of Scotts Valley's municipal code describes the protective measures for native and heritage trees. Removal of living, native trees measuring at least 8 inches in diameter at breast height (ca. 54 inches above ground) that are in good health requires a permit from the City of Scotts Valley. When feasible, removed trees should be replaced by new trees that are planted elsewhere on the property. The City of Scotts Valley requires the project applicant to submit a tree removal and preservation plan, often part of the landscape plan, and to replace removed trees at a 2:1 ratio. If the project site cannot accommodate all of the replacement trees, the applicant may pay a fee to the city to defray the cost of planting replacement trees elsewhere.

4.0 BIOLOGY

This chapter describes the existing biotic resource conditions at the Lone Pine Lane project site. In addition, it discusses the one species addressed in this HCP, namely the MHJB (hereafter referred to as the covered species), which would be covered by the requested section 10(a)(1)(B) permit. The MHJB is federally-listed as endangered. Based on historical and recent observations, the MHJB is known to occur at the project site and will be directly or indirectly affected by the planned residential development. This section summarizes available information about the taxonomy, identification, distribution, habitat, biology, and conservation of the covered species.

4.1 HABITATS

The Lone Pine Lane project site supports a single terrestrial plant community, namely ruderal grassland. Although the soils present at the project site are Zayante sands, prior land uses have removed nearly all native vegetation indigenous to the Zayante Sandhills. At some unknown time, crushed rock was scattered throughout much of the larger parcel. A single, mature Ponderosa Pine tree still grows along the southern border, while a few of Coast Live Oaks (*Quercus agrifolia*) grow along other property borders. Other plants at the property are ornamental and primarily associated with the existing home on the smaller parcel.

Table 1 lists the acreage for each habitat type, including existing, impacted, preserved, and revegetated acreages. The proposed subdivision will impact 0.665 acre of ruderal grassland and 0.57 acre of existing residential development, or a cumulative total of the 1.235 acre project site.

Table 1. Habitat types of the Lone Pine Lane project site and estimates for existing, impacted acreages for each habitat type.		
Habitat Types	Habitat Acreages	
	Existing	Impacted
Ruderal grassland with a single Ponderosa Pine	0.665	0.665
Developed	0.57	0.57
Project Site Totals	1.235	1.235

4.2 COVERED SPECIES: MOUNT HERMON JUNE BEETLE

The species addressed in this HCP and covered by its associated section 10(a)(1)(B) permit (hereinafter referred to as covered species) includes one federally-listed species, the MHJB. This endangered species is known to occur on the Lone Pine Lane project site and will be directly or indirectly affected by the proposed residential development project. A brief discussion of the biology of this species and its occurrence on the project site follows.

4.2.1 Conservation Status

The MHJB is a federally-listed endangered species. Throughout most of its range, the

primary threats to the beetle are sand mining and urbanization. In a few instances, other types of land uses, such as agricultural conversion, recreation activities, plus pesticide use, alteration of fire cycles, and possibly even collectors, have also threatened the beetle. For these reasons, the beetle was recognized as an endangered species by the USFWS (1997) in 1997 and a recovery plan was published by the USFWS (1998) in 1998. Critical habitat has not yet been proposed by the USFWS for the MHJB.

The State of California does not recognize insects as endangered or threatened species pursuant to the State's Fish & Game Code. However, the MHJB does receive consideration under the California Environmental Quality Act (CEQA) since it satisfies the definition of a rare species under this statute.

4.2.2 Description and Taxonomy

The MHJB is a member of the family Scarabaeidae (Insecta: Coleoptera). Adult males measure about 0.75 inch in length and females are slightly longer. The adult male has a black head and dark brown elytra (leathery forewings) that are covered with brown hairs. The elytra also have stripes that are broken and irregular rather than continuous and well-defined as in related species of June beetles. Larvae are grub-shaped (scarabaeiform) and vary in color from cream to pale yellow for the body segments and darker brown for the head.

Cazier (1938) described the beetle from specimens collected at Mount Hermon, Santa Cruz County, California. The genus *Polyphylla*, which contains 28 species, was recently revised by Young (1988). Although the scientific name *Polyphylla barbata* has been used since its original description, the beetle has commonly been referred to as the Mount Hermon June beetle or the Barbate June beetle.

4.2.3 Distribution and Habitats

Of the 28 North American species of *Polyphylla*, 20 have restricted ranges, with 15 being endemic to isolated sand deposits (Young 1988). The MHJB is restricted to the Zayante sandy soils that are found in the Scotts Valley-Mount Hermon-Felton-Ben Lomond-Santa Cruz area of the Santa Cruz Mountains. Historically, MHJB localities were referred to as sandhills (Cazier 1938; Young 1988), but more recently this area has been called the Zayante Sandhills (USFWS 1998). Arnold (2004) reviewed museum specimens and other reported records for the beetle and determined that it had been observed at about 70 locations within this area.

Habitats in the Zayante sandhills where MHJB has been found include Northern Maritime Chaparral, Ponderosa Pine Forest, Sand Parkland (which is a mixture of the aforementioned habitats with a shrub/subshrub and grass/forb understory), and mixed Deciduous-Evergreen Forest. In addition, adults have been found in disturbed sandy areas where remnants of these habitats still occur. Ponderosa Pine occurs at all known MHJB locations and for this reason has been a presumed larval food plant of the beetle. However, recent analyses of partially-digested plant fragments in fecal pellets of MHJB larvae by Kirsten Hill (2005) indicate that larvae feed on other plant species. Even if Ponderosa Pine is not a food plant, it is a useful indicator of suitable habitat for the MHJB.

4.2.4 Natural History

The MHJB is univoltine, i.e., it has only one generation per year. As its common name suggests, adult emergence and seasonal activity normally starts in May or June and continues through about mid-August; although, seasonal activity may vary from year to year depending on weather conditions. Adults are nocturnal, being active between about 8:45 and 9:30 pm. Adult males actively fly low to the ground in search of females, which are flightless. Presumably the female emits a pheromone for the males to find her.

Lifespan data from a brief capture-recapture study suggest that adult males live no longer than one week (Arnold 2004). Dispersal data from the same capture-recapture study indicate that most adult males are quite sedentary, with home ranges of no more than a few acres. Similar data on lifespan and dispersal of females is lacking at this time since they are so infrequently observed.

Specific life history information for the MHJB is unknown, but can be inferred from related species. Presumably the entire life cycle (egg, larva, pupa, and adult) takes two to three years to complete. The majority of the life cycle is spent as a subterranean larval stage that feeds on plant roots (Furniss and Carolin 1977).

4.2.5 Occurrence at the Project Site and Vicinity

Arnold (2001, see Appendix A) conducted a presence-absence survey at the project site and identified two adults of the MHJB on the larger parcel (APN 021-231-09). Other known locations of MHJB are several nearby properties within the Whispering Pines neighborhood (BUGGY Data Base 2007; California Natural Diversity Data Base 2007).

5.0 IMPACTS AND ENVIRONMENTAL COMPLIANCE

5.1 IMPACT ASSESSMENT

Both temporary and permanent impacts are anticipated to occur due to project-related activities. The remainder of this section identifies the specific activities that could result in impacts to the MHJB as well as its habitat.

Permanent impacts will occur throughout the entire 1.235-acre impact area (Table 1) that will be developed for residential uses. These impacts will occur during demolition of the existing home and driveway, as well as grading, excavation, and construction activities for the six new homes. As evidenced by the findings of the presence-absence survey in 2001, a small, but undetermined number of MHJBs occur at the project site. Nonetheless, because of the degraded site conditions and the small size of the impact area, incidental take of the MHJB due to these activities is expected to be limited.

Lesser, but persistent and unquantifiable impacts to the endangered beetle are expected to occur during residential occupation of the new homes, and during revegetation and landscaping of the new yards upon completion of the construction activities. Such losses may also occur when the existing asphalt driveway is removed. If the existing home and driveway are removed to expose Zayante soils during the MHJB's flight season, adults may colonize the exposed soils and be impacted when site grading or other construction-related activities occur.

The Scotts Valley Fire District will ultimately determine the fire clearance requirements, if any, for the new properties. According to the Fire District, fire clearance requirements depend on the type of construction materials used to build the structure, the location of the proposed structure within the building envelope, and the presence of sensitive habitat on site. At this time, it is anticipated that no fire clearance will be necessary that affects any maintained trees; however, it is possible that at a later date the Fire District may require clearing or pruning of the maintained trees at the project site. USFWS will be informed if future clearing or pruning becomes necessary.

To summarize, impacts to the MHJB and its habitat will occur during grading of the site, removal of the existing asphalt driveway, removal of the existing house, and the installation of various improvements to the site associated with the construction of six new single-family residences. These impacts will occur throughout the entire 1.235 acre project site. As discussed in greater detail in section 7.0 on Minimization and Mitigation Measures, these impacts at the project site will be offset by the purchase of 0.95 MHJB conservation credits in prime sandhills habitat at the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank.

5.2 DIRECT AND INDIRECT EFFECTS

Although, direct and indirect impacts to the MHJB and its preferred habitat are expected to be minimal, take of this endangered species will occur throughout the project site. As previously discussed in this HCP, the Lone Pine Lane project site is situated in a region where nearby parcels support similarly degraded patches of suitable habitat and populations of the MHJB. Immediately surrounding properties have been developed for residential and golf course uses, so habitat values have been degraded from the historic prime habitat conditions. The only

vegetation indigenous to the Zayante sandhills remaining at the project site is a solitary, mature Ponderosa Pine tree and a few Coast Live Oaks. Although the loss of degraded habitat at the project site will be permanent, the applicant will purchase 0.95 conservation credits in prime habitat at the Ben Lomond Sandhills Preserve that is known to support the MHJB.

5.3 CUMULATIVE EFFECTS

Development of the six new homes will result in minor cumulative impacts to the MHJB. Even though 1.235 acres of ruderal grassland habitat will be permanently removed along with small numbers of MHJB, these losses are not expected to affect the range-wide survival of the beetle due to the occurrence and abundance of this species and its habitat at several nearby locations, as well as elsewhere throughout its entire geographic range. Indeed, the affected acreage will be fully compensated for through the permanent protection of prime habitat at a conservation bank that is known to support the endangered beetle.

Since MHJB has been observed inhabiting soils in residential yards that occur in close proximity to the project site (Arnold 2004), it can presumably co-exist in such habitat once soil disturbance has ceased. Thus, some MHJBs may recolonize portions of the project site, such as the yards, in areas where loose, sandy soils remain after all site improvements have been completed.

5.4 EFFECTS ON CRITICAL HABITAT

Critical habitat has not been designated for the MHJB. The project site and the Zayante Sandhills Conservation Bank are located within the zones of critical habitat (USFWS 2001) for the federally-listed endangered Zayante band winged grasshopper (*Trimerotropis infantilis*). The Zayante band-winged grasshopper was not covered in this HCP because it does not occur on the project site due to the absence of open sand parkland habitat.

6.0 TAKE OF THE COVERED SPECIES

Since there are no accurate estimates of the numbers of MHJB that reside at the project site, it is not possible to quantify the exact number of individual animals that could be taken by the removal of its degraded habitat. In addition, beetle eggs, larvae, pupae, or adults may be injured or killed during initial grading activities, by construction equipment and vehicles, or during other activities throughout the project site. Similarly, an undetermined number of MHJBs could be injured or killed during demolition of the existing home or removal of the existing driveway. For these reasons, the level of take of the MHJB is expressed as the full 1.235-acre project site.

The level of take of the MHJB at Lone Pine Lane, as described above, is expected to have negligible effects on the species' overall survival. This is because the actual number of animals incidentally taken will be very low, the percentage of the species' habitat affect is very small relative to the species' entire geographic range, and the project site's relative importance to the species, both regionally and throughout its range, is thought to be minor. For these reasons, the amount of take of the MHJB that would result from the Lone Pine Lane project is considered negligible.

The maximum levels of take of the MHJB anticipated in this HCP, and authorized by the requested Section 10(a)(1)(B) incidental take permit, are as follows:

any MHJB that may be taken (killed, injured, harmed, harassed, or captured) as a result of the following activities occurring within the boundaries of the 1.235 acre project site during the following covered activities:

- a) any demolition activities to remove the existing home, garage, and driveway at 495 Lockewood Lane;
- b) any grading and construction operations including, but not limited to, use of any equipment, vegetation removal, trampling of vegetation, compaction of soils, ground disturbance, grading, or creation of dust;
- b) any permanent loss of habitat as a result of development of infrastructure including, but not limited to buildings, roads, sidewalks, swimming pools, or installation of utilities, drainage and irrigation systems;
- c) any activities to manage or enhance habitat including, but not limited to leveling ground, creating bare ground, planting vegetation, watering vegetation, or removal of exotic plant species;
- d) any activities associated with installation and repair of fences or signs, or other activities required in the HCP; and
- e) Any activities associated with ongoing occupancy of the new homes, including attraction of MHJBs to outdoor lights.

These incidental take limits are subject to full implementation of all minimization and mitigation measures described in section 7.0.

7.0 MINIMIZATION AND MITIGATION MEASURES

The following measures have been incorporated into the proposed project to minimize and mitigate potential incidental take of the MHJB. Successful implementation of these measures conducted prior to, concurrent with, and following subdivision development, will enable the project to achieve its biological goals.

7.1 MINIMIZATION MEASURES DURING CONSTRUCTION

The following minimization measures will be implemented during the construction related activities at the project site.

7.1.1 Construction Monitor

A person knowledgeable about the MHJB and its habitats, and approved by the USFWS, shall be present during initial demolition, grading and excavation activities (i.e., clearing of vegetation and stripping of the surface soil layer). The monitor shall be present on site beginning with the clearing of vegetation at the project site and demolition of the existing home, and shall conduct inspections of the project site on an as-needed basis during the initial grading period to ensure compliance with the minimization measures provided in this HCP. The monitor shall have authority to immediately stop any activity that does not comply with this HCP, and to order any reasonable measures to avoid the MHJB.

7.1.2 Delineation and Protection During Construction of the Habitat Preserve

Prior to the initiation of any grading or other work at the project site, the permittee, in conjunction with the construction monitor, will install a temporary fence around the dripline perimeter of any trees that will be maintained at the project site to minimize any disturbance to these portions of the site by grading, excavation, or other construction-related activities during construction of the new homes. Warning signs will be posted on the temporary fencing to alert grader and excavator operators, plus other construction workers not to proceed beyond the fence. All protective fencing will remain in place until all construction and other site improvements have been completed. Signs will include the following language:

"NOTICE: SENSITIVE HABITAT AREA. GRADING PROHIBITED."

All equipment operators and field supervisors will attend a pre-construction conference to be conducted by the construction monitor. The purpose of the conference will be to inform all grading and construction workers of the presence of endangered species on and adjacent to the project site, conduct a site visit to show participants where grading can and cannot occur, identify appropriate dust control measures, inform operators of appropriate protocol should they encounter the MHJB during grading and construction activities, and to advise operators of the penalties they may incur if harm to either endangered species or their maintained habitat on site occurs.

The construction monitor will routinely inspect the site and oversee activities on a regular basis during the demolition and grading. Should any violation occur, a "stop work" order will be issued immediately. The Ventura office of the USFWS will be contacted and the "stop work" order will remain in effect until the issue is resolved.

7.1.3 Construction and Operational Requirements

All project-related parking and equipment storage shall be confined to the impact area or existing paved roads in the adjacent neighborhood. Project-related vehicle traffic shall be restricted to established roads that service the impact area.

7.1.4 Contractor and Employee Orientation

The construction monitor shall conduct an orientation program for all persons who will work on-site during construction. The program will include a brief presentation from a person knowledgeable about the biology of the MHJB, its habitats, and the terms of the HCP. The purpose of the orientation will be to inform equipment operators and field supervisors of the work limits for demolition activities, grading limits, and construction activity restrictions, and to identify other habitat protection and work procedures.

If any life stages of the MHJB are observed within the 1.235-acre project site during construction-related activities, the construction monitor will advise all construction personnel to immediately halt work. The construction monitor will contact the Ventura Field Office of the USFWS for guidance before any work at the project site resumes.

7.1.5 Access to Project Site

The permit holder shall allow representatives from the USFWS access to the project site to monitor compliance with the terms and conditions of this HCP

7.1.6 Vegetation Management

The permittee intends to maintain an undetermined number of Coast Live Oak trees that grow along the northern and eastern borders of the project site. However, because of the uncertainty about future vegetation pruning or clearing activities that may be required by the Scotts Valley Fire District, the permanent protection of these portions of the project site cannot be assured. Also, no post-construction monitoring will occur in these minimization areas at their project site. It is for these reasons that off-site mitigation is being utilized to compensate for all of the anticipated and potential project-related impacts.

7.1.7 Dust Control

Appropriate dust control measures, such as periodically wetting down the graded areas, will be used as necessary during grading of the impact area or other activities that generate dust.

7.2 MITIGATION PLAN

JS will compensate for MHJB habitat that will be eliminated due to development of Lone Pine Lane by purchasing 0.95 MHJB conservation credit from the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank, which is a USFWS-approved MHJB conservation bank. This level of mitigation (i.e., conservation credits) is clearly commensurate with the extent of impacts to MHJB habitat at the project site, because the conservation value of habitat at the bank is much greater than that at the extremely degraded project site. In other words, the long-term conservation value of the MHJB habitat that would be protected and managed by purchasing the conservation credits is much greater than the conservation value of

the habitat that would be impacted at the project site.

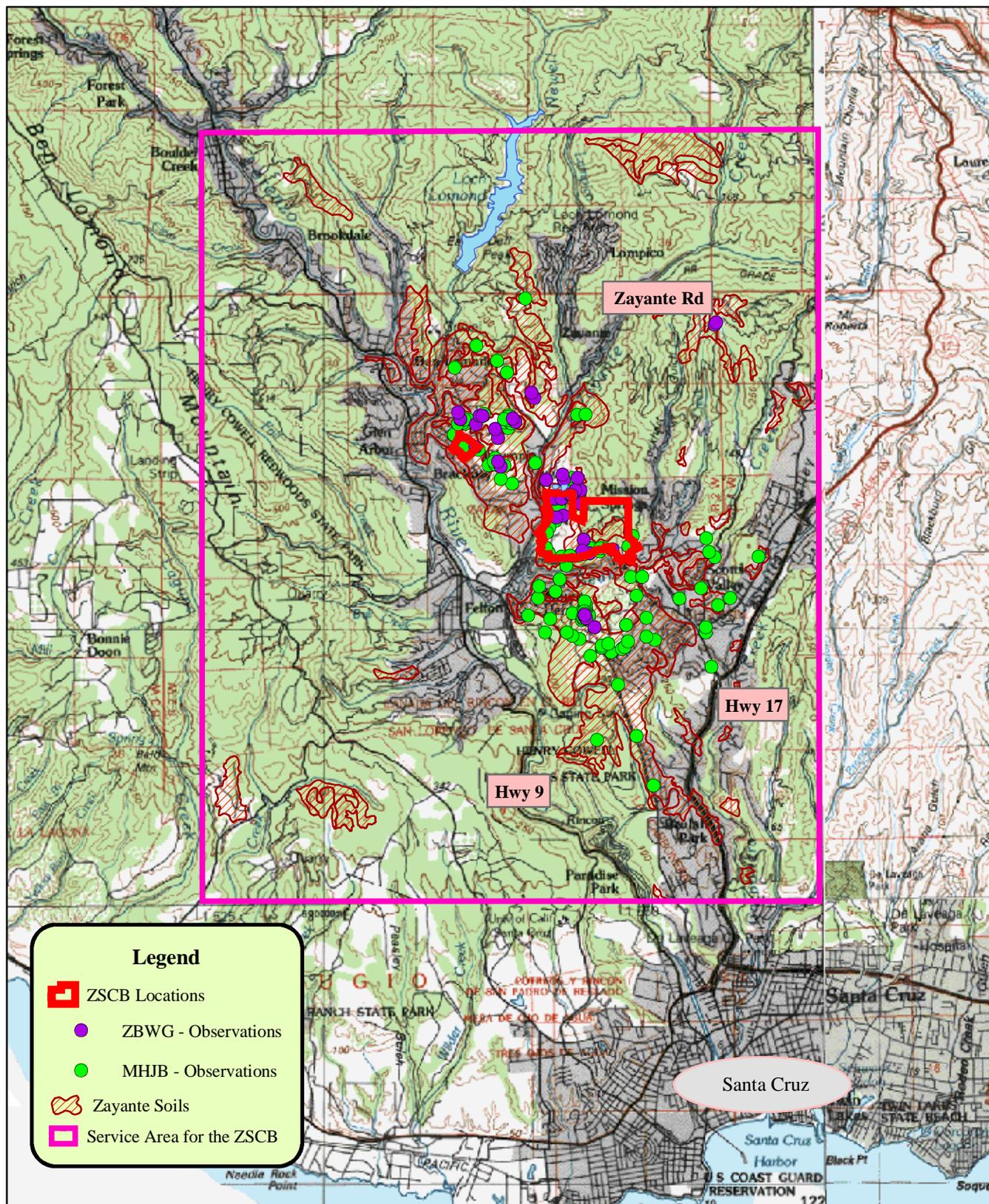
The 0.95 MHJB conservation credit was determined as follows:

- a) 0.285 conservation credit for the developed 0.57 acre portion of the site with the existing home and driveway that will be removed, but which may temporarily expose Zayante sands during project construction within the MHJB's flight season; and
- b) 0.665 conservation credit for the undeveloped 0.665 acre portion of the site that will be developed.

Figure 5 is a map that illustrates the location of the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank operated by PCO, LLC and its service area. A copy of the sales agreement between JS and PCO, LLC will be provided to USFWS prior to permit issuance and will be attached to this HCP as Appendix B.

The operator of the conservation bank, PCO, LLC, will be responsible for all species monitoring, habitat management, and other conservation related activities that occur at the Ben Lomond Sandhills Preserve. An annual monitoring report will be prepared for submission to the USFWS and the city of Scotts Valley. The responsibility for preparing the annual monitoring report and the information that will be included in the report are described in section 8.7.2 of this HCP.

Figure 5. Service Area for the ZSCB:
 Insect Observations, Zayante Soils and ZSCB Bank Preserves
 Palo Alto, San Jose & Monterey (USGS 1:100,000 scale) maps = base map



0 1 2 3 4 Miles



Prepared March 30, 2006
 by Entomological Consulting Services, Ltd.

8.0 PLAN IMPLEMENTATION

8.1 BIOLOGICAL GOALS AND OBJECTIVES

The biological goals and objectives of this HCP include measures that will minimize take of the MHJB at the project site and off-site measures that will protect habitat with high conservation value for the beetle in perpetuity. Specific goals and objectives are as follows:

Goal 1: Minimize, to the extent practical, take of the MHJB within the project site.

Objective 1.1: Minimize removal of plant taxa indigenous to the Zayante Sandhills that grow at the project site.

Objective 1.2: Revegetate temporarily disturbed portions of the project site with plant taxa indigenous to the Zayante Sandhills and minimize landscaping with turf grass, weed matting, aggregate, and mulch.

Objective 1.3: Minimize outdoor night lighting during the flight season of the MHJB or use light bulbs that are certified to not attract nocturnal insects.

Goal 2: Protect habitat for the MHJB at an off-site location with high conservation value for the beetle.

Objective 2.1: Provide funds, through the purchase of conservation credits at the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank, to protect, manage, and monitor habitat of the MHJB in perpetuity.

Objective 2.2: Maintain and, if feasible, increase the distribution of the MHJB with the Ben Lomond Sandhills Preserve.

Objective 2.3: Maintain and increase the abundance of the MHJB at the conservation bank property.

The degraded MHJB habitat on the 0.041 acre that will be impacted by the proposed construction of a new addition to the Carter's existing residence at the 0.52-acre property will be accomplished by purchasing 0.041 MHJB conservation credits from the Ben Lomond Sandhills Preserve of the USFWS-approved Zayante Sandhills Conservation Bank. This action also contributes to a regional preserve design to benefit the MHJB.

The degraded MHJB habitat that would be impacted by the proposed construction of six new residences at the 1.235-acre project site will be compensated by purchasing 0.95 MHJB conservation credit from the Ben Lomond Sandhills Preserve of the USFWS-approved Zayante Sandhills Conservation Bank. This action also contributes to a regional preserve design to benefit the MHJB.

8.2 IDENTIFICATION OF PROJECT REPRESENTATIVE

The designated representative is Mr. Jim Sisk, 230 Villa Mar Vista, Santa Cruz, CA 95060, (831) 466-9894 work or (831) 588-8739 (mobile). Mr. Sisk's email address is JSisk10345@aol.com. The Ventura Fish and Wildlife Office of the USFWS shall be notified in writing if a substitute representative is designated.

8.3 IDENTIFICATION OF CONSTRUCTION AND BIOLOGICAL MONITORS

Subject to approval by the USFWS, Kathy Lyons will be the construction monitor on the

project site. Duties of the construction monitor are provided in section 7.1. Ms. Lyons can be contacted at the Biotic Resources Group, 2551 S. Rodeo Gulch #12, Soquel, CA 95073, phone (831) 476-4803, fax (831) 476-8038, and via email at brg@cruzio.com.

The Zayante Sandhills Conservation Bank will be responsible for biological monitoring of the conservation bank site only. Mr. Paul Burrowes is the Managing Partner of the ZSCB and can be contacted at: 24650 Glenwood Drive, Los Gatos, CA 95033, (408) 497-3989 voice and (408) 353-4336 (fax), or by email at paul@zayantesandhills.com.

8.4 SCOPE

The Lone Pine Lane project site consists of two neighboring parcels, which collectively measure 1.235 acres and are both located at 495 Lockwood Lane in Scotts Valley, as described in section 2.0 of this HCP. The mitigation site is the Ben Lomond Sandhills Preserve of the Zayante Sandhills Conservation Bank and it is located off of Hihn Road in Ben Lomond. This HCP covers activities only within the Lone Pine Lane project site.

8.5 RESPONSIBILITIES

As specified in the USFWS' (1996) Habitat Conservation Planning Handbook, an Implementing Agreement (IA) is not required for a low-effect HCP unless requested by the permit applicant. JS understands that it is responsible for implementing this HCP in accordance with the specifications for mitigation and funding.

JS will satisfy his mitigation responsibilities by purchasing of 0.95 MHJB conservation credit from PCO, LLC, operator of the Zayante Sandhills Conservation Bank. The mitigation site is the Ben Lomond Sandhills Preserve of the aforementioned bank.

Habitat at the Ben Lomond Sandhills Preserve is protected in perpetuity via a conservation easement held by the Center for Natural Lands Management. PCO, LLC is responsible for annual monitoring and reporting, as described herein, and in the management agreement at the bank site and will complete all obligations assigned to it within the section 10(a)(1)(B) permit and this HCP. JS's responsibilities for mitigation will end when it provides documentation to the USFWS that the required conservation credits have been paid in full. Upon purchase of the conservation credits a copy of the completed sales agreement will be in Appendix B. However, JS will still be responsible for ensuring that all minimization measures are completed, reports are submitted on time, as well as any other terms and conditions that may be included in the incidental take permit.

8.6 PLAN DURATION

JS seeks a five-year permit from the USFWS to cover those activities that may result in incidental take of MHJB at the Lone Pine Lane project site. The five-year period is necessary to allow adequate time for construction of all six residences. Because MHJB conservation credits will be purchased from PCO, LLC, the operator of the conservation bank will assume all responsibilities for implementation of the mitigation described in this HCP. In the event that all covered development activities described in this HCP are completed prior to the term of the permit, the permit will expire once JS has fulfilled all of his responsibilities.

8.7 REPORTING

8.7.1 Post-Construction Compliance Report

JS will submit a post-construction compliance report, prepared by the construction monitor, to the Ventura Fish and Wildlife Office of the USFWS and to the City of Scotts Valley (Planning Department) within 60 calendar days of the completion of construction. This report shall provide the following information:

- 1) dates that construction occurred;
- 2) pertinent information concerning the permittee's success in meeting the project's minimization measures;
- 3) an explanation of failure to meet such measures, if any;
- 4) known project effects on federally-listed species, if any;
- 5) occurrences of incidental take of federally listed species, if any; and
- 6) other pertinent information.

8.7.2 Annual Mitigation Monitoring Reports

PCO, LLC must submit an annual mitigation monitoring report to the Ventura Fish and Wildlife Office of USFWS, describing activities performed to benefit the MHJB as part of its agreement to sell conservation credits and operate a conservation bank. Thus, mitigation monitoring reports will be prepared annually by PCO, LLC. This report shall be submitted to the Ventura Fish and Wildlife Office of the USFWS by December 31st of each monitoring year. This report shall include, but not be limited to:

- 1) a general assessment of the condition of the habitat at the Ben Lomond Sandhills Preserve;
- 2) a description of all management actions taken on the Preserve along with an assessment of their effectiveness toward enhancing the biological goals and objectives;
- 3) a description of any problems encountered in managing the Preserve;
- 4) results of monitoring studies for the endangered species and/or communities conducted during the year and an assessment of their implications for the biological goals and objectives; and
- 5) a description of other activities designed to enhance the Preserve.

8.8 FUNDING

JS is responsible for the full cost of the 0.95 MHJB conservation credit as well as the minimization measures described in section 7.1 and Table 2, and potential changed circumstances described in Section 9.1 of this HCP. A copy of the sales agreement for the purchase of the 0.95 conservation credits will be attached as Appendix B once these credits are purchased prior to permit issuance. PCO, LLC has already assumed responsibility for funding of annual maintenance of the Ben Lomond Sandhills Preserve and the fulfillment of all monitoring and reporting activities associated with the Zayante Sandhills Conservation Bank through its endowment to cover these costs. JS is also responsible for addressing changed circumstances (see section 9.1), should they occur.

**Table 2. Costs of Minimization and Mitigation Measures
for the Lone Pine Lane Project**

Mitigation and Minimization Activities	Unit Cost	Total Cost
Mitigation Activities:		
Purchase 0.95 MHJB conservation credit	\$7.00/ft. ² /credit	\$289,674 ^a
Minimization Activities:		
Biological Monitor	50 hrs. @ \$100	\$5,000
Protective Fencing & Signs	1000 ft. @ \$1.00/ft.	\$1,000
Dust Control Measures	100 applications @ \$10/application	\$1,000
	Grand Total Cost	\$296,674

Note: ^a – an as yet to be determined administration fee may be charged

Fees for the minimization activities will be paid by JS as these activities occur. The costs for these activities in Table 2 are estimates, but the actual incurred costs could be less or more than these estimates. If the actual costs for the minimization activities are higher than estimated in Table 2, JS agrees to pay the actual costs.

9.0 CHANGED AND UNFORSEEN CIRCUMSTANCES

Federal regulation pursuant to section 10(a)(1)(B) of the ESA [50 CFR 17.22 (b)(2)(C)] require that an HCP specify the procedures to be used for dealing with changed and unforeseen circumstances that may arise during the implementation of the HCP. In addition, the Habitat Conservation Plan Assurances No Surprises Rule [50 CFR 17.3, 17.22 (b)(5), and 17.32 (b)(5); 69 Federal Register 71723] defines changed and unforeseen circumstances and describes the obligations of the permittee and the USFWS. The purpose of the No Surprises Rule is to provide assurances to non-Federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

9.1 CHANGED CIRCUMSTANCES

Changed circumstances are defined as changes in circumstances affecting a species or geographic area covered by an HCP that can reasonably be anticipated by plan developers and the USFWS and for which contingency plans can be prepared (e.g., the new listing of a species, a fire, or other natural catastrophic event in areas prone to such an event). If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and these additional measures were already provided for in the plan's operating conservation program (e.g., the conservation management activities or mitigation measures expressly agreed to in the HCP or IA), then the permittee will implement those measures as specified in the plan as may be reasonable. However, if additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the plan's operating conservation program, the USFWS will not require these additional measures as far as the HCP has been "properly implemented" (properly implemented means the commitments and the provisions of the HCP and the IA have been or are being reasonably implemented).

If a new species that is not covered by the HCP but that may be affected by activities covered by the HCP is listed under the Federal ESA during the term of the section 10(a)(1)(B) permit, the section 10(a)(1)(B) permit may be reevaluated by the USFWS and the HCP covered activities may be modified, as reasonable, to insure that the activities covered under the HCP will not result in take of the newly listed species. The permittee shall implement reasonable modifications to the HCP covered activities identified by the USFWS as necessary to avoid the likelihood of take of the newly listed species. The permittee shall continue to implement reasonable modifications until such time as the permittee has applied for and the USFWS has approved an amendment of the section 10(a)(1)(B) permit, in accordance with applicable statutory and regulatory requirements, to cover the newly listed species or until the USFWS notifies the permittee in writing that the modifications to the HCP covered activities are no longer required to avoid the likelihood of take of the newly listed species. If the USFWS, in consultation with the permittee, determines that the project-related activities cannot be modified to avoid take of a species not covered under the HCP, then the permittee shall cease any activities that may result in take of any species not covered under the HCP until a permit amendment has been issued.

As to other potential changed circumstances, JS has applied for a permit for incidental take of the MHJB for the entire 1.235-acre project site. Therefore, it does not anticipate that any additional changed circumstances will occur during the life of the permit on the project site that will result in unanticipated levels of take of the covered species. Additional changed circumstances; e.g., wildfire, erosion, extended drought, earthquake or other natural disaster, may occur at the off-site conservation bank. However, the short duration of the permit (i.e., five years) lessens the likelihood that one of these phenomena may cause substantial changes to the off-site conservation bank during the permit period. Furthermore, some types of changed circumstances, for example a wildfire, may actually enhance habitat values in the long term because Ponderosa Pine and members of the Northern Maritime Chaparral plant community are adapted to, and regenerate well after such fires. Winter storms or earthquakes could cause landslide or erosion problems in habitat areas that would require subsequent repairs, such as slope stabilization, repair of fencing, and revegetation. A portion of the fees paid by JS to PCO, LLC for the MHJB conservation credits include contingency funds to cover the costs of unexpected repairs, or habitat restoration that may be required as a result of any natural disasters occurring at the off-site conservation bank.

9.2 UNFORESEEN CIRCUMSTANCES

Unforeseen circumstances are defined as changes in circumstances that affect a species or geographic area covered by the HCP that could not reasonably be anticipated by plan developers and the USFWS at the time of the plan's negotiation and development and that result in a substantial and adverse change in status of the covered species. The purpose of the No Surprises Rule is to provide assurances to non-Federal landowners participating in habitat conservation planning under the ESA that no additional land restrictions or financial compensation will be required for species adequately covered by a properly implemented HCP, in light of unforeseen circumstances, without the consent of the permittee.

In the case of an unforeseen event, JS or the current permit holder shall immediately notify the USFWS staff who have functioned as the principal contacts for the proposed action. In determining whether such an event constitutes an unforeseen circumstance, the USFWS shall consider, but not be limited to, the following factors: size of the current range of the affected species; percentage of range adversely affected by the HCP; percentage of range conserved by the HCP; ecological significance of that portion of the range affected by the HCP; level of knowledge about the affected species and the degree of specificity of the species' conservation program under the HCP; and whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

If the USFWS determines that the unforeseen circumstance will affect the outcome of the HCP, additional conservation and mitigation measures may be necessary. Where the HCP is being properly implemented and an unforeseen circumstance has occurred, the additional measures required of the permittee must be as close as possible to the terms of the original HCP and must be limited to modifications within any conserved habitat area or to adjustments within lands or waters that are already set aside in the HCP's operating conservation program. Additional conservation and mitigation measures shall not involve the commitment of additional land or financial compensation or restrictions on the use of land or other natural resources otherwise available for development or use under the original terms of the HCP without the

consent of the permittee. Resolution of the situation shall be documented by letters between the USFWS, JS, and the conservation bank operator.

Thus, in the event that unforeseen circumstances adversely affecting the MHJB occur during the term of the requested incidental take permit, JS would not be required to provide additional financial mitigation or implement additional land use restrictions above those measures specified in the HCP, provided that the HCP is being properly implemented. This HCP expressly incorporates by reference the permit assurances set forth in the Habitat Conservation Plan Assurances ("No Surprises") Rule revised by the USFWS and published in the Federal Register on December 10, 2004 (50 CFR Part 17).

10.0 PERMIT AMENDMENT/RENEWAL PROCESS

10.1 AMENDMENTS TO THE PERMIT

At this time there is no reason to expect that an amendment to the take permit will be needed to complete the development of Lone Pine Lane. However, during the specified permit period, amendment of the section 10(a)(1)(B) permit for JS's project would be required for any of the following changes:

- a) significant revision of the permit area boundary;
- b) the listing under the ESA of a new species not currently addressed in this HCP that may be taken by project activities;
- c) modification of any important project action or mitigation component under the HCP, including funding, that may significantly affect authorized take levels, effects of the project, or the nature or scope of the mitigation program; or
- d) any other modification of the project likely to result in significant adverse effects to the MHJB not addressed in the original HCP and permit application.

Amendment of the section 10(a)(1)(B) permit would be treated in the same manner as an original permit application. Permit amendments typically require a revised HCP, a permit application form and application fee, a revised Implementing Agreement, a revised NEPA document, a revised biological opinion, and a 30-day public comment period. However, the specific documentation needed in support of a permit amendment may vary, depending on the nature of the amendment. If the permit amendment qualifies as a low-effect HCP, an Implementing Agreement would not be needed and amendment of the permit would qualify for a categorical exclusion under NEPA.

10.2 AMENDMENTS TO THE HCP

This HCP may, under certain circumstances, be amended without amending its associated permit, provided that such amendments are of a minor or technical nature and that the effect on the species involved and the levels of take resulting from the amendment are not significantly different from those described in the original HCP. Examples of minor amendments to the HCP for JS's Lone Pine Lane project that would not require permit amendment include:

- a) minor revisions to monitoring or reporting protocols;
- b) minor revisions of the HCP's plan area or boundaries;
- c) minor revisions in project design and construction procedures; and
- d) typographical errors.

To amend the HCP without amending the permit, the permittee must submit to the USFWS in writing a description of the proposed amendment, an explanation of why the amendment is necessary or desirable, and an explanation of why the effects of the proposed amendment are believed not to be significantly different from those described in the original HCP. If the USFWS concurs with the amendment proposal, it shall authorize the HCP amendment in writing, and the amendment shall be considered effective upon the date of the USFWS's written authorization.

10.3 PERMIT RENEWAL

Upon expiration, the section 10(a)(1)(B) permit may be renewed without the issuance of a new permit, provided that the permit is renewable, and that biological circumstances and other pertinent factors affecting MHJB are not significantly different than those described in the original HCP. To renew the permit, JS shall submit in writing to the USFWS at least 30 days prior to expiration of this permit:

- a request to renew the permit;
- reference to the original permit number;
- an applicant to renew the permit and the \$100 fee;
- certification that all statements and information provided in the original HCP and permit application, together with any approved HCP amendments, are still true and correct, and inclusion of a list of changes;
- a description of any take that has occurred under the existing permit; and
- a description of any portions of the project still to be completed, if applicable, or what activities under the original permit the renewal is intended to cover.

If the USFWS concurs with the information provided in the request, it shall renew the permit consistent with permit renewal procedures required by Federal regulation (50 CFR 13.22). If JS files a renewal request and the request is on file with the issuing USFWS office at least 30 days prior to the permit's expiration, the permit shall remain valid while the renewal is being processed, provided the existing permit is renewable. However, JS may not take listed species beyond the quantity authorized by the original permit. If JS fails to file a renewal request within 30 days prior to permit expiration, the permit shall become invalid upon expiration. JS and the conservation bank operator must have complied with all annual reporting requirements to qualify for a permit renewal.

10.4 PERMIT TRANSFER

Although the sale or transfer of ownership of the property is not expected to occur during the life of the permit, should it occur, the following will be submitted to the USFWS by the new owner(s): a new permit application, permit fee, written documentation providing assurances pursuant to 50 CFR 13.25(b)(2) that the new owner(s) will provide sufficient funding for the HCP and will implement the relevant terms and conditions of the permit, including any outstanding minimization and mitigation. The new owner(s) will commit to all requirements regarding the take authorization and mitigation obligations of this HCP unless otherwise specified in writing and agreed to in advance with the USFWS.

11.0 ALTERNATIVES CONSIDERED

11.1 ALTERNATIVE #1: NO-ACTION

Under the No-Action Alternative, development of Lone Pine Lane would not occur and JS would not implement an HCP or receive a section 10(a)(1)(B) incidental take permit from the USFWS. The existing single-family home would remain at the project site but no additional homes would be built.

However, potential impacts to the covered species may be greater in the absence of this HCP. Currently, habitat conditions at the 1.235-acre project site are degraded due to the presence and abundance of various non-native plants. Without the HCP, habitat quality would probably continue to decline and no prime habitat at the conservation bank would be acquired to benefit the covered species. Therefore, the No-Action Alternative is concluded to be of lesser conservation value to the covered species than the proposed project and accompanying HCP. It would also result in unnecessary economic burden on the applicant. For these reasons, the No-Action Alternative has been rejected.

11.2 ALTERNATIVE #2: REDESIGNED PROJECT (REDUCED TAKE)

Under this alternative, the development footprint of the Lone Pine Lane project would be reduced at the project site, thereby reducing the loss of potential habitat for the MHJB. Although a section 10(a)(1)(B) permit would still be required, biological impacts, including loss of MHJB habitat, associated with this alternative would still result, but would be reduced in magnitude. A reduction in the development would not significantly improve onsite habitat conditions for the MHJB and there would still be an increase in human activity that could affect any beetles that may be using the project site. Also, incidental take of MHJB could still occur during initial grading activities. As the project site measures only 1.235 acres, and is approximately rectangular in shape, relocation of some new homes and other amenities is not practical. Thus, the gains in reduction of take of the covered species and reduced modification of the covered species habitat would not be significant; furthermore this alternative would also result in unnecessary economic burdens to the applicant. For these reasons, the Reduced Take Alternative has been rejected.

11.3 ALTERNATIVE #3: PROPOSED PROJECT (PERMIT ISSUANCE)

Under the Proposed Action Alternative, JS would develop the Lone Pine Lane project site as described in section 2.0 of this HCP. The Proposed Project Alternative would require the issuance of a section 10(a)(1)(B) permit to allow construction of the project. The project would result in the loss of approximately 0.665 acres of degraded habitat for the MHJB. However, conservation measures as proposed in the HCP would result in greater habitat value for the endangered beetle than currently exists on the project site, due to the degraded habitat quality and the presence of exotics that can out compete the food plant(s) of the MHJB. The Proposed Project Alternative thus provides greater habitat conservation benefits than the No Action and Redesigned Project Alternatives, and also best meets the needs of the applicant. Therefore, the Proposed Project is the preferred alternative.

12.0 HABITAT CONSERVATION PLAN PREPARERS

Dr. Richard A. Arnold prepared this HCP. Dr. Arnold is an entomologist and the President of Entomological Consulting Services, Ltd., of Pleasant Hill, CA. Paul Burrowes, the Managing Partner of PCO, LLC, provided the cost information for the purchase of conservation credits from the Zayante Sandhills Conservation Bank. Bowman & Williams Consulting Civil Engineers prepared the site plan.

13.0 REFERENCES CITED

Arnold, R.A. 2000. Habitat assessment report for three parcels at 495 Lockewood Lane in Scotts Valley, CA. Letter address to Dr. Bruce Dunn and dated 13 September 2000. 6 pp.

Arnold, R.A. 2001. Letter report on MHJB presence-absence survey for APN 073-101-07, 73-101-08, and 073-101-11). Letter dated 11 June 2001 and addressed to Mr. Howard Thevenin and Dr. Bruce Dunn. 4 pp. & aerial photograph.

Arnold, R.A. 2004. Mount Hermon June Beetle. Pp. 92-99. IN, McGraw, J.M., *The Sandhills Conservation and Management Plan: a strategy for preserving native biodiversity in the Santa Cruz sandhills*. Prepared for The Land Trust of Santa Cruz County.

Bowman, R.H., and D.C. Estrada. 1980. Soil survey of Santa Cruz County, California. U.S. Dept. of Agriculture and Soil Conservation Service in cooperation with the University of California, Agricultural Experiment Station Publication. 148 pp. & maps.

BUGGY Data Base. 2007. Sensitive species report for the Felton 7.5' USGS topographic quadrangle.

California Natural Diversity Data Base. 2007. Sensitive species report for the Felton 7.5' USGS topographic quadrangle. California Department of Fish & Game.

Cazier, M.A. 1938. A new California *Polyphylla* with notes concerning the variability of certain characters within the genus. *The Pan-Pacific Entomologist* 14:161-164.

Furniss, R.L. and V.M. Carolin. 1977. Western forest insects. U.S. Dept. of Agriculture, Forest Service. Misc. Publication No. 1339. Washington, D.C. 654 pp.

U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1996. Endangered Species Habitat Conservation Handbook. November, 1996.

U.S. Fish & Wildlife Service. 1997. Endangered and threatened wildlife and plants; determination of endangered status for two insects from the Santa Cruz Mountains of California. *Federal Register* 62:3616-3628.

U.S. Fish & Wildlife Service. 1998. Recovery plan for two insects (*Polyphylla barbata* and *Trimerotropis infantilis*) and four plants (*Chorizanthe pungens* var. *hartwegiana*, *Chorizanthe robusta* var. *hartwegii*, *Erysimum teretifolium*, and *Polygonum hickmanii*). Portland, OR. 83 pp.

U.S. Fish & Wildlife Service. 2001. Endangered and threatened wildlife and plants: final determination of critical habitat for the endangered Zayante Band-Winged grasshopper. *Federal Register* 66:9219-9233.

Young, R.M. 1988. A monograph of the genus *Polyphylla* Harris in America north of

Mexico (Coleoptera: Scarabaeidae: Melolonthinae). Bulletin of the University of Nebraska State Museum 11 (2): 115 pp.

14.0 APPENDIX A: Mount Hermon June Beetle Survey Report

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11 June 2001

Mr. Howard Thevenin
How-U-Nique Development, Inc.
561 6th Ave.
Santa Cruz, CA 95062

and

Dr. Bruce Dunn
710 El Salto Drive
Capitola, CA 95010

RE: Report on Mount Hermon June Beetle Presence-Absence Survey for
495 Lockwood Lane APN 021-071-01) & 261 Estrella, backyard (APN 021-071-09)
Located in Scotts Valley, CA

Dear Mr. Thevenin and Dr. Dunn:

This letter reports on the findings of my one-night presence/absence survey for the endangered Mount Hermon June beetle (MHJB) at the above-referenced parcel. It was prepared as a follow-up to the telephone conversation that I had with Dr. Dunn on June 4th. The remainder of this letter provides pertinent background information on the MHJB and describes my survey methods, findings, and recommendations.

Background Information.

This beetle is known scientifically as *Polyphylla barbata* (Coleoptera: Scarabaeidae) and was described in 1938 from specimens collected on Mount Hermon in Santa Cruz County. Of the 28 species of *Polyphylla* that occur in North America, the MHJB has one of the most restricted geographic ranges. It is found in association with Zayante sandy soils in the Felton-Scotts Valley-Ben Lomond area of Santa Cruz County, CA, and is known only from these Zayante sandhills. Due to the beetle's limited geographic range and the historical and anticipated loss of habitat within its limited range, the U.S. Fish & Wildlife Service (USFWS) recognized the MHJB as an endangered species in 1997, pursuant to provisions of the federal Endangered Species Act of 1973 (FESA).

The Zayante sandhills support a sand parkland vegetation community that is the preferred habitat for MHJB. This plant community is characterized by a mosaic mixture of Ponderosa pine, chaparral, and sparsely-vegetated areas of grasses, forbs and subshrubs, several of which are indigenous to the Zayante sandhills. Adults are usually active from about mid-June through mid-August, but their flight season started earlier in 2001. Males fly each evening for approximately one hour after dusk in search of females that are believed to be flightless and remain at their earthen burrows. Observations of flying males suggest that most flight activity occurs within a few feet above ground.

Although specific life history information for the MHJB is unknown, information from closely related species suggests that most of the beetle's life cycle is spent as a larva

or grub that lives below ground and is a root feeder, presumably on one or more of the plants that are indigenous to the sand parkland vegetation. Larval development is believed to require at least one year, and perhaps as long as two or three years.

Survey Methods.

Males of MHJB are attracted to black lights, so black light traps operated between about 8:30 and 10:00 pm is the standard procedure used to determine presence/absence of MHJB at new survey locations. My survey at your property was performed on the evening of May 30, 2001. My contacts in the greater Scotts Valley area indicated that the first MHJBs had been seen at porch lights earlier that same week when a heat wave embraced the area.

Your two parcels measure approximately 0.82 (Lockwood) and 0.59 acres (Estrella) in size. Vegetation at the Lockwood site consists primarily of herbaceous weeds, with a solitary Ponderosa pine tree at the end of the driveway. A few native trees and shrubs, along with various ornamental plants, grow along the parcel's border with the golf course. Vegetation at the Estrella site consists primarily of annual grasses, with a few native grasses and forbs. At least one Ponderosa pine tree grows there, with several additional pines growing on neighboring properties. A few fruit trees and ornamentals are also evident.

I placed four black light traps in different portions of your property. Two traps were placed on the Lockwood parcel, one in about middle of the parcel and a second nearer to the solitary Ponderosa pine tree. Two traps were also placed at the Estrella parcel, one near the solitary Ponderosa pine and one in a grassy area. All traps were placed in small clearings in the vegetation and at ground level in an effort to attract any MHJBs that were on-site, but to minimize the broadcast of light that could have attracted beetles from adjacent parcels.

I also placed two traps on the nearby Cellular One antenna site, located just below the Mount Hermon cross. The antenna site is a known location for the MHJB, so it was used as a control.

All traps were operated from about 8:00 to 10:30 pm. While the traps were operating I walked throughout your parcel to search for any MHJB adults that might be emerging from the ground. I also observed beetle activity at each trap.

Survey Results.

Each of the four traps operated on your parcel yielded a single beetle, for a total of four (4) MHJB adults. A MHJB were observed in the middle of the Lockwood parcel as it emerged from the ground and flew to the trap. Similarly, a MHJB adult was observed to emerge from the ground near the pine tree on the Estrella parcel, which subsequently flew to the trap in that portion of this parcel. The two control traps operated at the Cellular One antenna site yielded a total of 33 MHJBs, with 14 and 19 beetles in each trap.

Recommendations.

Because the MHJB occurs at both your parcels, a permit for incidental take of the beetle will probably need to be obtained from USFWS to comply with the FESA, should you decide to pursue residential development of either parcel. Although the permit application is brief, a Habitat Conservation Plan (HCP) needs to be prepared and included as an attachment. This document describes the project, impacts to the endangered beetle, appropriate mitigation and monitoring activities to benefit the beetle, and identifies the parties responsible for all described activities. For you to have the greatest flexibility in designing your project and other site improvements, I suggest that an off-site mitigation solution may be more appropriate than attempting to accomplish both mitigation and development of the parcel. Alternatively, you might consider developing the Lockwood Lane parcel and use the Estrella parcel for mitigation.

I recommend that you immediately contact Colleen Sculley, entomologist for the USFWS's Ventura office (805-644-1766) to discuss this matter further. At other parcels with similar findings, she has requested that additional MHJB surveys be performed so the findings can be used to assist with site planning. Since I found beetles in different portions of both parcels, it may not be necessary to perform additional surveys at your properties. However, since the beetle's seasonal activity period is now, I don't want you to miss the opportunity to perform these additional surveys should she consider them necessary.

In addition, USFWS will need to be consulted to identify the appropriate amount of mitigation, since no standardized formula has been established for the MHJB. Once a mitigation solution acceptable to USFWS can be identified, I can then assist you in preparation of the HCP and the application for an incidental take permit.

I am not aware that Santa Cruz County has any additional requirements to mitigate for impacts to MHJB. Thus, I anticipate that if you can satisfy the concerns of USFWS, the County's concerns will also be satisfied.

Please feel free to contact me if you have questions or need further assistance.

Sincerely,



Richard A. Arnold, Ph.D.
President

**15.0 APPENDIX B: Conservation Credit Sales Receipt from the
Zayante Sandhills Conservation Bank**