Memorandum

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CC:

Date: December 8, 2014

Subject: Young Ranch Natural Resource Avoidance and Impact Assessment

This memorandum provides an assessment of natural resource avoidance and impacts associated with the proposed community and preserve ("Project") at Young Ranch, located in Santa Clara County, California. As part of the Young Ranch Community design process, WRA worked with YCS Investments to incorporate measures to avoid the vast majority of sensitive natural resources at the site. This was accomplished through an iterative design process based on six years of biological surveys and other natural resource assessments at the site. The result is a carefully planned project that will result in minimal impacts to sensitive natural resources while preserving approximately 1,956 acres of prime Open Space that supports a range of sensitive habitats and special-status species, including approximately 1,940 acres that will be set aside as a natural preserve.

The following sections describe the general development program and the natural resource avoidance measures that have been incorporated into the project design and provide an assessment of potential impacts to biological communities (i.e., landcover types) and habitat for the federal threatened Bay checkerspot butterfly ("BCB"; *Euphydryas editha bayensis*), as well as potential impacts to other special-status species. The assessment presented here is based on preliminary grading plans provided by design engineers BKF (dated December 2014). All figures referenced in the text of this memorandum are attached at the end of the document.

1.0 DEVELOPMENT PROGRAM DESCRIPTION

The proposed Young Ranch Community consists of development and open space preserve located on 2,150 acres of land in Santa Clara County. The Community consists of 79 custom homes located on approximately 2-acre lots ("Homesites") and a community center ("Gathering House"); together these residential areas compose the "Rural Homelands". Open space areas within the Rural Homelands will be managed in a natural state for the benefit of the Community;

these areas are referred to as the "Managed Grasslands". Surrounding the Rural Homelands and Managed Grasslands will be an approximately 1,940-acre natural preserve ("Conservation Lands"). The Conservation Lands will be preserved in perpetuity and managed in support of the sensitive habitats and species that occur there according to the goals and policies of the Design Guidelines (Cultivate 2014) and the Draft Resource Management Plan ("RMP") prepared for the site (WRA 2014a), as well as the goals and policies of the Santa Clara Valley Habitat Plan ("SCVHP"; ICF International 2012). These elements of the Project shown on Figures 1A and 1B and are described in more detail in the following sections.

Rural Homelands: These areas are where the private rural Homesites are clustered in lettered zones as shown on Figure 2. These clusters were designed and sited to avoid important resources and to aggregate the vast amount of contiguous Conservation Lands. Each Homesite is composed of an approximately 1-acre "Improvement Envelope" consisting of an approximately ½-acre "Private Area", where homes will be developed consistent with the goals and policies of the Design Guidelines and the RMP, and an approximately ½-acre "Transition Area" in which limited outdoor improvements will be allowed. Surrounding the Improvement Envelope will be an approximately 1-acre "Natural Area" in which no improvements, other than for utilities, will be allowed. The Natural Areas are intended to provide a protective natural buffer between the developed portions of each Homesite. An example Homesite showing the relationship between the Private, Transition, and Natural Areas is included as Figure 3.

Managed Grasslands: These areas consist primarily of common area and other lands needed to service the Community. The Managed Grasslands will be maintained in a natural state consistent with the goals and policies of the Design Guidelines, the RMP, and the SCVHP. Often, these areas provide a gradual transition from the Conservation Lands to the Rural Homelands, creating an additional natural buffer between residential areas of the Community and the natural habitats of the Conservation Lands.

Connections: The Community will be interlinked by an open space framework that contains paved ranch roads and dirt trails that have been designed to largely follow the existing dirt ranch roads on the property. Roadways have been designed with Low Impact Development ("LID") technology to reduce their impact on the land. The Community will be accessed from the northwest, at Silver Creek Valley Road. A paved emergency vehicular access ("EVA") road following the existing dirt ranch road will provide secondary emergency egress from the southern end of the Community to Metcalf Road. Additional paved service roads will provide access to utility infrastructure and a water tank. Where possible, the alignment for these roads follows existing ranch roads. A limited trail system that accesses the Conservation Lands will be provided consistent with SCVHP management goals, applicable agency permits, and the RMP.

The Gathering House: At the heart of Young Ranch along the main Ranch Road is the Gathering House. The Gathering House includes a multi-functional space for events, meetings, and recreation and will have a maximum development footprint of approximately 0.7 acres (30,000 square feet), including building footprint, parking, and landscaped outdoor areas. The remaining portion of the Gathering House lot will be maintained in a natural state as part of the Managed Grasslands.

Conservation Lands: These lands provide a contiguous grassland landscape and habitat zone that characterizes one of the cherished landscapes of California. Composed of approximately 1,940 acres representing the highest quality habitats on the site, this area sets aside approximately 90% of the Young Ranch property as a regional resource for ongoing study,

education, and preservation efforts. The Conservation Lands will be protected in perpetuity and managed separately consistent with the goals and policies of the RMP and the SCVHP.

2.0 NATURAL RESOURCE AVOIDANCE MEASURES

The project design has been driven by the goal of avoiding sensitive natural resources. The location of the overall development area was selected based on the distribution of the sensitive resources, as was the placement of individual lots and the improvement envelope within each lot. The goal of this design is to site improvements as far away from sensitive resources as possible, ensuring that direct impacts are avoided and that indirect impacts are also avoided or minimized through the establishment of natural buffers between sensitive resources, preserved lands, and development.

As a first step in avoiding sensitive natural resources at the site, WRA conducted extensive surveys to document the location of such resources at Young Ranch (e.g., WRA 2011a, 2011b, 2012, 2013, 2014b, 2014c, 2014d, 2014e, 2014f). Sensitive natural resources at the site were considered to include:

- Oak woodland
- Riparian woodland
- Serpentine bunchgrass grassland/BCB habitat
- Wetlands
- Streams and ponds
- Occurrences of special-status plants
- Movement corridors for BCB and other species
- Breeding and upland buffer habitat for California red-legged frog ("CRLF"; *Rana draytonii*)
- Breeding and upland buffer habitat for California tiger salamander ("CTS"; *Ambystoma californiense*)
- Breeding and overwintering habitat for western burrowing owl ("BUOW"; *Athene cunicularia hypugaea*)

Based on WRA's initial mapping of sensitive natural resources, a Community of 87-Homesites was designed and located within a contiguous block of non-native annual grassland, a non-sensitive plant community dominated by non-native and invasive plant species and has low value for most wildlife species. Within this area, individual Homesites and attendant infrastructure were located to maximize distance from sensitive natural resources, including buffers of 75 feet for wetlands and 35 feet for headwater streams and ponds. Home siting also considered other site constraints such as existing trees, rock outcrops, steep topography or slope stability.

Following the development of the original 87-Homesite design, WRA conducted informal impact assessments to identify potential changes in the Project that would further reduce impacts to sensitive natural resources. To avoid potential for indirect impacts, WRA set target buffer distances between the development and selected sensitive natural resources. The target buffer distances were set at 100 feet for BCB habitat and rare plants, in addition to the prior buffers for aquatic features. These were minimum distances that were often greatly surpassed. Notably, these buffer distances are conservatively measured from the property boundary of each Homesite and exclude the Natural Area of each Homesite. The use restrictions imposed on the Natural Area of each Homesite are intended to reduce human influence in these areas, thereby

effectively creating an additional buffer zone between the developed portions of each Homesite and the sensitive natural resources found in the adjacent Conservation Lands.

In addition to the informal impact assessments, WRA conducted a plant and wildlife linkage analysis (WRA 2014b, 2014f) to identify potential dispersal corridors on the site for rare plants, BCB, and large mammals. The primary focus of the linkage assessment was the effects of the proposed development on BCB dispersal corridors. To this effect, WRA created a quantitative GIS-based model to identify the best pre-project dispersal corridors for BCB and quantified the potential effects of the proposed development on these corridors. The model created by WRA was reviewed by Dr. Stuart Weiss of the Creekside Center for Earth Observation, a regional expert on BCB ecology. Dr. Weiss agreed with WRA's conclusion that the proposed Community would not impact BCB dispersal across the site.

Based on the results of the informal impact analyses and the linkage assessment conducted by WRA, a number of lot lines were adjusted to keep them outside of the protective buffers established for the Project. More significantly, seven Homesites were relocated to other portions of the site and an additional eight Homesites were entirely removed, resulting in the current 79-Homesite design (Figures 1A and 1B). The majority of Homesite relocation and removal occurred in Area F (Figure 2), which originally contained two spur roads off of the main loop road, as well as a spur road off of the southern-most portion of the Ranch Access Road. The linkage model indicated that the Homesites on these roads would extend into the modeled BCB corridor that passes through this area. Accordingly, these three spur roads were eliminated and the Homesites were either relocated or removed from the design. Five of the Homesites in this cluster were relocated to the interior of the loop road in Area F and two were relocated to Zones D and E.

The removal of these spur roads and the relocation of Homesites to interior portions of the development concentrates impacts within a smaller area, thereby further reducing potential habitat fragmentation and effects on the modeled BCB dispersal corridor. The width of the BCB prime movement corridor increased such that preservation rose from the top 20% habitat movement preserved unaffected to the top 30% (see WRA 2014f). These changes also removed a number of Homesites from within the 100-foot buffer around isolated patches of BCB habitat. As a result of these changes, the main ranch road was shortened in the south and the southern EVA road was lengthened, thereby reducing the width of the road and lessening impacts.

Two Homesites along the western side of the loop road in Area B (Figure 2) were removed from the design to increase the buffer between the Community and occurrences of the Federal Endangered Santa Clara Valley dudleya (*Dudleya abramsii* ssp. *setchellii*, [syn. *D. setchellii*]) and habitat for BCB that occurs in this area. In addition, the Homesites in the northern portion of Areas A and C were reconfigured to eliminate the need for a road segment, thereby further reducing impacts from the road and reducing associated habitat fragmentation.

Refinements were also made to the EVA road to reduce its overall impact. The EVA road is required for emergency egress from the site and also serves to provide access to the southern portion of the site for the cattle rancher, researchers, and other limited uses. The EVA road, by design, will not be used by the general public except during emergencies. The alignment of the EVA road largely follows that of the existing dirt and gravel ranch road that traverses the southern portion of the site. In several locations, the alignment was adjusted to provide a greater buffer between the road and sensitive natural resources or to accommodate site topography and other constraints. To be in compliance with municipal fire codes, emergency

turnouts were required to be constructed at regular intervals along the EVA road. Using the standard interval of 1,000 feet between turnouts, the original design called for 18 turnouts. Because the EVA road traverses sensitive serpentine bunchgrass grassland and potential BCB habitat, WRA worked with the project team to refine the location of these turnouts to reduce impacts to those habitats. Working with the County Fire Marshall, the project team was able to reduce the number of turnouts required along the EVA road due to generally good sightlines, resulting in the current set of eight turnouts, only two of which occur in serpentine bunchgrass grassland and BCB habitat.

The careful study and planning that went into the original design and subsequent refinements has resulted in a project with minimal impacts to sensitive natural resources. The Project avoids direct impacts to special-status plant species and conservatively provides a buffer of at least 100 feet between such occurrences and the outer edge of each Homesite. Similarly, a buffer of at least 100 feet is provided between the edge of each Homesite and adjacent serpentine bunchgrass grassland and BCB habitat. These buffers are effectively increased by the Natural Areas of each Homesite, which are required to be maintained in a natural state according to the Design Guidelines and the RMP. With the exception of two small seasonal wetlands which occur within the Natural Area of two Homesites, the development provides a buffer of at least 75 feet between wetlands and each Homesite. Similarly, the development provides a buffer of at least 100 feet between the edge of Homesites and any streams or ponds, greater than the original 35-foot buffer developed for the Project.

Due to constraints on the location of roads, including the requirement for an EVA road through the southern portion of the site, it was not possible to avoid all impacts to sensitive habitats (e.g., serpentine bunchgrass grassland, potential BCB habitat, oak woodlands). For example, the Entry Road will impact approximately 0.1 acre of serpentine bunchgrass grassland and BCB habitat due to geotechnical constraints on the location of the road in this area (Figure 4). Similarly, the existing dirt ranch road which will become the EVA road occurs within serpentine grassland and potential BCB habitat; paving of the existing dirt road, combined with the construction of the required turnouts and drainage improvements within the right-of-way for this road, will result in 2.3 acres of impacts to serpentine grassland/BCB habitat. Approximately 1.6 acres of these impacts are associated with paving of the existing ranch road, which represents low quality BCB habitat because that portion of the road is regularly bladed and impacted by PG&E for accessing their easement. Approximately 0.7 acres of these impacts are due to improvements within the right-of-way for the road; while these impacts occur within only 1.5 feet on either side of the existing ranch road; however, they add-up due to the length of the EVA road. These impacts will be mitigated through the permanent preservation of approximately 673 acres of serpentine bunchgrass grassland and potential BCB habitat which will be managed in support of the special-status species that occur there following the goals and policies of the RMP and the SCVHP. To avoid indirect impacts associated with runoff from roadways, LID technologies such as bioswales and rock dissipaters have been incorporated into the design of all paved roads within the development. These technologies will serve to improve water quality and reduce runoff from the roads, thereby reducing the potential for indirect impacts to seasonal wetlands and other sensitive habitats and reducing the potential for erosion throughout the site.

3.0 IMPACT ASSESSMENT

3.1 Methods

To assess the potential impacts to biological communities and special-status plants associated with the proposed development and preserve, WRA imported the georeferenced AutoCAD linework associated with the preliminary grading plans (BKF 2014) into ArcGIS and overlaid the development footprint onto a GIS database of biological resources at Young Ranch. The database was created by WRA over 6 years of study at Young Ranch and included shapefiles of the natural communities and special-status plant species documented at the site during surveys conducted by WRA (WRA 2011a, 2011b, 2012, 2013, 2014b, 2014c, 2014d, 2014e, 2014f, 2014g). The database also included shapefiles associated with a mapping of modeled habitat for BCB, CRLF, CTS, and BUOW.

For determining impacts to wetlands and non-wetland waters (i.e., streams and ponds), WRA used a combination of assessment-level mapping conducted for the Biological Resources Assessment (BRA; WRA 2011a) and the refined mapping conducted for the Preliminary Section 404 Delineation and subsequent update (WRA 2011b, 2014d).

For determining impacts to rare plants, WRA used a combination of occurrence data collected during focused rare plants surveys conducted at the site between 2009 and 2013 (WRA 2012, 2013).

For determining impacts to potential BCB habitat, WRA used a combination of assessment-level mapping conducted for the BRA and data collected during focused habitat mapping conducted by WRA in 2013 (unpublished). Potential habitat for BCB was considered to be any serpentine bunchgrass grassland that contains both the larval host plants and the adult nectar plants required by the species to complete its life cycle.

For other special-status wildlife species, potential habitat was based on a combination of definitions provided in the SCVHP and observations of habitat quality made at the site by WRA over the course of studies conducted between 2009 and 2014. Potential breeding habitat for CRLF was considered to include all ponds and freshwater marsh, as well as deeper pools within streams. The SCVHP also defines a 100-foot upland refugia buffer around potential breeding habitat which was used to assess impacts to upland habitat for CRLF. Potential breeding habitat for CTS was considered to include ponds, freshwater marsh, and seasonal wetlands. The SCVHP also defines a 1.3-mile (approximately 6,864 feet or 2,100 meters) upland refugia and dispersal buffer around potential breeding habitat which was used to assess impacts to upland habitat for CTS. For a description of habitat models used for BUOW, see the BUOW survey report and impact analysis prepared by WRA (2014g).

Using these shapefiles, WRA determined the area of each natural community, rare plant occurrence, and modeled habitat for special-status wildlife species that occurs within the development footprint and within the Managed Grasslands or the Conservation Lands. A breakdown of site features and their classification as either impacts or preservation is provided in Table 1. Impacts were considered to include the Improvement Envelope within each Homesite (i.e., Private and Transition areas), the entire right-of-way of all roads, including service roads and EVA roads and including any adjacent bioswales or rock dissipaters that extend beyond the right-of-way, the water tank, and the trail. Preserved areas were considered to include areas to be managed as open grassland or other natural habitats, including the Natural Area of each Homesite, the Managed Grasslands, and the Conservation Lands. Any

sensitive habitats or other site elements that occur within or overlap with the Natural Area of the Homesites will be preserved.

The impact analysis was organized into Development Areas and Open Space Areas, as shown in Table 1. Development areas included the all portions of the Homesites, the Community Center, all roads and associated right-of-ways, and the water tank. Open Space areas included the Managed Grasslands and the Conservation Lands. The proposed trail was included in both the development and open space categories, depending on its location. For example, portions of the trail that overlap with roadways or that occur within the right-of-way of any road are included as part of the Development Area. Any portions of the trial that occur within the Managed Grasslands or the Conservation Lands are considered as part of the Open Space Area.

3.2 Results and Discussion

The footprint of the proposed Community is shown on Figures 1A and 1B. Impacts to and avoidance of biological communities and potential habitat for BCB, occurrences of special-status plant species, and potential breeding and upland buffer habitat for CRLF and CTS are shown on Figures 2 through 5, respectively. Impacts to and avoidance of BUOW habitat are shown on the figures included with the BUOW survey report (WRA 2014g). An assessment of the impacts and avoidance associated with the Project is provided in the following sections.

3.2.1 Impacts to Natural Communities

As shown on Table 2, the Project as a whole has the potential to result in impacts to 86.5 acres of land at Young Ranch. These impacts fall well within the allowable impacts to natural communities and to modeled habitat for covered species as shown on Table 2 of this memorandum and on Tables 4-2 and 4-4 of the Santa Clara Valley Habitat Plan (“SCVHP”; ICF International 2012).

Table 1. Overview of Impacts and Preservation within Development and Open Space Areas

Development		
Site Area	**Description**	**Acres**
Homesites	**Includes the entirety of all Homesites.**	**174.9**
Impacts	*Includes Private Area and Transition Area for all Homesites and the developed portion of the Community Center lot (a maximum of 0.7 acre or 30,000 square feet).*	*61.1*
Preservation	*Includes Natural Area for all Homesites.*	*113.8*
Roads	**Includes entirety of the right-of-way for all roads.**	**27.3**
Impacts	*Includes the entirety of the ROW for all roads.*	*27.3*
Preservation	*Conservatively, no portion of the ROW is considered preserved; however, large portions of the ROW are anticipated to be preserved.*	*0*
	Total Impacted	*88.4*
	Total Preserved	*113.8*
	Development Total	**202.2**
Open Space		
Site Area	**Description**	**Acres**
Managed Grasslands	**Includes all lands to be maintained as open grassland according to the Design Guidelines and RMP.**	**8.2**
Impacts	*Includes portions of the trail and stormwater-related improvements (e.g., rock dissipaters outside of the ROW) that occur within the Managed Grasslands.*	*0.3*
Preservation	*Includes all portions of the Managed Grasslands except the trail and stormwater improvements.*	*7.9*
Conservation Lands	**Includes all lands outside of the development footprint to be permanently preserved and donated to the Santa Clara Valley Habitat Plan Reserve System or other resource management entity.**	**1,939.6**
Impacts	*Includes the portions of the proposed trail and stormwater-related improvements (e.g., rock dissipaters outside of the ROW) that occur within the Conservation Lands.*	*0.2*
Preservation	*Includes all portions of the Conservation Lands, excluding the trail and stormwater improvements.*	*1,939.4*
	Total Impacted	*0.5*
	Total Preserved	*1,947.3*
	Open Space Total	**1,947.8**
	Total	**2,150.0**

Table 2. Potential impacts to natural communities at Young Ranch

Natural Community	Young Ranch Impacts (acres)	SCVHP Allowable Impacts (acres)
California Non-Native Annual Grassland	86.1	2,006
Serpentine Bunchgrass Grassland[1]	2.4	550/300
Diablan Sage Scrub	<0.1	178
Mixed Oak Woodland	0.4	1,441
Mixed Riparian Woodland	0	109
Seasonal Wetland[2]	0	15
Riverine	0	9.4
Pond	0	52
Coastal and Valley Freshwater Marsh	0	25
Total	***88.9***	***N/A***

California Non-Native Annual Grassland

Impacts to California non-native annual grassland account for approximately 97 percent of the impacts associated with the proposed Project. In general, the California non-native annual grassland at Young Ranch is dominated by weedy, non-native grass species and other non-native forbs. Although some native grasses and forbs can be found in these areas, they are not a dominant feature of California non-native annual grassland at Young Ranch. As such, California non-native annual grassland at the site represents relatively low-quality habitat, particularly when compared to the serpentine bunchgrass grassland at the site which harbors a much higher percentage of native grass and forb species, including seven special-status plant species.

Impacts to shown here for California non-native annual grassland include 0.1 acre of impacts to a manmade seasonal wetland located between Homesites B6 and B7. As explained under the

[1] 0.1 acre of impacts in this category are due to the alignment of the Entry Road and affect serpentine bunchgrass grassland which is not considered to be BCB habitat due to the lack of both the larval host plants and the adult nectar plants. The location of the Entry Road is constrained by site topography, making these minor impacts unavoidable. Approximately 1.6 acres of impacts are due to paving of the existing ranch road in the southern portion of the site to accommodate the EVA road. An additional 0.7 acres of impacts are due to the construction of required emergency turnouts and drainage improvements within the right-of-way for the EVA road.

[2] Based on existing conditions, the proposed Project would result in 0.1 acre of impacts to seasonal wetlands due to the presence of a manmade wetland created from a leaking spring box and water trough located within the road alignment between Homesites B6 and B7. Repairs to the spring box and water trough are planned for early 2015, and it is expected that this manmade wetland will revert to upland habitat (i.e., California non-native annual grassland) after the repairs are completed. As such, it is assumed that no impacts to seasonal wetlands will occur by the time the Project is constructed; instead, these impacts are included with the California non-native annual grassland community.

seasonal wetlands category, the source of hydrology for this created wetland is a leaking spring box and water trough, and repairs are planned for early 2015. After the repairs are made and the source of hydrology for this wetland is eliminated, it is expected that the wetland will revert to upland habitat (i.e., California non-native annual grassland), and as such, apparent impacts to the manmade seasonal wetland are included here under the impacts to California non-native annual grassland.

Diablan Sage Scrub

Minor impacts to Diablan sage scrub occur in relationship to the construction of a service road leading from the western edge of the property to Homesite B15. The service road largely follows the alignment of an existing dirt ranch road and will not require substantial disturbance of the adjacent vegetation, other than trimming of overhanging vegetation. The existing dirt ranch road will not be widened to accommodate the service road, and apparent impacts of approximately 0.1 acre are likely due to inherent limitations in the precision of vegetation mapping rather than actual impacts to the sage scrub in this area. As such, the actual impacts to sage scrub are less than the apparent impacts to this community.

Mixed Oak Woodland

Impacts to mixed oak woodland occur primarily along the Entry Road where four Oregon white oak (*Quercus garryana*) trees occupying approximately 0.3 acre will be removed to accommodate the road. Two coast live oak (*Quercus agrifolia*) trees occupying 0.1 acre overlap with the Improvement Envelope of Homesite B18. These trees are not scheduled for removal and development within this Homesite will not impact these trees. As such, the actual impacts to oak woodland (0.3 acre) are less than the apparent impacts (0.4 acre) to this community.

Seasonal Wetlands

Based on existing conditions, the proposed Project would result in 0.1 acre of impacts to seasonal wetlands due to the presence of a manmade “irrigated” wetland created from a leaking spring box and water trough located within the road alignment between Homesites B6 and B7. Repairs to the spring box and water trough are planned for early 2015, and it is expected that this manmade wetland will revert to upland habitat (i.e., California non-native annual grassland) after the repairs are completed. As such, it is assumed that no impacts to seasonal wetlands will occur by the time the Project is constructed. Instead, these impacts of 0.1 acre are included within the California non-native annual grassland community.

Serpentine Bunchgrass Grassland

Impacts to serpentine bunchgrass grassland occur primarily as a result of the construction of the Entry Road and improvements to the existing dirt ranch road in the southern portion of the site which will become the EVA road. A small area (0.1 acre) of serpentine bunchgrass grassland and potential habitat for BCB will be impacted near the intersection of the Entry Road and the Ranch Access Road. Impacts to serpentine bunchgrass grassland associated with the EVA road include paving of the existing dirt ranch road, the construction of 2 emergency turnouts within serpentine bunchgrass grassland, and drainage improvements within the right-of-way. The existing dirt ranch road in this area is regularly graded by Pacific Gas and Electric (PG&E), which maintains an easement along the road to maintain gas and power lines traversing the site. Although the existing ranch road occurs on 1.6 acres of serpentine soil and contains potential BCB habitat (see Section 3.2.3), the regular disturbance that occurs there and the lack of native bunchgrasses and other native plant species makes this relatively low-quality BCB

habitat. By comparison, construction of emergency turnouts and improvements within the right-of-way of the EVA road (± 1.5 foot on each side of the road) will impact approximately 0.7 acres of relatively undisturbed serpentine bunchgrass grassland containing both larval host plants and adult nectar plants, which makes it relatively higher quality BCB habitat. These impacts are shown of Figure 4.

Riverine/Ponds/Freshwater Marsh

The Community has been sited to avoid direct impacts to streams, ponds, and freshwater marsh at the site and a minimum 75-foot buffer occurs between these types of features and the development. As such, no direct or indirect impacts are expected to occur to these communities as a result of the Project.

Table 3. Impacts to and Preservation of Natural Communities

Natural Community	Development				Open Space				Total
	Homesites		Roads		Managed Grasslands		Conservation Lands		
	Preserved	Impacted	Preserved	Impacted	Preserved	Impacted	Preserved	Impacted	
California Non-Native Annual Grassland	113.6	61.0	0	24.6	7.8	0.3	1,065.1	0.2	**1272.6**
Serpentine Bunchgrass Grassland[3]	0	0	0	2.4	0	0	672.7	0	**675.1**
Diablan Sage Scrub	0.1	0	0	<0.1	0	0	97.5	0	**97.6**
Mixed Oak Woodland[4]	0.1	0.1	0	0.3	0	0	54.6	0	**55.1**
Mixed Riparian Woodland	0	0	0	0	0	0	22.4	0	**22.4**
Seasonal Wetland[5]	<0.1	0	0	0	0.1	0	17.8	0	**17.9**
Riverine	0	0	0	0	0	0	2.1	0	**2.1**
Pond	0	0	0	0	0	0	1.4	0	**1.4**
Coastal and Valley Freshwater Marsh	0	0	0	0	0	0	0.9	0	**0.9**
Developed[6]	0	0	0	0	0	0	4.9	0	**4.9**
Total	**113.8**	**61.1**	**0**	**27.3**	**7.9**	**0.3**	**1,939.4**	**0.2**	**2150.0**

[3] Approximately 0.1 acre of impacts to serpentine bunchgrass grassland are due to the alignment of the Entry Road. The location of the Entry Road is constrained by site topography, making these minor impacts unavoidable. Approximately 1.6 acres of impacts are due to paving of the existing ranch road in the southern portion of the site to accommodate the EVA road. An additional 0.7 acres of impacts are due to the construction of required emergency turnouts and drainage improvements within the right-of-way for the EVA road.

[4] Impacts to oak woodland include 0.1 acre corresponding to two oak trees that overlap with the Improvement Envelope of Homesite B18. These trees are not scheduled for removal, and as such, the actual impacts to oak woodland are smaller than the apparent impacts by 0.1 acre (i.e., total actual impacts to oak woodland are 0.3 acre.) were not included in the impact calculation as these trees are not slated for removal.

[5] Based on existing conditions, the proposed Project would result in 0.1 acre of impacts to seasonal wetlands due to the presence of a manmade wetland created from a leaking spring box and water trough located within the road alignment between Homesites B6 and B7. Repairs to the spring box and water trough are planned for early 2015, and it is expected that this manmade wetland will revert to upland habitat (i.e., California non-native annual grassland) after the repairs are completed. As such, it is assumed that no impacts to seasonal wetlands will occur by the time the Project is constructed; instead, these impacts are included with the California non-native annual grassland community.

[6] Developed areas within the Conservation Lands are limited to the existing water tank and access road in the northern portion of the site and a small portion of Metcalf Road. These are existing developed areas and will not be affected by project development.

3.2.2 Impacts to Special-Status Plant Species

Great efforts were made to locate the Community in areas that are not known to contain special-status plants, and this has resulted in the complete avoidance of special-status plants as shown on Figure 2 and in Table 4. Most special-status plant species found at the site occur on serpentine soils that are primarily located in the southern portion of the site. The proposed Community has been sited in the northern portion of Young Ranch, where special-status plant species are not prevalent. Roads, Homesites, and other portions of the Community have been sited in California non-native annual grassland where special-status plants have not been observed.

Although most of the proposed development has been sited well away from occurrences of special-status plant species, the EVA road running through the southern portion of the site occurs in close proximity to populations of several special-status plant species. The proposed alignment of the EVA road has been modified from that of the existing roadbed in a limited number of areas to meet grade requirements or to avoid special-status plants which may have otherwise been impacted by the road widening. As shown on the attached Figures 2-1 through 2-4, paving of the existing dirt road bed and improvements within the right-of-way along the EVA road will occur within close proximity to occurrences of Santa Clara Valley dudleya, Metcalf Canyon jewel flower (*Streptanthus glandulosus* ssp. *albidus* [*S. albidus* ssp. *albidus*], Federal Endangered), fragrant fritillary (*Fritillaria liliacea*; CNPS 1B.2), and smooth lessingia (*Lessingia micradenia* var. *glabrata*, CNPS 1B.2); however, this work will not result in direct impacts to these occurrences. Overall, no direct impacts to these or other rare plant species will occur as a result of the Project.

Where development occurs in close proximity to rare plants, such as along the EVA road, implementation of the following best management practices (BMPs) will help to avoid indirect impacts to these species:

- Locate all staging and access areas away from populations of special-status plants or sensitive plant communities such as serpentine bunchgrass grassland.

- Make all staging, access, and work areas the minimum area necessary to accomplish the required work.

- When work occurs within 50 feet of rare plant populations, delimit all staging, access, and work areas using brightly colored construction fencing; when these areas occur upslope from occurrences of special-status plants or sensitive plant communities, appropriate BMPs such as silt fencing and/or straw wattles should be installed.

- Install appropriate erosion control measures around areas of ground disturbance and leave in place until such areas have been revegetated.

- Revegetate all areas of ground disturbance using an appropriate native seed mix approved by a qualified biologist.

- Implement a strict hygiene protocol for ensuring that seeds of invasive plant species are not brought onto the site or transferred to another site.

Table 4. Potential Impacts to Special-Status Plant Species Resulting from the Proposed Development and Preserve at Young Ranch. Plant names follow Baldwin et al. (2012) with relevant synonyms provided in brackets.

Species	Conservation Status*	Young Ranch Site		Young Ranch Development		Young Ranch Open Space	
		Acreage	Approx. Individuals	Acreage	Approx. Individuals	Acreage	Approx. Individuals
Cirsium fontinale* var. *campylon **Mt. Hamilton thistle**	CNPS 1B.2	3.4	8826	0	0	3.4	8826
Dudleya abramsii* ssp. *setchellii **[*D. setchellii*]** **Santa Clara Valley dudleya**	FE CNPS 1B.1	40.9	18266	0	0	40.9	18266
Fritillaria liliacea **Fragrant fritillary**	CNPS 1B.2	2.3	956	0	0	2.3	956
Lessingia micradenia* var. *glabrata **Smooth lesingia**	CNPS 1B.2	80.2	23330	0	0	80.2	23330
Malacothamnus hallii **Hall's bush mallow**	CNPS 1B.2	19.2	2630	0	0	19.2	2630
Monolopia gracilens **Woodland monolopia**	CNPS 1B.2	0.5	2390	0	0	0.5	2390
Streptanthus glandulosus* ssp. *albidus **[*S. albidus* ssp. *albidus*]** **Metcalf Canyon jewel flower**	FE CNPS 1B.1	40.6	31711	0	0	40.6	31711
Streptanthus glandulosus* ssp. *glandulosus **[*S. albidus* ssp. *peramoenus*]** **Most beautiful jewel flower**	CNPS 1B.2	0	6	0	0	0	6

*Key to conservation status codes:

FE	Federal Endangered
CNPS 1.B	California Native Plant Society California Rare Plant Rank 1.B

3.2.3 Impacts to Special-Status Wildlife Species

The Community has been designed to avoid impacts to habitat for special-status wildlife species known to occur on the site, including BCB, CRLF, CTS, and BUOW, to the fullest extent feasible considering the other physical and biological constraints at the site (e.g., physical topography or occurrences of sensitive plant communities or special-status plants). A summary of the impacts to and preservation of habitat for these special status species is included in the following sections.

Bay Checkerspot Butterfly

Potential habitat for BCB is defined as serpentine bunchgrass grassland that contains both the larval host plants and the adult nectar plants necessary for the butterfly to complete its life cycle. WRA documented approximately 635 acres of serpentine bunchgrass grassland at the site that contains both the larval host plants and the adult nectar plants and therefore represents potential BCB habitat (Figure 4). Impacts to potential BCB habitat are limited to the EVA road in the southern portion of the site. Impacts to potential BCB habitat associated with the EVA road include paving of the existing dirt ranch road, the construction of emergency turnouts, and drainage improvements within the right-of-way. The existing dirt ranch road in this area is regularly graded by PG&E, which maintains an easement along the road to maintain gas and power lines traversing the site. Although the existing ranch road occurs on 1.6 acres of serpentine soil and contains larval host plants for BCB (primarily dotseed plantain, *Plantago erecta*), the regular disturbance that occurs there and the lack of native bunchgrasses and other native plant species makes this relatively low-quality BCB habitat. By comparison, construction of emergency turnouts and improvements within the right-of-way of the EVA road (± 1.5 foot on each side of the road) will impact approximately 0.7 acres of relatively undisturbed BCB habitat which represents higher quality habitat.

California Red-Legged Frog (CRLF)

Potential breeding habitat for CRLF was considered to include all ponds and freshwater marsh, as well as deeper pools within streams. The SCVHP also defines a 100-foot upland refugia buffer around potential breeding habitat which was used to assess impacts to upland habitat for CRLF. The U.S. Fish and Wildlife Service (USFWS) often requires a 300-foot upland buffer around potential breeding habitat. The extent of potential CRLF breeding habitat and associated upland buffers at Young Ranch is shown on Figure 5. As shown on this figure, the proposed Community avoids all potential breeding and upland buffer habitat by a minimum of 300-feet. As such, the proposed Project is not expected to result in impacts to habitat for CRLF. Instead, the Project will result in the permanent preservation and management of habitat for CRLF within the Conservation Lands.

California Tiger Salamander (CTS)

Breeding habitat for CTS is defined by the SCVHP as including seasonal wetlands, ponds, and freshwater marsh. The SCVHP also defines a 1.3-mile (approximately 6,864 feet) upland refugia and dispersal buffer around potential breeding habitat. The extent of potential CTS breeding habitat and associated upland buffers at Young Ranch is shown on Figure 6. As shown on this figure, the proposed Community avoids all potential breeding habitat. However, all portions of the Community occur within the 6,864-foot buffer around potential breeding habitat and may therefore be considered to impact potential upland dispersal habitat for CTS. Impacts to 88.9 acres of potential upland dispersal habitat for CTS will be offset by the

permanent preservation of breeding and dispersal habitat for CTS within the Conservation Lands.

Western Burrowing Owl (BUOW)

WRA conducted protocol-level surveys for BUOW and prepared a separate analysis of potential impacts to BUOW habitat (WRA 2014g). Based on the results of protocol-level surveys, it was concluded that the site does not contain breeding habitat for BUOW, but does overwintering habitat is present. The analysis conducted by WRA determined that the Project would result in impacts to 192 acres of potential overwintering habitat for BUOW. These impacts will be offset by the permanent preservation of approximately 1,618 acres of potential BUOW overwintering habitat within the Managed Grasslands and the Conservation Lands. For more details on impacts to and preservation of potential overwintering habitat for BUOW, see the protocol level survey report and impact analysis prepared by WRA (2014g).

4.0 CONSERVATION MEASURES

As demonstrated in Section 2.0, the Project was designed to avoid sensitive biological resources on the site to the greatest extent possible, including sensitive biological communities (e.g., serpentine bunchgrass grassland or seasonal wetlands), occurrences of special-status plant species, and potential habitat for special-status wildlife species. The resulting design limits impacts to sensitive biological communities to approximately 2.8 acres[7], or less than 0.1 percent of the site. Most of these impacts are directly related to the required improvements to the existing ranch road for emergency vehicular access which impact 2.3 acres of serpentine bunchgrass grassland and potential habitat for BCB. Approximately 1.6 acre of these impacts are due to paving of the existing dirt ranch road. Approximately 0.7 acre of these impacts are due to stormwater-related improvements within the right-of-way; these impacts are relatively minor, occupying approximately 1.5 feet on either side of the existing roadbed; however, because these impacts occur along the entire length of the EVA road, they add up to nearly 1 acre.

The intent of the Project is to compensate for impacts to all natural communities and habitat for special-status wildlife species by donating the preserved land, less the Managed Grasslands, to the SCVHP Reserve System or similar entity for perpetual protection and management according to the SCVHP (ICF International 2012). This includes approximately 1,940 acres, over 90 percent of the land at Young Ranch that will be set aside in perpetuity as a natural preserve. Until the SCVHP is prepared to take over the land, the preserved lands will be managed by the Young Ranch Conservation Association as outlined in the RMP prepared for the site (WRA 2014a). This management plan provides the necessary framework for preserving the sensitive natural resources found in the Conservation Lands.

The land to be preserved represents the highest-quality habitats at Young Ranch and includes all occurrences of special-status plant species, nearly all potential BCB habitat, and all CRLF and CTS breeding habitat. Table 5 shows the approximate impact to preservation ratios that will occur as a result of the Project. The result of this large land donation will be a self-mitigating project. The impact to preservation ratios shown in Table 5, together with the perpetual

[7] Includes impacts to serpentine bunchgrass grassland and oak woodland. As noted in Section 3.2.1, actual impacts to mixed oak woodland are reduced by 0.1 acre, bringing the total impacts to sensitive communities to 2.7 acres.

conservation of the sensitive habitats and management aimed at maintaining or improving habitat for special-status species, exceed all compensatory mitigation standards for similar projects.

Table 5. Approximate impact to preservation ratios for Young Ranch

Natural Community	Preservation Ratio
California Non-Native Annual Grassland	1:13
Serpentine Bunchgrass Grassland	1:280
Diablan Sage Scrub	1:975
Mixed Oak Woodland	1:182
Mixed Riparian Woodland	None Impacted
Seasonal Wetland	None Impacted
Riverine	None Impacted
Pond	None Impacted
Coastal and Valley Freshwater Marsh	None Impacted

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